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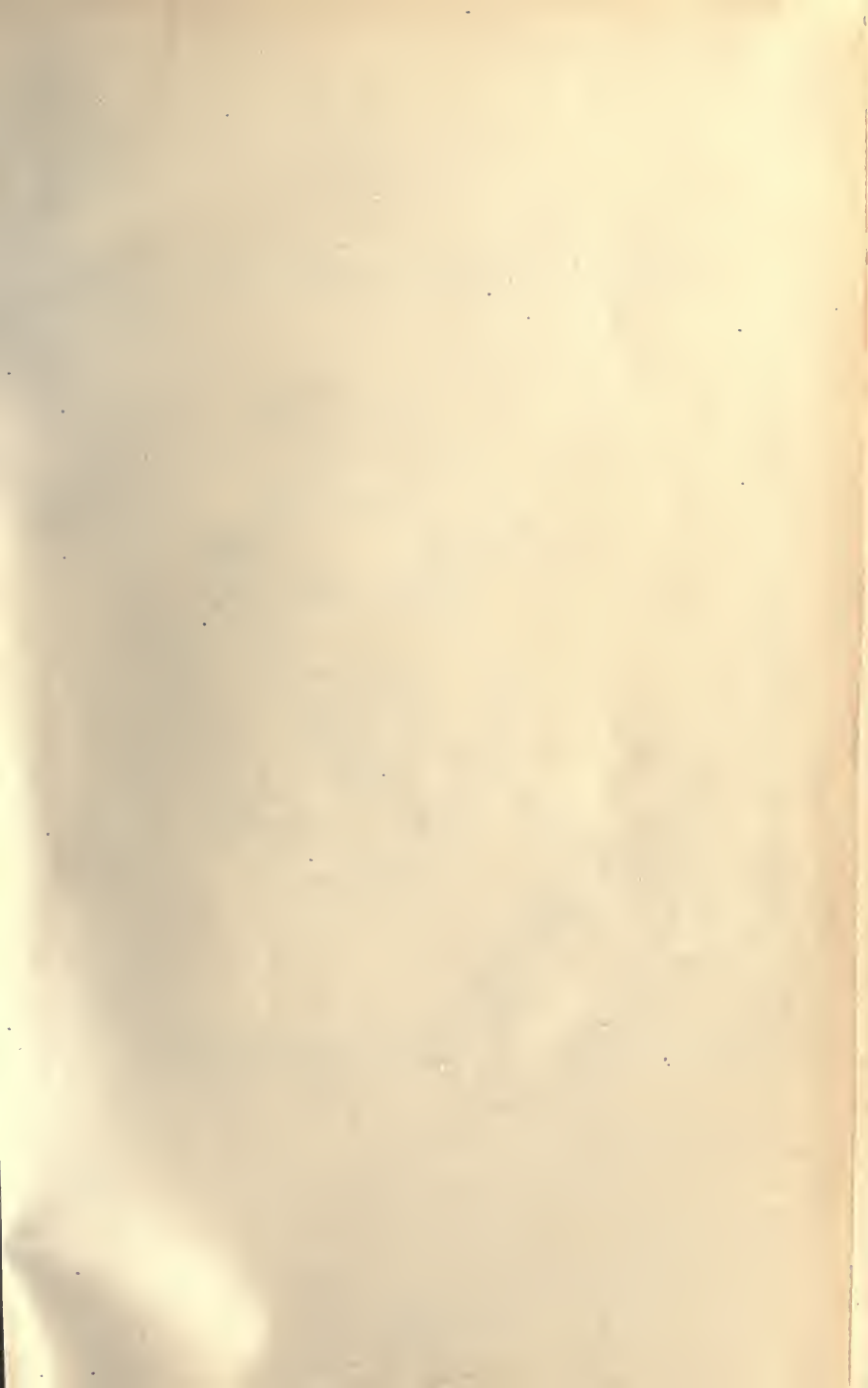
TOBACCOLAND

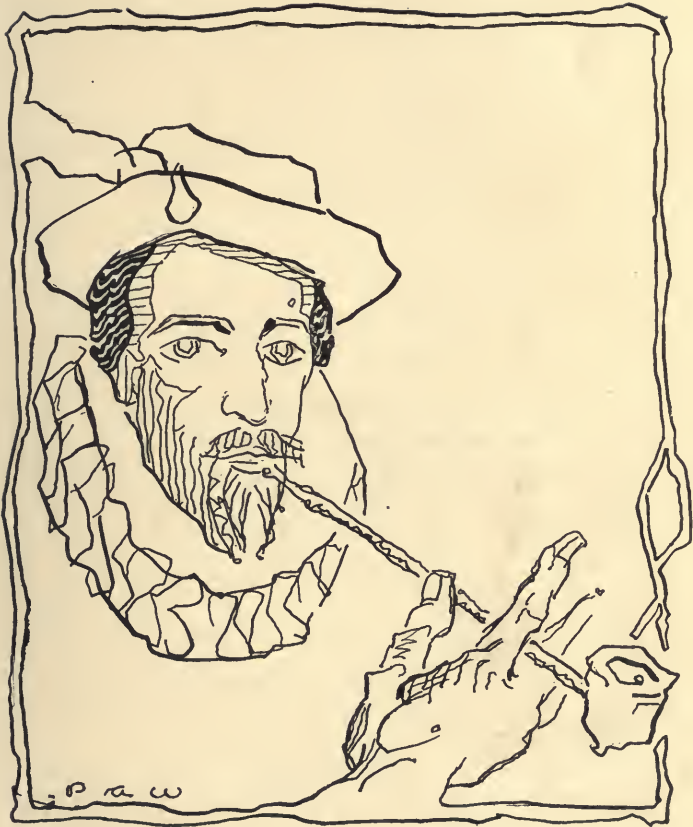


CARL AVERY WERNER









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CARL AVERY WERNER

To JOHN BAIN, Jr.

A fellow traveller in Tobaccoland, whose counsel
and co-operation have been immeasurably
helpful and encouraging, this
volume is dedicated



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TOBACCOLAND

A book about tobacco; its history, legends, literature, cultivation, social and hygienic influences, commercial development, industrial processes and governmental regulation.

by

CARL AVERY WERNER

Cover and Drawings by

PAUL AVERY WERNER

"Smoke the calumet together
And as brothers live henceforward."



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FOREWORD

HAVING been ceremoniously presented by my friend to his gentleman bootlegger, I ventured the usual commonplace as to how fared his trade. To which he replied: "Not so good, boss; the people is getting to know too much about the business." His being an illicit traffic, an outlawed commodity, one may readily accept his reasoning as sound. Inversely, however, I am convinced that the more the public knows about a legitimate article of consumption, provided it be pure and wholesome, the more freely it will consume the product, and the more comfort, if not pleasure, it will take in the consuming. And so it was that when the time came for a new—the sixth—edition of my Textbook on Tobacco, I resolved first to abandon its pedagogic title, second to preserve and even elaborate its technical quality and infinite detail, and third to add such material to it and present it in such form as to make of it a book that might appeal to the lovers of tobacco as well as to the traffickers in tobacco—to the mere devotee as well as to the man in the trade.

It is my belief that if this volume could be placed in the hands of every male American over twenty years of age, millions would be added to the already vast cavalcade of contented smokers. Obviously, so extensive a distribution is impracticable, if not, quite impossible. But the hypothesis serves to emphasize my faith in the advantage of telling the public the truth, the whole truth and nothing but the truth about tobacco and the tobacco business. How many or how few smokers' tables this volume is destined to adorn I cannot foretell; my expectations thenceward are not high. But this I do know, that thousands, ultimately many thousands, of those who toil and traffic in this blessed herb, those who produce it and purvey it, will surely scan the pages of this book. And it is they who may be confidently

counted upon to disseminate the truths herein set down, for it is they who most clearly realize that to the extent these facts are broadcast throughout the nation and the world, to that extent tobacco will win new devotees.

I like to regard tobacco, both making it and smoking it, not only as a sort of fellowship, but as a vast domain of democracy wherein we find gathered people of every class and race and creed, having, in pipe or plug or cigar or cigarette, a bond of sympathetic understanding and a contact of common interest and good fellowship. I like to contemplate the business of producing and the pleasure of consuming this exalted plant as really a realm, peopled by congenial spirits and ruled only by those kindlier human emotions which the smoke of these fragrant leaves enkindles in the hearts of men; and between these covers I have tried conscientiously to picture this realm exactly as it is and in a fashion that may be at once illuminating to the layman and helpful to the man in the trade. I may have failed in the achievement, but I have not faltered in the endeavor; and so, fully conscious of its authorly shortcomings, but frankly proud of its absolute sincerity, I give you greetings and bid you a cordial welcome to TOBACCOLAND.

C. A. W.



TABLE OF CONTENTS

[*Complete Alphabetical Index in Back of Book*]

PART I—HISTORY

	PAGE
Chapter I—THE DISCOVERY OF TOBACCO.....	19
By Columbus in Fourteen ninety-two—Facts and Theories of the Beginning of Smoking.	
Chapter II—HOW THE WEED WAS NAMED.....	25
Origin of the words "Tobacco," "Cigar," and "Cigarette"—Impressions of the earliest Explorers.	
Chapter III—INTRODUCTION OF TOBACCO INTO EUROPE.....	30
In Spain, France and England—Jean Nicot and Sir Walter Raleigh its Champions.	
Chapter IV—THE COMMERCIALIZATION OF TOBACCO.....	37
The beginning and development of its Cultivation in Virginia and Maryland.	
Chapter V—THE BEGINNING OF MANUFACTURING.....	42
Early Cigarette and Cigar Making and Extension of the Industry to other States.	
Chapter VI—EARLY STAGES OF MERCHANDISING.....	49
Development of Cigar Store Keeping—Passing of the Indian Cigar Sign—Modern Retailing.	

PART II—LITERATURE

Chapter VII—IN THE FIELD OF LETTERS.....	55
Pioneers of Tobacco Literature—Quaint writings of early Poets and Authors.	
Chapter VIII—TOBACCO AND THE MUSE.....	66
Selections from the Prose and Poetry of Three Centuries.	

PART III—SOCIAL

Chapter IX—TOBACCO AND THE HUMAN FAMILY.....	98
How it has gradually permeated our social life and activities—Its early trials and subsequent triumph.	
Chapter X—JUST WHAT TOBACCO IS.....	109
Botanical Classification—Its Content of Nicotine—Analysis of Tobacco and Tobacco Smoke.	

	PAGE
Chapter XI—TOBACCO AND THE HUMAN BODY.....	119
Its effect on the Health—The facts revealed by Science— The Purity of Tobacco.	
Chapter XII—THE STORY TOLD BY STATISTICS.....	135
Progress of Tobacco through half a century shown by Government Figures—Smoking Increase more rapid than Population.	
Chapter XIII—THINGS EVERY SMOKER SHOULD KNOW.....	144
How to judge the quality of cigars—Light colored cigars not the mildest—Care of the Pipe—The Yellow Stain— The Smokers' Creed.	

PART IV—AGRICULTURAL

Chapter XIV—THE CLASSIFICATIONS OF LEAF TOBACCO.....	154
Terms by which the various strains are commonly known—The domestic and imported kinds.	
Chapter XV—TOBACCO CULTURE IN THE UNITED STATES.....	168
Slightly Different Treatment in Different Sections— Production Readily Increased to Suit the Demand— Classification by Leaf Trade.	
Chapter XVI—CULTIVATION OF DOMESTIC CIGAR LEAF.....	176
The Two Principal Groups are Broadleaf and Ha- vana Seed—What they are, and how grown, harvested and packed.	
Chapter XVII—RAISING TOBACCO UNDER ARTIFICIAL SHADE..	190
How the Leaf is Grown under a Tent of Cheesecloth or a Covering of Lath—Leaves of fine Texture.	
Chapter XVIII—CULTIVATING THE "MANUFACTURING" TYPES.	199
Methods applied to Burley and other Strains used for Plug, Smoking and Foreign Trade—The Famous Perique of Louisiana.	
Chapter XIX—THE CULTIVATION OF SUMATRA TOBACCO.....	211
A Famous Wrapper Type—How it began and how it is grown and marketed.	
Chapter XX—THE CULTIVATION OF HAVANA TOBACCO.....	222
Planting, Harvesting and Handling the World's most famous Cigar Tobacco.	
Chapter XXI—THE CULTIVATION OF TURKISH TOBACCO.....	228
For Cigarette Purposes—How the Industry was taken over by a Regie—Method of Growing.	

PART V—MANUFACTURING

	PAGE
Chapter XXII—CLASSIFICATION OF THE MANUFACTURED PRODUCTS	242
Technical Meaning and Composition of Cigars, Cigarettes, Smoking and Chewing Tobacco and Snuff, and their Subdivisions.	
Chapter XXIII—MANUFACTURE OF CIGARS, CHERROOTS AND STOGIES	251
The Spanish method used in making Clear Havana Goods—How Seed and Havana Cigars are made—Machinery and Appliances.	
Chapter XXIV—MANUFACTURE OF CIGARETTES AND TOBACCOS	265
Machinery figures largely in these branches—Methods of Preparing the Tobaccos—The Importance of Blending.	
Chapter XXV—MANUFACTURING CIGARETTE PAPER.....	281
The Purest and Cleanest Paper made—How Tastelessness and Perfect Combustion are attained.	
Chapter XXVI—THE MANUFACTURE OF BRIAR PIPES.....	285
Where the Briar comes from—What Amber is—Facts about Meerschaum.	
Chapter XXVII—THE CALABASH, CORNCOB AND CLAY.....	295
The Pipe Bowl that is made by nature—Gourds from South Africa—Cobs and Clays are the cheapest.	
Chapter XXVIII—THE MANUFACTURE OF CIGAR BOXES.....	304
“Spanish Cedar,” The Wood that has an Affinity for Tobacco—Quantities and kinds of Wood.	

PART VI—GOVERNMENTAL

Chapter XXIX—GOVERNMENTAL REGULATION OF TOBACCO.....	309
Exacting Federal Laws to which Leaf Dealers and Manufacturers have to conform—Bonds—How Accounts must be kept—Stamp Denominations—Legalized Packages.	
Chapter XXX—PROCESS OF MANUFACTURING IN BOND.....	353
Method by which Clear Havana Cigars are produced under a Government Guarantee—The Bonded Regulations.	
Chapter XXXI—THE FEDERAL TAXATION OF TOBACCO.....	358
A Review of the Tax Schedules that have been Enacted since 1862—Present Internal Revenue Taxes and Custom Duties.	

PART VII—MERCHANDISING

	PAGE
Chapter XXXII—CIGAR STORE MANAGEMENT.....	366
The Value of Courtesy and Service—Seemingly Insignificant Details that make Retailing Successful.	
Chapter XXXIII—STOCK AND PROFIT SYSTEM.....	373
For the Retail Cigar and Tobacco Dealer this Method will stop the "Leaks."	
Chapter XXXIV—KEEPING CIGARS IN CONDITION.....	379
The basic principle is uniform Atmosphere—Construction of the Humidor—Regulation of Heat and Moisture.	
Chapter XXXV—CIGAR SIZES AND COLOR MARKS.....	386
How the names of Shapes Originated and what they mean—The Color of a Cigar not a sure indication of "Strength."	
Chapter XXXVI—PIPES AND THE RETAILER.....	397
Importance of Educating the Smoker to the Advantages of a High Grade Pipe—How to show Pipes.	
Chapter XXXVII—THE PIPE REPAIRING DEPARTMENT.....	403
Services of an Expert required but with Equipment and a little Experience the Novice may make many repairs successfully.	
Chapter XXXVIII—COLORING MEERSCHAUMS ARTIFICIALLY...	415
The Coveted Tint may be Achieved without Smoking—Also how to "Set" a Naturally Colored Pipe.	

PART VIII—MISCELLANEOUS

Chapter XXXIX—THE PESTIFERUS TOBACCO BEETLE.....	418
Chief Enemy of the Industry—Two Methods of Eradicating the Pest by Fumigation.	
Chapter XL—THE WHY OF "MOLDY" CIGARS.....	444
Organisms traced to the Gum used by the Cigarmakers—By using a Boracic Acid Solution in the Paste Molds can be avoided.	
Chapter XLI—TRADE FORMULAS AND RECIPES.....	450
Sweetening and Spotting Cigar Leaf—Improving Combustibility—Re-Sweating—Flavoring, Scenting.	
Chapter XLII—ODDS AND ENDS OF TOBACCOLAND.....	456
Difference between Spanish and American Styles of Cigar Packing—Weight of a Bale of Havana—Meaning of a "Hand" and a Carrot—"Havana Tobacco" a Misnomer—etc., etc.	

LIST OF ILLUSTRATIONS

Frontispiece—Sir Walter Raleigh.....	3
Historical—A Drawing	18
North American Pipes of Peace.....	20
Pipes Found in Indian Mounds.....	23
Tomahawk Pipes of American Indians.....	29
Pipes from Alaska.....	32
Pipes of the African Negro.....	35
Literary—A Drawing	54
Mark Twain	57
Sir Philip Gibbs.....	59
Cover of the "Counterblaste".....	61
First Page of the "Counterblaste".....	62
Specimen Page of the "Counterblaste".....	63
Irvin Cobb	71
W. L. George.....	75
Social—A Drawing	97
Mr. Harding and His Cigar.....	99
Mr. Harding and His Cigarette.....	103
Prince of Wales and Mr. Marshall.....	107
Lloyd George and M. Briand.....	111
"Uncle Joe" Cannon.....	115
Professor Albert Einstein.....	121
Franklin D. Roosevelt.....	123
Myron T. Herrick and George Harvey.....	125
Barney Oldfield	129
The King of Spain.....	133
Agricultural—A Drawing	153
Tobacco Harvesting in Kentucky.....	155
A Kentucky Tobacco Field.....	169
Cultivating Tobacco in North Carolina.....	173
Auctioning Tobacco in North Carolina.....	179
Rehandling Tobacco in Kentucky.....	185
Growing Tobacco Under Shade.....	191
A Tobacco Barn in Connecticut.....	196
Harvesting Tobacco in Virginia.....	207
Sumatra Being Transplanted.....	215
Composition of Tobacco Soils.....	223
Havana Tobacco Drying on the Poles.....	225
Havana Tobacco Growing in the Field.....	226
Turkish Tobacco Drying in the Shed.....	231
Bringing in Turkish Tobacco.....	235
A Lighter of Turkish Tobacco in Cavalla.....	239

Manufacturing—A Drawing	241
Bright Cigarette Tobacco.....	250
Making Cigars in America.....	252
Inspecting Havana Tobacco Factory.....	253
Cigarmakers at Work in Clear Havana Factory.....	257
A Cigarmaking Machine.....	261
Shredding Cigarette Tobacco.....	267
Making Cigarettes by Hand.....	271
A Battery of Cigarette Machines.....	275
Close-Up of a Cigarette Machine.....	277
Packing Cigarettes Into Boxes.....	279
Brier Wood in the Rough.....	287
Interior View of a Pipe Factory.....	289
Turning the Pipe Bowl.....	291
Shaping the Bits.....	293
Spinning the Ferrule.....	297
Governmental—A Drawing	308
Marshal Foch	311
King George V.....	319
The Hall of Columns.....	328
The Circular Collonade.....	329
Thomas A. Edison.....	335
Charles P. Steinmetz.....	343
Merchandising—A Drawing	365
Modern American Cigar Store.....	368
A Chinese Cigar Stand.....	370
Tobacconist's Shop in 1617.....	382
Cigar Shapes and Sizes.....	388
Standard Pipe Styles.....	398
Miscellaneous—A Drawing	417
Cigars Perforated by Tobacco Beetle.....	419
Chewing Tobacco Injured by Beetle.....	420
Smoking Tobacco Injured by Beetle.....	423
Cigar Tobacco Damaged by Beetle.....	425
Evolution of the Beetle.....	426
Suction Fan for Collecting Beetles.....	435
Fly-Paper Trap	439
Types of Tobacco and Where Produced	457
The Tobacco Leaf Cigar Store Indian.....	459
The Longfellow Cigar Store Indian.....	461
Internal Revenue Receipts for 1922.....	463
The End—A Drawing.....	465



part I

historical

CHAPTER I

THE DISCOVERY OF TOBACCO

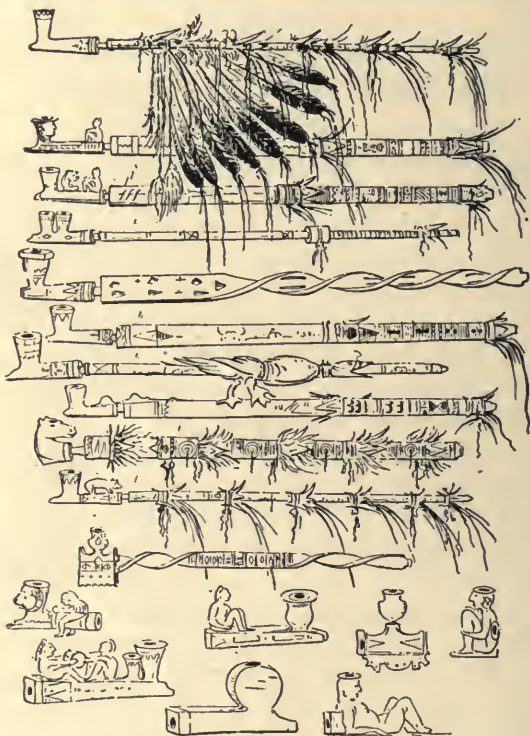
BY COLUMBUS IN FOURTEEN NINETY-TWO — FACTS
AND THEORIES OF THE BEGINNING
OF SMOKING

When, on October 11, 1492, the look-out, or watch or whatever they called him, on the good ship Pinta, sang out "Land, ho," he certainly said something. He proclaimed, unwittingly, a new Archipelago—the West Indies; a new continent—the Americas; a new Western passage—the Horn; a new race of people—the red Indians; and a new blessing to humanity—tobacco. Such, anyhow, is the imposing list of discoveries in which the notable voyage of Christopher Columbus eventuated.

Nor is the last on the list necessarily placed so in the order of its importance. Of course, one hesitates to contend that a new weed looms as large in human history as a new world. But certainly all smokers will agree that the discovery of tobacco was by no means the least important thing the great Columbus ever achieved. And this much may be said, that now, nearly four-and-a-half centuries after the historic landing at San Salvador, only six per cent. of the human race has availed itself of the new continent, while about ninety per cent. of the world's adult male population is sharing in the comforts and pleasures that gracious tobacco offers ungrudgingly to humankind.

It was Columbus, beyond question, who gave tobacco to the world. As revealed later it was no innovation among the savages of the Americas. They had been enjoying a

monopoly of the smoking privilege for many preceding generations, perhaps ages—how many, no one knows. It is a very natural presumption that the use of tobacco began among the American aborigines as a religious rite, for it was, in 1492, and continued to be in some measure through



THESE ARE PIPES OF PEACE FOUND AMONG VARIOUS TRIBES OF NORTH AMERICAN INDIANS AND COLLECTED BY GEORGE CATLIN, THE EXPLORER.

succeeding centuries, employed for ceremonial purposes. Tobacco is one of the vegetables whose leaves, when dried, will produce a smudge that is agreeable to the olfactory reaction of man. Examine the smoking custom closely and

you find it merely an off-shoot of the incense-burning idea of the bronze age,—and of today. Myrrh and frankincense and various spicy substances were utilized in the Orient, because they were available; tobacco was thus employed in the Americas because it was obtainable in the Americas.

“Tobacco is so precious among them,” wrote Hariot, one of the earliest English voyagers to these shores, of the Indians and their habits, “that they think that their gods are marvellously delighted therewith; wherefore they make hallowed fire, and cast some of their powder therein for a sacrifice. Being cast in a storm upon the water, to pacify their god they cast some up into the air and into the water; so a weir for fish being newly set up they cast some therein and into the air; also after an escape of danger they cast some into the air likewise; but all done with strange gestures, stamping, sometimes dancing, clapping of hands and staring up into the heavens, uttering therewithal and chattering strange words and noises.”

Even up to comparatively recently, several tribes of North American Indians, including the Dakotahs and the Iroquois, burned tobacco as part of their devotionals to the Great Spirit.

But the first Americans gave consideration to the welfare of the body as well as the soul and evidently reasoned that anything beneficial to one should be preservative of the other. For the first explorers, and subsequent observers, found the natives inhaling the smoke of the herb also for its curative properties, supposed or real. We have it on the testimony of Benzoni and many others that the primitive natives of Central and North America inhaled the fumes of tobacco leaves when afflicted with certain ills, sometimes by the advice of the “Medicine Man” or tribal priest, sometimes on their own initiative. Indeed succeeding civilization inherited something of this faith in the weed’s medicinal virtues, and even today many people employ and advocate

tobacco for trivial hurts and indispositions, such as tooth-ache, snake and insect bites, cuts, bruises and burns.

It is not difficult to follow the transition of tobacco smoke from the ritualistic to the medicinal and thence to the pleasurable, especially in view of the known fact that the first white arrivals found the plant serving each of these purposes.

Such was the situation when the great mariner-scientist, Cristóbal Colon, anchored his three cockle-shells off the green shores of Salvador and planted the Christian cross and the Spanish flag thereon.

We have said that Columbus discovered at once tobacco and a new world; and this is literally true. For it was on November 6, 1492, while exploring this verdant island that two of his sailors observed some natives carrying in their mouths huge "firebrands," from which they inhaled clouds of smoke. Investigation followed and it was disclosed that the "firebrands" consisted of a strange dried herb (tobacco) rolled in a strip of maize.

Thus was tobacco first revealed to civilization and, indeed, to all the world beyond the confines of the American Continent and its adjacent islands. Up to 1492 neither the plant nor its uses had ever been known, nor have they since been found to exist in any other part of the globe, except by adoption.

It is an interesting fact that each of the three most popular forms of smoking of today, were in vogue among the natives of Columbus' time. Tobacco rolled in the leaves of grain or corn was the fore-runner of our cigarette; rolls of tobacco encased in a leaf of the plant itself was the cigar in crude form; and the hollowed stick or the calumet of the aborigine was the embryo of our modern brier and meerschaum.

It might be said that the forked stick, observed in the West Indies by the earliest explorers, was an example of

local affectation or perhaps suspended development; for on the continent, several ingenious patterns of tobacco pipes were in vogue at that time and, as has subsequently been disclosed, had been in use for centuries before Columbus' day.



PIPE BOWLS OF STONE FOUND IN THE INDIAN MOUNDS AT JONESBORO, TENNESSEE, AND NOW EXHIBITED IN THE AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK.

The Indian mounds in the Mississippi Valley, upon which mighty trees were growing in the 15th century, have revealed, by excavation, many specimens of pipes, or rather pipe bowls, made of quartz rock, and ingeniously carved. One specimen bears the carving of a tuskless elephant head.

Since the mastodon was extinct in the Americas centuries before the continent's discovery by the white men, this indicates that the very earliest inhabitants were smokers.

Prehistorically and subsequently, the granite bowl and reed or hollowed-ash stem, was the commonest type of tobacco pipe in use by the natives. And from the 15th century onward its chief ceremonial use was to signalize a condition or declaration of peace. When smoked on such occasions it was called the calumet. When the heads of families or the chiefs of tribes met to establish or renew amicable relations they seated themselves in a circle and the lighted pipe was passed from mouth to mouth, each solemnly taking a puff and handing it to his neighbor, until it had gone the round. In the absence of tobacco, the bark of the willow was substituted. The ceremony was conducted in silence and with great dignity and any compact thus sealed was regarded as inviolable. There were what might be termed official pipes, the property of the tribe, preserved by succeeding generations for this purpose only. Frequently they were of red sand-stone with long stems of young ash from which the pith had been removed; and they were decorated with hangings of beads, stained leather thongs and bright-colored feathers. Inconsistently, it would seem, there were war pipes also, used to signalize the beginning of hostilities; and the tomahawk pipe, a combination of pipe and hatchet, was not uncommon.

CHAPTER II

HOW THE WEED WAS NAMED

ORIGIN OF THE WORDS "TOBACCO," "CIGAR" AND "CIGARETTE"—IMPRESSIONS OF THE EARLIEST EXPLORERS

Since we are now discussing the beginning of tobacco, a few words about the nomenclature of things nicotian may not be out of place. Putting aside the many discarded hypotheses, it may be said quite positively that the word "tobacco," is derived from the early West-Indian name of the pronged stick, which the natives used in addition to other manners of smoking and which they called *tobago*. If those natives had a name for the plant itself, there is no record of it. It is established by ancient annals, however, that the islanders called their crude instrument, consisting of a hollowed, forked piece of cane, *tobago*. It is entirely conceivable that, through the unfamiliarity of the white man with the native West-Indian tongue, the Europeans applied the name of the instrument to the herb itself. On the mainland the weed was variously named by different tribes, most common of which was *uppowoc*; but the word adopted by the white man, after his first contact with the Islanders, soon prevailed on the continent and became practically universal throughout the world.

Nearly every smoker has heard the story that "cigar" is from the Spanish *cigarrel*, meaning orchard, and that the article is so named because tobacco was grown in the private orchards in Spain by the wealthy men who looked upon it as a very rare and valuable plant. It is true that when tobacco was first brought to Spain from its native land, America, the Spanish dons had small quantities of it planted in the gardens or orchards about their homes. To

be able to import your town tobacco seeds or plants and grow your own tobacco and make it into rolls for smoking was a mark of aristocracy in those early days, and a Spaniard of high class entertaining a friend would, upon offering him a smoke, say, with pardonable pride, "*Es de mi cigarrel*," which means "It is from my orchard." Foreigners, so the legend runs, hearing their hosts speaking about the smokes they gave as *es de mi cigarrel*, came to believe that the word *cigarrel* was Spanish for rolls of tobacco, and in time they began to use this word, shortening it to "cigarro," and eventually to cigar, as meaning a roll of tobacco for smoking. Extending the romance it is explained that originally *cigarrel* meant cicado or grasshopper, and because the grasshoppers gathered and chirped the loudest in the orchard, the latter took the name of the insect. So that today, concludes the legend, our word cigar is derived from orchard, which was, in turn, derived from grasshopper.

All of which is interesting, but rather more fanciful than convincing. It is the humble opinion of the writer, in which many students of the subject concur, that our word cigar is derived from the Spanish *cigarrar*—to roll. A cigar is a roll of tobacco; and "cigar rollers" and "rolling up a cigar" have been for years and are today common expressions.

Cigarette obviously is merely an application of the French diminutive. In Spanish it is *cigarrillo*.

Curiously enough in Cuba the Spanish derivative is not applied to cigars. They are called *tabacos*.

Resuming our perusal of the quaint records of the first European explorers and noting their observations on the "tobacco drinking" custom one is reminded of Pope's lines:

"Vice is a monster of so frightful mien,
As to be hated needs but to be seen;
Yet seen too oft, familiar with her face,
We first endure, then pity, then embrace."

Oviedo, in his "General History of the Indies," 1526, said this "very pernicious custom" was "used to produce stupefaction;" and continues: "They become stupefied. Their smoking instrument, whether it be forked or merely a hollow cane, is called *tabago* by the Indians, who do not give this name to the herb, nor to the stupor in which they fall."

Cartier, after his historic voyage up the St. Lawrence in 1535, wrote: "The Indians have a certain herb, of which they lay up a store every Summer, having first dried it in the sun. They always carry some of it in a small bag hanging around their necks. In this bag they also keep a hollow tube of wood or stone. Before using the herb they pound it to powder, which they cram into one end of the tube and plug it with red-hot charcoal. They then suck themselves so full of smoke that it oozes from their mouths like smoke from the flue of a chimney. When we tried to use the smoke we found it bit our tongues like pepper."

Wrote Benzoni, after his return to Milan in 1546: "Then they set fire one end, and putting the other end into the mouth, they draw their breath up through it, wherefore the smoke goes into the mouth, the throat, the head, and they retain it as long as they can, for they find a pleasure in it, and so much do they fill themselves with this cruel smoke that they lose their reason. And there are some who take so much of it that they fall down as if they were dead and remain the greater part of the day and night stupefied. Some men are found who are content with imbibing enough of this smoke to make them giddy and no more. See what a wicked and pestiferous poison this must be!"

On the other hand there were travellers of that day who gained contrary impressions. For example, in his "Briefe and True Account of the New Found Land of Virginia," 1588, Hariot wrote: "There is an herbe which is sowed apart by itself, and is called by the inhabitant *uppowoc*. In

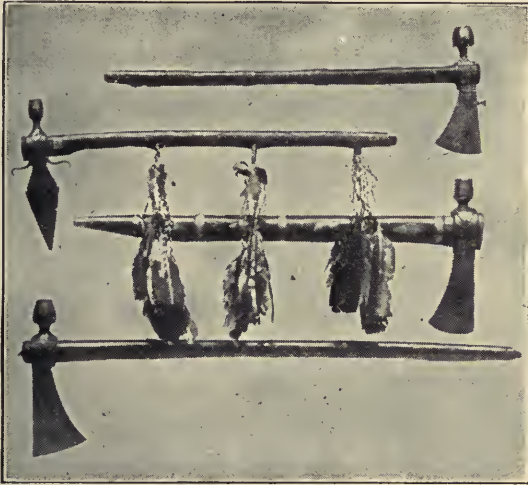
the West Indies it hath divers names according to the several places and countries where it groweth and is used. The Spaniards call it tobacco. The leaves thereof being dried and brought to powder, they use to take the fume or smoke thereof by sucking it through pipes made of clay into their stomachs and head, from whence it purgeth superfluous and other gross humors; openeth all the pores and passages of the body, by which means the use thereof not only preserveth the body from obstructions, but also if any be so that they have not been of too long continuance, in short time breaketh them; whereby their bodies are notably preserved in health and know not many grievous diseases wherewith we in England are oftentimes affected."

Far be it from your present chronicler to challenge the sincerity of those departed historians; but calm reflection compels a suspicion that they sometimes labored under a confusion of imagination and fact. Those who reported the Indians as "falling down as if dead" after smoking, and those; on the other hand, who declared tobacco to be a preserver of health and a general cure-all, were guilty, no doubt, of slight exaggerations.

However, in the essentials these many records ring fairly true, and from them we can gather a pretty accurate understanding of how tobacco using had its beginning, and quite the exact date of its first bid for the approval of the white man's world.

Subsequently, when colonization began, the fantastic embellishments of the Benzoni and the Cartiers fell away, and tobacco became a reality instead of a mystery. It proved to be neither a "pestiferous poison" nor a cure for all diseases. Closer association with the natives, more deliberate study of their habits and customs revealed tobacco as being used by them (*a*) in some measure for its curative properties (*b*) in greater measure as a token of peace between individuals and tribes, and (*c*) in greatest measure

for the comfort of it, the companionship of it and the moderately pleasurable reaction which tobacco-smoking produced. In truth, it was very much the same then as now. Medicinally we of this generation sometimes employ it for a toothache, a headache or a touch of nerves; frequently we offer it to an acquaintance, chance or otherwise, as a token of friendship; but in the main we use tobacco because we



TOMAHAWK PIPES OF THE AMERICAN INDIAN. THE ONE DECORATED WITH EAGLE'S FEATHERS BELONGED TO STRONG BOW, CHIEF OF THE SENECA TRIBE. BELOW IT IS A SHAWNEE PIPE, ITS THICK WOODEN STEM BANDED WITH SILVER.

like it. No doubt at the very beginning, ages before America was discovered, tobacco was burned as incense only, in the sacrificial rites of the aborigines. But the natives as civilization found them, when American history began, smoked in about the same fashion, for about the same purposes and with about the same results as the smokers of today.

CHAPTER III

INTRODUCTION OF TOBACCO INTO EUROPE

IN SPAIN, FRANCE AND ENGLAND—JEAN NICOT AND SIR WALTER RALEIGH ITS CHAMPIONS

It is established, as I have already said, that tobacco was distinctly an American plant and that smoking was distinctly of American origin. This contention defies refutation. It is admitted unqualifiedly that the plant was unknown to botanists prior to 1492, and that, in all time, before and subsequently, it has never been found among the native vegetation of any other country. Occasionally someone does arise to contend that smoking—even tobacco smoking—was an ancient custom in some parts of the old world.

The most recent contender is Professor Leo Wiener, who, in his book, "Africa and the Discovery of America" (1922), maintains that various edible plants, tobacco, cotton, shell money and the beliefs and rites known as fetichism, were introduced to the American continent by negroes who crossed the Atlantic from the northwest coast of Africa. Professor Wiener refers to the pipes found in Roman or early medieval graves, and adds that as a fumigation, smoking was also in vogue among the Persians and Syrians. He contends that as to the latter, the Persians and Syrians, the substance used was tubbaq, and he argues that obviously it was the tobacco of the present day. He claims that in Africa the Arabic physicians used plants that were unquestionably *Nicotiana tabacum* and *Nicotiana rustica*. Among the negroes the narcotic quality of tobacco also led to a sacerdotal use, and it was chiefly with this significance that

tobacco found its way from Africa to America at a period which, Professor Wiener says, was half a century, and possibly a century, before Columbus.

One of his arguments that tobacco smoking was not a habit among the Indians is the fact that, although it is recorded among Indians and negroes from the beginning of the sixteenth century, nearly a hundred years passed before smoking became universal among the Indians and Europeans.

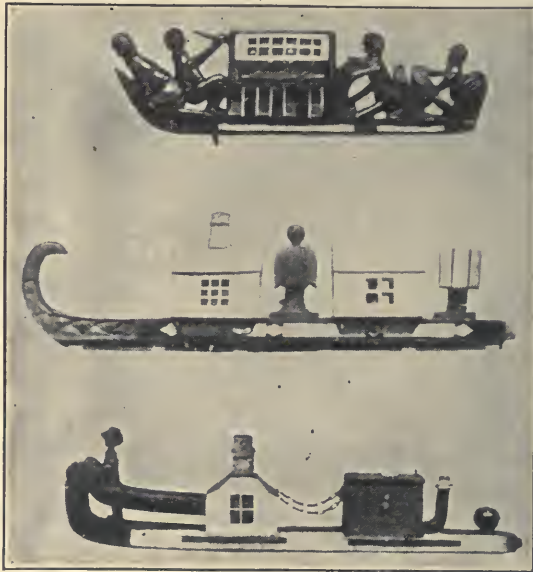
After examining the evidence offered by the botanists, Professor Wiener concludes that "the original home of tobacco cannot be ascertained otherwise than historically and philologically, as the botanical data prove nothing and are correct either way." Similarly, he shows that no reliance can be placed on archaeology. Not a single authentic archaeological datum has been brought forward in America, he says, to prove that in which even botany falters; while philology and history alone furnish the unmistakable data for smoking and pipes in Europe centuries and possibly millenniums before the discovery of America.

It is significant that Professor Wiener is not a botanist, but a philologist, and his researches have been chiefly along philological lines. His work is that of an able, earnest and painstaking student and cannot be lightly turned aside. Nevertheless, there are two outstanding facts in tobacco history that are likely always to render the theory of American origin absolutely convincing. These are that the old world civilization in the sixteenth century universally proclaimed tobacco as a new discovery and an American product; and that pipes were found underneath Indian mounds upon which ancient trees were growing in the fifteenth century.

Attention has been called by researchers to the writings of Dioscorides who reports that the Greeks were in the habit of inhaling dried coltsfoot for asthmatic trouble; and Pliny

tells us that the Romans also did this for the relief of colds. All of which is undoubtedly true. The Thracians, I find, inhaled the perfume of burning seeds, and the Scythians made smudges of hemp-seed. Instruments in principle resembling tobacco pipes have been found, though rarely, in pre-Christian excavations.

But one might as well say that smoking was not originally American because the ancient Norsemen were wont to roam



THESE CURIOUS PIPES CAME FROM SITKA, ALASKA. THE HOUSES HAVE GLASS WINDOWS AND THE BOATS ARE INLAID WITH BONE. THE UPPER ONE IS MADE ENTIRELY OF SLATE.

the forests and inhale the scent of the pines. As to the pre-historic "pipes" of the Orient, they are of a feather with Dr. Yates' discovery of an Egyptian stone carving representing men smoking pipes, as he thought, but which

afterwards was correctly interpreted as depicting a group of glass blowers.

The facts are that after four and a half centuries of research and investigation tobacco and the smoking practice are conceded to be as distinctly American in origin as corn, mince pie and the grizzly bear. And it may be remarked in this connection that racial instinct and Mother Nature have run true to form; for even today we find the United States to be both the largest consumer and the largest producer of tobacco among the nations of the world.

But if tobacco were confined to this continent for countless ages prior to its discovery, how quickly and surely afterward it encircled the globe! Generally speaking, the practice preceded the cultivation. Ships carried first the habit, then the dried leaf itself and then the seed from American shores to foreign lands.

It is generally agreed that Francis Hernandez de Toledo first brought tobacco, for cultivation, into Europe, upon returning to Spain from a mission to Mexico upon which he had been dispatched by Phillip II. That was in 1550.

In 1561 Jean Nicot, Lord of Villemain, returned to Paris from Portugal and presented to Catherine de Medici some tobacco plants that had been obtained in Florida. His name has been immortalized in Nicotine.

There is quite a common misconception that England was the first European nation to receive tobacco and that Sir Walter Raleigh was the first Englishman to bring it in. Neither is correct, according to available records. Spain and France were the first importers. Taylor credited the introduction of tobacco into England to Sir John Hankins in 1565. Stow puts the date at 1577. Dr. Cotton Mather writes, very positively: "In 1585 one Mr. Lane carried over some tobacco, which was the first seen in Europe." Camden asserts, guardedly, that Sir Francis Drake and his crew were the first "as far as we know, who introduced the Indian

plant called Tabacco or Nicotia into England." But he omits to name the year, and Drake made several voyages. In any case, it is clear that England followed Spain and France; and the best authenticated records indicate that the first real importer into England was Ralph Lane, Governor of the Virginia colony, on his return to England in 1586.

It was from the Americas, and from France, Spain and England that tobacco spread out over the world. Englishmen took it into Sweden, Russia and probably Turkey, and from Turkey it was carried into Egypt and Persia. From France and Spain it went to Holland and Portugal. The Portuguese took it into Asia. It is reported in India in 1599, in Java in 1601 and shortly afterward in China. From the West Indies and the American Coast venturesome mariners conveyed both the seed and the art of smoking to many parts of the globe.

As to Sir Walter Raleigh, that gallant gentleman may well live in the hearts of generations of tobacco devotees as the weed's first and greatest champion. Indeed it was as Raleigh's agent that Lane, the Governor of Sir Walter's colony, brought the plant to England; but moreover, it was Sir Walter, with his venturesome spirit, his fine gallantry, his high social position and his favor at Court, who inspired the English people to seek in the magic herb the gratification which this much-loved gentleman-adventurer manifestly derived from it.

It was Raleigh who colonized Virginia, where tobacco was first stapleized commercially, and it was Raleigh more than any other individual of his time who installed tobacco-smoking as a pleasurable recreation in the old world. Sir Walter—like our own Roosevelt in that particular—had the faculty of doing things in a fashion that made a popular appeal. And it was through his popularization of tobacco that the

struggling colony at Jamestown was enabled to survive its many misfortunes and reversals.

Elizabethan playrights repeatedly employed the story of the gallant knight being drenched with ale by a passing servant, who, seeing him smoking, thought he was on fire.

Queen Elizabeth not only tolerated his indulgence but, in



PIPES DEVELOPED BY THE AFRICAN NEGRO. PROFESSOR WIENER CLAIMS THAT AFRICANS BROUGHT TOBACCO TO AMERICA.

a whimsical fashion, encouraged it; and it is known that he frequently smoked in her presence. Familiar to all is the anecdote of Raleigh assuring the virgin ruler that he could tell the weight of smoke.

"I doubt it much, Sir Walter," she is said to have replied, "and I will wager twenty angels that you cannot solve my doubt."

Weighing a pinch of tobacco, Raleigh put it in his pipe, smoked it out, weighed the ashes, got the difference by subtraction and announced the result.

"Your Majesty cannot deny that the difference has evaporated in smoke," he averred.

"Truly, I cannot," the Queen replied, and paid the bet. Then, turning to her entourage, she exclaimed:

"Many alchemists have I heard of, who turned gold into smoke, but where is one other who has turned smoke into gold?"

As an indication of Raleigh's keen interest, it is recorded that he planted and cultivated a small patch of tobacco near Youghal, in Ireland, while he was acting as Governor of Kilcolman. In an arbor at Youghal Manor House he is said to have smoked his first pipe of tobacco. It was in the Tower of London that he smoked his last, shortly before going out to his execution—a fate he met with smiling fortitude like the brave and gallant gentleman he was.

So, although having been in obscurity since the beginning of time, we find tobacco penetrating to the high places of civilization within 75 years after its discovery; and the end of another century witnessed its use and the beginning of its cultivation all over the world.

CHAPTER IV

THE COMMERCIALIZATION OF TOBACCO

THE BEGINNING AND DEVELOPMENT OF ITS CULTIVATION IN VIRGINIA AND MARYLAND

Outstanding in the entire story of tobaccoland is the name Virginia. The colony from which that state sprang unquestionably did more than any other geographical unit or group of people toward establishing both the commodity and the habit in the civilized world. It was the little colony at Jamestown, ably championed and advertised by Sir Walter Raleigh, that converted tobacco from a curio to a commodity of commerce. And this was the more praiseworthy because it was achieved in the ~~phase~~ phase of great opposition and almost insurmountable difficulties.

And while tobacco owes much to Virginia, Virginia also owes much to tobacco; for it was the slowly but steadily increasing demand for the herb in England and the consequent incentive to cultivate it in Virginia that on more than one occasion saved the colony from extinction.

During the Elizabethan reign and under the tolerance if not the encouragement of the virgin monarch, the weed gained a foothold in popular favor. In Elizabeth's successor, King James I, tobacco encountered a determined opponent. James hated Raleigh and hated tobacco. He increased the duty in 1604 from the Elizabethan rate of 2d a pound to 6s 10d a pound. And curiously enough this applied to tobacco only from Virginia, tobacco from Portugal and Spain remaining under the old tax. This was a blow to the Jamestown colonists. It did not prevent the English people from smoking, however, but resulted only

in their consuming less Virginia and more Spanish and Portuguese. It was about this time—1604—that James issued his famous “Counterblaste on Tobacco,” which was perhaps the bitterest diatribe ever written. “I am now, therefore, heartily to pray you to consider,” he wrote, “first upon what false and erroneous grounds you have first built the general good liking thereof; and next what sins towards God, foolish vanities before the world, you commit in the detestable use of it.” Having attacked the principal reasons advanced for smoking he continued: “Have you not reason then to be ashamed, and to forbear this filthy novelty, so basely grounded, so foolishly received, and so grossly mistaken in the right use thereof? In your abuse thereof sinning against God, harming yourselves in persons and goods, and taking also thereby (Look to it, you that take snuff in profusion!) the marks and notes of vanity upon you; by the custom thereof making yourselves to be wondered at by all foreign civil nations, and by all strangers coming in among you to be scorned and condemned. A custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and in the black, stinking fume thereof nearest resembling the Stygian smoke of the pit that is bottomless.”

Among other shafts which James fired at the tobacco lovers of his time were these:

“That tobacco was the lively image and pattern of hell, for it had by allusion in it all the parts and vices of the world, whereby hell may be gained, to wit:

“First, it was a smoke; so are the vanities of this world.

“Secondly, it delighted them who take it; so do the pleasures of the world delight the men of the world.

“Thirdly, it maketh men drunken and light in the head; so do the vanities of the world—men are drunken therewith.

“Fourthly, he that taketh tobacco saith he cannot leave it, it doth bewitch him. Even so the pleasures of the world make men loath to leave them, they are for the most part so

enchanted with them; and further, besides all this, it is like hell in the very substance of it, for it is a stinking, loathsome thing, and so is hell."

Two decades after the increase of the duty the inconsistency was somewhat remedied when, in 1624, the importation of tobacco from Spain and Portugal was entirely prohibited. Thereafter, although the higher duty was still in force, the struggling industry in Virginia again prospered. James continued to harass its development by petty edicts, but he failed to stop its progress.

Meanwhile the use of tobacco had been growing generally in France and Spain. In France snuff-taking rather than smoking had come into vogue; and in 1635 here, also, both royal and churchly opposition arose. Louis XIII forbade the sale of tobacco except by apothecaries and made it procurable only through medical prescriptions. This order, however, was shortlived. The practice of snuffing spread to Italy, Spain and Austria and grew so common that priests were observed to take it while celebrating Mass. This prompted Pope Urban VIII to issue a Bull excommunicating all who took the weed into the churches. Here is the proclamation in part:

"We have recently learned that the bad habit of taking the herb commonly called tobacco by the mouth and nose has spread to such a degree in some dioceses that persons of both sexes, even the priests and clerks, both secular and regular, forgetting that decorum which is due to their rank, take tobacco everywhere, principally in the churches of the town and diocese of Seville. . . . We interdict and forbid, all generally and each in particular, persons of either sex, seculars, ecclesiastics, every religious order, and all those forming a portion of any religious institution whatsoever, to take tobacco in the future in the porches or interiors of the churches, whether by chewing, smoking, or

inhaling it in the form of powder—in short, to use it in any shape or form whatsoever.”

John Rolfe, most famed as the husband of Pocahontas, is accredited the first civilized tobacco grower. However this may be, records show that as early as 1612 he cultivated it for exportation to the mother country. Five years later it was the mainstay of the colony and there were patches of tobacco not only on the open lots of Jamestown but in the streets and market places. In spite of royal opposition, the industry, with occasional reverses, continued to thrive. In June, 1619, 20,000 pounds were taken overseas to England.

In 1620 it was recognized that women were essential to permanent colonization. Accordingly, ninety young women were sent to Jamestown, each to be taken as wife by a colonist, the latter paying the cost of transportation in tobacco, the quantity ranging from 120 to 150 pounds per wife.

Because of the profitability of tobacco raising, food crops came to be neglected, so that in 1621 tobacco-planting was restricted to a hundred plants per capita and nine leaves to a plant. The number of leaves was afterwards extended to twenty-five and in 1629 was reduced to twelve. The crop in 1621 amounted to 60,000 pounds and 55,000 pounds of this went to Holland.

Maryland was a close second to Virginia in the industrial beginning of tobacco, and the cultivation of the plant was closely identified with the early history of that colony also. The Year Book of the Department of Agriculture tells us that in Maryland tobacco was made legal tender in 1732 (at the rate of one penny per pound) for all debts, including customs dues and the salaries of State officers and ministers of the gospel. The yield of tobacco in that year was 30,000 hogsheads for Maryland alone. As late as 1777 the tax levied for Baltimore County and city was fixed at 172 pounds of tobacco per poll.

At the beginning of the nineteenth century the dark export types of Virginia and the light pipe-smoking tobacco of Maryland were the only classes of tobacco grown in this country. It has been within the past century that the cigar, the lemon-yellow cigarette, the mahogany manufacturing, the Burley, and Perique types of tobacco have been developed.

In 1812 the demand by foreign countries for colored tobaccos was so great that artificial heat was employed in curing. In this way the piebald, or spangled, tobacco of Virginia was developed. Until 1828 wood fires were the only artificial means known of curing tobacco. About this time flues and charcoal fires began to be used. It was not until 1865 that flue curing entirely superseded charcoal fires in the production of the bright yellow varieties, now so popular and used as cigarette, plug and twist wrappers.

In 1825 the amount of tobacco produced in Maryland was about 15,000 hogsheads; in 1846 it was 41,000 hogsheads, and in 1860 it was 51,000 hogsheads, this being the largest yield ever produced in that State. During the civil war the yield decreased, and in 1865 it was only 25,000 hogsheads. In 1878 the yield again increased to 46,000 hogsheads, while in 1890 the lowest production of the State was recorded, 14,000 hogsheads. In 1892 the yield rose to 27,000 hogsheads. The Maryland tobacco is consumed principally in Holland, France and Germany.

CHAPTER V

THE BEGINNING OF MANUFACTURING

EARLY CIGARETTE AND CIGAR MAKING AND EXTENSION OF THE INDUSTRY TO OTHER STATES

Although some tobacco was grown during the time of the early settlements in Pennsylvania and New England, the first real extension of the industry was westward, in Kentucky and Tennessee. In 1785 tobacco production was of considerable importance in northern Kentucky and the adjoining counties of Ohio, while in the central and southern portions of Kentucky and Tennessee this industry came into prominence about the year 1810. The tobacco produced here was the dark, export type that has always prevailed in these localities. Up to the year 1833 by far the largest part of the tobacco grown in these two States was sent by the planters in boats to New Orleans for shipment to foreign countries. In that year, however, warehouses were established in Clarksville, Tenn., and soon others sprang up in Louisville, Ky., and in the surrounding towns of these States.

The first crop of lemon-yellow tobacco was produced in 1852 on a sandy ridge in Caswell County, N. C. This tobacco was received with such special favor that its cultivation spread rapidly in Caswell County and also in Pittsylvania County, Va. During the civil war there was almost an entire abandonment of its production, but after the war attention was again called to this tobacco as being very desirable for plug fillers and wrappers. As flue curing came into general use about this time, a much superior article was produced. The price rapidly rose with the in-

crease in the demand, and the cultivation extended into other counties in North Carolina and Virginia and spread into South Carolina and eastern Tennessee. In 1876 there were 43,000 acres planted in this tobacco, yielding 20,000,000 pounds; in 1879 the acreage was 57,000, yielding 26,926,000 pounds.

THE FIRST CIGARETTES MADE

The manufacture of cigarettes in the United States began about 1864, in which year 19,770,000 were made. These apparently did not take well, as in 1869 the number of cigarettes manufactured was only 1,750,000, but after that time the annual output steadily and rapidly increased.

In 1864 the White Burley tobacco was originated through a sprout from the Red Burley in Brown County, Ohio. This tobacco at once found favor as coming midway between the light smoking varieties of Maryland and the dark export types of Virginia, Kentucky and Tennessee. On account of the absorbent powers of this leaf, it is particularly well adapted to plug fillers and plug and twist wrappers. The finer types are used for cigarette cutters and wrappers, while the light, flimsy, overripe bottom leaves are used for pipe smoking. The cultivation of this tobacco rapidly extended over the limestone area of southern Ohio and the central and northern sections of Kentucky. The cultivation of this tobacco is still confined to the limestone soil of this area.

CONNECTICUT TOBACCO AND THE CIGAR INDUSTRY

Tobacco was grown in the New England colonies during the years from 1640 to 1650, but from that time up to the early part of the past century it was almost abandoned. In 1825 the industry had been revived and developed to such an extent that the first warehouse was established at Ware-

house Point, Conn., where 3,200 pounds were packed and shipped to New York. In 1840 tobacco became a general crop, about 720,000 pounds being produced in the Connecticut Valley. In 1842 the yield had increased to 2,000,000 pounds, and in 1845 to 3,450,000 pounds, at which time the cultivation was extended into the Housatonic Valley. About 1833 the Broadleaf variety, having a silky, delicate leaf with regular veins, nearly tasteless and of fine texture and finish, was originated. Previous to 1845 the price ranged from seven to four cents per pound, but in 1847 it rose to forty cents per pound.

THE FIRST CIGARS MADE

During the first part of the present century the Connecticut tobacco was recognized as being essentially different from the Virginia types, and it began to be used in the manufacture of cigars. About 20,000 pounds of tobacco were produced in the Connecticut Valley in 1801, about which time the making of cigars was begun in a small way, the first factory being established in 1810. During the early development of this industry cigars were peddled through the country in wagons.

It was about this time that the first importation of Cuban cigars of any consequence was made.

The following shows the gradual increase in the number of cigars manufactured in the United States from 1860 to 1892:

Number of cigars manufactured in the United States in 1860, 1875, 1885 and 1892.

	Number
1860.....	199,000,000
1875.....	1,926,000,000
1885.....	3,358,000,000
1892.....	4,548,000,000

THE FIRST TAX ON CIGARS

The first tax on cigars, chewing and smoking tobaccos and snuff was imposed by act of Congress of July 1, 1862, which took effect September 1 of the same year. The first tax on cigarettes was imposed in 1864. Licenses for dealers and manufacturers were not required until 1868.

INTRODUCTION IN VARIOUS STATES

Pennsylvania.—The cultivation of tobacco in Pennsylvania began in 1689, but little attention was paid to the industry until 1828, when it began to be of commercial importance. In 1840 Pennsylvania produced 325,000 pounds of tobacco in York, Lancaster and Dauphin Counties, the present tobacco centers of the State. In 1845, in consequence of the Mexican war and the increased value of wheat, the cultivation of tobacco declined; but it developed rapidly between 1849 and 1859. In 1859 the yield was over 3,000,000 pounds. There was little increase in the yield until 1870; and in 1879 36,900,000 pounds were produced, at which time Pennsylvania ranked third among the tobacco-growing States of the country.

Ohio.—Cigar tobacco was first grown in Ohio in 1838, seed having been brought from Connecticut. In 1850 some 800,000 pounds of the seed-leaf variety were produced. During the years 1863, 1873 and 1880 the yield reached 1,200,000 pounds. The Little Dutch was introduced into Ohio from seed imported from Germany about 1869. In 1879 the total yield of this variety was about 500 cases. The Zimmer Spanish, a hybrid of the Cuban variety, was introduced about 1878. The Little Dutch and Zimmer Spanish, especially the latter, found great favor as cigar fillers. This largely increased the production of these tobaccos, supplanting to a considerable extent the seed-leaf variety.

New York.—The introduction of tobacco into New York State occurred in the year 1845; in 1855 Onondaga County alone produced 500,000 pounds, and in 1863 the cultivation had greatly extended and had reached considerable importance in several counties. From 1862 to 1864 New York tobacco brought a good price, selling for as much as thirty cents per pound. From this time on the price has varied greatly, ranging from five to twenty-five cents, and at times even to thirty cents per pound. In 1879 the crop of the entire State was estimated at 6,480,000 pounds.

Wisconsin.—Tobacco was introduced into Wisconsin in 1850, when 1,260 pounds were produced; in 1860 the yield was 87,000 pounds; in 1870 it was 960,000 pounds, and in 1889 it was 19,123,000 pounds.

Florida.—Tobacco was introduced into Florida about the year 1829; ten years later this tobacco had taken a place of considerable importance as a cigar-wrapper leaf, being especially noted for its broad, silky, beautifully spotted leaf. This is still remembered as the "Old Florida speckled leaf," the cultivation of which was entirely abandoned at the outbreak of the Civil War. About the year 1888 attention was again called to the possibility of producing a desirable cigar leaf in Florida; but with the importation to this country of the Cuban tobacco, which began in large quantity in 1860, and of the Sumatra some years later, the market had changed and the "Old Florida" was no longer acceptable to the cigar trade. The Cuban and Sumatra types have formed the basis of the present development of the tobacco industry in Florida.

Louisiana.—The culture of tobacco was begun in the State of Louisiana about the time of the settlement of New Orleans. In 1752 the Government of France offered to purchase all of the tobacco raised in that province at a price equivalent to \$7 per hundred pounds. During 1793

and 1794 the production of tobacco was stimulated by the ravages of insects on the indigo plant, which, previous to this time, had been a staple crop. In 1802, 2,000 hogsheads were exported from New Orleans, and the culture had extended along the Mississippi River as far north as Natchez. As this tobacco had no particular excellence, it was soon supplanted by the Kentucky and Tennessee tobaccos, which were of a much superior quality. In 1824 Acadians introduced a new method of curing, by which the tobacco was cured, under intense pressure, in its own juice. This Perique tobacco—for such is the name of the Louisiana variety—while very strong, has peculiar properties which are acceptable to pipe and cigarette smokers, especially when mixed in small proportions with other tobacco. On account of the long and laborious method of curing, the cultivation has never extended beyond two or three parishes in southern Louisiana; nor has it been placed upon a successful commercial basis, except among the Acadians.

* * *

Meanwhile, and subsequently, advances in the cultivation of tobacco were made in various other parts of the world, the soil and climate being the chief factors in determining the degree of importance attained. Probably there is no country in which tobacco growing has not been the subject of experiment. In some cases almost utter failure resulted; in others the quality obtained has been only mediocre, but good enough to encourage the production of leaf in restricted quantities for native consumption; and in a few cases types have been developed that have become standard and practically world-wide in demand. Chief among the latter types are Havana, Sumatra, Java, Porto Rico, Philippine, Turkish and Greek. The importance and peculiar characteristics of all these types, including the American, will be discussed in a later chapter.

Likewise, also, while the cultivation of tobacco was getting to be an important industry of the American colonists, and later of the American continent, as heretofore described, the enjoyment of tobacco also was steadily entrenching itself as a world-wide human diversion. Snuff taking, especially in France, England and Italy, followed the introduction of smoking so closely as to be virtually contemporaneous with it. Chewing soon after gained a foothold in the American colonies and, being promptly adopted by mariners because of its suitability to life on the quarter-deck, permeated to many far-off lands.

CHAPTER VI

EARLY STAGES OF MERCHANDISING

DEVELOPMENT OF CIGAR STORE KEEPING—PASSING OF THE INDIAN CIGAR SIGN—MODERN RETAILING

Up to the beginning of the 17th century tobacco, having been introduced to civilization first as a curative, was regarded in the light of a drug or herb and was procured by smokers and snuffers at apothecary shops only. It appears that in many cases where an apothecary developed a considerable tobacco patronage, he would partition off a corner of his shop for the exclusive use of smokers. It was not until 1600 or shortly thereafter, however, that tobacco shops, in the true sense of the word, began to be opened in London, Liverpool, and the larger English cities; and it was still later when tobacco stores began to be established in the colonies.

The Indian figure which, up to 1900, was commonly employed to indicate the location of a tobacco store, presumably was first introduced by London apothecaries featuring smoking materials, and was in due course adopted by tobacconists contemporaneous with the opening of the first tobacco shops. The earliest date of the employment of an Indian figure as a cigar sign of which there is any authentic record is 1617. The evidence of this is found in a woodcut print appearing in Brathwait's "Smoking Age" of that year. The picture shows, at the right, crude accommodations for smokers within the shop, and, at the left, the show window of the establishment, the central figure of which is an image of an Indian represented as smoking a huge roll of tobacco. Pipes also are displayed.

At that time tobacco was regarded as the gift of the red man to civilization, and it was therefore quite natural that merchants carrying it in stock would signify the fact by displaying in their windows, or in front of their shops, the crudely carved statuette of an American Indian holding in his extended hand some leaves of tobacco or a bundle of cigars. By this fashion all the novelty and romance and adventure of the comparatively unknown country from which tobacco came was conveyed to the passerby.

As the American colonies grew into large towns and cities the British idea of the wooden Indian was adopted by storekeepers on this side of the Atlantic.

Just as the origin of the wooden Indian was due to the fact that tobacco was an Indian offering and was identified in the minds of the people with Indian lore and Indian traffic, so is the passing of the quaint figure due to the extinction of the Indian and the tendency on the part of the public no longer to identify him with tobacco products.

We of today—certainly those of us who have reached middle age—can remember when the Indian, or some other character in wood, was the rule rather than the exception, as the identification mark of cigar emporiums. While the Indian was most commonly employed, the art of the commercial wood carver also found expression in numerous other figures. The base ball player, the plantation negro, the man of fashion—"dude," as he was called in those days—and Punch, a distinctly British idea, were among the characters most frequently utilized for the purpose.

One by one these effigies, some impressively beautiful and some laughably grotesque, but all interest-compelling, are being relegated to cellars, garrets and the rubbish pile. Some, however, have been preserved, among which are several whose histories are authentic and whose traditions surround them with a halo of romance.

In the offices of *The Tobacco Leaf*, New York, is pre-

served one of these figures, which is remarkably typical of the kind most in vogue a century or more ago, and up to comparatively recent times. It is carved from a solid piece of wood, is approximately life-size and is in a fine state of preservation in view of the fact that it is believed to be over 100 years old.

Another noteworthy figure is that at the headquarters of the American Tobacco Company. It is composed of metal and for many years it stood in front of a cigar store on the road from Cambridge to Boston and is said to have been much admired by the poet Longfellow. The McAlpin Indian, on view near the cigar stand in the McAlpin Hotel, and the Demuth colonial figure, in the possession of H. C. Demuth, Lancaster, Pa., known to have been in existence since 1770, are also notable specimens.

Under analysis the origin of the cigar store Indian reveals that the true advertising instinct was just as much alive in the time of King James as it is today. In those times the new American continent, its natives, its products and its mysteries were among the most important topics of the day. During the world war, when the interest of all civilized nations was centered on the great tragedy in France, there was hardly an advertisement in the press, on bill boards and in shop windows that did not employ war phrases or war activities as a means of catching the public eye. This was only advertising history repeating itself and it was this same psychology which prompted traffickers in tobacco to exploit the image of the Indian some three centuries ago, when he, his habitat and his habits were on the tip of the tongue of civilization.

In this age the wooden Indian has lost almost entirely his advertising value because his identification with tobacco has been submerged in the sea of international commerce.

Fortunes are expended every year by the American people for tobacco, cigarettes and pipe mixtures that come from

foreign lands. Turbaned sheiks embellish our cigarette advertising and Spanish legends and figures are employed to catch the eye of cigar smokers. Scandinavian names are valued as trademarks for snuff and British smoking tobaccos command even a higher price than those made in the country wherein tobacco was born.

Tobacco has come to be a product of world-wide cultivation and manufacture, and its true origin is getting to be a vagary in the public's mind.

So far as the tobacco trade and tobacco users are concerned, the Indian is void of symbolism.

His figure, graven in wood, has lost its intrinsic value, and, having become commercially impotent, it is passing away, along with its brothers of flesh and bone.

The passing of the cigar store Indian is of more than sentimental interest because it really marks the change of epochs in the retail merchandising of tobacco products. The appearance, the equipment, and the management of cigar stores in this country were far behind the progress that had been made in most other lines of retailing, up to the close of the 19th century. At that time cigar stores began to be modernized, and in 1901 this movement was materially accelerated by the advent of the chain store idea. During the succeeding decade the all-glass showcases, the cash register, ingenious humidifying devices, improved stock shelves, costly interior fittings, better sanitation, brighter illumination, more attractive store fronts, and a higher development in the art of window display wrought a great change and a vast improvement in cigar retailing, and so the retail tobacco business was brought up to the very last word in modern storekeeping.

However, today as in the time of James, almost every apothecary carries tobacco products as a side line. Moreover, cigars or cigarettes, or both, probably more than any other commodity, are largely dispensed at places other than

regular tobacco shops. Grocery stores, barber shops, shoe-shining establishments, fruit, candy, and beverage stands, billiard rooms, railroad trains, department stores, hotels, clubs, restaurants, etc., all participate in the distribution of these products. It has been estimated that there are over 500,000 places in the United States at which cigars, cigarettes, and tobaccos are sold at retail, and probably this approximation is far under the true number. All of which is eloquent testimony to the universality and indispensability of "the sovverane herbe."



part III

literary

CHAPTER VII

IN THE FIELD OF LETTERS

PIONEERS OF TOBACCO LITERATURE—QUAINT WRITINGS OF EARLY POETS AND AUTHORS

It may be, as has been said, that love makes the world go round; and certainly the heart's affection is the most largely employed theme of past and contemporary writers. While love may lead in the emotional class, it is doubtful if there is any substance or material thing that has been more freely written about than tobacco. Almost since the morning of its discovery it has been both the subject and the inspiration of poets, playwrights, authors, paragraphs and historians.

From 1500 up to about 1600 tobacco literature was confined largely to descriptions of the plant and its uses, and treatises on its effects upon human physiology. Thereafter it entered the broader field of literature and began to figure in light and serious verse and romantic and humorous prose. Of the first we have seen some examples in a foregoing chapter. About the first among the latter was the story of the servant extinguishing Sir Walter Raleigh with a tankard of ale. This was told by various authors who applied it to various people. In "Tarltons' Guests," published in 1611, it appears thus:

"Tarlton, as other gentlemen used, at the first comming up of tobacco, did take it more for fashion's sake than otherwise; and being in a roome, set between two men overcome with wine, and they never seeing the like, wondered at it, and seeing the vapour come out of Tarlton's nose, cried out: fire! fire! and threw a cup of wine in

Tarlton's face. Make no more stirre, quoth Tarlton, the fire is quenched; if the sheriffes come, it will turne to a fine, as the custome is. And drinking that againe: fie, sayes the other, what a stinke it makes; I am almost poysoned. If it offend, saies Tarlton, let's every one take a little of the smell, and so the savour will quickly goe; but tobacco whiffes made them leave him to pay all."

In 1619, Barnaby Rich inserted the yarn in his second edition of the *Irish Hubbub*. Here is his phase of the story:

"I remember a pretty iest of Tobacco. That was this. A certaine Welshman comming newly to London, and beholding one to take tobacco, neuer seeing the like before, and not knowing the manner of it, but perceiuing him vent smoake so fast, and supposing his inward parts to be on fire: cried out, O Ihesu, Ihesu man, for the passon of God hold, for the Cods splud ty snowts on fire, and hauing a bowle of beere in his hand, threw it at the others face to quench his smoking nose."—p. 45.

In 1596 we find tobacco dramatized, probably for the first time. On November 25th of that year, a play by Ben Jonson, entitled "Everyman in His Humour," was presented, and in Scene 2, Act III, there is a dialogue between Bobadilla and Cob, in which Jonson presents both sides of the tobacco controversy, which was rife at that time:

Bobadilla: "Body of me: there's the remainder of seven pound, since yesterday was seuennight. It's your right Trinidado: did you neuer take any, signior?"

Stephano: "No truly sir. But i'le learne to take it now, since you commend it so."

Bobadilla: "Signior belecue me, (vpon my relation) for what I tel you, the world shall not improve. I haue been in the Indies (where this herbe growes) where neither mysele, nor a dozen Gentlemen mor (of my knowledge) haue receiued the taste of any other nutriment, in the world, for



NEARLY ALL AUTHORS ARE SMOKERS. MARK TWAIN'S
FAVORITE PIPE WAS A CALABASH

the space of one and twentie weekes, but Tobacco onely. Therefore it cannot be but 'tis most diuine. Further, take it in the nature, in the true kinde so, it makes an Antidote, that had you taken the most deadly poysonous simple in all Florence, it should expell it, and clarifie you, with as much ease, as I speak. And for your greene wound, your Balsamum, and your—are all meere gulleries, and trash to it, especially your Trinidado; your Newcotian is good too; I could say what I know of the vertue of it, for the exposing of rewmes, raw humors, crudities, obstructions, with a thousand of this kind: but I professe myselfe no quackesaluer: only thus much by Hercules I doe holde it, and will affirme it (before any Prince in Europe) to be the most foueraigne, and pretious herbe, that euer the earth tendred to the vse of man."

Immediately afterwards, he makes Cob represent the other side:

Cob: "By gods deynes: I marle what pleasure or felicitie they haue in taking this rogish Tabacco: it's good for nothing but to choake a man, and fill him full of smoake, and imbers: there were foure died out of one house last weeke with taking of it, and two more the bell went for yesternight, and one of them (they say) will ne're scape it, he voyded a bushell of soote yesterday, upward and downward. By the stockes; and there were no wiser men then I, I'd haue it present death, man or woman, that should be deale with a Tabacco pipe; why, it will stifle them all in the'nd as many as vse it; it's little better than rats bane." Ed. 1601.

In 1599, tobacco first began to stir the poetical muse when Henry Buttes, M.A. and Fellow of C. C. C. Co. in Cambridge, in a work called "Diets Dry Dinner," a satyricall epigram, upon the wanton and excessive use of tobacco, wrote;



SIR PHILIP GIBBS, AUTHOR, WAR CORRESPONDENT AND LECTURER,
DRAWING INSPIRATION FROM A CIGARETTE.

It chaunc'd me gazing at the Theater,
 To spie a Lock-Tabacco-Chevalier,
 Clwoding the loathing ayr with foggie fume
 Of Dock-Tabacco, friendly foe to rume.
 I wisht the Roman lawes seuerity: Alex. seu. Edict. —
 Who smoke selleth, with smoke be don to dy.
 Being well night smouldred with his smokie stir,
 I gan this wize bespeak my gallant Sir:
 Certes, me thinketh (Sir) it ill beseems,
 Thus here to vapour out these reeking steams:
 Like or to Maroes steeds, whose nostrils flam'd;
 Or Plinies Nosemen (mouthless men) surnam'd,
 Whose breathing nose supply'd Mouths absency.
 He me regreets with this prophane reply:
 Nay; I resemble (Sir) Fehovah dread,
 From out whose nostrils a smoake issued:
 Or the mid-ayrs congealed region,
 Whose stomach with crude humors frozenon
 Sücks vp Tabacco-like the vpmost ayr,
 Enkindled by Fires neighbour candle fayr:
 And hence it spits out watry reums amaine,
 As phleamy snow, and haile, and sheerer raine:
 Anon it smoakes beneath, it flames anon.
 Sooth then, quoth I, it's safest we be gon,
 Lest there arise some Ignis Fatuus
 From out this smoaking flame, and choken vs.
 On English foole: wanton Italianly.
 Go Frenchly: Duchly drink: breath Indianly.

"The Metamorphosis of Tabacco" was a title of a poem
 which appeared anonymously, dedicated "To my loving
 Friend Master Michael Drayton":

I sing the loues of the superiour powers,
 With the faire mother of all fragrant flowers:
 From which first loue a glorious Simple springs,
 Belou'd of heau'nly Gods, and earthly Kings.
 Let others in their wanton verses chaunt
 A beautious face that doth their senses daunt,
 And on their Muses wings lift to the skie
 The radiant beames of an inchaunting eye.
 Me let the sound of great Tabaccoes praise



A
COUNTER
BLASTE TO
Tobacco.



Imprinted at London
by R. B.
Anno 1604.

COVER OF KING JAMES' "COUNTERBLASTE"



A

COUNTERBLASTE TO Tobacco.



That the manifold abuses of this vile custome of *Tobacco* taking, may the better be espied, it is fit, that first you enter into consideration both of the first originall thereof, and likewise of the reasons of the first entry thereof into this Countrey. For certainly as such customes, that haue their first institution either from a godly, necessary, or honorable ground, and are first brought in, by the meanes of some worthy, vertuous, and great Personage, are euer, and most iustly, holden in great and reuerent estimation and account, by all wise, vertuous, and temperate spirits: So should it by the contrary, iustly bring a great disgracein to that sort of customes, which hauing their originall from base corruption and barbarity, doe in like sort, make their first entry into a Countrey, by an inconsiderate and childish affectation of Noueltie, as is the true case of the first inuention of *Tobacco* taking, and of the first entry thereof among vs. For *Tobacco* being a common herbe, which (though. vnder diuers names) growes

OPENING OF THE "COUNTERBLASTE"

A counterblaste to Tobacco.

almost euery where, was first found out by some of the barbarous *Indians*, to be a Preferuatiue, or Antidot against the Pockes, a filthy disease, whereunto these barbarous people are (as all men know) very much subiect, what through the vncleanly and aduſt constitution of their bodies, and what through the intemperate heate of their Climat: so that as from them was first brought into Christendome, that most detestable disease, so from them likewise was brought this vse of *Tobacco*, as a stinking and vnſauorie Antidot, for so corrupted and execrable a Maladie, the stinking Suffumigation whereof they yet vse against that disease, making so one canker or venime to eate out another.

And now good Countrey men let vs (I pray you) consider, what honour or policie can moouē vs to imitate the barbarous and beastly maners of the wilde, godlesse, and ſlauish *Indians*, especially in so vile and stinking a custome? Shall wee that disdainē to imitate the maners of our neighbour *France* (hauing the stile of the first Christian Kingdom) and that cannot endure the spirit of the Spaniards (their King being now comparable in largenes of Dominions, to the great Emperor of *Turkie*) Shall wee, I say, that haue bene so long ciuill and wealthy in Peāce, famous and inuincible in Warre, fortunate in both, we that haue bene euer able to aide any of our neighbours (but neuer deafed any of their eares with any of our supplications for assistance) shall we, I say, without blushing, abase our selues so farre, as to imitate these beastly *Indians*, ſlaues to the *Spaniards*, refuse to the world, and as yet aliens from the holy Couenant of God? Why doe we not as well imitate them in walking naked as they doe? in preferring glasseſ, feathers, and such toyes, to golde and precious stonēs, as they doe? yea why do we not denie God and adore the Deuill, as they doe?

Now to the corrupted basenesse of the first vse of this *Tobacco*, doeth very well agree the foolish and groundlesse first entry thereof into this Kingdome. It is not so long since the first entry of this abuse amongst vs here, as this present age cannot yet very well re-

A pitch aboue those loue-sicke Poets raise:
 Let me adore with my thrice-happie pen
 The sweete and sole delight of mortall men,
 The Cornu-copia of all earthly pleasure,
 Where bankrupt Nature hath consum'd her treasure,
 A worthie plant springing from Floraes hand,
 The blessed ofspring of an vncouth land.

It was about this time that King James' antipathy toward tobacco was growing furious; and two years later his famous "Counterblaste" was issued. The muse subsided temporarily, but even before the end of James' reign it again bubbled forth and from that age up to the present time tobacco has figured prominently in song and story.

Lord Byron is among the immortals who have sung the praises of tobacco. His rhapsody in "The Island" has been pronounced a classic eulogy. While Byron's tribute favored the cigar, Cowper extolled the virtues of snuff, singing that it

"Does thought more quicken and refine
 Than all the breath of all the Nine."

Second only to Byron comes Lowell with his "Thanks for Certain Cigars":

"Tobacco, sacred herb though lowly,
 Baffles old Time, the tyrant, wholly,
 And makes him turn his hour-glass slowly.

". . . This rare plant delays the stream
 (At least if things are what they seem)
 Through long eternities of dream."

Conspicuous in the tributes of the present century are Kipling's "Betrothed" and verses by Henley and Le Gallienne.

Among books about smoking, that which excells, from a purely literary standpoint, is undoubtedly J. M. Barrie's

"My Lady Nicotine." Of this book, Penn in his "Soverane Herbe" writes:

"With rare charm and humour are the subtle pleasures of smoking discussed, and its practice placed in its true position, not merely as a physical habit, but as a cult, with its mental and spirituelle aspects. So truly does it reveal the smoker's inner mind, that it is surprising to learn, on Mr. Barrie's own confession, that he was then only a novitiate in the mystery of smoking, 'gingerly pulling my first pipe instead of being, as I represented, a hardened smoker.' Even to the non-smoker 'My Lady Nicotine' appeals, and tobacco appears in a fresh light. It is a worthy tribute to tobacco that on no other habit could a series of essays so charming, humorous, and delicately philosophical be written without offending against the laws of refinement and good taste."

CHAPTER VIII

TOBACCO AND THE MUSE

SELECTIONS FROM THE PROSE AND POETRY OF THREE CENTURIES

WITH PIPE AND BOOK

With Pipe and Book at close of day,
Oh, what is sweeter, mortal, say?
It matters not what book on knee,
Old Izaak or the Odyssey,
It matters not meerschaum or clay.

And though one's eyes will dream astray,
And lips forget to sue or sway,
It is "enough to merely be"
With Pipe and Book.

What though our modern skies be gray,
As bards aver, I will not pray
For "soothing Death" to succor me,
But ask this much, O Fate, of thee,
A little longer yet to stay
With Pipe and Book.

—RICHARD LE GALLIENNE.

CARLYLE ON TOBACCO

"Tobacco smoke," says Carlyle, "is the one element in which, by our European manners, men can sit silent together without embarrassment, and where no man is bound to speak one word more than he has actually and veritably got to say. Nay, rather every man is admonished and enjoined by the laws of honor, and even of personal ease, to stop short of that point; and at all events to hold his peace and take to his pipe again the instant he *has* spoken his meaning, if he chance to have any. The results of which salutary practice, if introduced into constitutional parliaments, might evi-

dently be incalculable. The essence of what little intellect and insight there is in that room—we shall or can get nothing more out of any parliament; and sedative, gently soothing, gently clarifying, tobacco smoke (if the room were well ventilated, open atop, and the air kept good), with the obligation to a *minimum* of speech, surely gives human intellect and insight the best chance they can have."

IN FAVOR OF TOBACCO

Much victuals serves for gluttony
 To fatten men like swine;
 But he's a frugal man indeed
 That with a leaf can dine,
 And needs no napkin for his hands,
 His fingers' ends to wipe,
 But keeps his kitchen in a box,
 And roast meat in a pipe.

—SAMUEL ROWLANDS.

Knave of Clubs (1611).

THE DISCOVERY OF TOBACCO

A Sailors' Version

They were three jolly sailors bold,
 Who sailed across the sea;
 They'd braved the storm, and stood the gale,
 And got to Virgin-ee.

'Twas in the days of good Queen Bess,—
 Or p'raps a bit before,—
 And now these here three sailors bold
 Went cruising on the shore.
 A lurch to starboard, one to port,
 Now forrard, boys, go we,
 With a haul and a "Ho!" and a "That's your
 sort!"
 To find out Tobac-kee.

Says Jack, "This here's a rummy land."
 Says Tom, "Well, shiver me!
 The sun shines out as precious hot
 As ever I did see."

Says Dick, "Messmates, since here we be"—
And gave his eye a wink—
"We've come to find out Tobac-kee,
Which means a drop to drink."

Says Jack, says he, "The Injuns think——"
Says Tom, "I'll swear as they
Don't think at all." Says Dick, "You're right;
It ain't their nat'ral way.
But I want to find out, my lads,
This stuff of which they tell;
For if, as it ain't meant to drink,
Why, it must be meant to smell."

Says Tom, says he, "To drink or smell,
I don't think this here's meant."
Says Jack, says he, "Blame my old eyes,
If I'll believe it's scent."
"Well, then," says Dick, "if that ain't square,
It must be meant for meat;
So come along, my jovial mates,
To find what's good to eat."

They came across a great big plant,
A-growing tall and true.
Says Jack, says he, "I'm precious dry,"
And picked a leaf to chew.
While Tom takes up a sun-dried bit,
A-lying by the trees;
He rubs it in his hands to dust
And then begins to sneeze.

Another leaf picks nimble Dick,
And dries it in the sun,
And rolls it up all neat and tight.
"My lads," said he in fun,
"I mean to cook this precious weed."
And then from out his poke
With burning-glass he lights the end,
And quick blows up the smoke.

Says Jack, says he, "Of Paradise
 I've heerd some people tell,"
 Says Tom, says he, "This here will do;
 Let's have another smell."
 Says Dick, his face all pleasant smiles,
 A-looking through a cloud,
 "It strikes me here's the Cap'n bold,
 And now we'll all be rowed."

Up comes brave Hawkins on the beach;
 "Shiver my hull!" he cries,
 "What's these here games, my merry men?"
 And then, "Why, blame my eyes!
 Here's one as chaws, and one as snuffs,
 And t'other of the three
 Is smoking like a chimbley-pot—
 They've found out Tobac-kee!"

So if ever you should hear
 Of Raleigh and them lies
 About his sarvant and his pipe
 And him as "Fire!" cries,
 You say as 'twas three sailors bold
 As sailed to Virgin-ee
 In brave old Hawkins' gallant ship
 Who found out Tobac-kee.

—*Cigar and Tobacco World, London.*

A PIPE OF TOBACCO

Little tube of mighty power,
 Charmer of an idle hour,
 Object of my warm desire,
 Lip of wax, and eye of fire:
 And thy snowy taper waist,
 With my finger gently braced;
 And thy pretty swelling crest,
 With my little stopper press'd,
 And the sweetest bliss of blisses,
 Breathing from thy balmy kisses.

TOBACCOLAND

Happy thrice, and thrice agen,
 Happiest he of happy men,
 Who when agen the night returns,
 When agen the taper burns;
 When agen the cricket's gay
 (Little cricket full of play),
 Can afford his tube to feed
 With the fragrant Indian weed;
 Pleasure for a nose divine,
 Incense of the god of wine.
 Happy thrice, and thrice agen
 Happiest he of happy men.

—ISAAC HAWKINS BROWNE (1736).

SMOKE DREAMS

Tobacco smoke! Blue-gray in wreaths,—
 Blue laurel-wreaths which float in air,
 As if, invisible, serene,
 A dreaming angel hovered there.
 A spirit of calm kindness,—
 A touch of eyes that smile through tears,—
 A mantle of forgetfulness,
 Thrown on the passions of the years.

I cross my knees, I puff my pipe,
 The gentle Summer warmth creeps in;
 The Summer warmth 'mid Winter's snows,—
 For indolence shall banish sin,—
 And watch the tasseled smoke-drops fall,
 And note the fringed smoke-plumes rise,
 And see the dreams, in legions, turn
 To smoky nothings in the skies.

Tobacco smoke, like silken web,
 Suspended in the restful airs,
 To me and mine, in soothing rhymes
 A dainty, artless burden bears;
 Let cares rage on—let hopes renew—
 The Yesterday, To-morrow be—
 But we are wise, the smoke and I;
 We cease regrets and troubles flee.

—A. B. TUCKER.



IRVIN S. COBB BELIEVES THE LAST INCH OF A CIGAR IS THE SWEETEST.

BULWER-LYTTON ON TOBACCO SMOKING

He who doth not smoke hath either known no great griefs, or refuseth himself the softest consolation, next to that which comes from heaven. "What softer than a woman?" whispers the young reader.

Young reader, woman teases as well as consoles. Woman makes half the sorrows which she boasts the privilege to soothe.

Woman consoles us, it is true, while we are young and handsome; when we are old and ugly, woman snubs and scolds us.

On the whole, then, woman in this scale, the weed in that. Jupiter! hang out thy balance, and weigh them both; and if thou give the preference to woman, all I can say is, the next time Juno ruffles thee, O Jupiter! try the weed.—"*What Will He Do With It?*"

LATAKIA

When all the panes are hung with frost
 Wild wizard-work of silver lace,
 I draw my sofa on the rug,
 Before the ancient chimney-place
 Upon the painted tiles are mosques
 And minarets, and here and there
 A blind muezzin lifts his hands,
 And calls the faithful unto prayer.
 Folded in idle, twilight dreams,
 I hear the hemlock chirp and sing,
 As if within its ruddy core
 It held the happy heart of Spring.
 Ferdousi never sang like that,
 Nor Saadi grave, nor Hafiz gay;
 I lounge, and blow white rings of smoke,
 And watch them rise and float away.

The curling wreaths like turbans seem
 Of silent slaves that come and go—
 Or Viziers, packed with craft and crime,
 Whom I behead from time to time,
 With pipe-stem, at a single blow.
 And now and then a lingering cloud
 Takes gracious form at my desire,
 And at my side my lady stands,

Unwinds her veil with snowy hands—
 A shadowy shape, a breath of fire!
 Oh, Love! if you were only here,
 Beside me in this mellow light,
 Though all the bitter winds should blow,
 And all the ways be choked with snow,
 'Twould be a true Arabian night!

—T. B. ALDRICH.

SUBLIME TOBACCO

Sublime tobacco! which, from east to west,
 Cheers the tar's labor or the Turkman's rest,
 Which on the Moslem's ottoman divides
 His hours, and rivals opium and his brides;
 Magnificent in Stamboul, but less grand,
 Though not less loved, in Wapping on the Strand;
 Divine in hookas, glorious in a pipe,
 When tipp'd with amber, mellow, rich, and ripe;
 Like other charmers, wooing the caress
 More dazzlingly when daring in full dress,
 Yet thy true lovers more admire, by far,
 Thy naked beauties—give me a cigar!

—LORD BYRON,

The Island, Canto II, Stanza 19.

A GOOD CIGAR

Oh, 'tis well enough
 A whiff or a puff
 And the heart of a pipe to get;
 And a dainty maid
 Or a budding blade
 May toy with the cigarette;
 But a man, when the time
 Of a glorious prime
 Dawns forth like a morning star,
 Wants the dark-brown bloom
 And the sweet perfume
 That go with a good cigar,

To lazily float
 In a painted boat

On a shimmering morning sea,
 Or to flirt with a maid,
 In the afternoon shade,
 Seems good enough sport to be;
 But the evening hour,
 With its subtle power,
 Is sweeter and better far,
 If joined to the joy,
 Devoid of alloy,
 That lurks in a good cigar.

When a blanket wet
 Is solidly set
 O'er hopes prematurely grown;
 When ambition is tame,
 And energy lame,
 And the bloom from the fruit is blown;
 When to dance and to dine,
 With women and wine,
 Past poverty pleasures are,—
 A man's not bereft
 Of all peace, if there's left
 The joy of a good cigar.

—NORRIS BULL.

HAVANA

You with your dainty cigarette,
 I with my brown cigar—
 So we sat and dreamed by the parapet
 Till the north star gleamed and the south moon set
 And sank in the harbor bar;
 Till the warm south moon with the sea-line met,
 And sank in the harbor bar.

Yours were the prayers by the warm south moon,
 Mine by the cold north star,
 And the love that sighed by the low lagoon
 Was the love that died in the garish noon,
 Like the song of your light guitar;
 Was the love that drooped and died so soon
 With the song of your light guitar.



W. L. GEORGE, NOVELIST AND FEMINIST, IS PARTIAL TO THE PIPE.

Cold is the ash of your cigarette,
 Gone is my brown cigar,
 For the warm south moon forever set
 When we kissed, too soon, by the parapet,
 And I sailed for the cold north star;
 But I hear you calling, calling yet,
 To me and the cold north star.

—CARL AVERY WERNER.

A FAREWELL TO TOBACCO

May the Babylonish curse
 Straight confound my stammering verse
 If I can a passage see
 In this world-perplexity,
 Or a fit expression find,
 Or a language to my mind
 (Still the phrase is wide or scant)
 To take leave of thee, Great Plant!
 Or in any terms relate
 Half my love or half my hate;
 For I hate yet love thee so,
 That, whichever things I show,
 The plain truth will seem to be
 A constrain'd hyperbole,
 And the passion to proceed
 More from a mistress than a weed.

Sooty retainer to the vine
 Bacchus' black servant, negro-fine;
 Sorcerer, thou makest us dote upon
 Thy begrimed complexion,
 And for thy pernicious sake,
 More and greater oaths to break
 Than reclaimed lovers take
 'Gainst women; thou thy siege dost lay
 Much too in the female way,
 While thou suck'st the laboring breath
 Faster than kisses or than death.
 Thou in such a cloud dost bind us
 That our worst foes cannot find us
 And ill fortune, that would thwart us,

Shoots at rovers, shooting at us;
While each man, through thy height'ning steam
Does like a smoking Etna seem,
And all about us does express
(Fancy and wit in richest dress)
A Sicilian fruitfulness.

Thou through such a mist dost show us
That our best friends do not know us,
And for those allowed features,
Due to reasonable creatures,
Liken'st us to fell Chimeras—
Monsters that, who see us, fear us;
Worse than Cerberus or Geryon
Or, who first loved a cloud, Ixion.

Bacchus we know, and we allow
His tipsy rites. But what art thou,
That but by reflex canst show
What his deity can do,
As the false Egyptian spell
Aped the true Hebrew miracle,
Some few vapors thou may'st raise,
The weak brain may serve to amaze,
But to the reins and nobler heart
Canst not life nor heat impart.

Brother of Bacchus, later born,
The old world was sure forlorn
Wanting thee; thou aidest more
The god's victories than before
All his panthers and the brawls
Of his piping Bacchanals.
These as stale, we disallow,
Or judge of *thee meant*; only thou
His true Indian conquest art;
And, for ivy round his dart,
The reformed god now weaves
A finer thyrsus of thy leaves.

Scent to match thy rich perfume
Through his quaint alembic strain,

None so sovereign to the brain.
 Nature that did in thee excel,
 Framed again no second smell.
 Roses, violets but toys
 For the smaller sort of boys,
 Or for greener damsels meant;
 Thou art the only manly scent.

Stinking'st of the stinking kind,
 Filth of the mouth and fogs of the mind;
 Africa, that brags her foison,
 Breeds no such prodigious poison,
 Henbane, nightshade, both together,
 Hemlock, aconite—

Nay, rather

Plant divine, of rarest virtue;
 Blisters on the tongue would hurt you.
 'Twas but in a sort I blamed thee,
 None e'er prosper'd who defamed thee:
 Irony all and feign'd abuse,
 Such as perplexed lovers use
 At a need when, in despair,
 To paint forth their fairest fair,
 Or in part but to express
 That exceeding comeliness
 Which their fancines doth so strike,
 They borrow language of dislike,
 And, instead of Dearest Miss,
 Jewel, Honey, Sweetheart, Bliss,
 Call her Cockatrice and Siren,
 Basilisk, and all that's evil,
 Witch, Hyena, Mermaid, Devil,
 Ethiop, Wench, and Blackamoor,
 Monkey, Ape, and twenty more:
 Friendly Traitress, Loving Foe—
 Not that she is truly so,
 But no other way they know
 A contentment to express,
 Borders so upon excess,
 That they do not rightly wot
 Whether it be pain or not.

Or as men, constrain'd to part
 With what's nearest to their heart,
 While their sorrow's at the height,
 Lose discrimination quite,
 And their hasty wrath let fall
 To appease their frantic gall,
 On the darling thing whatever
 Whence they feel it death to sever,
 Though it be, as they, perforce,
 Guiltless of the sad divorce.
 For I must (nor let it grieve thee,
 Friendliest of plants, that I must) leave thee,
 For thy sake, Tobacco, I
 Would do anything but die,
 And but seek to extend my days
 Long enough to sing thy praise.

But as she who once hath been
 A king's consort is a queen
 Ever after, nor will bate
 Any title of her state
 Though a widow, or divorced,
 So I from my converse forced,
 The old name and style retain,
 A right Katherine of Spain;
 And a seat, too, 'mongst the joys
 Of the blest Tobacco Boys;
 Where, though I, by sour physician,
 Am debarr'd the full fruition
 Of thy favors, I may catch
 Some collateral sweets, and snatch
 Sidelong odors, that give life
 Like glances from a neighbor's wife;
 And still live in the by-places
 And the suburbs of thy graces,
 And in thy borders take delight
 An unconquer'd Canaanite.

—CHARLES LAMB.

THE SCENT OF A GOOD CIGAR

What is it comes through the deepening dusk,—
 Something sweeter than jasmine scent,

Sweeter than rose and violet blent,
 More potent in power than orange or musk?
 The scent of a good cigar.

I am all alone in my quiet room,
 And the windows are open wide and free
 To let in the south wind's kiss for me,
 While I rock in the softly gathering gloom,
 And that subtle fragrance steals.

Just as a loving, tender hand
 Will sometimes steal in yours,
 It softly comes through the open doors,
 'And memory wakes at its command,—
 The scent of that good cigar.

'And what does it say? Ah! that's for me
 And my heart alone to know;
 But that heart thrills with a sudden glow,
 Tears fill my eyes till I cannot see,—
 From the scent of that good cigar.

—KATE A. CARRINGTON.

IN THE OL' TOBACKER PATCH

I jess kind o' feel so lonesome that I don't know what to do,
 When I think about them days we used to spend
 A-hoein' our tobacker in th' clearin'—me an' you—
 An' a-wishin' that the day was at an end.
 For the dewdrops was a-sparklin' on the beeches' tender leaves
 As we started out a-workin' in the morn';
 An' th' noonday sun was sendin' down a shower of burnin' leaves
 When we heard the welcome-soundin' dinner-horn.
 An' th' shadders round us gathered in a sort of ghostly batch,
 'Fore we started home from workin' in that ol' tobacker patch.

I'm a-feelin' mighty lonesome, as I look aroun' to-day,
 For I see th' change that's taken place since then.
 All th' hills is brown and faded, for th' woods is cleared away,
 You an' me has changed from ragged boys to men;
 You are livin' in th' city that we ust to dream about;
 I am still a-dwellin' here upon the place,

But my form is bent an' feeble, which was once so straight and stout,

An' there's most a thousand wrinkles on my face.

You have made a mint of money; I perhaps have been your match,
But we both enjoyed life better in that ol' tobacker patch.

—S. Q. LAPIUS.

ROBERT INGERSOLL'S TRIBUTE TO TOBACCO

Nearly four centuries ago Columbus, the adventurous, in the blessed island of Cuba, saw happy people with rolled leaves between their lips. Above their heads were little clouds of smoke. Their faces were serene, and in their eyes was the autumnal heaven of content. These people were kind, innocent, gentle, and loving.

The climate of Cuba is the friendship of the earth and air, and of this climate these sacred leaves were born—leaves that breed in the mind of him who uses them the cloudless, happy days in which they grew.

These leaves make friends and celebrate with gentle rites the vows of peace. They have given consolation to the world. They are the companions of the lonely, the friends of the imprisoned, of the exile, of workers in mines, of fellers of forests, of sailors on the desolate seas. They are the givers of strength and calm to the vexed and wearied minds of those who build with thought and brain the temples of the soul.

They tell of hope and rest. They smooth the wrinkled brows of care, drive fear and strange, misshapen dreads from out the mind, and fill the heart with rest and peace. Within their magic warp and woof some potent, gracious spell imprisoned lies, that, when released by fire, softly steals within the fortress of the brain and binds in sleep the captured sentinels of care and grief. These leaves are the friends of the fireside, and their smoke, like incense, rises from myriads of happy homes. Cuba is the smile of the sea.

TOBACCO HEARTS

O she was a gay little cigarette,

And he was a fat cigar;

And side by side on a tabouret

They stood in a ginger jar.

Though never a word could I understand

(For they spoke in auto-bac),

Yet wonderful things they surely planned,

As lovers will, alack!

Now, she is a sad little cigarette,
 For gone is her fat cigar;
 And all alone on the tabouret
 She stands in the ginger jar.
 Ah, love is a wonderful thing, 'tis true,
 And many a fault 'twill cloak;
 But it often ends, like the dream of these two,
 In nothing at all—but smoke.
 —*Irish Tobacco Trade Journal.*

 MY CIGARETTE

My cigarette! The amulet
 That charms afar unrest and sorrow,
 The magic wand that, far beyond
 To-day, can conjure up to-morrow.
 Like love's desire, thy crown of fire
 So softly with the twilight blending;
 And ah! meseems a poet's dreams
 Are in thy wreaths of smoke ascending.

My cigarette! Can I forget
 How Kate and I, in sunny weather,
 Sat in the shade the elm-tree made
 And rolled the fragrant weed together?
 I at her side, beatified,
 To hold and guide her fingers willing;
 She rolling slow the paper's snow,
 Putting my heart in with the filling.

My cigarette! I see her yet,
 The white smoke from her red lips curling,
 Her dreaming eyes, her soft replies,
 Her gentle sighs, her laughter purling;
 Ah, dainty roll, whose parting soul
 Ebbs out in many a snowy billow;
 I, too, would burn, if I could earn
 Upon her lips, so soft a pillow.

Ah, cigarette! The gay coquette
 Has long forgot the flame she lighted;
 And you, as I, unthinking by,

Alike are thrown, alike are slighted.
 The darkness gathers fast without,
 A raindrop on my window splashes;
 My cigarette and heart are out,
 And naught is left me but the ashes.

—CHARLES F. LUMMP.

WHEN MOLLY HOLDS THE MATCH

"I'll have another cigarette,"
 I say, "before I go."
 And Molly smiles, for that's her way
 Of saying yes, you know.
 She deftly takes a lucifer
 And sets it in a blaze.
 "Come, here's a light," she says. I puff
 And watch her thro' the haze.
 The smoke rings take fantastic form
 And send out sweet perfume.
 The glowing end throws rosy tints
 Throughout the cosy room—
 When Molly holds the match.

The yellow nicotine becomes
 Sweet nectar on my tongue.
 Tho' I were bent and old, I think
 'Twould make me straight and young.
 And then a sense of deepest rest—
 A sort of sweet content—
 Creeps over me, akin to peace,
 That is from Heaven sent.
 The rankest weed that ever grew
 Would seem sweet to my taste;
 The world would seem a Paradise,
 Tho' 'twere a barren waste—
 If Molly held the match.

When Molly lights my cigarette,
 What fairy visions rise,
 Of starry nights and golden days
 And sunny summer skies!
 I look beyond the little blaze,

TOBACCOLAND

And through the rings of blue,
 And try to read her witchery.
 Of course, I never do.
 Ah, me! my heart's combustible,
 And tho' I'm not to blame,
 I fear the very smallest spark
 Would set it all aflame

—And, *Molly holds the match.*

—CARL AVERY WERNER.

'Twas OFF THE BLUE CANARIES

'Twas off the blue Canary Isles,
 A glorious summer day,
 I sat upon the quarter-deck,
 And whiffed my cares away;
 And as the volumed smoke arose,
 Like incense in the air,
 I breathed a sigh to think, in sooth,
 It was my last cigar.

I leaned upon the quarter rail,
 And looked down in the sea;
 E'en there the purple wreath of smoke
 Was curling gracefully;
 Oh! what had I at such a time
 To do with wasting care?
 Alas! the trembling tear proclaimed
 It was my last cigar.

I watched the ashes as it came
 Fast drawing to an end;
 I watched it as a friend would watch
 Beside a dying friend;
 But still the flame swept slowly on;
 It vanished into air;
 I threw it from me,—spare the tale,—
 It was my last cigar.

I've seen the land of all I love
 Fade in the distance dim;
 I've watched above the blighted heart,

Where once proud hope had been;
 But I've never known a sorrow
 That could with that compare,
 When off the blue Canaries
 I smoked my last cigar.

—JOSEPH WARREN FABENS.

A CIGARETTE SMOKER'S LAMENT

When a fool takes tea or coffee till his spleen
 Revolts and turns his skin a sallow green,
 And his lungs indulge in wheezing,
 And his hollow nostrils sneezing,
 And his body grows cadaverously lean,
 Old women whisper low:
 "You see I told you so,
 Although with deep regret,
 It's another case, I know,
 Of destruction by the deadly cigarette."

When the wheels go round within a fellow's head,
 And he paints the town a rich and royal red,
 Till he makes a first-class thesis
 For the doctors on paresis,
 Then goes to join the armies of the dead:
 The grannies every time
 Cry, "Cut off in his prime!
 Oh, why did he forget
 That 'tis a shame and crime
 For a youth to use the deadly cigarette!"

When a man destroys his stomach with strong drink;
 When his nose becomes a telltale rosy pink;
 When his hands are most unsteady,
 And his tongue becomes unready,
 And his cash and credit, brains and muscles shrink;
 The cranks forthwith declare,
 With a more than solemn air,
 In words that jar and fret:
 "'Twas a case of wild despair,
 Where the trouble was the deadly cigarette!"

When a burglar cracks a safe or robs a bank;
 When a child is scalded in a tub or tank;
 When a pretty girl gets jolly
 Upon soda; when a trolley
 Plays the dickens with a fellow's foot or shank;
 There is usually some ass
 Who will worry and harass,
 With words or e'en a bet,
 That the trouble came to pass
 From the diabolic, deadly cigarette.

I've smoked my cigarette for many a year,
 And the only thing to-day which brings me cheer
 Is the comforting reflection
 That the scolding and dejection
 Will soon be turned to coffee, tea, and beer.
 For while no idiot dies,
 His weak and wandering eyes
 Must be on new things set;
 And though he now despise,
 He soon will praise the "deadly" cigarette.

—W. E. S. FALES.

TO MY PIPE

Come down, old friend, from off the mantel-tree,
 Where loving fingers placed thee yester-eve;
 Come down, and hold communion now with me,
 Thou art a friend who never did deceive.
 A friend who never fails in time of need,
 A friend who ever lends his potent might,
 When Care upon the weary mind would feed,
 Or Melancholy's gloomy spell would blight.

Thy brown and polished bowl I'll fill with care,
 And then, with lips pressed close unto thine own—
 No, lover drinks a sweeter draught, I swear
 I'm happier than a king upon his throne!
 For in the wreaths of smoke which from thee rise
 No perfume sweeter from the rarest rose;
 No greater joy this side of Paradise!
 Thou sweet and mighty antidote of woes!

Ah, often have I come with care-worn mind,
 And placed thee to my lips in fretful mood;
 In thy companionship relief I'd find,
 Thy touch would calm the fever in my blood.
 The wrinkled brow would smooth itself in peace,
 The troubled breast forget its care and pain.
 Yea, thou wilt give from Sorrow sweet surcease,
 Bring cherished dreams of happiness again.

And ever in my home thou'll be abiding,
 A cherished friend whose counsel never fail;
 While I to thee my inmost thoughts confiding,
 Upon the seas of fancy oft will sail.
 And not until the last sweet puff has vanished,
 And naught but ashes lies within thy bowl;
 Then, not till then, are all my visions banished,
 Yet still sweet peace doth linger with my soul!
 —EDWIN CARLISLE LITSEY.

THE SOCIAL PIPE

Honest men, with pipes or cigars in their mouths, have great physical advantages in conversation. You may stop talking if you like, but the breaks of silence never seem disagreeable, being filled up by the puffing of the smoke; hence there is no awkwardness in resuming the conversation, no straining for effect—sentiments are delivered in a grave, easy manner. The cigar harmonizes the society, and soothes at once the speaker and the subject whereon he converses. I have no doubt that it is from the habit of smoking that the Turks and American Indians are such monstrous well-bred men. The pipe draws wisdom from the lips of the philosopher, and shuts up the mouth of the foolish; it generates a style of conversation, contemplative, thoughtful, benevolent, and unaffected; in fact, dear Bob,—I must out with it,—I am an old smoker. At home, I have done it up the chimney rather than not do it (the which I own is a crime).

I vow and believe that the cigar has been one of the greatest creature-comforts of my life—a kind companion, a gentle stimulant, an amiable anodyne, a cementer of friendship.

—THACKERAY.

PEPYS AND THE PLAGUE

Pepys, the greatest diarist in history, during the plague in London, wrote the following under date of 7th of June, 1665:

"The hottest day that ever I felt in my life. This day, much against my will, I did in Drury Lane see two or three houses marked with a red cross upon the doors, and 'Lord, have mercy upon us!' writ there; which was a sad sight to me, being the first of the kind, to my remembrance, I ever saw. It put me into an ill conception of myself and my smell, so that I was forced to buy some roll tobacco to smell and chew, which took away the apprehension."

 TO MY PIPE

O, I love the merry gurgle of my pipe,
 Brier pipe;
 When the flavor of the weed within is ripe
 What a lullaby it purls.
 As the smoke around me curls,
 Mounting slowly higher, higher,
 As I dream before the fire,
 With a flavor in my mouth,
 Like a zephyr from the South,
 And my favorite tobacco
 By my side,
 Near my side,
 With the soothing necromancy
 Sweetly linking fact to fancy,
 In a golden memory-chain
 To the gurgle, sweet refrain,
 Of my pipe, brier pipe,
 To the fancy-breeding gurgle of my pipe.

O, what subtle satisfaction is my pipe,
 Brier pipe;
 Nothing mundane can impart
 Such contentment to my heart;
 She's my idol, she's my Queen,
 Is my Lady Nicotine;
 When in trouble how I yearn

For the incense which I burn
 At her shrine.
 How I pine
 For the fragrance of her breath;
 Robbed of terrors e'en is death
 By her harmless hypnotism;
 Healed is every mortal schism.
 Foe and friend
 Sweetly blend
 At the burning of the brier;
 Greed, cupidity, desire
 Fade away within the smoke,
 In the fragrant, fleecy smoke,
 From my pipe, magic pipe;
 From my glowing, peace-bestowing, gurgling pipe.

—SIGEL ROUSH.

KINGSLEY'S TRIBUTE

"Ah, sir, it is no lie, but a blessed truth, as I can tell, who have ere now gone, in the strength of the weed, three days and nights without eating; and therefore, sir, the Indians always carry it with them on their war-parties. And no wonder! for when all things were made, none were better than this—to be a lone man's companion, a bachelor's friend, a hungry man's food, a sad man's cordial, a wakeful man's sleep, and a chilly man's fire; while for stanching of wounds, purging of them, and settling of the stomach, there's no herb like it under the canopy of heaven!"

—KINGSLEY'S "*Westward Ho.*"

SERGEANT EMPEY'S STORY

The Canadian asked in a piteous voice, "Why is it so dark?" Then he shouted in a terror-stricken voice: "I know! I know! They've put my lights out! Good God. I'm blind! I'm blind! My eyes are gone—gone—gone" And his voice died out in a long sob.

Three doctors came through and held a low voiced consultation. Two of them left, one stayed.

The Jock whispered to me: "Poor bloke! He's going west. I know the signs."

The dying man began to mutter. The nurse bent over him.

She had a writing pad and pencil in her hand. She whispered to him: "Dearie, the mail is going out. Do you want me to write a note home to the folks? Just a short note telling them that you are all right and will be with them in a couple of months?"

The patient answered:

"Home? Folks? I've never had any since I was a kid. Home! God, I wish I had one!"

The writing pad in the nurse's hand was wet. The bandage on my shoulder was wet. Perhaps the blood was soaking through. But blood is red.

The voice of the wounded man again: "I want—want—I want a"—

The nurse: "What do you want, boy? What can I get for you—a nice, cool drink?"

The answer came back:

"A drink? Hell no! I want a smoke! Where's my makings? I want a fag—a smoke—a smoke!"

She looked at the doctor. He nodded. She left the patient and came over to me. I felt as if I were in the presence of God. She whispered to me: "Have you got a cigarette, my dear, for that poor Boy?"

With joy in her eyes she went back to her patient, put the cigarette between his lips and lighted it.

A contented sign, two or three weak puffs and the lighted cigarette fell out of his mouth on the sheet. He was asleep.

—ARTHUR GUY EMPEY.

DID TOBACCO HELP WIN THE WAR?

In 1917 the author of "Tobaccoland" was responsible for a booklet on the subject of "Tobacco as a War Essential," in which he had the temerity to base a prediction of victory on the tobacco consumption per capita of the nations engaged in the conflict. He wrote:

There is nothing mysterious about the inseparable bond between tobacco and the American people after you have looked into it. It all becomes quite natural, logical and inevitable when one stops to consider that tobacco is the most distinctly American of all commodities produced and the most uniquely American of all things consumed.

Tobacco is an American plant.

It was discovered by the man who discovered America—at the same time and at the same place; and, like Ireland's shamrock, it never grew anywhere else in the world until it was transplanted by human hands.

Four hundred years ago, when the Atlantic seaboard was a howling wilderness, it was tobacco, championed by Raleigh, Drake, Hawkins and Jean Nicot, that advertised this virgin continent at the centres of old world civilization and contributed most largely to the curiosity which spurred venturesome spirits to these unknown shores.

A century later, it was tobacco that comprised the chief product of the American colonies and came to be pronounced legal tender and was accepted in trading as readily as gold is to-day.

Tobacco growing was the principal occupation of the first President of the United States, and from then till now it has been either the occupation or the consolation of many great American statesmen.

In fine, tobacco is peculiarly and inseparably interwoven in the fabric of the Nation's history and the Nation's progress, from the time Columbus landed up to the present day. Its sun-kissed leaves of golden brown gleam through the length and breadth of American possessions, from the rugged hills of New England to the tropic vales of Florida, and from the placid shores of Porto Rico to the antipodean Philippines.

Verily, tobacco is as uniquely American as the Rocky Mountains, the Sioux Indian, or the cinnamon bear.

My friends, the skilled torturers of the Crusade could not have invented more devilish cruelties than a shortage of tobacco wreaks upon those men in France; nor could an all-wise Providence devise a better surcease for their many ills.

Do you know exactly why? Here it is in a nutshell:

Tobacco is the kindest admixture of chemicals that Nature ever made. It is so gently stimulative and so mildly sedative that it acts in either capacity, according to the moment's need. There you have, in a sentence, the solution of its power to stir, to succor or to soothe, as the case requires. It soothes the soldier in the trying hours of waiting, it steadies him when he starts over the top, and it succors him when the surgeon's work is done and he finds, alas, that from now on he must roll up his "makins" with only one hand.

Here we are, face to face with the last page of the little book, and I fear that the half has not been said. Surely, however, the high spots have been touched upon, and a little light has been let into the dark places—if dark places there were. Can there remain

in the mind of any man the merest vestige of doubt that tobacco is indispensable in times of war? Can there still exist anywhere even the shadow of a suspicion that tobacco using, after all, may have a tendency to weaken the stamina of American manhood and militate against the fighting qualities of American arms? Then, attend:

Here is the annual consumption of tobacco, per capita, of the five chief belligerents at the beginning of the war:

Russia	1.10 lbs.
Great Britain	1.95 lbs.
France	2.16 lbs.
Austria-Hungary	2.77 lbs.
Germany	3.44 lbs.

Observe, if you please, that the first and only belligerent to collapse and give up the struggle *was the nation of the lightest smokers*. Observe also that the belligerent which, after four years of awful carnage, has proved to have been the greatest fighting force in the history of warfare, and which up to the present moment holds the world at bay, *is the nation of the heaviest smokers*.

Interesting, is it not? But wait, I have here the per capita tobacco consumption of another breed of people, figured, like those above, from official government records, and at the same time. Here it is:

United States	5.40 lbs.
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A dear old lady asked me not long ago if there was not danger of the war making the United States a nation of smokers.

Conversely, I should say, the records indicate that tobacco using develops a nation of warriors; which brings to mind that old Civil War story of Lincoln, the one which relates how a certain gratuitous advisor, deeply shocked, sought the President's ear and reported having heard it rumored that Grant was drinking. Whereupon Mr. Lincoln replied:

"Just what does he drink? I would like to send it to some other of our Generals."

Since the so-far invincible people with whom Americans are now engaged in a death grapple *are the heaviest smokers in Europe*, is it not a bit comforting to know that Americans *are the heaviest smokers in the world?*

I think so.

Indeed, the longer I look at those statistics of per capita con-

sumption, the deeper grows my conviction that these very figures foretell the outcome of the titanic struggle over-seas.

The United States of America will win this war—and tobacco will be an essential factor in the winning.

THE BETROTHED

"You must choose between me and your cigar."

Open the old cigar-box, get me a Cuba stout,
For things are running crossways and Maggie and I are out.
We have quarreled about Havanas—we fought o'er a good cheroot,
And I know she is exacting, and she says I am a brute.
Open the old cigar-box—let me consider a space;
In the soft blue veil of the vapor, musing on Maggie's face.
Maggie is pretty to look at, Maggie's a loving lass,
But the prettiest cheeks must wrinkle, the truest of loves must pass.
There's peace in a Laranaga, there's calm in a Henry Clay,
But the best cigar in an hour is finished and thrown away.
Thrown away for another as perfect and ripe and brown,
But I could not throw away Maggie, for fear o' the talk of the town!
Maggie my wife at fifty, gray and dour and old,
With never another Maggie to purchase for love or gold!
And the light of Days that have been, the dark of the Days that are,
And Love's touch stinking and stale, like the butt of a dead cigar—
The butt of a dead cigar you are bound to keep in your pocket,
With never a new one to light, tho' it's charred and black to the
socket.

Open the old cigar-box—let me consider awhile;
Here is a mild Manila, there is a wifely smile.
Which is the better portion—bondage bought with a ring,
Or a harem of dusky beauties, fifty tied in a string?
Counselors cunning and silent—comforters true and tried,
And never a one of the fifty to sneer at a rival bride?
Thought in the early morning, solace in time of woes,
Peace in the hush of the twilight, balm ere my eyelids close.
This will the fifty give me, asking naught in return.
With only a Suttee's passion, to do their duty and burn.
This will the fifty give me. When they are spent and dead,
Five times other fifties shall be my servants instead.
The furrows of far-off Java, the isles of the Spanish Main,
When they hear my harem is empty, will send me my bride again.
I will take no heed of their raiment, no food for their mouth withal,

So long as the gulls are nesting, so long as the showers fall.
I will scent 'em with best vanilla, with tea will I temper their hides.
And the Moor and the Mormons shall envy, who read of the tale
of my brides.

For Maggie has written a letter to give me my choice between.
The wee little whimpering Love and the great god, NICK O'TEEN.
And I have been servant of Love, for barely a twelve-month clear.
But I have been priest of Partagas a matter of seven year;
And the gloom of my bachelor days is flecked with the cheery light
Of stumps that I burned to Friendship and Pleasure and Work and
Fight.

And I turn my eyes to the future that Maggie and I must prove,
But the only light on the marshes is the Will-o'-the Wisp of Love.
Will it see me safe through my journey, or leave me bogged in the
mire?

Since a puff of tobacco can cloud it, shall I follow the fitful fire?
Open the old cigar-box, let me consider anew—

Old friends, and who is Maggie that I should abandon *you*?

A million surplus Maggies are willing to bear the yoke;

And a woman is only a woman, but a good cigar is a smoke.

Light me another Cuba; I hold to my first sworn vows,

If Maggie will have no rival, I'll have no Maggie for spouse!

—RUDYARD KIPLING.

THE PHILOSOPHER'S FRIEND

Carlyle wrote:

“Nobody comes whose talk is half as good to me as silence. I fly out of the way of everybody, and would much rather smoke a pipe of wholesome tobacco than talk to any one in London just now. Nay, their talk is often rather an offence to me, and I murmur to myself,—why open one's lips for such a purpose.”

SMOKES OF THE NATIONS

There is something almost phenomenal about an Englishman's solid self-satisfaction when he is alone with his pipe. Every nation has its own way of smoking. There is a hasty and vicious manner about the Frenchman's little cigarette of pungent black tobacco; the Italian dreams over his rat-tail cigar; the American either eats half of his Havana while he smokes the other, or else

he takes a frivolous delight in smoking delicately and keeping the white ash whole to the end; the German surrounds himself with a cloud, and, god-like, meditates within it; there is a sacrificial air about the Asiatic's narghileh, as the thin spire rises steadily and spreads above his head; but the Englishman's short briar-root pipe has a powerful individuality of its own. Its simplicity is Gothic, its solidity is of the Stone Age, he smokes it in the face of the higher civilization, and it is the badge of the conqueror.

—F. MARION CRAWFORD.

THE LAST CIGARETTE

Nerve-worn and weary-brained was I at end of irksome day,
 —I longed for calm;
 And snowy white and golden brown were you, my pretty fay,
 —You were my balm.
 So here I sat and sipped your perfumed breath by opened sash,
 —My load grew light.
 But now, alas, there's nothing left of you but tip and ash,
 —And so, Good Night.

—C. A. W.

THE CALUMET

By HENRY W. LONGFELLOW

Thus the poet, Longfellow, in *Hiawatha*, describes the making of a peace-pipe by the Indians:

On the Mountains of the Prairie,
 On the great Red Pipe-Stone Quarry,
 Gitchie Manito, the mighty.

From the red stone of the quarry,
 With his hand he broke a fragment,
 Moulded it into a pipe-head,
 Shaped and fashioned it with figures.

From the margin of the river
 Took a large reed for a pipe-stem,
 With its dark green leaves upon it;

Filled the pipe with bark of willow,
With the bark of the red willow.

Break the red stone from this quarry,
Mould and make it into Peace-Pipes,
Take the reeds that grow beside you,
Deck them with your brightest feathers,
Smoke the calumet together
And as brothers live hence forward!



part III

social

CHAPTER IX

TOBACCO AND THE HUMAN FAMILY

HOW IT HAS GRADUALLY PERMEATED OUR SOCIAL LIFE AND ACTIVITIES—ITS EARLY TRIALS AND SUBSEQUENT TRIUMPH

Late one evening a friend, returning from the theatre, dropped in upon me and regaled me with a description of the play and particularly of the leading player.

"Funny thing, too," he said, "he never smoked once during the entire performance!" Which serves inversely to impress one with the degree in which tobacco has permeated our social life. Rare indeed is the play, the motion picture, or the story in which smoking does not have at least a minor role. The democracy of it, the catholicity of it are such that it appeals alike to the high and the low and withholds its beneficence from no one, be he pauper, worker, merchant, or prince. Moreover, its gentle persuasiveness eliminates the lines of demarcation between all classes and kinds of people.

We have seen in the foregoing pages how, like red cabbage and bicycles, it had, even in pre-colonial times, its champions and its opponents in the motherlands; and we have observed casually how it finally and firmly established itself across the seas.

Like other customs in those early days, the opposition to and the progress of tobacco was about the same in America as in England. Scanning the pages of early colonial history we find about the same story of tobacco's ups and downs. The First General Letter of April 17, 1629, from the official of the New England Company to the settlers in Massachu-



SHOWING HOW A PRESIDENT SMOKES WHILE HE PLAYS. WARREN G. HARDING ON THE LINKS AT THE PALM BEACH COUNTRY CLUB.

setts, prohibits the planting of tobacco unless in small quantities, for physic, to preserve health. The use of tobacco was to be rigidly confined to medicinal purposes only. No tobacco was to be laden upon any ships leaving the colony. Following this edict the ministers indignantly denounced tobacco and courts inflicted punishment for violations of the law. But smoking continued among the Puritans just the same. Eventually the General Court repealed all of the laws against it.

However, on September 6, 1638, the puritanic law-makers themselves took the matter in hand and passed a law prohibiting anyone from smoking in barns, fields, or forests, and forbidding the use of tobacco in any inn or public house except in a private room "so as neither the master of the house nor any of the guests there shall take offence thereat; which if they do, then such person is forthwith to forebear upon pain of two shillings sixpence fine for every offence."

In effect this law permitted the masters to smoke as much as they pleased, but if servants or workmen smoked in or near a house or other building or in the fields or forests, the master could deduct the fine from their wages and turn the amount over to the town treasury. Still the practice grew.

In 1646 a law was passed by the General Court making smoking unlawful excepting when done on a journey of five miles or more from any town. Another law in 1646 forbade the bringing of pipes and tobacco into the precincts of the Court and provided a forfeit of sixpence for every pipe taken into the room where the Court was sitting. Then more laws were passed restricting the use of tobacco in the Massachusetts colony, and smoking continued in spite of these. There is a record of a case before the General Court on October 13, 1680, of a trial over a seizure of tobacco by one Edward Randolph. The court ruled that

the parcel ought not longer to be detained in the custody of the law but returned to the owners.

In the Plymouth colony, the Puritan lawmakers decreed in 1638 that any one found smoking on the streets should pay a fine of ten shillings for each offence. In 1639 a law was enacted forbidding jurymen to smoke on pain of a fine of five shillings. In 1641 there was passed a law prohibiting the importation of tobacco; but evidently this failed as a check on the practice, for it was repealed the following year.

They had a law passed in 1646 against smoking but exempted "soldiers in time of their training." Since in those days practically every colonist was a soldier and battles with Indians were a daily occurrence, this law caused no annoyance. Then came an Act in 1669 proclaiming that any person found smoking tobacco on the Sabbath, going or coming, within two miles of a meeting house was to be fined twelvepence for every offence. That was the last anti-tobacco law in the Plymouth colony of which we have any record, and the Pilgrims went on smoking.

In Connecticut, where they now grow about the highest priced tobacco in the world, similar attempts were made by those charged with the public's moral welfare to put tobacco down. Even in those early times tobacco was quite a thriving industry in the Connecticut River valley. As in Maryland and Virginia the weed was often used as currency, and the colony was inclined to be a little jealous, in regard to tobacco raising, of its Southern neighbors. In September, 1641; there went into effect the law providing that the colonists might smoke no tobacco except that grown in Connecticut. Five years later tobacco raising had spread in Connecticut so greatly as to dissolve all fear of competition and the law was repealed. "We have no need of Virginia trade, most people planting so much tobacco as they spend," quaintly read a questionnaire sent from London by the Committee for Trade and Foreign Plantations.

The tobacco habit soon thereafter became very general in Connecticut and it was here, and at this time undoubtedly, that the chewing of tobacco began to develop into a common practice.

But this freedom evidently aroused the antagonism of the ministers and church elders, for, in 1647, a law was passed prohibiting any person under twenty years and any other person unaccustomed to its use from using tobacco in any form unless he had a license from the Court and a certificate from a physician. This was not unreasonable; but others followed. Smoking was forbidden on the streets and in the fields and woods unless on a journey of ten miles. It was then decreed that a person should be permitted to smoke only once a day at dinner, or otherwise "and this not in company with any other," and that no one should use tobacco in any other house than his own in the town where he lived "with and in company of more than one who useth and drinketh the same weed, with him at that time." The offenders were to pay a penalty of sixpence and only one witness was necessary to establish a conviction. These laws gradually fell into disrepute, and less than three years afterwards only those sections fixing the age limit and prohibiting smoking on the streets were retained.

In Virginia and Maryland, where the puritanic influence was lacking, smoking restrictions were few. In both of these colonies, tobacco frequently passed as currency. In Maryland, a tax of thirty pounds of tobacco was levied upon all parish tithables for the support of the clergy. In Virginia, tobacco was, under the law, paid to ministers. The quantity gradually being increased up to 1696 when it was fixed at 16,000 pounds per annum. "A competent and sufficient provision for the clergy," the law read, "will be the only means to supply this Dominion with able and faithful ministers whereby the glory of God may be advanced, the Church propagated, and the people edified."



PAUPERS, PRINCES AND PRESIDENTS MEET IN "TOBACCOLAND" ON COMMON GROUND. HERE IS SEEN WARREN G. HARDING WITH HIS CIGARETTE; BUT THE CIGAR AND THE PIPE ARE ALSO HIS BOON COMPANIONS. MANY OTHER OF OUR PRESIDENTS HAVE BEEN DEVOTEES OF TOBACCO, NOTABLY MCKINLEY AND GRANT. WASHINGTON WAS A TOBACCO GROWER AND EXPORTER.

The tobacco payments were collected by church wardens; and vestry clerks received five pounds of tobacco for every birth, burial, and marriage recorded. In 1755 the Virginia tobacco crop failed, and it was not until then that the legislature permitted ministerial payments to be made in either money or tobacco, as the tax-payer preferred.

George Washington, himself, though not a consistent smoker, was one of the leading tobacco growers and exporters of his time. Among letters of his that have been preserved is one written by him in 1759 to predecessors of the W. E. and H. O. Wills branch of the Imperial Tobacco Co., Bristol, England, in which he notified them of a shipment of tobacco, partly his own and partly John Parke Custis's, that was about to leave for England. A copy of the letter follows:

VIRGINIA, 25th Nov., 1759.

GENTN.

Sometime this week I expect to get on board the Cery for your house Fifty Hogsheads Tob. of my own and Mr. Park Custis's, which please to insure in the usual manner. I shall also by the same ship send you ten or 12 Hhds more if I can get them on board in time, but this I believe will be impracticable if Captn. Tolmer uses that dispatch in loading which he now has in his power to do. I am Gentn. Yr.

Most Obednt. and Hble. Servt.

G. WASHINGTON.

P. S.—My goods from Captn. Yates are arrived in James River and I thank you for your diligence in sending them.

From the early colonial period up to the Civil War period, snuff taking and chewing rivalled the pipe and the cigar in popularity. Unlike snuff taking, however, chewing was never regarded as a mark of refinement. Nor did it ever meet with entire approval in places where Mrs. Grundy or the Lord Chesterfields of the period dominated the code of social practices. In some parts of America, particularly of the South, the quid of plug or fine cut was no bar to

social leadership and was favored by sires and scions of the best families. But, speaking nation-widely and the world around, tobacco chewing was rather the consolation of those who gained their livelihoods by hard work and out in the open.

Up to about the close of the seventeenth century, cigar smoking was prevalent only in the West Indies, Spain, and Spanish speaking localities, the pipe predominating among English speaking peoples. Thereafter, and up to the Civil War period, the pipe retained a distinct leadership. Meanwhile, however, the cigar steadily increased its foothold in American favor.

The cigarette, which, like the cigar, first found favor in the West Indies and Spain, was early taken up in Turkey, France and Russia where it very soon became the popular form of tobacco using. After the Crimean War of 1854-1856 British Army and Navy officers returned from the Levant where they had acquired the practice of cigarette smoking from their Turkish and French allies. This was the beginning of cigarette smoking by the English peoples. Gradually Canadians and Americans took up the cigarette, but for nearly half a century afterwards the cigarette devotee was decidedly in the minority and the smoker generally rolled his own.

It was the refinement of the art of papermaking and the invention of machinery that eventually brought cigarette smoking into prominence, if not to leadership among the various forms of tobacco indulgence.

Just as the Crimean War introduced cigarette smoking to English speaking peoples, so the great World War of 1914-1917 democratized it. Up to about 1914 cigarettes made in England, France, Turkey, and Egypt, and those made in this country of Turkish tobaccos, all of which because of their foreign origin were the most expensive, were favored by the affluent. The great European war had the

curious effect of breaking down all prejudices in favor of the most expensive types, with the result that smokers registered a marked inclination towards the medium priced and cheaper brands. Indeed it was largely due to the psychology of the World War period that a comparatively new and distinct type, known as the "blended cigarette," was developed in this country to a predominating degree.

There has always been opposition to tobacco and the tobacco habit since the time of King James' "counterblaste" and Pope Urban VIII's Bull against it. Up to the present day tobacco has had its enemies in all countries, all churches, all geographical districts, and all classes of people. Fortunately for its devotees, these attacks have not usually prevailed.

In the foregoing pages we have touched upon the anti-tobacco activities of earlier days. At this time, even though the practice of tobacco using has reached its greatest state of prevalence thus far, and with centuries of history that prove its harmlessness and its beneficence, there are people and organizations of a blue law tendency persistently directing their activities against the weed.

Among these are sincere humanitarians as well as paid professional agitators. Because of their activities, tobacco using has been, is, and probably will continue to be burdened in greater or less degree with the restrictive measures ranging all the way from the personal decree of a privately-owned establishment, such as a restaurant or a theatre, to laws enacted by state legislatures. In 1921 ninety-two measures affecting tobacco smokers and the tobacco industry were introduced in the legislatures of twenty-eight states. The range of subjects included prohibition of smoking in public places, prohibition of the use of clearly wholesome ingredients (the only kind ever used) such as licorice and sugar, the prohibition of teachers and others from using tobacco, instruction on tobacco in public schools, prohibitive



THE PRINCE OF WALES AND VICE-PRESIDENT MARSHALL BITING THE ENDS OFF THEIR CIGARS AFTER A LONG WAIT "BETWEEN SMOKES" DURING A CEREMONY AT MOUNT VERNON.

license laws, and local options. In fact they ran the entire gamut, from trivial regulation to total prohibition. The only measure of importance that succeeded in that year was a law in Utah (a Mormon state with a population of 450,000) which prohibited the sale of cigarettes in the state and provided against smoking in certain designated public places. On the other hand, in the same year prohibitive cigarette laws were repealed in Tennessee, Arkansas, and Iowa, states having an aggregate population of 6,429,000. At the close of 1921 there were prohibitive laws in only three states: Utah, North Dakota, and Kansas; and these were directed against the cigarette only.

As evidence of the fairness of the tobacco people in their attitude towards the moral phase of the tobacco question, it should here be stated that neither the industry as a whole, nor any of its organizations, ever set up any opposition to laws or ordinances intended to prohibit the use of tobacco by growing boys and girls—by young people not yet having arrived at physical and mental maturity. As evidence of the tolerant, unbiased attitude of the trade itself regarding the social status of tobacco smoking, it may be noted that the Tobacco Merchants' Association of the United States, an organization representing and comprehending the entire industry, officially approved and widely distributed "The Smoker's Creed," a code of ethics compiled by the author of TOBACCOLAND in 1921, and which is included in another chapter of this volume.

CHAPTER X

JUST WHAT TOBACCO IS

BOTANICAL CLASSIFICATIONS—ITS CONTENT OF NICOTINE—ANALYSIS OF TOBACCO AND TOBACCO SMOKE

Obviously the reason for tobacco using having steadily increased in prevalence in the face of various determined individual and organized activities against it is that, with some exceptions, the opposition of its enemies consists of arguments that are both morally and scientifically unsound.

It is my conviction that the sincere opposition may be charged largely to unfamiliarity with the subject and to prejudice growing out of ignorance. Let us devote a few minutes, therefore, to the investigation of what tobacco is scientifically and its influence and effect hygienically. Here is the botanical description of it:

(1) **NICOTIANA**—A genus of mainly American plants of the family *Solanaceae*, usually rank acrid-narcotic herbs, mostly clammypubescent, with large entire leaves and terminal racemes or panicles of white or purple flowers with long funnel form corollas. *N. tabacum* is the tobacco plant.

(2) **TOBACCO**—Any one of several plants of the genus *Nicotiana*, especially *tabacum*; the chief source of the tobacco of commerce. It is viscid pubescent annual from three to six feet high, and has large sessile ovate or lanceolate leaves diminishing in size from the base upward, and pink funnel-shaped flowers in a terminal panicle. The other principal source of the tobaccos of commerce is *N. rustica*, a small species with ovate petioled leaves and yellow flowers.

CHEMICAL COMPOSITION

Tobacco in the green leaf contains a large percentage of complex organic bodies. In the ripening and curing of the leaf it undergoes certain chemical changes by which these bodies are removed.

Quoting Penn, an English authority, tobacco consists largely of mineral constituents. These burn into ash, which should be white or grayish-white in color. In good dry leaf the ash is not excessive in quantity, forming from twelve to twenty per cent of the leaf. Reddish ash denotes the presence of iron, and black ash is due to excess of carbon resulting in imperfect combustion.

Nicotine ($C_{10}H_{14}N_2$), the essential characteristic alkaloid of tobacco, found in no other plant, is colorless and liquid at the ordinary temperature. It is a virulent narcotic poison. Nicotine, it may be noted, is an antidote to strychnine and strychnine to nicotine. Nicotine is not present in large quantities in tobacco, forming from one to nine per cent. French and German tobaccos contain the most, nine per cent, Virginia and Kentucky four or five per cent, and Havana and Manila only two to three per cent.

Small as is the percentage of nicotine, it is largely consumed and destroyed in the smoke, the ratio depending on the freeness of combustion. The greater bulk of nicotine is therefore not inhaled.

The ash consists of potash and ammonia salts and nitrates. The smouldering action of tobacco is caused by the nitrate of potash. Tobacco should burn clearly and freely, but not too rapidly. If it is slow of combustion (due to imperfect curing or poor quality), objectionable products such as carbon dioxide are evolved. This is the case in a badly burning cigar.

But tobacco is never entirely burned. Carbonic acid and water are produced and many other organic substances, which, released or formed by the heat of combustion, are



PREMIER LLOYD GEORGE (LEFT) AND PREMIER BRIAND; BOTH ARE TOBACCO DEVOTEES.

distilled into gases. The condensation of these volatile substances forms the smoke. The color as well as the flavor of the smoke, therefore, depend upon the quantity and nature of the substances forming it.

Among the by-products of combustion are ammonia and its compounds, an empyreumatic oil found in the bottoms of pipe-bowls, and a dark bitter resinous substance or oil in the pipe stems.

These organisms, remarks another authority, begin to be deposited directly they are formed (by the burning), so that some remain in the mouth, and if the smoke is swallowed or passed through the nostrils, so much more will be retained and absorbed into the system.

The dark bitter oil which forms in the bowls and stems of pipes is popularly regarded as nicotine. This is totally erroneous. It is a joint product of the moisture from the tobacco, produced by combustion and impregnated by smoke. It is really just tar oil, the water of tobacco in combustion with the soot and tar of the smoke.

Nicotine is colorless, and forms an infinitesimal part of all the constituents of smoke.

Heat is the least harmful way of obtaining nicotine. The nicotine dissolved from one cigar would kill a dog, administered internally, but the same dog would have to smoke four hundred cigars continuously before succumbing to nicotine poisoning.

ANALYSIS OF MANUFACTURED TOBACCO

According to one authority tobacco (manufactured) is composed of:

Nicotine	1 to 9 per cent
Malic and citric acid:.....	10 to 14 per cent
Oxalic acid	1 to 2 per cent
Resinous fats	4 to 6 per cent
Pectic acid	5 per cent

Cellulose	7 to 8 per cent
Albuminoids	25 per cent
Ash	12 to 20 per cent

The essential flavoring oil, acetic acid and sugar also contribute small percentages.

ANALYSES OF THE PLANT

For chemical analyses of tobacco the plant, we refer to the work of R. J. Davidson, at the 'Virginia experiment station, and to Carpenter, Johnson, Jenkins and others.

AVERAGE COMPOSITION OF VIRGINIA LEAF

The following table shows the composition of the Virginia leaf, including White Burley, Yellow Orinoco, etc.:

	Leaf	Stalk	Root	100 lbs. of each part of the plant contains—		
				Leaf	Stalk	Root
Per cent of parts of plant.....	55.03	21.87	23.10			
100 lbs. each part contains—						
Water	7.62	6.18	6.22	7.62	6.18	6.22
Ash	21.59	13.28	8.14			
Vegetable matter	70.79	80.54	85.64			
Total	100.00	100.00	100.00			
Contains nitrogen	4.37	3.17	1.88	4.37	3.17	1.88
100 lbs. of the ash contains—						
Potash	26.60	37.78	22.07	5.74	5.02	1.78
Lime	25.21	16.81	15.95	5.43	2.22	1.28
Magnesia	4.43	4.44	2.54	0.96	0.59	0.21
Phosphoric acid	2.33	4.79	2.50	0.50	0.65	0.21
Insoluble matter	9.01	4.92	34.98	1.94	0.66	2.88
Other substances	32.42	31.26	21.96	73.44	81.51	85.54
Total	100.00	100.00	100.00	100.00	100.00	100.00

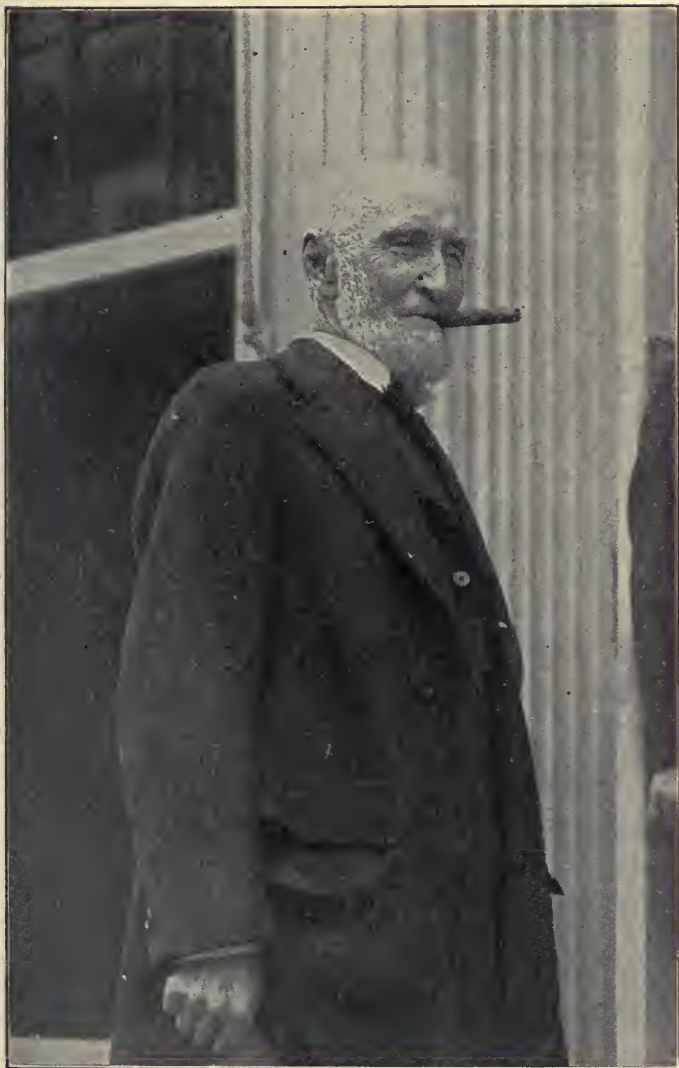
Analyses of seed of ten varieties of Virginia tobacco show that the air-dried seed contains five and one-half to six per cent of water, of nitrogen three and forty-four hundredths to three and seventy-eight hundredths per cent and of ash three to four per cent. Of the ash, about one-third is phosphoric acid, one-third potash and one-fifth magnesia. The ash of the seed contains over ten times as much phosphoric acid, about four times as much magnesia and nearly one-fourth more potash than the ash of tobacco leaf.

Analyses of the whole plant—root, stem and leaf—at three stages of growth, calculated from the average results

for three leading varieties (White Burley, Medley Pryor and Yellow Orinoco) show that their composition at these three stages is alike only in nitrogen, soda and magnesia. As would be expected, the plant from the plant bed has the highest percentage of moisture. It also shows the highest ash, phosphoric acid and potash. These last two ingredients gradually diminish as the age of the plant increases, thus showing that the young plant requires a large amount of potash and phosphoric acid. The percentages of lime and chlorine are just the reverse of the phosphoric acid and potash, as they increase with the age of the plant. The percentage of the insoluble matter is comparatively small in the plant from the plant bed, and is only about one-fourth as much as at the time of topping and cutting. It appears that the plant taken from the plant bed contains, in the air-dried state, nearly three per cent of nitrogen, nearly one per cent of phosphoric acid, over eight per cent of potash and about two and one-half per cent of lime. Taken at the time of topping, it contains about three per cent of nitrogen, one-third of one per cent of phosphoric acid, about four per cent of potash and over two per cent of lime. Taken at time of cutting, it contains nearly three per cent of nitrogen, one-third of one per cent of phosphoric acid, nearly three and one-half per cent of potash and over three and one-half per cent of lime.

The following table shows the average composition of cigar leaf, pole-cured:

	Silica.	Chlorine.	Sulphuric Acid.	Phosphoric Acid.	Lime.	Magnesia.	Potash.	Soda.	Total Ash.	Nitrogen.
Av. 12 Conn. crops.	0.14	1.55	1.09	0.59	5.71	1.36	5.79	0.33	16.55	4.24
New Milford, Ct.	0.21	0.33	0.62	0.48	6.10	1.71	5.20	trace	15.10	4.97
Hartford, Ct.	0.20	2.14	0.62	0.61	5.33	1.40	7.66	0.05	18.56	4.10
Pa., Lancaster Co.	0.19	0.27	0.47	1.03	5.13	1.47	8.92	0.06	17.98	2.70
Ohio	0.44	0.22	0.49	0.61	4.93	2.46	4.75	0.04	14.22	4.42
New York	0.75	0.95	0.59	0.56	6.09	1.33	5.13	0.06	15.50	4.59
Wis. and Ill.	0.72	0.15	0.60	0.48	5.17	1.94	5.97	0.17	15.52	5.23
Average	0.35	0.66	0.64	0.62	5.50	1.67	6.20	0.10	16.19	4.12



"UNCLE JOE" CANNON, VETERAN EX-SPEAKER OF THE HOUSE, ONE OF THE WORLD'S MOST FAMOUS SMOKERS, WHO WAS 86 AND IN PERFECT HEALTH WHEN THIS PICTURE WAS TAKEN.

Omitting from the above the percentage of nitrogen in Pennsylvania seedleaf, which is exceptionally low, the average of the other samples gives four and forty-four hundredths per cent of nitrogen in pole-cured tobacco leaves.

NICOTINE AND THE QUALITY OF TOBACCO

Nicotine is the characteristic alkaloid of tobacco, writes Dr. Garner, of the Government Plant Physiology Bureau, and thus far has not been found in any other plant. Its function in the economy of the plant is not understood, and it has not been determined with certainty whether it plays a rôle in nutrition or is simply a waste product resulting from katabolic changes in the albuminoid constituents. The physiological effects on the human system resulting from the use of tobacco are doubtless due chiefly to the presence of nicotine, though in the case of tobacco used for smoking purposes other constituents of the smoke probably play a considerable part. On the other hand, it has been repeatedly shown that the burn, flavor, aroma, and other important qualities of tobacco are in no sense proportional to the amount of nicotine present. Indeed, even the "strength" of manufactured tobacco—using this term in the sense understood by the trade—is not dependent upon the nicotine content. It seems only reasonable, however, to suppose that tobacco entirely free from nicotine would no longer prove satisfying to the consumer any more than would wine deprived of all its alcohol.

Numerous attempts have been made to devise a process for the partial removal of the nicotine from tobacco, either before or after it is manufactured, by appropriate treatment, and many patents have been issued for processes intended to accomplish this result, but none of the proposed methods has as yet proved sufficiently practicable to come into general use, and this is not surprising when it is remembered that the flavor and aroma of tobacco are comparable

in delicacy to those of tea and coffee and that consequently even the mildest treatment for the removal of the alkaloid is almost certain to result in injury to these qualities.

There can be no doubt that there would be a genuine demand for tobacco containing only a very small percentage of nicotine but retaining the other attributes of the best grades of the crop as now produced, especially in the case of the cigar-filler types. The most rational method of attaining this end would seem to lie in the systematic breeding of types characterized by their low nicotine content, and at the same time avoiding those soils, fertilizers, and cultural methods which tend to the excessive production of the nitrogenous constituents of the plant. Extensive experiments have been undertaken in connection with the Tobacco Breeding Investigations of the Bureau of Plant Industry with the object of securing types of tobacco of this kind, and the results already obtained tend to show that the variation in nicotine content of individual selections from various types is fully as great as that of such physical characteristics as shape, size, and number of leaves.

THE NICOTINE IN THE SMOKE

The important thing to be remembered by those seeking the truth about tobacco and its effect upon smokers is that we do not need to consider the chemistry of tobacco at all, but only the chemistry of tobacco *smoke*. In the use of pipe tobaccos and cigarettes and cigars with holders, the tobacco does not even come in contact with the body tissues.

In 1913 the *Lancet*, London's leading medical and scientific journal, conducted an investigation into the toxic effects of tobacco smoke, with the following conclusions:

"The smoke obtained in pipe, cigarette and cigar smoking was examined, and as to the leaf itself, it was found that pipe mixtures usually contain the largest amount of nicotine—2.04 to 2.85 per cent—that Egyptian and Turkish ciga-

rettes come next, with 1.38 to 1.74 per cent, Virginia cigarettes, 1.40 to 1.60 per cent, British cigars 1.24 per cent, and Havana cigars 0.64 per cent.

“The cigarette, whether Egyptian, Turkish or American, yielded the least amount of its total nicotine to the smoke produced; the pipe yielded a very large proportion, in some cases 70 to 80 per cent of the total of its nicotine to the smoke reaching the mouth of the consumer, while the analysis of the cigar smoke gave intermediate figures.”

CHAPTER XI

TOBACCO AND THE HUMAN BODY

ITS EFFECT ON THE HEALTH—THE FACTS REVEALED BY SCIENCE—THE PURITY OF TOBACCO

With a good knowledge of what tobacco is, botanically and chemically, one is prepared to pursue the investigation into the realm of its relation to the human body and the human mentality. This examination will show that there is no such thing as impure tobacco; that there are no narcotics used in the manufacture of any kind of snuff, smoking tobacco, chewing tobacco, cigarettes, or cigars; that there are no harmful drugs or ingredients used in any branch of manufacture of the tobacco industry; and that the moderate use of tobacco is quite harmless to the nerves, to the brain, and to the body; this assertion being subject only to such exceptions as may be made in the case of nearly all wholesome articles of food and drink.

It is proverbial, of course, that one man's meat is another's poison. And this applies to everything that we eat, drink, or wear, or that is related in any way to the human organism. Some, for instance, find coffee to be a healthful and invigorating beverage, others cannot take it without experiencing disagreeable results. Cheese, candies, meat, the juice of oranges and hundreds of articles of ordinary diet are extremely wholesome and beneficial to many people, but there are others who cannot take these things with impunity. Also, many people suffer bad after-effects from nearly all kinds of food, merely because of habitual over-indulgence. Thus, while the immoderate use of tobacco is sometimes harmful, this can properly be charged only to the indi-

vidual's lack of self-control, and not to tobacco. If one uses tobacco to excess, one must undergo the consequent ills, just as he who gormandizes invariably impairs his digestive organs. It is the same with tobacco as with all else that has been given to mankind to enjoy—if you abuse the privilege accorded you, nature inevitably will rigidly exact the penalty therefor.

Surely, merely because tomatoes do not always agree with some people is no sufficient reason for denying this succulent and nourishing vegetable to the world at large, or even to an entire community. By the same token it would be absolutely unfair and unreasonable to deny tobacco to all humanity because there may be found occasionally one who, by reason of immoderation or peculiar organic construction, suffers some injurious effect from the use of tobacco.

It is true that occasionally we find a man of science quoted as having concluded that tobacco is in some degree injurious to the human constitution. But for one such there are scores of reputable physicians, chemists and neurologists who hold a contrary opinion.

In his work on tobacco, its history and associations, F. W. Fairholt, F. S. A., asks, "Who shall decide when doctors disagree?" He says that the question has been asked in many instances, but in the case of tobacco they have disagreed to an unexampled extent. "Some opponents," he adds, "find every disease under the sun originating in tobacco smoke. Others declare as loudly in its favor, and some quote quite as many instances of good resulting from the practice. Truth, as usual, seems to lie between, undiscovered by the belligerents, but perfectly well known to the honest smoker, who wonders from amid his peaceful cloud what all the turmoil means."

With "death in the pot" by one set of philosophers, resumes Mr. Fairholt, and "death in the pipe" by another, the wonder only is how we came to live longer than our



PROF. ALBERT EINSTEIN, THE FAMOUS GERMAN SCIENTIST WHOSE "THEORY OF RELATIVITY" EVOKED WIDE-WORLD DISCUSSION, PHOTOGRAPHED WITH HIS FAVORITE PIPE.

ancestors of the reign of Henry VIII, who never saw and never heard of a tobacco plant.

Clouston, in his *Hygiene of Mind*, asserts that a "good, mild tobacco, not used in excess, exercises a soothing influence when the nervous system is irritable, promotes digestion and may be made a mental hygienic."

Dr. Leonard K. Hirshberg, of Baltimore, writes that he "has yet to see in a clinic or pathological laboratory any evidence to condemn tobacco in any form. Dyspepsia," he adds, "or loss of flesh, rarely follows the use of tobacco. Nervous headaches, neuralgia and dizziness commonly laid to smoking, are fantastic creations of extra-moral minds."

At the time of the publication of this book, the most recent medical investigation of tobacco was that conducted at the Johns Hopkins University by Dr. Knight Dunlap and associates. It was unusually exhaustive and covered a period of three years of experiments and tests. The results of the investigation were described in a report by Dr. Dunlap in the *Journal of Comparative Psychology*, October, 1922. Despite the time consumed by the experiments and their thorough character, the investigators declare in their report that they are only the basis for a more detailed investigation to follow.

Students at the university, outsiders and the psychologists themselves, were employed as "reactors," or subjects for experimentation. Every possible variation in the conditions surrounding the use of tobacco was used. Non-smokers, occasional smokers and inveterate users were tested. Tests were taken before smoking, during the process, after smoking and following a day of "rest." Up to the time of the report, covering these three years of investigation, the experimenters were not prepared to state positively the psychological reaction of tobacco "with regard to men engaged in intellectual work." However, the report says that "there is no indication that thoroughly mechanized



FRANKLIN D. ROOSEVELT, FORMER ASSISTANT SECRETARY OF THE NAVY, RADIATES THE GOOD NATURE OF THE PIPE SMOKER.

reactions requiring no fine motor adjustments are affected." This applies to the motor processes and thought processes of men in ordinary clerical or other subordinate business positions.

In his book on "The Way of the Nerves," Dr. Joseph Collins asserts that after maturity, the moderate use of tobacco is not only not injurious, but it may assist a man in the enjoyment of life and the performance of his duties without in the least impairing his physical or mental vigor. Dr. Norman F. Kerr of London states that persons of a certain temperament require tobacco to produce concentration of thought, mental satisfaction, protection against infection, domestic happiness. To such persons tobacco smoking has proved invaluable. No other substance, he adds, narcotic or anaesthetic, has been found which would serve this purpose and do so little damage.

This sort of expert testimony could be adduced in endless quantity, but it is perhaps sufficient for me to say that nearly every medical authority in the world is agreed that tobacco is infinitely more sinned against than sinning. It has been shown conclusively that tobacco, instead of being an evil to wage workers, is a means of diversion which, far from interfering with a man's performance of duty, really attaches him to it and renders it less burdensome. According to Dr. W. A. Bloedorn, U. S. N., the increased pulse rate, the heightened blood pressure, irritable heart and toxic amblyopia, which are ascribed to the use of tobacco, are largely mythical. The effects which, of course, appeal more directly to the smoker are soothing, sedative, tending toward relaxation, contentment and mental rest.

The great preponderance of the scientific testimony of the world today is to the effect that the habitual use of tobacco is harmful only to a comparatively few and that in most of these few cases the undesirable results are due not to tobacco-using as a practice, but to the excesses to which



AMBASSADOR MYRON T. HERRICK WITH AMBASSADOR GEORGE HARVEY SMOKING IN THE FAMOUS GARDENS OF THE PRESIDENTIAL CHATEAU OF RAMBOUILLET IN PARIS.

the practice is sometimes carried, and which applies with equal truth to almost every human custom or human condition.

Failing to establish a case against tobacco on hygienic grounds, its enemies usually attack it as an economical evil. Now the fact is that tobacco is not, as they charge, an economic waste, either nationally or personally. While one may spend a good deal of money to gratify a fastidious taste for smoking if he so desires, the fact remains that any habitual smoker can keep himself supplied with tobacco, absolutely pure and of good quality, for the small outlay of five or ten dollars per annum. If we were to abolish tobacco on the grounds of personal economy, we would have first to abolish precious stones, jewelry, perfumes, paintings, statuary and a long list of articles that are considerably more expensive and infinitely less useful. Nationally, the theory of bad economics is even more untenable. For thirty years the United States Department of Agriculture has kept a large staff of experts busily engaged in encouraging and improving the cultivation of tobacco; and this work is being vigorously prosecuted by the department at the present time. The United States Treasury Department regards the tobacco industry as one of its best and most dependable sources of national income, receiving in taxation from that industry a sum ranging from \$100,000,000 to \$200,000,000 annually. The Department of Commerce and Labor will tell you that the tobacco industry gives employment to over 500,000 men and women. Nine out of ten of those who direct our Government, including Warren G. Harding and other presidents of the United States, and the vast majority of its cabinet members, its army and navy officers, its legislators and its leading publicists, are themselves tobacco devotees.

The tobacco industry of this country is in no sense an economic waste, for the prosperity and economic welfare of

a large section of the South are acutely dependent upon its development along the broadest lines. The industry affords employment to hundreds of thousands of persons, and to do away with tobacco would mean the economic ruin of a tremendous industry which is the sole means of livelihood of the hundreds of thousands of persons alluded to. Lord Rhondda, British Food Commissioner during the war, said that tobacco was a necessity, not a luxury, and that its loss would prove a national misfortune. General George W. Goethals, who built the Panama Canal, said that no substitute for tobacco exists and that it is almost as essential as food itself.

In the face of these facts the contention that tobacco should be abolished on the theory of national economics can hardly be taken seriously by thinking people.

The third and, so far as I know, the only remaining basis resorted to by those opposed to tobacco is that of its effect upon our social, or as some express it, moral status. Here, upon investigation, we find even less justification for the opposition to tobacco than under hygiene or under economics. The fact is that scarcely any product of bounteous nature has contributed more in the last three centuries to the comfort, consolation and contentment of mankind than this same plant, tobacco. Beginning with the first known discoverers of tobacco, the American Indians, who used it as a pledge of peace and as a religious ceremony, tobacco has continuously accredited itself as an influence for good. It is not an irritant but a sedative, and this quality of pacification characterizes its effect upon society and the public morality. In all the history of the world's criminology never was the source or incentive of a crime traced to the use of tobacco.

Who will disagree with Charles Spurgeon, the eminent divine, who said that "when I have found intense pain relieved, a weary brain soothed, and calm, refreshing sleep

obtained by a cigar, I have felt grateful to God, and blessed His name for it?" John Walker Harrington, writing in the *Sun* during the early days of the great World War when tobacco contributions were being solicited by that newspaper, said that "tobacco is like a cord which draws all kinds and conditions of men into a common fellowship. There is such friendliness engendered that in these days it is small wonder that it is forbidden that troops of opposing sides shall any longer barter tobacco across the lines."

But the influence of the genial plant is such that it keeps right on in times of peace, in bringing the author and the actor, the clergyman and the day laborer into common understandings because they smoke the same brands and prefer the identical patterns in pipes

TOBACCO, IN ALL FORMS, IS PURE

There are absolutely no narcotics or deleterious substances of any kind used in the manufacture of any brand of snuff, smoking tobacco, chewing tobacco, cigarettes or cigars.

In the manufacture of some kinds of tobacco and snuff—but not cigars or cigarettes—besides quantities of licorice for the chewing tobaccos, there are employed small percentages of rum, alcohol, sugar and flavoring, to approximately the same degree, for precisely the same purpose and with exactly the same result as these same ingredients are employed in the making of plum pudding, mince pies and a hundred other food products which are enjoyed and welcomed in every American home.

Even if a manufacturer desired to employ unwholesome ingredients, he could not do so without the officials of the United States Government knowing it.

Not because of any suspicions of impurity, but in order to insure the collection of its taxes, the United States Internal Revenue maintains a constant supervision over the manufacturing of tobacco in every form. Every cigar,



WHEREVER NERVE AND DARING ARE CONSPICUOUS, WE FIND TOBACCO.
THIS IS BARNEY OLDFIELD, THE FAMOUS AUTOMOBILE RACER.

cigarette, tobacco and snuff factory is under the continual inspection of government agents. Not only that, but every manufacturer is compelled by law to keep a record, in forms supplied by the government, not only of all tobacco used, but *of all other ingredients employed in producing their goods.*

In witness whereof, note the following government document which is a letter from the Commissioner of Internal Revenue, himself :

WASHINGTON, D. C., May 10, 1912.

HON. WM. RICHARDSON,
House of Representatives,
Washington, D. C.

My dear Sir :

I have your letter of May 8 informing me that as chairman of the Sub-Committee of Inter-State and Foreign Commerce Committee of the House of Representatives on the subject of the Food and Drug Act, you wish to get from this office suggestions on the subject of * * * tobacco products that contain any poisonous or deleterious ingredients, rendering such articles injurious to health, or that include licorice. With respect to prohibiting the use of licorice in manufacturing tobacco the proposition seems to me to be altogether absurd. Licorice is one of the recognized ingredients which enter into the manufacture of chewing tobacco. A proposition to prohibit manufacturers of ice cream from using sugar or flavoring, and limiting them solely to the use of cream would be exactly analogous. Or the proposition to limit a manufacturer of cake to use only flour.

The use of licorice, molasses, rum, alcohol and certain flavoring matters is as essential in the manufacture of tobacco as is the use of eggs, sugar and other flavoring in ice cream, etc. Such a provision would completely annihilate the manufacture of chewing tobacco, with a consequent loss to the Government in revenue of from twelve to fifteen millions of dollars and seriously affect all other kinds of manufactured tobacco from which source at present some fifteen millions of dollars per annum additional are collected.

With respect to the use of any poisonous or deleterious ingredients in tobacco, legislation might be proper if there was any reasonable belief that such legislation is needed.

As above stated the manufacture of tobacco is at present under complete Government supervision. Accurate records are kept not

*only of tobacco, but every other material that is used in its manufacture. * * * The Internal Revenue Bureau already, as I state, keeps complete records of these matters.*

Very respectfully,
R. E. CABELL,
U. S. Internal Revenue Commissioner.

ANALYSIS OF CIGARETTE PAPERS

As to cigarette paper, instead of being the medium of conveying harmful drugs to the smoker, it is, on the contrary, about the purest and most non-toxic substance manufactured. In the paper trade, it is regarded as the highest state of perfection, in point of purity, that has been achieved by the paper making industry. These papers are so light and thin that it takes several hundred of them to make an ounce. While commonly known as "rice paper" this paper is not made from rice but from clean, new flax and hemp trimmings.

Again we will turn to disinterested and precise Science and see what the test tube reveals. Dr. James F. Babcock, five years Professor of Chemistry in the Massachusetts College of Pharmacy and five years Professor of Chemistry in Boston University, reports as follows on his analysis of cigarette papers:

"Analysis of the paper wrappers demonstrates the absence of any trace of arsenic, white lead or any other poison. The papers are of excellent quality. They contain such elements as are always to be found in the plant producing the fibre from which they are made, and contain no other."

Furthermore, a commission appointed by the *London Lancet* to investigate the report that cigarettes contained added ingredients such as opium, arsenic, chlorine and the like, reported that after thorough examinations of all brands it "failed to elicit the slightest evidence on this head."

WHAT A PURE FOOD EXPERT SAW

Writing on what he saw after a visit to northern cigarette

factories, Alfred W. McCann, the famous pure food expert, said:

“The food factory exhibitions which it has been my unhappy lot to witness, make me want to cry out to the whole food world, ‘Go and see for yourself what your factories ought to be. Learn to smoke cigarettes if it will help you to get at the truth. But do anything that will get you in touch with an object lesson so expressive of common decency that you will go back home ashamed and kick up a reform.’

“Everywhere you find in this cigarette factory evidences of refinement which, alas, should not stop there. White walls and ceilings, floors as clean as freshly chiseled marble, cutting machines that seem to say, ‘We were made for the preparation of food, but somehow got side-tracked and find ourselves cutting Turkish tobacco,’ wrapping machines that take away from the human hand all detail and leave nothing to human supervision but the watchfulness of trained eyes, contribute to a poem of sanitation themes that are found, alas! too rarely where humanity has a right to look for them.

“I urge health commissioners, food inspectors, sanitary experts, and disciples of common decency to visit the cigarette factory and see what can be accomplished where men are willing to look upon cleanliness as something little short of godliness.”

TOBACCO AND THE BOYS

One thought more and I shall be through with the physio-social phase of tobacco. I do not believe that tobacco is good for growing boys and girls. I don't know of anyone who does. But I do believe that some very well-intentioned people have a distorted idea of the effect of smoking on the character and intelligence of our youth. I think Dr. Hirschberg told the truth of the matter when he wrote:

“A great many eminent observers have inveighed against



ALFONSO XII, KING OF SPAIN, IS NEVER WITHOUT HIS CIGARETTE.

smoking in boys and have pointed out the indubitable fact that the average boy smoker is not so bright as the boy who does not smoke. But I rather fancy that, in part at least, they have confused cause and effect. It is my own observation that boys who are naturally intelligent and healthy and bright do not care to smoke, and that the heaviest smokers among the youth of America are those who were born with rather less than the average amount of common sense, moral balance, and respect for their elders' wishes. In brief, your typical boy smoker is a youth who was stupid when a babe in arms, and will remain stupid all his life. His smoking is not the cause of his stupidity, but merely an evidence of it. A bright and healthy boy, if he is kept away from evil companions, prefers his books and his games to cigarettes."

CHAPTER XII

THE STORY TOLD BY STATISTICS

PROGRESS OF TOBACCO THROUGH HALF A CENTURY SHOWN BY GOVERNMENT FIGURES — SMOKING INCREASE MORE RAPID THAN POPULATION

Perhaps nothing gives more eloquent testimony to the social importance of tobacco than an examination of statistics compassing a recent half-century of American history. Of course, owing to natural fluctuations, any pretension to include up-to-date statistics in a bound volume of this character would be futile. However, it is a noteworthy fact that, because of tobacco being a government-taxed commodity, exact records are kept both of leaf production and of tobacco manufactures; and these are at all times available to the interested. In this book and this chapter it is my desire to present only such figures as may serve to give the reader an accurate knowledge of the expansion of tobacco production and consumption and the importance which it has achieved in the present generation.

The records of the Internal Revenue Bureau reveal exactly the quantities of tobacco products upon which the internal revenue tax has been paid, and since this tax is not paid upon exported merchandise, and also since tobacco products are not stamped unless intended for practically immediate consumption, these statistics show quite accurately both how much tobacco is made and how much is consumed from year to year. The following table gives the annual production of cigars, cigarettes, and tobacco during the past fifty-three years:

Year	Cigars and Little Cigars	Cigarettes, Large and Small	Tobacco and Snuff
1921	7,434,686,705	50,880,378,448	386,496,435
1920	8,966,028,022	50,448,541,689	414,877,746
1919	7,110,877,600	38,104,738,310	376,959,091
1918	7,784,300,180	36,959,334,804	417,647,509
1917	8,266,770,593	30,539,193,538	445,763,206
1916	7,390,183,170	21,087,677,077	417,235,928
1915	7,058,122,323	16,756,179,973	402,474,245
1914	7,670,832,230	16,427,086,016	412,505,213
1913	7,699,037,543	14,294,895,471	404,362,620
1912	7,256,390,303	11,239,536,803	393,785,146
1911	7,251,904,686	9,254,351,722	380,794,673
1910	7,065,931,984	7,874,239,863	436,798,085
1909	6,752,576,300	6,105,424,173	388,756,941
1908	6,904,771,947	5,402,345,198	364,109,398
1907	7,490,144,794	5,166,941,756	369,186,288
1906	7,174,805,223	3,792,759,903	354,915,499
1905	6,860,914,577	3,376,633,673	334,849,110
1904	6,707,471,863	3,235,103,871	328,650,710
1903	6,786,338,043	3,043,030,604	310,667,865
1902	6,103,567,265	2,651,618,797	298,048,339
1901	5,770,934,369	2,277,069,818	294,101,715
1900	5,316,273,561	2,639,899,785	278,977,035
1899	4,529,872,304	2,805,130,737	237,132,710
1898	4,505,260,517	3,753,697,908	288,160,613
1897	4,063,169,097	4,153,252,470	260,734,812
1896	4,237,755,943	4,043,798,737	253,667,137
1895	4,163,972,440	3,328,477,677	248,269,638
1894	4,066,917,433	3,183,783,130	235,451,805
1893	4,814,197,117	3,176,698,700	252,399,749
1892	4,548,799,417	2,892,982,840	253,962,021
1891	4,474,892,767	2,684,538,760	243,505,848
1890	4,087,889,983	2,233,254,680	229,068,517
1889	3,867,385,640	2,151,515,360	213,461,249
1888	3,844,726,650	1,862,726,100	201,925,613
1887	3,788,305,443	1,584,505,200	199,937,743
1886	3,510,898,488	1,310,961,350	185,426,193
1885	3,358,972,633	1,058,749,238	174,415,619
1884	3,445,619,017	908,090,723	168,593,419
1883	3,227,888,992	640,021,653	165,077,186
1882	3,040,975,395	554,554,186	156,458,033
1881	2,682,620,797	567,395,983	142,706,011
1880	2,367,803,848	408,708,366	132,309,526
1879	2,019,246,764	238,276,817	116,975,223
1878	1,905,063,743	165,189,594	105,500,736

Year	Cigars and Little Cigars	Cigarettes, Large and Small	Tobacco and Snuff
1877.....	1,800,009,256	149,069,257	112,722,055
1876.....	1,828,807,396	77,420,586	107,063,516
1875.....	1,926,661,780	41,297,883	116,101,396
1874.....	1,857,979,298	28,718,200	104,502,548
1873.....	1,779,946,596	27,088,050	111,407,806
1872.....	1,507,014,922	20,691,050	93,655,905
1871.....	1,313,913,604	18,930,753	93,801,073
1870.....	1,139,470,774	13,881,417	89,120,005
1869.....	991,535,934	1,751,495	62,662,576

During the last fifteen years of the period covered by these figures it will be observed that cigar production remained about stationery, likewise tobacco and snuff, while the output of cigarettes has increased stupendously. But it will also be observed that all divisions show steady, if not rapid development since the first year recorded, and that tobacco production as a whole has increased consistently almost year after year.

Furthermore it is a fact that the increase in the consumption of tobacco has been more rapid than the increase in population. The following table presents these advances comparatively, in percentages, by decades from 1870 to 1920:

	Cigars	Cigarettes	Tobacco	Population
1920 over 1910.....	26%	546%	*5%	14%
1910 over 1900.....	32%	198%	56%	21%
1900 over 1890.....	30%	18%	21%	20%
1890 over 1880.....	72%	446%	73%	25%
1880 over 1870.....	107%	2,844%	48%	30%

*Decrease.

It will be noted that during the ten years from 1910 to 1920 the national population increased only 14 per cent while the consumption of cigars increased over 26 per cent, and the consumption of cigarettes increased 546 per cent.

Up to the end of 1917 there were no available records showing the production of cigars divisionally, except little

cigars (package goods), and large cigars (of ordinary cigar size), the government, for purposes of taxation, making only one division; namely, cigars weighing more than three pounds per thousand, and cigars weighing not more than three pounds per thousand.

By the War Revenue Act of 1917, however, which went into effect on December 1 of that year, additional classifications were made, based on the retail price. To give the reader an idea of the relative quantities of the variously-priced cigars consumed, the following table is presented showing the production of cigars (by classes) and other tobacco products in the fiscal years 1921 and 1922:

Articles taxed	1921	1922
Cigars (large):		
Class ANo.	1,773,588,083	2,285,329,690
Class Bdo	2,131,201,227	1,660,759,580
Class Cdo	3,033,119,216	2,525,740,254
Class Ddo	165,135,953	116,813,008
Class Edo	45,818,759	32,530,808
Total cigars (large).....do	7,148,863,238	6,621,173,340
Cigars (small)do	673,667,380	645,684,473
Cigarettes (large)do	49,477,631	16,444,604
Cigarettes (small).....do	45,015,845,373	50,041,805,753
Snuff, manufacturedLbs.	32,196,676	38,597,950
Tobacco, chewing and smoking..do	329,611,732	368,563,368

In perusing the above it is well to consider that, in 1921, war and the post-war influences were still affecting the tobacco business and public demand; and subsequent changes in American economics might be expected to materially alter the relativity of these classifications as regards popularity.

That this country supplies considerable quantities of tobacco for other parts of the world, and also that it seems to require in some measure the tobaccos of other countries for home consumption, is manifested by the following tables of exports and imports during two calendar years:

OUR IMPORTS OF TOBACCO IN 1922

Tobacco:		Quantity.	Value.
Leaf, product of the Philippine Islands	Pound...	503,840	56,954
Leaf, suitable for cigar wrappers.....	do.....	5,211,021	10,940,393
<i>Imported from—</i>			
Netherlands.....	do.....	4,963,244	10,543,486
Canada.....	do.....	9,120	13,643
Cuba.....	do.....	36,704	125,179
Dutch East Indies.....	do.....	172,041	216,351
Other countries.....	do.....	29,912	41,734
All other leaf.....	do.....	59,510,576	46,052,498
• <i>Imported from—</i>			
Greece.....	do.....	15,053,819	10,484,509
Turkey in Europe.....	do.....	4,795,334	4,962,700
United Kingdom.....	do.....	1,246,420	807,552
Mexico.....	do.....	3,415	3,311
Cuba.....	do.....	21,364,455	20,452,830
Dominican Republic.....	do.....	192,542	13,965
Turkey in Asia.....	do.....	11,325	7,443
Other countries.....	do.....	16,843,266	9,320,188
Total leaf.....	do.....	65,225,437	57,049,845
Manufactures of—			
Cigars, cheroots, and cigarettes—			
Products of the Philippine Islands—			
Cigars and cheroots.....	do.....	1,504,610	2,690,368
Cigarettes.....	do.....	1,480	1,552
All other—			
Cigars and cheroots.....	do.....	381,330	3,214,324
Cigarettes.....	do.....	7,493	34,662
Total cigars, etc.....	do.....	1,894,913	5,940,906
All other.....	do.....	277,523	258,168
Total manufactures of.....	6,199,074

The leading States in the manufacture of tobacco products are as follows, in the order named: In the manufacture of cigars weighing more than three pounds per thousand, Pennsylvania, New York, Ohio, New Jersey, Virginia, and Michigan; in the manufacture of cigars weighing not more than three pounds per thousand, Maryland, Pennsylvania, West Virginia, New Jersey, and New York; in the manufacture of cigarettes weighing not more than three pounds per thousand, North Carolina, New

OUR EXPORTS OF TOBACCO IN 1922

		Quantity.	Value.
Tobacco:			
Leaf tobacco.....	Pound..	250,452,933	488,633,751
Unstemmed.....	do.....	178,332,139	57,708,637
Stemmed.....	do.....	22,770,149	10,386,516
Total.....	do.....	451,555,221	156,728,904
<i>Exported to—</i>			
Belgium.....		21,610,307	2,690,911
Denmark.....		3,829,171	712,814
France.....		43,166,050	5,123,275
Germany.....		29,655,235	4,825,732
Italy.....		46,971,663	10,545,021
Netherlands.....		19,870,686	3,726,592
Norway.....		3,622,038	1,042,500
Portugal.....		5,814,821	1,110,996
Spain.....		12,534,194	1,441,677
Sweden.....		4,231,477	840,104
Switzerland.....		2,685,712	728,918
United Kingdom.....		178,817,343	96,124,187
Canada.....		13,117,029	3,882,676
Mexico.....		2,542,100	56,265
Argentina.....		1,065,975	325,073
China.....		22,945,067	8,241,888
Hongkong.....		648,145	128,989
Japan.....		2,339,513	1,029,675
Australia.....		15,241,757	7,441,930
British West Africa.....		7,143,013	2,202,500
French Africa.....		2,853,526	623,491
Other countries.....		10,850,399	3,383,690
Stems, trimmings, and scrap tobacco.....	Pound..	11,242,130	\$540,452
Manufactures of tobacco (total).....			23,563,381
Cigars and cheroots.....	Thous'd.	1,096	23,265
Cigarettes.....	do.....	9,601,781	20,645,019
<i>Exported to—</i>			
Belgium.....		1,572	5,641
Denmark.....		4,426	11,668
France.....		8,176	52,111
Italy.....		781	7,299
Netherlands.....		22,789	23,294
United Kingdom.....		4,627	26,799
Panama.....		161,751	626,160
British India.....		119,460	314,381
Straits Settlements.....		1,016,750	1,405,087
China.....		6,944,153	14,010,470
Philippine Islands.....		162,626	676,610
Siam.....		266,543	342,316
Other countries.....		888,127	3,143,183
Plug tobacco.....	Pound..	3,021,907	1,503,359
Smoking tobacco.....	do.....	2,307,036	943,579
Snuff.....	do.....	4,561	2,776
Other tobacco manufactures.....	do.....		445,383

WORLD PRODUCTION OF TOBACCO BY COUNTRIES.

Country.	Area.				Production.			
	Average 1909- 1913. ¹	1918	1919	1920	Average 1909- 1913. ¹	1918	1919	1920
	1,000 acres.	1,000 acres.	1,000 acres.	1,000 acres.	1,000 pounds.	1,000 pounds.	1,000 pounds.	1,000 pounds.
NORTH AMERICA.								
United States.....	1,148	1,647	1,951	1,960	996,176	1,439,071	1,465,481	1,582,225
Porto Rico.....	18	24	40	42	12,700	17,196	23,690	25,340
Canada:								
Quebec.....	10	7	23	53	6,262	7,732	16,770	26,400
Ontario.....	4	6	9	20	8,372	6,500	17,000	21,689
Total Canada..	14	13	32	53	14,634	14,232	33,770	48,089
Costa Rica							\$ 223	
Cuba.....					7,400	3		
Dominican Republic.....			25		29,200	\$ 35,000	\$ 30,000	
Guatemala.....					674	1,049		
Jamaica.....	1				418			
Mexico.....					34,711	27,963		
SOUTH AMERICA.								
Argentina.....	24	27		15	28,563	\$ 9,266		
Brazil.....					59,991		\$ 53,900	
Chile.....	2	3			3,377	6,929		
Uruguay.....	3	2		1	2,371	949		
Paraguay.....		35			13,000	30,864	\$ 35,274	
EUROPE.								
Austria.....	* 9				* 14,169			
Croatia Slavonia *.....					107			
Bosnia-Herzegovina *.....					9,833		30,050	13,490
Belgium.....	10	15	17	7	20,741		35,260	53,490
Bulgaria.....	* 24	89	85	63	* 15,220			
Denmark.....	1				219			
France.....	* 39	20	23	29	* 45,272	* 19,568	34,670	46,031
Germany.....	* 39	29	31	32	66,536	51,528	45,379	
Germany.....					51	63,163	57,193	68,500
Greece.....		116						
Hungary.....	* 120				* 143,123			
Italy.....	* 19	17	21	20	22,120	19,841	21,160	28,260
Netherlands.....	1	1	1	1	1,829			
Rumania.....	* 25	* 32	36	* 40	* 16,426	* 13,470	* 26,477	* 5,370
Russia proper *.....	108				177,107			
Northern Caucasia *.....	64				55,842			
Serbia *.....	5				3,988			
Sweden.....	1	1	1		1,657	1,389		1,690
Switzerland.....	1	1	1	1	1,444		660	800
ASIA.								
British India.....	1,026	1,015			450,000			
British North Borneo.....		2			2,891			
Ceylon.....	14	18			4,273			
Dutch East Indies:								
Java and Madura.....	432				117,180	* 61,480		
Sumatra, east coast of.....					46,699	* 51,801		
Japanese Empire:								
Japan.....	72	64	76	76	93,717	83,544	107,480	113,360
Chosen (Korea).....	46				29,737			
Formosa.....	1				1,120			
Philippine Islands.....	155	194	182	250	63,907	135,705	124,560	143,070
Russia, Asiatic.....	37				30,939			
AFRICA.								
Algeria.....	21	27	43	32	23,974	33,069	31,660	24,650
Tunis.....		(¹)	1	1	259	484	620	
Nyasaland.....	7	* 9	6	3	2,416	* 4,701	2,553	4,000
Rhodesia.....	5	3	5	* 8	901	* 620	1,468	* 2,930
Union of South Africa.....	19	23			13,789	14,931	¹⁰ 14,183	¹⁰ 11,644
OCEANIA.								
Australia.....	2	1	2	2	1,837	459	2,664	¹¹ 2,352
Fiji.....		1			42			

York, Virginia, New Jersey, and Pennsylvania; in the manufacture of cigarettes weighing more than three pounds per thousand, New York, which accounts for 85 per cent of the total manufactured; in the manufacture of plug tobacco, Missouri and North Carolina; twist, Missouri, Kentucky, and Tennessee; fine cut, Illinois and New Jersey; smoking tobacco, North Carolina, Ohio, New Jersey, Kentucky, and Illinois; snuff, Tennessee, Illinois, and New Jersey.

PER CAPITA CONSUMPTION OF TOBACCO

The Internal Revenue tax is paid only on products for home consumption. Also, tobacco products are not generally stamped by the manufacturer until they are ready to be shipped into distribution. Therefore, with the Internal Revenue figures of production and the Census Bureau's figures of population it is possible to arrive quite accurately at the per capita consumption of tobacco products. Employing the production figures of 1921 and the population of 1920 the per capita consumption is as follows:

Cigars, 65.75; cigarettes, 481.31; little cigars, 6.39; smoking and chewing tobacco (lbs.), 3.31; snuff (lbs.), 0.33.

The per capita consumption by males twenty-one and over was as follows: Cigars, 321.36; cigarettes, 1620.22; little cigars, 21.52; smoking and chewing tobacco (lbs.), 11.16; snuff (lbs.) 1.13.

WORLD PRODUCTION OF TOBACCO FOR 21 YEARS.

Year.	Production.	Year.	Production.	Year.	Production.	Year.	Production.
	<i>Pounds.</i>		<i>Pounds.</i>		<i>Pounds.</i>		<i>Pounds.</i>
1900.....	2,201,193,000	1906	2,270,298,000	1912	1,274,319,000	1918	2,138,274,000
1901.....	2,270,213,000	1907	2,391,061,000	1913	2,149,258,000	1919	2,178,382,000
1902.....	2,376,054,000	1908	2,382,601,000	1914	2,254,087,000	1920	2,175,351,000
1903.....	2,401,268,000	1909	2,742,500,000	1915	2,153,395,000	1921
1904.....	2,148,641,000	1910	2,833,729,000	1916	1,547,867,000	1922
1905.....	2,279,728,000	1911	2,566,202,000	1917	1,766,760,000	1923

FIGURES REVEALED BY THE CENSUS

Analysis of an industrial census by government statisticians is necessarily a slow process and the figures are not available until several years after the census was taken. For purposes of reference, however, the following table, compiled in 1922 and showing the industrial status of the tobacco business at the beginning of 1920, is presented:

Industry	Number of Estab- lishments	Average Number of Wage Earners	Capital	Wages	Value of Products
Chewing tobacco...	85	8,379	60,564,469	5,740,522	96,955,494
Smoking tobacco...	199	8,520	98,539,030	5,765,259	119,282,473
Snuff	34	1,328	28,664,549	1,080,052	21,127,918
All other tobacco...	47	97	676,052	88,903	1,904,833
Cigars	9,778	114,299	220,708,832	90,418,318	360,396,074
Cigarettes	135	22,642	191,173,339	19,794,550	379,125,710
Cigars and cigarettes	13	1,832	4,513,301	1,100,480	34,140,711
Total	10,291	157,097	\$604,839,572	\$123,988,084	\$1,012,933,213

CHAPTER XIII

THINGS EVERY SMOKER SHOULD KNOW

HOW TO JUDGE THE QUALITY OF CIGARS—LIGHT COLORED CIGARS NOT THE MILDEST—CARE OF THE THE PIPE—YELLOW STAIN—SMOKER'S CREED

The more familiar the public becomes with the truth about the tobacco business, the more it will enjoy its tobacco and the easier will be the path of the tradesman whose function is to serve and satisfy. In this chapter, however, I have collected a few facts with which the devotee, even more than the vendor, ought to be familiar. Let us begin with

HOW TO JUDGE THE QUALITY OF A CIGAR

As every cigar dealer knows, it is impossible to get the slightest idea of the quality of a cigar by holding it, unlighted, horizontally under the nose and sniffing at it—a custom very general among smokers.

Experts appraise cigars on five counts: first, burn; second, aroma; third, taste or flavor; fourth, color, and fifth, workmanship.

Burn.—The burn is placed first advisedly. If the cigar does not burn freely, all other merits combined will not save it from condemnation. By burn is meant the degree of combustibility. If the cigar holds its fire, say three or four minutes, without being puffed, and the tobacco is consumed evenly on all sides and shows no thick, black ring of carbon where the leaf meets the ash, then the burn is good. Contrarywise, the burn is poor.

Aroma.—As to aroma and taste, the second and third

counts, it is sufficient to say that if these are agreeable, they are merits, but if they are disagreeable or merely lacking, they count adversely.

Color.—As to the fourth count, color, the wrapper of the cigar should not be of a too greenish cast or too pale in color, as these signs indicate an insufficient cure of the tobacco. The ideal color is a rich, ripe, deep brown. The particular shade of brown is a matter of individual preference. There was a time when there was a demand for extremely dark cigars. But of recent years medium to light colors have been more in favor.

Workmanship.—The fifth and last count is the workmanship. A good cigar should be made smoothly and evenly without any cracks or humps. It must feel firm when squeezed between the fingers, otherwise it will become spongy when half smoked; but it must not be hard, else it is not likely to smoke freely. The filler must be put in carefully, as a sprig of tobacco which does not lie exactly longitudinally will impede the “draw.”

THE SIGNIFICANCE OF SPOTS

Spots on tobacco, contrary to the once popular opinion among smokers, are no indication of its quality whatever. They are caused sometimes by rain splashing sand on the lower leaves when they are young in the field; sometimes by bacteria, as is the case with fruits, garden vegetables and leaves of trees.

DON'T JUDGE BY ONE CIGAR

It is an injustice to any brand of cigars to judge it by smoking one cigar. No matter how painstaking a manufacturer may be, there is sure to be found, in almost every shipment, a cigar here and there that is below the standard of the factory's product. Even though the goods are carefully inspected before leaving the factory, it is impossible

to detect every imperfection of the workmanship. Moreover, in the best selected Havana tobacco ever imported there are occasional inferior leaves which can only be detected by smoking. A brand of cigars should never be condemned until after at least three or four cigars have proved, consecutively, to be inferior.

LIGHT CIGARS NOT MILDEST

As will be shown in my description of the manufacture of cigars, the color classification is based solely upon the wrapper, no gradation of color or strength being made, generally speaking, in the filler.

Probably there is not one smoker in a thousand who is not surprised and, in fact, skeptical, when he is told that the color of a cigar is absolutely no guide to its strength. Yet such is the case, and a fact well known to cigar manufacturers and to dealers and importers. The belief of smokers that cigars of dark color are strong and those of a lighter shade are milder, is, in point of fact, as fallacious as it is general.

Sometimes the inclination of smokers toward light-hued cigars assumes the proportions of a "craze," and the producers find much difficulty in meeting the demand. The manufacturers would then gladly correct the error; but, after having carefully classified their products under the style of claros, colorados, maduros, etc., for decades, and allowing it to be understood that these terms were synonymous for mild, medium and strong, they find it next to impossible to dispel the delusion.

A maker of Havana cigars virtually uses but one grade or blend of tobacco in the body or filler of his cigars. The same stock is used in his Conchas as in his Perfectos; in his claros as in his maduros. After the cigars are made, however, his "selecter" takes them in hand and classifies them according to the relative shades of the wrappers. This is

done to effect a uniformity in the appearance of each box of cigars, and to enable the dealer to readily indulge the whims of the self-deluded smoker.

Inasmuch as the wrapper constitutes not more than one-tenth of the cigar, it will readily be seen that the degree of its strength or mildness is very inconsiderable in effect. In this connection, however, it is interesting to note that tobacco tradesmen versed in the intricacies of the industry are not partial to the light-colored wrapper for their own smoking, knowing that it generally indicates that the leaf was prematurely cut or improperly cured, and that it impairs the flavor and burn of the cigar. Cubans, who, by the way, are notably partial to mild tobacco, avoid smoking light-colored cigars just as they avoid eating a green orange or an unripe banana.

The popular idea, therefore, that the degree of strength or mildness of a cigar is indicated by its color is erroneous.

BLUE SMOKE AND GRAY

Smokers will have often noticed that the smoke from the bowl of a pipe or the end of a cigar is blue, while that from the smoker's mouth is gray or brown. Smoke consists of minute particles of solid or liquid matter suspended in the air, and its color depends upon the size as well as chemical constitution of the particles. Exact experiment has shown that as the particles increase in size they form colors varying from sky-blue down through the whole range of the spectral scale. The smoke given off from the heated surface of the tobacco in the bowl or the end of a cigar consists of a matter very highly heated, and very fully oxidized and decomposed. It consists mainly of exceedingly small solid particles, and thus the smoke assumes a bluish color. As Lord Kelvin recently explained, minute particles have an intense affinity for moisture. On being inhaled the blue smoke loses its smallest particles, which are captured by the moisture of the mouth. It is these small particles which give

the smoke its blue color, the relatively large size of the particles forming the smoke exhaled from the mouth being of the grayish tinge.

THE SMOKER'S CARE OF HIS PIPE

Before smoking a new briar pipe, the interior of the bowl should first be wiped out with a cloth to remove all dust and then should be thoroughly dampened.

Breaking It In.—Before the moisture evaporates, the pipe should be filled and the tobacco should then be lighted evenly, the smoker being careful not to burn the rim of the bowl with the match. When the tobacco is all consumed, the ashes should be allowed to remain undisturbed until the pipe is thoroughly cooled. They should then be emptied, but care should be taken not to scrape the surface of the bowl in so doing. By observing these precautions, a thin coating of carbon can be formed, which prevents the wood from cracking. After a half dozen smokes, the rule of removing the ashes should be changed and they should be emptied promptly after the smoke is finished. The smoker should always blow through the bit after removing the ashes, for if this is done, the smoke channel will never become plugged.

Cleaning the Pipe.—The bowl of the pipe should never be cleaned out with a pointed instrument like a pointed knife blade or scissors, as by repeated performances of this kind a hole is gradually drilled through the bottom of the pipe. Of course, a pocket knife may be used for this purpose, but great care should be taken not to let the point strike against the bottom of the bowl. A pipe should always be allowed to cool and dry before being re-smoked. No pipe smoker is perfectly equipped without a supply of pipe cleaners and one of the various spoons made for removing the ashes.

HOW TO COLOR A MEERSCHAUM

To properly color a meerschaum pipe, an upper or false bowl should be used persistently until the desired color has been attained. The principle of this is that when the tobacco is smoked in the bowl itself, the rim of fire, when directly in contact with the bowl, stops the coloring process. The old idea of encasing the bowl in chamois is disproved. If the smoker is anxious to avoid the possibility of blotches formed by the finger tips, the pipe should be held in a light handkerchief or else by the stem.

When a smoker changes his brand of tobacco, he can never judge the new brand fairly by the first pipeful if smoked in a pipe which has been used for some other kind of tobacco, as the accumulation of oils from the preceding blend affects the flavor of the new brand. Seven or eight pipefuls of the new brand must be smoked before its true flavor can be determined.

HOW TO CLEAN CALABASH PIPES

The cleaning of a calabash pipe is not a difficult operation, provided the pipe is handled properly. Like every pipe, the calabash should be cleaned before smoking, not immediately after, while the pipe is hot. Ordinary pipe cleaners should be used. Care must be taken to keep the opening at the bottom of the bowl free, and this should be done with a soft cleaner instead of the metal probes and scrapers, which are liable to crack the meerschaum lining. The calabashes fitted with removable bowls may be cleaned with less trouble than any other pipe on the market. With the ordinary type of calabash pipe, where the bowl may not be removed, the cleaning process is a trifle more difficult, but by removing the bit and taking out the accumulated ash and by keeping the opening from the bowl into the stem of the calabash clear, the smoker will have little trouble in maintaining his pipe in good working order. Alcohol may be used with impunity in cleaning a calabash.

TO LIGHT A CIGARETTE IN THE WIND

Here is a clever method of lighting a cigar or a cigarette in the wind. The directions are as follows:

Lay the match along the cigarette (or cigar) so that the match projects no more than the length of the head beyond the end of the cigarette, holding the match tightly against the cigarette with the thumb and two fingers. Place the cigarette in the mouth. Then draw the match-box across the end of the match so as to light it, at the same time drawing in on the cigarette. No matter how hard the wind is blowing this will ignite the cigarette every time. The smoker may get a faint taste of the sulphur, but after the first puff or two this will disappear, and more frequently he will not taste it at all.

THE JUICE IN YOUR PIPE STEM

Whenever there is incomplete combustion there is distillation and tarry oils are produced. This applies to wood and many other substances, including tobacco. The yellow liquid which collects in the bottom of the pipe bowl and stains the fingers of the inveterate cigarette smoker, and which is so generally designated by the uninformed as nicotine, is not nicotine at all, but merely the tar oil distilled from the burning weed. It is exactly the same process as that which goes on in the old-fashioned smoke house and which changes the color of the ham from a red to a rich brown. The fluid produced from the smoke of tobacco is what is known as a wood tar, and as wood tars are not appreciably affected by alkalis the stain on the smoker's fingers is not materially affected by soapsuds. It is this, and not nicotine, that is produced by the much exploited test of blowing a mouthful of smoke through a handkerchief.

TO REMOVE THE CIGARETTE STAIN

Cigarette smokers who do not use tubes are sometimes

annoyed by the appearance of the yellow stain (tar-oil) on their fingers, which does not wash off. The surest and simplest method of removing the stain is by the application of pumice stone. By first soaking the hands in warm, soapy water the outer skin will be softened and the pumice stone will do its work more easily.

FREE IMPORTS

Though tariffs confront the narcotic weed everywhere, yet nearly every country allows the traveler to bring with him a pocket full of cigars or other smoking material.

The rule varies from one land to another, and the following gives a good account of the facts up to date:

Austro-Hungary allows twelve cigars and thirty-five grammes of tobacco; Belgium, nothing; Bulgaria, fifty cigars, fifty cigarettes and fifty grammes of tobacco; Denmark, nothing; Egypt, twenty-five cigars, 100 cigarettes and 200 grammes of tobacco; France, thirty cigars and 300 cigarettes; Germany, enough for immediate use; Great Britain, twelve cigars and twenty cigarettes; Holland, nothing; Italy, six cigars and fifteen cigarettes; Korea, 500 cigars and 1,000 cigarettes; Monaco, thirty cigars, 100 cigarettes and 100 grammes of tobacco; Mexico, fifty cigars and 200 cigarettes; Norway, 100 cigars; Portugal, nothing; Roumania, twenty cigars, 100 cigarettes and 100 grammes of tobacco; Russia, 100 cigars, 100 cigarettes and 100 grammes of tobacco; Servia, nothing; Spain, nothing; Sweden, nothing; Switzerland, 250 grammes of smoking material; Turkey, nothing; United States, fifty cigars and 300 cigarettes.

THE SMOKER'S CREED

APPROVED BY THE LEAGUE OF AMERICAN SMOKERS

Notwithstanding that those who derive happiness, comfort and good-fellowship through the use of tobacco comprise ninety per cent of the male adult population of the United States, I fully realize that the majority, counting women and children, are non-smokers

and that among this majority there are some to whom the fumes of tobacco are not agreeable. I take pleasure, therefore, in observing the following rules of courtesy and consideration:

1. I shall not smoke or carry a lighted cigar or cigarette in any place or at any time where or when, either by placard or common understanding, smoking is prohibited.

2. I shall not smoke in any place or at any time where or when the fumes of tobacco are obviously annoying to others, even though such abstinence is not compulsory.

3. I shall not smoke in any passenger elevator, public or private.

4. I shall not smoke in a dense crowd of people, indoors or out, if I discover that my smoke is annoying someone near me who, owing to the circumstances, is unable to move away.

5. I shall not smoke in any home or any room, wherein I am a guest, without first making sure that smoking therein is agreeable to my host and others present.

6. I shall not smoke in the presence of any lady until I have been assured that she has no objections to my doing so.

7. I shall not approve of the use of tobacco by growing boys or girls.

8. I shall exercise caution in discarding the ends of cigars and cigarettes in order to preclude the possibility of fire.

9. I shall, in my enjoyment of the smoking privilege, be always considerate of those whose inclinations happen to differ from my own, and always be guided by the finer instincts of true chivalry and American manhood.

10. I shall faithfully adhere to the foregoing self-imposed rules myself, and I shall urge others to do the same, that the days of tobacco may be long and its friends legion in the Land of our Fathers,



part IV agricultural

CHAPTER XIV

THE CLASSIFICATION OF LEAF TOBACCO

TERMS BY WHICH THE VARIOUS STRAINS ARE COMMONLY KNOWN—THE DOMESTIC AND IMPORTED KINDS

The peculiar requirements of the various manufactured products of tobacco have, in the course of time, led to a classification of leaf according to types and localities. In this chapter I shall enumerate these various classifications and give a description of each term.

TOBACCOS FOR CIGAR PURPOSES

CLASSIFICATION

Domestic—Connecticut (Havana Seed, including Shade-grown and Broadleaf, including Roundtip), New York State (Big Flats and Onondaga), Pennsylvania (Broadleaf and Havana Seed), Ohio (Gebhardt, Zimmer Spanish and Little Dutch), Wisconsin, Florida, Georgia and Texas.

Imported—Havana (Vuelta Abajo, Partidos and Remedios), Sumatra, Java, Porto Rican, Mexican and Philippine.

DESCRIPTION

CONNECTICUT: HAVANA SEED AND BROADLEAF.—The annual production of Connecticut (New England) tobacco is about 50,000,000 pounds. The Connecticut Valley produces two types of wrapper leaf, the Broadleaf and Havana Seed leaf, both varieties being air cured, packed in cases holding about 300 pounds, and left to ferment during the Winter, Spring and Summer months. This tobacco is sampled and sold at private sale, the packing usually being done by those



TOBACCO HARVESTING IN KENTUCKY; BRINGING BURLEY FROM THE FIELD AND HANGING IT IN THE BARN.

who buy the tobacco from the farmers; also Shadegrown tobacco, grown under artificial shade, for fine wrappers only.

The Broadleaf variety has a broad silky leaf, very elastic, about two-thirds of the leaf from the tip possessing rich grain and color. Small veins are also a characteristic of this leaf. There is only one small area in the Connecticut Valley adapted to the production of this type.

The leaf of the Havana Seed is smaller than the Broadleaf, much narrower, and is exceedingly thin and silky, but possesses less elasticity and covering quality. It does not possess the rich grain of the Broadleaf; the middle and lower parts are glossy and have large veins. This portion of the leaf is not desirable for wrapper purposes. The heavier leaves and those slightly damaged or of uneven color are used as binders. Badly torn leaves and the trash are not suitable even for fillers, but are sold at a low price for export tobaccos. Both the Broadleaf and Havana Seed are graded into light, medium and dark wrappers, and light and dark seconds, all grades being arranged in four lengths. The Shadegrown is the most costly to produce and is carefully graded and packed in cloth and burlap, similar to Sumatra. It is distinctly a high grade wrapper tobacco. The Connecticut wrapper approaches in serviceability and appearance the imported Sumatra, being the nearest to it of any of the domestic tobaccos, with the possible exception of that grown in Florida from the Sumatra seed.

Roundtip is a comparatively new type of cigar leaf which was first called to the attention of the trade in 1921, when approximately 200 acres were grown in the Connecticut valley. It is a cross between Broadleaf and Sumatra, is grown in the open, and is intended for primed wrappers for lower priced cigars. Its advantages are uniformity of color and character and moderate cost of production.

NEW YORK STATE: BIG FLATS AND ONONDAGA.—The

production in New York State amounts to about 4,000,000 pounds annually. The tobacco is used largely for binder purposes. The Big Flats and Onondaga varieties derive their names from the section of the State in which they are grown.

PENNSYLVANIA.—The production in that State is about 60,000,000 pounds. The tobacco produced in Pennsylvania is characterized by a long, broad leaf. It is air cured and packed in the same way as the Connecticut Valley tobacco. The Pennsylvania tobacco has a dark, heavy-bodied leaf, unsuited for wrappers, but used mainly for fillers and binders. Some good wrapper leaf is grown on the light alluvial soils near the rivers. As a filler leaf this tobacco competes with the Zimmer Spanish, Little Dutch and Florida-grown Cuban, and it is used mostly in the production of stogies, cheroots and other low-priced cigars. This tobacco is assorted by the packers into the following grades: Eighteen-inch, twenty-inch, twenty-two-inch and twenty-four-inch light and dark wrappers and binders, the shorter sizes being graded as fillers and called Pennsylvania B's.

OHIO.—This State produces about 60,000,000 pounds, mainly a filler crop, of Zimmer Spanish and Little Dutch varieties. The Zimmer Spanish is a small leaf, in appearance closely resembling the imported Cuban tobacco. This tobacco is graded more carefully than any other tobacco grown in this country, except that grown in Florida. The Cuban method of fermentation has been adopted by those who handle the Zimmer Spanish. The Little Dutch is a close second in popularity to the Zimmer Spanish. It is manipulated in the same manner, but the grading is not so closely or carefully made. The leaf is larger than the Zimmer Spanish, and departs further in appearance from the imported Cuban. A small quantity of seed leaf, known as Gebhard, is produced in Ohio as a wrapper leaf, but as it

is inferior to the Connecticut the acreage is rapidly diminishing.

WISCONSIN.—The production in Wisconsin is about 60,000,000 pounds, and is recognized as a binder leaf, which is frequently used with the Connecticut wrapper and the Pennsylvania or Ohio filler.

FLORIDA.—In this is included also, on account of similarity of type, tobacco grown in Georgia and amounting altogether to about 20,000,000 pounds a year. The method of packing Florida tobacco differs from most other cigar tobacco named heretofore, in that it is packed in bales like Sumatra or Havana, while the others, excepting that grown under artificial shade in Connecticut, are packed in wooden cases. There are two types of tobacco grown in Florida and Georgia, one from seed originally imported from the Island of Cuba, the other from the Island of Sumatra. The Cuban seed has retained the characteristic size and appearance after being planted for seven consecutive crops; but the Sumatra seed, after two or three seasons, begins to assume the character of the Cuban plant. For this reason it is customary, in order to preserve the desired Sumatra characteristics, to save enough seed from the first or second crop to last for eight or ten years, and to plant each succeeding crop during this period from this seed. The Florida and Georgia "Cuban filler" closely resembles the imported Cuban leaf in size, shape and general appearance. It has good body and aroma, although the specific aromatic quality and flavor of the best Cuban tobacco have not yet been obtained. The tobacco is carefully fermented, very much as in the Cuban process, and is afterwards carefully sorted and graded according to color, body and length. It is then made into carrots and baled in identically the same way as the Cuban package. The Florida and Georgia "Sumatra" is essentially a wrapper leaf. While the first crops gave in most cases only about twenty per cent. of

wrappers, the proportion was later increased to seventy and eighty per cent under the most careful methods of cultivation. This tobacco is shaded with lath or cloth placed on wood frames nine feet high, and irrigation is used in addition by some of the larger planters with gratifying success. The Florida and Georgia Sumatra closely resembles the imported leaf in size, shape, texture, grain and general appearance. It is extremely thin and very elastic. The most desirable sizes are fourteen, sixteen and eighteen inches. This tobacco is all primed; that is, each leaf is picked when ripe and great care is exercised in fermenting, grading and assorting.

HAVANA TOBACCO.—Havana tobacco, which means all tobacco grown on the Island of Cuba, possesses peculiar qualities which have resulted in its being regarded as the finest tobacco in the world for cigar purposes. The island is capable of producing from 350,000 to 500,000 bales annually. The best quality of the Cuban tobacco comes largely from the Vuelta Abajo section, although some very choice tobaccos are raised also in the Partidos section. Remedios tobaccos are more heavily bodied than the others and are used almost exclusively for blending with our domestic tobaccos. While there are innumerable sub-classifications, such as Semi-Vueltas, Remates, Tumbadero, etc., the three general divisions named above, Vuelta Abajo, Partidos and Remedios, embrace the entire island. If a fourth general classification were to be added, it would be Semi-Vueltas. The Vuelta Abajo is grown in the Province of Pinar del Rio, located at the western end of the island. It is raised practically throughout the entire province. Semi-Vueltas are also grown in Pinar del Rio, but the trade draws a line between them and the genuine Vueltas. Partidos tobacco, which is grown principally in the Province of Havana, differs from the Vuelta Abajo in that it is of a much lighter quality. The Partidos country is famous for

its production of fine light glossy wrappers. Tobacco from the foregoing sections is used principally in the manufacture of clear Havana cigars. Some of the heavier Vueltas, however, are also used for Seed and Havana cigar purposes. Remedios, otherwise known as Vuelta-Arriba, is grown in the Province of Santa Clara, located in the centre of the island. This tobacco is taken almost entirely by the United States and Europe and is used here for filler purposes, principally in Seed and Havana cigars. Its general characteristics are a high flavor and rather heavy body, which make it especially suitable for blending with our domestic tobaccos. Havana tobacco is packed and marketed in bales.

SUMATRA TOBACCO.—Sumatra tobacco is tobacco grown on the Island of Sumatra, a Dutch possession in the East Indies. The island produces 250,000 to 270,000 bales of tobacco per year, of which normally about 30,000 bales, all wrapper tobacco, is imported into the United States. This tobacco is not imported directly from Sumatra but is purchased at inscriptions two series of which, one in the Spring and one in the Fall, are held in Amsterdam and Rotterdam. By virtue of the soil and climate of the island, Sumatra tobacco is naturally of a wrapper nature, a characteristic that has been more highly developed by scientific cultivation, and it is used for wrapper purposes exclusively in this country. It is considered a neutral tobacco as to flavor, and therefore has a sort of affinity for almost every kind of cigar filler leaf. Its principal advantages for cigar wrapper purposes are its appearance, which is glossy and of good color, and its remarkable elasticity or yielding quality. While the wrapper duty is very high, Sumatra can be used economically by manufacturers on account of its stretchy nature, which enables them to wrap more cigars from a given number of leaves than could be done from almost any other kind of wrapper tobacco. Generally speaking, about two pounds furnishes wrappers for one thousand

cigars. Sumatra is classified generally by the districts in which it grows, which are chiefly as follows: Deli-Langkat, Serdang, Padang and Asahan. The various brands and marks by which the tobacco is described are derived from these districts, in combination with the name of the company which packs the tobacco and the degree of color and quality, viz., Deli Maatschappij/EL1. The terms are of Dutch and Javanese origin. The tobacco industry in Sumatra is practically controlled by a number of Dutch corporations, chiefly among which are the following: Deli Maatschappij, Deli Batavia, Maatschappij, Senembah Maatschappij, Medan Tabak, Maatschappij, Nieuwe Asahan Tabak Maatschappij, Rotterdam Deli Maatschappij, Amsterdam, Langkat Maatschappij, Amsterdam Deli Co., and Tabak Maatschappij Arendsburg. At the series of inscriptions held semi-annually in Amsterdam, the Sumatra tobaccos are parceled off to the highest bidders. Sumatra tobacco is packed in bales weighing from 150 to 180 pounds.

JAVA TOBACCO.—This is grown in Java, also a Dutch possession, and is marketed after the manner of Sumatra and is, for American purposes, strictly a wrapper tobacco. Two types are recognized in the American market, the Besoeki, or Sumatra-Java; and the Vorstenlanden, or Havana-Java, called also Java-Java. For many years Besoeki, or Sumatra-Java, had a place in this market as a cheaper substitute for Sumatra, especially in dry climates, where the toughness and heavy body of the leaf contributed to the keeping quality of the cigar. Later, however, it came to be in staple demand. The Vorstenlanden is the type most in favor. It was not until 1917 that this tobacco began to figure seriously as a staple and important factor in the American wrapper tobacco market. When the Java crop is favored by good growing weather, the Vorstenlanden produces a fairly plentiful supply of suitable wrappers, but when those conditions are adverse, the supply falls short of American requirements.

About 6,000 bales is the normal production of leaf suitable for American purposes. Unlike Sumatra, which is essentially a wrapper crop, Java is naturally a filler and binder crop, and the wrapper portion, which is the only kind imported to this country, is a small percentage of the entire crop.

PORTO RICAN TOBACCO.—Porto Rican tobacco is raised in certain limited areas in the interior of that island. It is capable of producing and has produced as much as 120,000 bales per annum. It consists mostly of filler leaf, but the proportion of wrapper tobacco is being increased by the gradual adoption of the modern methods of cultivation.

The districts around Cañas and Cayey are known particularly as good tobacco raising sections, the Cayey district being especially suitable for good filler grades. The western part of the Island of Porto Rico is not generally suitable for tobacco growing.

Except for a comparatively small amount used for home consumption, this tobacco is all exported to this country, either in the form of leaf tobacco or in the form of manufactured cigars. Porto Rican tobacco has many of the characteristics of Havana leaf. The leaf tobacco imported from Porto Rico to this country amounts to about 30,000 bales annually.

MEXICAN TOBACCO.—Mexican tobacco does not enter into the American industry largely enough to justify more than a passing notice. It has no commercial importance except as a substitute for Havana, which, however, is not generally resorted to except upon extraordinary occasions, such as during the Spanish-American War, when the supply of Havana to this country was absolutely cut off. From the standpoint of the American trade the crop is largely of a filler nature, although a limited quantity of fairly wrap-pery tobaccos is produced.

PHILIPPINE TOBACCO.—Philippine tobacco is grown on some of the islands of the Philippine Archipelago. The

area adapted to the production of tobacco in the islands is limited by climatic conditions, the soil and the topography of the country. As in all countries, it is impossible to raise tobacco of even fair quality within ten miles of the sea coast, so that all of the small islands of the archipelago cannot be taken into consideration in a tobacco sense. Of the nine larger islands of the archipelago, there are but two, Luzon and Mindanao, which have the requisites, soil, etc., for producing tobacco of sufficiently high quality to interest the American trade, and in any material quantity. The interior of Mindanao has not been sufficiently explored to make it a factor in tobacco raising, so that, at the present time, about the only area worth considering is about 65,000 acres in the interior of Luzon. The yearly production from this section is about 50,000,000 pounds, including all grades. The best tobacco is grown in Isabela Province.

TOBACCOS FOR CIGARETTES, SMOKING MIXTURES, CHEWING, ETC.

CLASSIFICATION

Domestic.—Virginia, North Carolina, South Carolina, Tennessee, Kentucky, Maryland, Louisiana and Eastern Ohio.

Imported.—Turkish (including some Greek) and Latakia.

DESCRIPTION OF DOMESTIC.

Among the States furnishing tobacco for cigarette, smoking, chewing and snuff purposes, Maryland produces about 20,000,000 pounds; Virginia, 90,000,000; North Carolina, 290,000,000; South Carolina, 50,000,000; Tennessee, 78,000,000; West Virginia, 6,000,000, and Kentucky, 325,000,000 pounds. Louisiana, where Perique tobacco comes from, produces about 30,000 pounds. The above tobaccos have classifications, such as fine cut Burley, fine cut Mason County, White Burley, Red Burley, Virginia sun-cured,

Virginia flue-cured, North Carolina red fillers, Missouri air-cured fillers, Green River, Virginia yellow and mahogany, wrappers, fillers, lugs, etc.

The light tobaccos produced in Maryland are air cured, while a similar type, grown in Eastern Ohio, is largely cured by wood fires. These types are used exclusively for pipe smoking and cigarettes. The following grades are made by the packers: Fine yellow, medium bright, good ordinary "colory," fine red, fine seconds, medium seconds and lugs. Some of these goods are used by domestic manufacturers, but most of them are exported.

The White Burley is entirely air cured, except in exceedingly damp weather, when wood fires may be used. This tobacco is assorted by the farmer into the following grades: Flyers, the first two bottom leaves, which are overripe and very trashy; common lugs, the next two leaves; good lugs; bright leaves; long red; short red and top leaves. This tobacco is packed in hogsheads by the farmer and inspected in the same manner as the Maryland tobacco, but, unlike the latter, it is sold at auction in the warehouse.

Not more than ten per cent of the White Burley is exported, but on account of its great absorbent powers it is highly prized in this country for twist and plug chewing tobaccos. The flyers are used for pipe smoking, the heavy bodied top leaves for plug and twist fillers, while the best leaves are used for cigarette, plug and twist wrappers, and for cutting purposes.

The bright yellow and mahogany tobaccos are cured entirely by flues, a method which cures very quickly, not more than four days being required in the process. This tobacco, which is sold at auction in loose piles in the warehouse, is largely consumed in this country, being used for plug and twist wrappers, cigarettes, and fine-cut chewing and smoking tobaccos. The broad scope of this type makes it exceedingly popular.

DESCRIPTION OF IMPORTED

TURKISH TOBACCO.—Turkish tobacco is grown in Turkey and the old Turkish provinces, such as Montenegro, Bulgaria, Macedonia and Syria. Considerable so-called Turkish tobacco is raised in Greece, but this is not generally of such good quality.

Latakia is grown in Asia Minor.

No tobacco is grown in Egypt. Its cultivation is prohibited in that country by law.

Samsoun is in the heart of the great tobacco district of Asia Minor, and that town, Smyrna and Cavalla are the three principal points for the collection and shipment of Turkish leaf. Bafra and Xanthi tobaccos also come from that section, and it is from these various localities that the most desired strains of Turkish leaf derive their names.

THE EXPORT TOBACCOS

The most important countries for the American tobacco trade are Great Britain, Germany, Italy, Canada, Spain, Austria, Switzerland, France, Belgium, Holland, Africa, Mexico, Central America, South America, and the West Indies. Each country differs in its requirements and also in the character of the leaf used. As all of these countries are supplied from the same section, and as the differences in the tobaccos to a casual observer are slight, it requires considerable experience on the part of the packer to assort the various tobaccos into the grades suitable for each country and to put the goods in the condition required by the particular country for which they are intended.

QUALITIES REQUIRED

In the matter of quality Great Britain requires the best leaf and pays the highest price; Austria comes next; while Italy, France, and Spain follow in the order named. Great Britain demands a large leaf, olive green in color and so

heavily smoked in curing that the odor of hard wood is apparent in the leaf. The green tint is secured by harvesting the leaf before it is fully ripe. A tobacco that gives promise of being suitable for the English market is harvested at an earlier stage of ripeness than for any other country. On account of the high import duty on tobacco imported into England, it is usually stemmed before leaving this country and packed very dry.

Austria takes two grades of leaf—the Austrian A, a large leaf, medium to light brown in color, of medium body, and about 26 inches long; and Austrian B, a leaf of about the same quality, 22 inches long.

Italy takes four grades of tobacco. The Italian A is practically the same as the Austrian A, except that preference is given to a dark-brown color, and is used for the same purpose, that of cigar wrapper. Italian B is the same as Italian A, only shorter; Italian C1 is a dark, short, heavy-bodied leaf, used for cutting purposes; while Italian C2 is a trashy lug.

France requires three grades. The French A is a leaf 20 inches long, which, in Virginia, is made black by steaming and hard pressure in the hogsheads while hot; French B is the same grade as French A, 18 inches long, while French C is a smooth lug, 16 inches in length, used principally for snuff. Formerly the French Government took the best heavy-bodied tobacco of Virginia, but since the Regie contract system has been introduced the quality of the leaf used has gradually lowered.

Spain uses very little of the Virginia tobacco, requiring a leafy lug, which can be obtained to a better advantage in Kentucky and Tennessee. That country uses four grades, differing in length, cleanness, and soundness of the leaf.

Africa takes a long, narrow leaf of heavy body, which is made very black by steaming and packing under heavy pressure in the hogshead while the tobacco is still warm.

Oil is applied by means of a sponge to each layer as it is packed. This same grade of tobacco is also used in the Canary Islands and West Indies, and is packed in a similar manner, except that the oil is omitted.

All dark export tobaccos are cured with open hard-wood fires, the English trade demanding extra heavy smoking in curing. There is a slight difference between the export tobacco of Virginia and that of Kentucky and Tennessee. The Virginia tobacco, generally speaking, is of better quality than the Kentucky and Tennessee grades, and more of it is used for the domestic market. On account of the high import duties of some of the foreign countries and the low prices paid by the Regie Governments, the better qualities of these tobaccos are used in this country for manufacturing purposes.

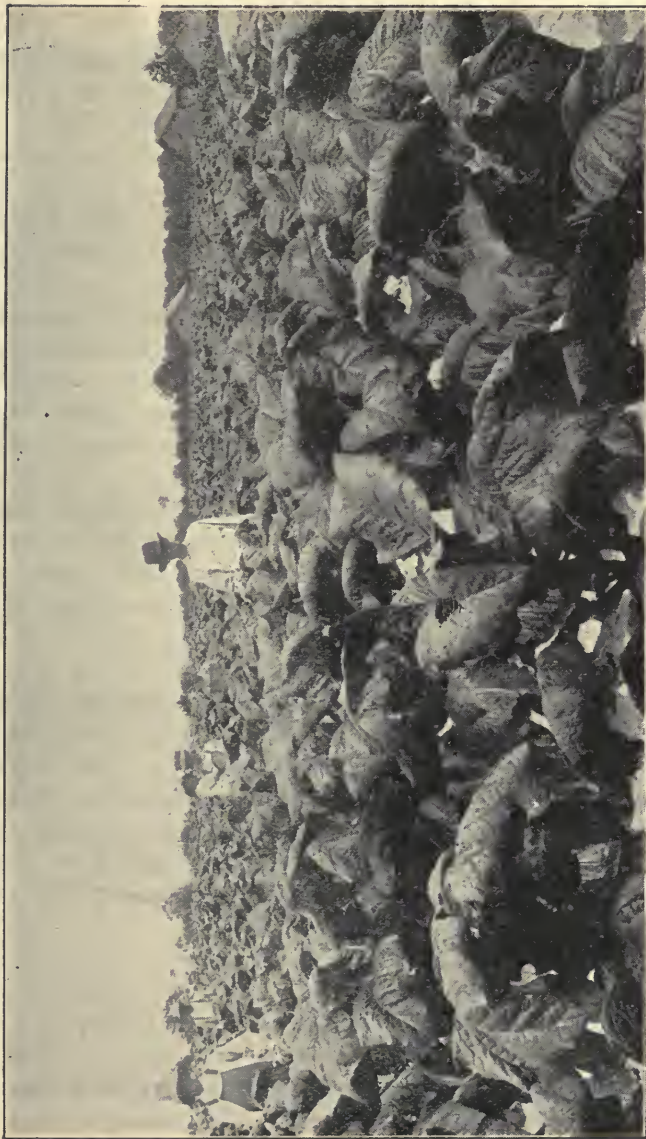
CHAPTER XV

TOBACCO CULTURE IN THE UNITED STATES

SLIGHTLY DIFFERENT TREATMENTS IN DIFFERENT SECTIONS—PRODUCTION READILY INCREASED TO SUIT THE DEMAND—CLASSIFICATION BY LEAF TRADE

While tobacco is a native of the Americas, it is a fact that it will grow after a fashion almost anywhere. Milton Whitney, chief of the Division of Soils, United States Department of Agriculture, in his bulletin on tobacco soils, says tobacco can be grown in nearly all parts of the country, even where wheat and corn cannot economically be grown. The plant readily adapts itself to the great range of climatic conditions, will grow on nearly all kinds of soil and has a comparatively short season of growth. But while it can be so universally grown, the flavor and quality of the leaf are greatly influenced by the conditions of climate and soil. The industry has been very highly specialized and there is only demand now for tobacco possessing certain qualities adapted to certain specific purposes. * * * It is a curious and interesting fact that tobacco suitable for our domestic cigars is raised in Sumatra, Cuba and Florida, and then passing over our middle tobacco States the cigar type is found again in Massachusetts, coarse, sandy lands of the Pine Barrens, to the heavy, clay, lime-stone, corn and wheat lands. The best soil for one kind of tobacco, therefore, may be almost worthless for the staple agricultural crops, while the best for another type of tobacco may be the richest and most productive soil of any that we have.

In the cultivation of tobacco the same general principles are followed all over the world. The only differences in



A FIELD OF TOBACCO IN KENTUCKY; CUTTING IS ABOUT TO BEGIN.

the manner of treatment are those made necessary in the effort to get the most satisfactory results in the different tobacco growing sections, according to their natural adaptability to the different branches of tobacco manufacture.

The highest state of perfection and most scientific methods of tobacco culture are found in those sections, such as Sumatra, Connecticut, Florida and parts of Cuba, where the production of large fine leaves for cigar wrapper purposes is the desired attainment.

Probably no more illuminating treatise on this subject has ever been written than that contributed to the Bureau of Plant Industry by W. W. Garner, physiologist in charge of tobacco and plant-nutrition investigations. In this chapter, therefore, I am taking the liberty of availing myself largely of his monograph on this subject.

The tobacco plant may be grown successfully in all latitudes from southern Canada to the Tropics and on a great variety of soils, but the commercial value of the product is influenced to a greater degree by the particular soil and climatic conditions under which the plant is grown than is almost any other important crop. These facts are so well recognized that the tobacco industry has become highly specialized, and the trade regularly looks to certain well-defined areas of production for its supply of the various classes and types of leaf required. In these tobacco-producing districts the necessary facilities for marketing are available, and prevailing prices of the cured leaf are governed largely by the relative supply and demand and by the quality of the leaf produced.

Each important district produces a tobacco of certain well-known characteristics which make it desirable for special purposes of manufacture or export. Moreover, in practically all of these districts the production can be readily increased to meet any increased demand at profitable prices. For these reasons efforts to introduce the commercial grow-

ing of tobacco in sections outside of the established producing centres are likely to result in failure, either because the leaf produced is not quite right in type or satisfactory marketing facilities are not available. Furthermore, any development of the industry in a new section on a large scale, which would be essential for economical marketing, would most likely lead to overproduction and, as a consequence, unprofitable prices. As a matter of fact, overproduction is a constant menace in all of the established centres of tobacco growing.

The methods of growing and handling the crop must be varied according to the type of leaf which it is desired to produce, for the kind of tobacco obtained is influenced very greatly by the methods of growing and handling which are employed. The methods for the production of the various types briefly outlined here, though possibly susceptible of improvement in some of the details, are the best that can be recommended in view of the present knowledge and experience of investigators and the more successful growers.

CLASSES AND TYPES OF TOBACCO

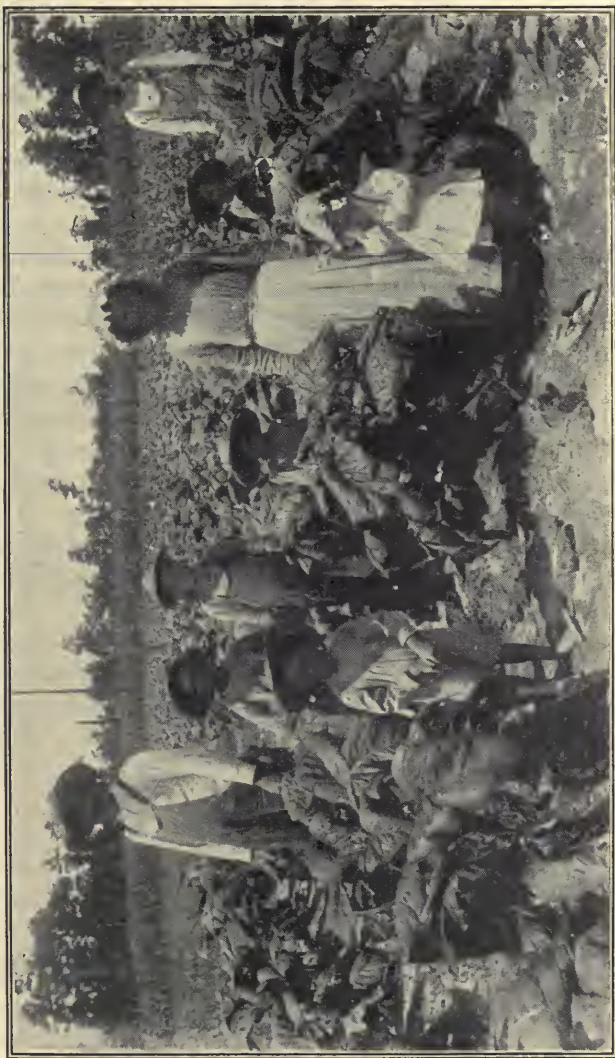
As is well known, tobacco is manufactured into various forms for consumption, but large quantities also are exported in an unmanufactured state, so that we may distinguish three general classes of tobacco, i. e., (1) cigar tobaccos, (2) export tobacco, and (3) manufacturing tobaccos. By manufacturing tobaccos are meant all types used in manufactures other than cigars. The manufacturing and export classes, however, have much in common as regards cultural methods, and some types are used both for manufacturing and for export; therefore these two classes will be considered together as distinguished from the cigar tobaccos.

Each of these three classes of tobacco may be subdivided into types, depending on their special uses, methods of grow-

ing and curing, or on the variety of seed used. In the case of cigar tobaccos there are three principal types, corresponding to the three parts of the cigar—wrapper leaf, binder leaf, and filler leaf. In the manufacturing and export tobaccos are such types as the flue-cured, Virginia sun-cured, White Burley, dark fire-cured, etc. These various types are produced on certain special types of soil and according to definite methods of growing, curing and handling the crop. In some cases the variety of seed used is also an important factor. The special uses of the principal types embraced in the three fundamental classes of tobacco are brought out in connection with the cultural directions for the more important types.

SOILS OF THE SEVERAL DISTRICTS

Under given climatic conditions the class and type of tobacco depend upon the character of the soil, especially on the physical character of the soil upon which it is grown, while the grade is dependent largely upon the cultivation and curing of the crop. Different types of tobacco are grown on widely differing soils all the way from the coarse, sandy lands of the pine barrens to the heavy clay limestone grass and wheat lands. The best soil for one kind of tobacco, therefore, may be almost worthless for the staple agricultural crops, while the best for another type of tobacco may be the richest and most productive soil of any that we have. It is particularly true of tobacco, to a greater extent perhaps than of any other crop, that the texture and physical properties of the soil influence the physiology of the plant to such an extent as to determine and control the distribution of the widely differing distinct types of tobacco. Soils producing a heavy shipping tobacco will not produce fine tobacco of any variety. Soils containing a large proportion of clay, of which for other reasons are very retentive of moisture, tend to produce large, heavy plants,



IN NORTH CAROLINA—THIS TOBACCO IS FULLY GROWN AND READY FOR CUTTING.

which cure to a dark brown or red. A lighter sandy soil produces a plant having a thinner and more delicate leaf, which by proper treatment can be cured to a bright red mahogany or fine yellow color. So marked is this influence of soil upon the quality of the tobacco, that a fine, bright tobacco land may be separated by only a few feet from a heavier clay soil, which will produce only a heavy manufacturing or export leaf.

Manures and fertilizers tend always to increase the yield per acre, but where large quantities of nitrogen are added to the soil there is a tendency for the leaf to become thicker, heavier, and more gummy. In the case of the fine bright tobaccos or naturally thin-textured leaves this is apt to cause a marked deterioration in the character of the leaf; but with the heavier varieties this result is far from undesirable, because it merely increases the normal influences of the soil in making the leaf heavier, richer, and of more body. Considerable control can therefore be exercised upon the quality or grade of the leaf not only by judicious cultivation, but by proper fertilization.

The accompanying diagram illustrates graphically the relative proportion of the sand, silt, and clay in the soil adapted to different classes and types of tobacco, and shows, upon careful study, a marked relation between the texture of the soil and the grade of tobacco produced.

WATER CONTENT OF TOBACCO SOILS

The amount of water a soil contains depends largely upon the texture and structure, and is influenced, of course, by the character of the season. It varies from day to day, and those variations are exceedingly important in their effects upon the crop.

It is evident from the work that has been in the Division of Soils of the United States Department of Agriculture, that the peculiar adaptation of certain soils to certain types

of tobacco is largely dependent upon the relation of the soils to water and the amount of water they maintain. The great difference in the water content of soils adapted to the different types of tobacco has been pointed out. Tobacco of a given quality can only be grown economically where the conditions are adapted to it, but these conditions are liable to vary in any soil throughout the season. It therefore becomes necessary in order to secure the best results to maintain some control over the water supply of the soil, in order to keep the conditions as nearly perfect as possible throughout the season. Much can be done to control the water supply through methods of preparing the land and of cultivating the crop.

The farmer should select the type of tobacco best suited to his locality and to the peculiar soil conditions with which he has to work, and should adopt such methods of cultivation as will maintain as nearly as possible the best conditions for the quality of leaf it is proposed to raise.

CHAPTER XVI

CULTIVATION OF DOMESTIC CIGAR LEAF

THE TWO PRINCIPAL GROUPS ARE BROADLEAF AND HAVANA SEED—WHAT THEY ARE, AND HOW GROWN, HARVESTED AND PACKED

While cultural methods in their application to the different cigar-tobacco types and districts may be modified to advantage in some of the details, the essential features are more or less similar, so that it will suffice to outline the most approved methods for the Connecticut Valley, and only the more important differences in cultural methods to be followed in the remaining districts need be mentioned.

There are three important varieties or groups of varieties used in growing cigar tobaccos in this country, i. e., the Broadleaf, or Seedleaf, group; the Havana Seed group, and the Cuban group. The typical Broadleaf, or Seedleaf, is the Connecticut Broadleaf, extensively grown in the Connecticut Valley for wrappers. Acclimated strains of this variety have been developed and are grown in all the northern cigar-leaf States for the production of binder and filler leaf, and in each case these strains are given the name of the State in which they are grown. Thus, we have the Pennsylvania Broadleaf, or Seedleaf; the Ohio Broadleaf, or Seedleaf, etc.

The Connecticut Havana, or Havana Seed, also is extensively grown in the Connecticut Valley for wrapper and binder leaf purposes, and in other northern cigar-tobacco districts for binder leaf, and to some extent for filler leaf. The name "Havana Seed" usually is applied to this variety as grown in any of the northern cigar-tobacco districts.

There is an important group of so-called Spanish varieties, extensively grown for binder and filler leaf purposes, which are very closely related to or identical with the Havana Seed. The two most important members of this group are Zimmer Spanish, principally grown for filler in the Miami Valley of Ohio, and the Comstock Spanish, chiefly grown for binder leaf in Wisconsin. Zimmer Spanish as grown in Ohio is markedly different in quality from Connecticut Havana as grown in New England, but when the two are grown side by side it is practically impossible to distinguish the one from the other.

Another variety of some local importance in the Miami Valley of Ohio is known as "Little Dutch," of which there are several strains. This variety, which relatively is narrow leaved, is thought to have been introduced from Germany.

The Cuban group is composed of strains directly obtained from imported seed. This group does not figure prominently in trade terminology, it being commonly included under the term Havana Seed. The Cuban variety is one of much importance in the southern cigar-tobacco districts, where it is grown both for wrappers and for fillers, although the Sumatra variety is also extensively grown for wrapper leaf. In Connecticut and Florida a considerable acreage of Cuban tobacco for the production of wrapper leaf is grown under an artificial shade.

CIGAR WRAPPER AND BINDER TYPES

The Connecticut Valley and the area centering around Gladsden County, Fla., and Decatur County, Ga., are the principal wrapper-leaf sections, while Wisconsin is typically a binder-producing State. The Big Flats district of New York and Pennsylvania also produces mainly a binder leaf. The typical wrapper-leaf soils of the Connecticut Valley and Florida are fine sands and sandy loams containing only a very small percentage of clay and having a very limited

capacity for holding water. The subsoils are variable in composition, but as a rule contain at most only moderate amounts of clay. The binder-leaf soils of Wisconsin are sandy loams, light clay loams, and the prairie soils, which are a dark, rich loam.

CONNECTICUT HAVANA SEED

The young plant is developed from the seed in a cold frame or hotbed until it has reached a convenient size for transplanting. A convenient width for the seed bed is six feet, and it should be of sufficient length to give the required area, 180 square feet being sufficient to produce plants for one acre. In the districts farthest north hotbeds may be used in order to secure quick growth; otherwise, the better practice is to use a cold frame with a southerly exposure. The best seed-bed soil is a loose loam of high fertility and thoroughly drained. In the fall forty pounds of lime and 200 pounds of stable manure to 100 square feet of bed area are plowed under. In the spring, about two weeks before sowing the seed, additional fertilizers should be applied, consisting of twenty pounds of cottonseed meal or castor pomace, one pound of acid phosphate, and one-half pound of carbonate or sulphate of potash per 100 square feet of bed area. These materials are thoroughly spaded into the soil to a depth of four or five inches, and the bed surface is brought to a fine tilth. If the facilities are available, the soil should be sterilized with steam to reduce to the minimum fungous diseases and the growth of weed seeds.

The best time for sowing the beds is from the middle of March to the middle of April. It is seldom safe to set the plants in the field before the middle of May or the first of June, on account of the danger of late frosts and cold nights. In cold frames from six to eight weeks are required to produce plants of suitable size for transplanting to the field, and in hotbeds four to six weeks are required. If cloth



AUCTIONING TOBACCO IN NORTH CAROLINA.

instead of glass is used to cover the seed beds, eight to ten weeks are necessary to develop the plants to the proper size for transplanting.

The rate of sowing seed is important, for if the seeds are sown too thickly the plants will be delicate and spindling, while very thin seeding will produce short, thick-set plants, poorly suited for transplanting. The better practice is to sow at the rate of an even teaspoonful of dry seed to 100 square feet of bed area. In order to secure an even distribution of the seed it is thoroughly mixed into two quarts of land plaster, finely sifted wood ashes, or bone meal. Three sowings should be made in order to insure an even distribution over the bed, light color of the filler material serving to indicate the evenness of the distribution. The seed must be covered very lightly, and it will be sufficient to go over the bed with a roller or to pack the soil with a plank. After sowing, the beds are covered with glass or with cheesecloth.

The seed beds require careful attention, more especially those covered with glass. The beds should be maintained in a moist but not wet condition, and never should be allowed to dry. Sufficient ventilation must be given, and the temperature within the beds must not be allowed to become too high, as the plants are very liable to "burn." With glass-covered beds a cheesecloth or light canvas laid over the glass will be found an efficient aid in preventing burning, and during the night the cloth will also check radiation and tend to maintain a warmer temperature within the bed.

When the plants have developed from four to six leaves and are five to six inches in height, they are ready for transplanting. During the week prior to transplanting, the plants should be "hardened" by removing the cover from the beds during the greater part of the day, increasing the period each day until finally, if the weather is at all favorable, the covers should be left off entirely.

Before pulling the plants from the beds the soil should be thoroughly wetted to avoid the unnecessary breaking of the roots. The plants should be pulled from the bed separately and put into baskets or small boxes, in which they are carried to the field. They should be kept cool and in a moist condition, especially at the roots. No plant that has wilted should be transplanted.

PREPARING AND FERTILIZING THE LAND

A rapid and uninterrupted growth is necessary to secure the finest textured leaf, and clean and thorough cultivation are essential. Care is required in the preparation of the soil, and it should be brought to a fine tilth. Special attention must be given to the matter of fertilizing the crop, and the use of fertilizers containing chlorin is to be avoided, as this element tends to injure the burning qualities of the leaf.

In the preparation of the field ten to twenty tons of stable manure are plowed under, preferably in the fall. In the spring the land is again plowed and harrowed. The fertilizers are then broadcasted, this being done with a machine adapted to the purpose.

When manure has been used an application of fertilizer should be made, consisting of one ton per acre of a high-grade mixture, analyzing about five per cent nitrogen, five per cent phosphoric acid, and six per cent potash, using cottonseed meal, castor pomace, or fish as the source of nitrogen, precipitated bone or a superphosphate to furnish the phosphoric acid, and high-grade sulphate or carbonate of potash, wood ashes, or vegetable potash to supply the potash. When no manure is applied the proportion of nitrogen should be increased so that the analysis of the mixture is about six per cent nitrogen, five per cent phosphoric acid, and six per cent potash. The chief value of the manure, however, is in its beneficial effect upon the physical character of the soil, thereby producing a better textured leaf.

Tobacco stems secured from cigar and tobacco factories may also be used, mainly as a substitute for stable manure. Though they are to be regarded as a source of humus, the stems contain larger quantities of plant food than manure and therefore should be applied in smaller quantities. Two tons per acre of "seed" stems (stems from cigar factories) or two and one-half tons of "Kentucky" stems (secured from the tobacco factories) are considered to give good results.

Lime also should be added to the soil. On land which has not received lime for several years an application of 1,500 to 2,000 pounds per acre of high-grade burned lime, or the equivalent of ground limestone, is desirable. After the first application, annual applications of 500 to 800 pounds per acre should be made. The lime is broadcasted separately and just before the other fertilizers are put on. The value of the lime is not limited to its effect upon soil conditions and plant growth, as it tends to improve the burning qualities of the finished leaf.

Immediately before transplanting, the field should again be harrowed until all clods are broken. A smoothing harrow and plank should then be drawn over the field, after which the rows are marked off. If a transplanting machine is used, the marking off of the rows is unnecessary, as a marker on the machine can be used to gauge the position of each succeeding row.

TRANSPLANTING AND CULTIVATING

The plants should be set in rows three feet three inches to three feet six inches apart. In the rows the plants may be set from fourteen to twenty inches apart, the best distance for average conditions being about seventeen inches. The setting of the small plant requires care in order that the roots may be given an opportunity for rapid development, so that the plants may grow off promptly. Where a

transplanting machine is used the distance of setting, the application of water, and the firm establishment of the plant are automatically regulated; but when the crop is small, say an acre or less, a machine can not profitably be employed.

In hand setting, the method is as follows: After the rows have been marked on the field, the points at which the plants are to be set may be marked out by running along the row a light buggy wheel, with projections set on its rim at the proper intervals, or by the use of other simple devices. A hole four to six inches in depth is then made with a dibble to receive the plant. Unless the soil is already thoroughly wet, the holes are filled with water. The soil quickly puddles after the water has been applied, and the plant should be set immediately. The roots should be placed in the puddled mass and before all of the water has been absorbed by the soil. The surrounding soil is then drawn about the roots and stalk of the plant and firmly pressed, so that the plant is maintained in an erect position, allowing the bud to remain just above the surface.

If possible, transplanting should be done on a cloudy or rainy day or in the afternoon, so as to avoid excessive wilting. It requires several days for the plants to recover from the shock due to transplanting, but as soon as practicable all plants which have died should be replaced by healthy ones freshly drawn from the seed bed. The field should be gone over at least three times within the first two weeks, for it is important to obtain as nearly a perfect stand as possible. Damage from cutworms must be guarded against, and if they are present constant resetting during the first three weeks may be necessary.

After the field has been set about a week, cultivation should begin and should be maintained as long as the size of the plants permits. Ordinary surface cultivation to maintain a loose, fine mulch about the plant, with frequent hoeing to keep down weeds, is essential. Cultivation should be

shallow, especially in the later stages of growth, to avoid injury to the roots of the plant.

When about one-half of the plants in the field have developed seed heads, but before these have bloomed, "topping" should be done. This consists of breaking off the top or crown of the plant at about the third sucker or branch below the seed head, so as to allow the plant to develop more fully the lower leaves. After topping, suckers or lateral branches will soon develop in the axils of the leaves, and these should be removed by hand before they become large enough to retard the development of the leaves. In topping and suckering, the field must be gone over two or three times, the aim being to cause all of the plants in the field to mature at about the same time, and hence those plants developing a seed head later than the average should be topped lower.

HARVESTING

Either of two methods of harvesting Havana Seed tobacco may be used. The one most commonly practiced is to cut the whole plant when the middle leaves are "ripe," i. e., when the leaves have assumed a lighter shade of green and have thickened so that upon folding a section of the leaf it creases or cracks on the line of folding. In harvesting the plants, the stalk is cut near the ground with a light hatchet, knife, saw, or a special form of long-handled shears, and the plant is carefully laid upon the ground, where it is allowed to remain until the leaves have wilted sufficiently to avoid much breaking in handling. It is then hung upon a lath four feet long by piercing the stalk near its base with a removable metal "spearhead" placed on the end of the lath and sliding the stalk on the lath. As a rule, six plants should be hung on a lath and distributed evenly. Instead of spearing the stalk it may be hung upon the lath by means of a hook or a nail driven through the lath at a sufficient



REHANDLING TOBACCO IN KENTUCKY.

angle to hold the plant securely. Six hooks or nails are put at equal distances on the lath, the three on one side alternating with those on the opposite side.

The laths carrying the plants should be placed upon a rack and hauled to the curing barn, where they are hung in tiers with a space of six to twelve inches between the laths.

In the second method of harvesting Havana Seed, the leaves are picked from the plant as they ripen. The degree of ripeness is not so advanced as that described for stalk-cut tobacco. The proper degree of ripeness is very important, for upon this largely depends the development of the desirable qualities of texture, body, color, elasticity, etc., during the process of curing. A safe guide is to take the first production of binder leaf in Wisconsin. The seed bed should generally be sown during the latter half of April. Barnyard manure is used with good success in fertilizing the tobacco soils, but thus far commercial fertilizers have been used more sparingly than in the Connecticut Valley. Transplanting from the seed bed to the field under normal conditions should be done during the month of June, more commonly during the latter half of the month. The rows should be thirty-four to thirty-eight inches apart and the plants should be set eighteen to twenty inches apart in the row. The tobacco should be topped somewhat lower than in Connecticut. Harvesting, which is done by cutting the stalk in the manner described for Havana Seed, should begin about three weeks after topping.

CUBAN

Acclimated strains of Cuban seed are grown under artificial shade in the Florida-Georgia district and in the Connecticut Valley for the production of a high-priced cigar-wrapper leaf. This phase of the industry, however, is very intensive and highly specialized, requiring the greatest skill and expert knowledge, and is largely carried on by corpora-

tions or individuals having ample capital. Cuban tobacco is also grown under ordinary conditions for cigar-wrapper purposes in the southern districts, but it is preeminently a filler variety and will be discussed more fully as such.

CIGAR-FILLER LEAF

Our domestic cigar-filler leaf is produced mainly in the Lancaster (Pa.), the Miami Valley (Ohio), and the Onondaga (N. Y.) districts, and in restricted areas of Florida, Georgia and Texas. The best filler-leaf soils, mostly loams, are decidedly stronger than those adapted to wrapper leaf, containing more clay and retaining larger percentages of water. In the main, these soils are well adapted to general farming, and the tobacco is, or should be, grown in rotation with other crops. Cultural methods differ principally from those followed in the wrapper districts, in that the plants are spaced further apart in the field and are topped lower so as to obtain a heavier leaf, and the tobacco is allowed to become riper before it is harvested. In general, less intensive methods are followed than in the wrapper districts, since filler leaf commands only moderate prices.

PENNSYLVANIA BROADLEAF

The typical filler soils of the Lancaster district are the Hagerstown and the Conestoga loams, which are of limestone origin. The method of preparation and the care of the seed bed are essentially the same as in the wrapper districts. The seed usually should be sown during the first half of April, and transplanting, which is generally done with a horse transplanter, should take place through the month of June. The soil needs to be put into good condition by plowing and harrowing. Stable manure should be used liberally, usually at the rate of ten loads or more per acre. Commercial fertilizers thus far have not been used so extensively as in Connecticut. The rows should be three to

three and one-half feet apart, and the plants should be set twenty-four to thirty inches apart in the row. The better practice is to top the plants before the flower head begins to bloom, and a smaller number of leaves should be left than in the case of wrapper types. The suckers must be promptly removed as they develop. The tobacco must be allowed to become full ripe, as judged by the signs indicated for the wrapper type, and should be harvested by cutting the stalk at its base and spearing it on laths, as described for Connecticut Havana Seed.

ZIMMER SPANISH

The Zimmer Spanish variety is grown principally in the Miami Valley of Ohio. The principal soil types have been designated as "Miami clay loam," and "Miami black clay loam." The Zimmer Spanish, so called, seems to be practically identical with Havana Seed, as has already been stated. The seed beds are best sown during the latter part of March and through April. Transplanting should be done during the first three weeks of June. Commercial fertilizers should be used freely, and good results are obtained in applying as much as 1,000 pounds per acre of a mixture analyzing about four per cent nitrogen, nine per cent phosphoric acid, and eight per cent potash—that is, one supplying about forty pounds of nitrogen, ninety pounds of phosphoric acid, and eighty pounds of potash. Barnyard manure also gives good results. The rows should be placed thirty-four to thirty-eight inches apart and the plants set twenty-eight to thirty-two inches apart in the row. The plants should be topped before blooming and should be kept free of suckers. The time and method of harvesting are about the same as for Pennsylvania Broadleaf.

CUBAN

The Cuban variety is grown mainly for filler leaf in the southern cigar-tobacco districts. The best results are ob-

tained on soils somewhat heavier than the types best adapted to wrapper leaf. The seed bed is burned to destroy weed seeds, as is described for the export and manufacturing types. The seed may be sown in January or February. Fertilizers are to be applied to the bed, as has been described for the cigar-wrapper type, except that potash may be omitted from the fertilizer mixture. The beds must be sprayed with Paris green or with arsenate of lead to control insects. The seedlings are ready for transplanting when they are four to five inches high. The tobacco land should be plowed in the fall and must be liberally fertilized. When fifteen or twenty loads of manure per acre are applied, a mixture of 600 to 800 pounds of cottonseed meal, 400 pounds of acid phosphate, and 200 pounds of sulphate of potash usually gives good results. The rows are made three to three and one-half feet apart and the plants are set fourteen inches apart in the row. The plants should be topped to twelve to sixteen leaves and the suckers are removed as often as they appear. The tobacco should be harvested just before it becomes fully ripe. For filler leaf the proper method of harvesting is by cutting the stalk, but when there is promise of obtaining a considerable percentage of wrapper leaf the harvesting is done by picking the leaves as they ripen, in the manner described for Connecticut Havana Seed. The details of harvesting by cutting the stalk are essentially the same as for the northern wrapper varieties.

CHAPTER XVII

RAISING TOBACCO UNDER ARTIFICIAL SHADE

HOW THE LEAF IS GROWN UNDER A TENT OF CHEESE- CLOTH OR A COVERING OF LATH— LEAVES OF FINE TEXTURE

The shade-growing method is one of the institutions of modern tobacco cultivation and its purpose is to produce tobacco suitable for cigar wrappers. The principal is this: The sun, shining on the tobacco plants, draws the nutrition from the earth, and the plant ripens quickly, the leaves having a tendency to be heavy-bodied and not very large. To defeat these results and produce large, thin, silky leaves for cigar wrapper purposes, the grower sometimes covers his field with a tent of cheesecloth or with a lattice work of lathing which protects the growing tobacco from the direct rays of the sun. Thus the ripening process is slower, causing the leaves to grow larger and thinner and less gummy; and being thinner and less gummy, they are of a lighter color when finally cured. This method is employed by some growers in cigar leaf districts, such as Cuba, Florida and Connecticut.

HARVESTING THE CROP

The time to harvest shade tobacco is when the leaves are fully developed. There is a slight change in color as the tobacco reaches maturity, but it is not safe to allow the leaves to remain on the stalk until this change of color is noticeable to the inexperienced observer, for then they are likely to be too ripe. The best method to follow, and the one which will err in the right direction, is to make the first priming about ten days after topping and the



HOW CONNECTICUT GROWERS PRODUCE FINE CIGAR WRAPPER LEAF BY MEANS OF ARTIFICIAL SHADE.

second about ten days later. The third priming may be taken off about a week after the second, and the fourth, or top-leaf priming, can follow as soon after the third as time will permit. The tobacco of this top priming is not very valuable and should it not be harvested for two or three weeks after the third priming there will not be any great loss unless there is a freeze.

By priming is meant picking the leaves from the stalk in the field. The first priming consists of taking off three or four of the bottom leaves; the second, from four to six leaves; the third, all but two leaves on top of the plant, and the fourth, the remaining leaves.

The leaves, when taken off, are laid in piles along the row. A primer picks the leaves from two rows and puts his primed leaves on the row to his right. Another man priming the two rows to the right of the first primer puts his primed leaves on the row to his left. In this way, two adjoining rows contain all of the primed leaves from four rows of tobacco. A man takes a basket and going between these two rows picks up the primed leaves and carries them to a wagon with a special rack on which they are drawn to the shed or curing barn. Great care should be taken not to jam or press down the leaves in the basket so as to bruise them.

In the barn are laths with string attached on which the leaves are sewn with a needle. This string is fastened to the laths by means of a saw-cut about one-half inch deep in each end. The string is run through the cut, wound once about the lath, and returned through the cut. This holds the string firm. From thirty-two to forty leaves, according to their size, are put on each-string, face to face and back to back, and the string is fastened to the other end of the lath. These leaves when hung as described are called a "lath" of tobacco, and these laths are now hung on tier poles in the barn to cure.

CURING

The curing is an important process, for much can be done to add to the quality of the tobacco at this time and if the weather is damp and rainy much needs to be done to prevent the tobacco from being ruined. Tobacco requires from twenty to thirty days to cure and during this period it needs constant care.

If the barns are properly built the curing is done with a certain degree of accuracy. A model barn for this purpose should not be larger than 100 by forty feet and twenty feet to the eaves. The walls of the barn should be made of ship lap siding, so that they can be tightly closed. A horizontal ventilator, six inches wide, should be placed every thirty inches on the sides of the barn and hung on hinges so that it can be easily opened and shut. By this arrangement, when the ventilators are open there is a circulation of air through the barn between the layers of tobacco.

When the barn is filled with fresh tobacco it should be closed tight, and if the weather is cool or damp, small charcoal fires should be built in the barn to warm up the tobacco and wilt it down. When the tobacco has wilted and started to yellow, the doors and ventilators should be opened to allow the circulation of air to carry off the moisture. If the curing season is a normal one the doors and ventilators should be opened every morning and closed at night, but if the season is dry the reverse of this action is required, especially when the process of curing the tobacco is nearly completed. If the season is a very damp and rainy one small charcoal fires, placed close together, should be lighted in the barn to dry out the tobacco and prevent it from pole sweating.

After the tobacco is cured the barn should be left closed until there comes a damp, foggy time or a rain, when all of the doors and ventilators should be opened, to allow the tobacco to come "in case," so that it can be taken down.

The tobacco is in proper case for taking down when it does not rattle when handled and when at the same time if a number of leaves are squeezed tightly in the hand they will spring partly open again upon releasing the pressure.

TAKING DOWN THE LATHS

When the tobacco is in case it is in proper condition for taking down. The floor of the barn should be cleared and some old blankets laid down. On these the tobacco is piled without removal from the laths, several laths being taken at a time and the first layer laid so that the laths will be next to the cloth and the tobacco sticking up. The next layer is piled so that the tobacco is next to the tobacco of the other layer and the laths are on top. This process is repeated until the pile is several layers high. When the pile is complete it should be covered well with either blankets or cornstalks, and it can be left with safety for several days before it is stripped if the weather is not too warm. If the weather is warm, there is danger of the tobacco heating and spoiling if left more than four or five days in the pile.

STRIPPING AND BUNDLING THE LEAVES

The two processes of stripping and bundling go together. A lath of tobacco is taken up and the leaves shoved together at the middle of the string. The string is now severed close to each end of the lath, wound around the leaves at the butt ends, and drawn through the "hand" of leaves so as to fasten it. These "hands" of tobacco, as they are called, are packed in a false box lined with paper, butts out, and the tips of the leaves overlapping in the centre. About thirty pounds are packed in each box in this way and then pressed down. Paper is wrapped about the tobacco and tied with strings which were placed at intervals along the box before the paper was put into it. One side of the box is swung on hinges, so that it can be let down to allow the removal of

the tobacco. The tobacco thus packed is called a "bundle" and is ready for market or for the packing house. When tobacco is to be packed by the grower it is not necessary to bundle it, but it may be packed at once into boxes and taken to the warehouse.

The tobacco when packed in bundles may be kept for several weeks or months without much injury if the bundles are piled one layer high and put in a cool, moist place. The sooner the tobacco is put into the ferment after it is taken down, however, the better.

PACKING

The term "packing" in handling tobacco means the preparing of the raw product for the use of the manufacturers.

The first step in the packing of shade tobacco is to ferment it. This is done by taking the tobacco from the bundle, shaking it out thoroughly, and laying it down in layers in a large pile, called a "bulk," being careful to keep the leaves straight. To build a bulk of tobacco requires some skill and experience. If the bulk is not made properly it is liable to settle sidewise and fall over.

The bulk is built on a platform made of one-inch boards and raised about four inches from the floor, so as to admit a free circulation of air. This platform is made for convenience, twelve feet long by five and one-half feet wide. In starting to build a bulk a row of hands of tobacco is first laid around the outside edge of the platform, being careful to keep the butts of the hands close together and the leaves straight. This is called the outside tier. The next tier of this layer is laid so as to shingle over the first, lapping well over the tips of the leaves of the first tier. This is repeated until the bottom of the platform is covered. Then another layer is laid on top of this one, and so on until the bulk is from four to six feet high.

When about half of the tobacco intended for the bulk has

been laid down, a tube four feet long should be placed so that one end comes to the outside and the other extends to the centre of the bulk. This is for the purpose of placing a thermometer in the bulk to keep a record of its temperature.

The temperature of the bulk is an index of how the tobacco is fermenting. The nature of the tobacco, its condition, the temperature of the room in which it is bulked, and the time of the year all have their influence on the degree of rapidity with which the tobacco will heat.

If the tobacco is in high case and is bulked early in the fall in a warm room, it will heat up very rapidly, and the bulk will have to be taken down, the hands of tobacco well



Photo Underwood & Underwood

TOBACCO CURING BARN IN CONNECTICUT.

shaken out, and the bulk rebuilt, the tobacco which has been on the outside being put on the inside and that which has been on the inside of the bulk on the outside. On the other hand, if the tobacco is in low case, is not bulked until late in the winter, and is put down in a moderately cool room the tobacco may lay in the bulk for ten days before it begins to heat.

It is evident from these facts that the only guide in fermenting tobacco is the thermometer. The record of the thermometer, coupled with experience, can do much to improve shade tobacco during the fermenting process.

From long-continued experience in fermenting many different kinds of tobacco, the writer has come to the conclusion that the best results can be obtained by placing the tobacco in bulks of about 5,000 pounds, and when the thermometer registers 114 degrees F. tearing down the bulk, shaking out the tobacco, and rebulking. After the bulk has been rebuilt, the temperature should be allowed to come up again to 112 degrees F., or higher if it will, and after this the tobacco is ready for grading.

The fermentation room should be kept during the process of fermentation as nearly as possible at a temperature of eighty degrees F., with about seventy-five per cent relative humidity. The temperature should be as uniform as possible, because any great change will cause the moisture in the room to settle on the butts of the tobacco and produce mold, which is likely to damage the tobacco. The room should be well ventilated by an air shaft running from near the floor of the room to above the roof of the building.

GRADING

As shade-grown tobacco has to be graded principally according to color, a well-lighted room is required, and to avoid deep shadows and a varying light the windows should be on the north side of the room. A low ceiling is desirable so as to keep the moisture as low in the room as possible. The room should be kept so moist that the tobacco will not dry up while it is being handled.

When the tobacco is first taken from the bulk, the hands are untied and the leaves shaken out. It is then "sized" so that all of the leaves of the same length come together. This is done by a person taking the leaves and putting them into a box fixed up with partitions so that there is a space for all leaves from twelve to fourteen inches long, fourteen to sixteen inches long, and so on.

After the tobacco has been sorted according to size it is

taken to tables, where the leaves are opened and graded, all sound leaves of even color and good texture being classed as wrappers and the rest seconds or binders. The wrappers are further divided into light, medium, dark and off or mixed, according to their color. The seconds are simply divided according to color into light and dark.

After the tobacco has been graded it is tied with raffia into hands of one-fourth pound each. These hands are now packed into bales of about 150 pounds. The common size for a bale of shade tobacco is thirty-one by thirty-one inches and ten inches thick. The tobacco is baled by packing the hands into a false box. A piece of matting is placed on the bottom of the box and another on the top of the tobacco when the box is filled. The top is now forced down by means of a press and held there until the edges of the two pieces of matting are sewn together, when the bale is made. The bale is now given a number, the weight and grade are marked on it, and it is stored away until sold. Before it can be shipped it must be covered with burlap and crated.

MARKETING

Tobacco is sold by means of samples, four hands being considered a sample of shade tobacco. A manufacturer or jobber when wishing to purchase shade-grown tobacco looks over a number of samples and picks out those which suit his trade. If the price is satisfactory, a sale is made and the tobacco is shipped.

CHAPTER XVIII

CULTIVATING THE "MANUFACTURING" TYPES

METHODS APPLIED TO BURLEY AND OTHER STRAINS USED FOR PLUG, SMOKING AND FOREIGN TRADE —THE FAMOUS PERIQUE OF LOUISIANA

White Burley is a distinctive variety, producing a type of cured leaf known by the same name, practically all of which is used in domestic manufacture. This variety, of which there are several subvarieties, such as the Stand-Up and Twist Bud, is grown mainly in north-central Kentucky, southern Ohio, southwestern West Virginia, and southeastern Indiana. Aside from its peculiar chlorotic appearance, Burley more closely resembles the cigar-seed-leaf group than the other export and manufacturing varieties (except the Maryland).

The Maryland is another fairly distinctive variety, in many respects resembling the cigar-seedleaf and White Burley varieties. The type of leaf produced is known as Maryland tobacco. The subvarieties of the Maryland are known as Broadleaf and Narrowleaf, respectively.

In the production of the remaining types of export and manufacturing tobaccos, such as the flue cured and fire cured, a very large number of so-called varieties are used more or less interchangeably. Nearly all of these may be regarded as coming under two principal groups, namely, Oronoco and Pryor, although in many cases the distinctions between the strains or subvarieties are so slight as to make it impossible to determine in which of the two groups each really belongs. Of the Oronoco group may be mentioned the Big Oronoco, Little or Narrow-Leaf Oronoco, White-

Stem Oronoco, Lizzard Tail, Gooch and Flanagan. Among the group of Pryors there are the Blue Pryor, Yellow Pryor, White or Medley Pryor, and Silky Pryor. Two additional varieties or subvarieties of the export and manufacturing tobaccos of importance are the Yellow Mammoth and One Sucker.

FIRE-CURED EXPORT TOBACCO

The fire-cured export type of tobacco is grown almost exclusively in western Kentucky and Tennessee and in central Virginia. Its principal characteristics are its dark color, heavy body, and a distinctive flavor imparted to it from the smoke of the open fires used in curing. By far the greater portion of this type is exported. The soils producing the fire-cured export leaf are heavy, containing a high percentage of clay or silt, and hence would not be adapted to the culture of most other types of tobacco. The principal varieties used in producing the fire-cured tobacco are the Pryors, the Yellow Mammoth and the Oronocos.

THE SEED BED

A well-drained, friable soil having a southern or eastern exposure is to be preferred for the seed bed, and when practicable a suitable spot in the woods is chosen. Selecting a time, after removing the forest growth, when the soil is not too wet, it is burned to destroy weed seeds and insects. A good method is to lay small poles or skids over the area to be burned, at intervals of three feet, and to pile brush and wood on one end of the skids. After setting fire to the brush the burning material is pulled forward on the skids as rapidly as the soil becomes sufficiently heated and sterilized to a depth of two or three inches. After removing all debris, the soil is thoroughly spaded or plowed to a depth of a few inches. Before seeding, a fertilizer consisting of about five pounds of cottonseed meal or two or three pounds

of nitrate of soda and one pound of acid phosphate for each 100 square feet of bed is to be worked into the soil. In sowing, the seed should be mixed with a large volume of fertilizer, corn meal, or sifter ashes (about two quarts for each teaspoonful of seed), in order to secure an even distribution of the seed. A heaping teaspoonful of seed is sufficient to sow twenty-five square yards of seed bed and should furnish enough plants to set an acre in the field. The seed beds may be sown in January, February or March. The seed must be covered only very lightly, and it is better simply to press the soil down firmly by trampling or with a board or roller. The bed should be surrounded with logs or boards set on edge to a height of six to ten inches to form a cold frame, over which are stretched wires to support the cheese-cloth which is to be placed over the frame before the plants come up. The precautions regarding watering and hardening the plants prior to transplanting, as described for the cigar types, are to be carefully followed.

TRANSPLANTING AND CULTIVATING

Prior to transplanting, the land should be thoroughly fitted by plowing and harrowing, after which the rows are laid off, the preferred distance between rows being three and one-half feet. In Kentucky and Tennessee the plants are usually set in checks; that is, they are set three and one-half feet apart each way, while in Virginia they are generally spaced two and one-half to three feet apart in the row. The accurate spacing of the plants may be readily attained by using a simple marking device, which is drawn across the field so as to indicate the points at which the plants are to be set. Throwing up slight ridges for the rows will remove the danger of the young plants being drowned in case of heavy rains. Transplanting is done mostly by hand and in much the same way as has been described for the cigar tobaccos. Fertilizers should be

applied in the process of preparing the land for transplanting. But little barnyard manure is available in the fire-cured districts, and commercial fertilizers are generally used rather sparingly, the usual application being 200 to 400 pounds per acre of a mixture containing about three per cent nitrogen, eight per cent phosphoric acid, and three per cent potash. Much larger quantities of fertilizer will give better results in most cases. A clover sod plowed under in the fall gives good results with this type of tobacco.

Cultivation should begin as soon as the plants start to grow and should continue as long as the size of the plants will permit. The first cultivation is deep, after which frequent shallow cultivations are most desirable. Where the plants are set in checks they may be cultivated both ways, so as to reduce the amount of hand hoeing required to keep down weeds.

TOPPING AND SUCKERING

When ten to fifteen leaves have appeared on the plant the top should be broken out, so as to force all of the growth into the leaves left on the plant and cause them to grow larger, thicker, and darker. A favorite practice is to pick off and discard three or four of the bottom leaves, and then top the plants so as to leave eight to twelve leaves on each plant. High topping tends to delay maturity and to produce a thinner leaf. The aim in topping is to leave only as many leaves on the plant as it can bring to the fullest development and as far as possible to insure that all plants will mature at about the same time. The suckers which develop in the axils of the leaves must be removed as rapidly as they appear.

HARVESTING

The plants generally are ready for harvesting in from thirty to forty days after topping. At this stage the leaves will have taken on a lighter color and become thick and

heavy, and small yellow flecks will have appeared, especially near the edges of the leaf. It is not desirable to harvest the tobacco for two or three days after a heavy rain, as the gum which accumulates on the leaf in dry weather and improves its quality is washed off by the rain. In harvesting, the stalk should first be split with a knife from the top down to within a few inches of the bottom, in such a way as not to cut or injure the leaves. The stalk is then cut off near the ground and laid on the ground to wilt sufficiently to permit handling without breaking the leaves. The plants should then be placed astride sticks and hauled to the curing barn. In Virginia the plants are usually placed on the sticks before being laid on the ground to wilt. The sticks are four feet four inches long, and five to eight plants, depending on their size, should be placed on each stick. The sticks carrying the plants should be arranged on the tier poles of the curing barn at intervals of six to eight inches.

WHITE BURLEY TOBACCO

White Burley tobacco reaches its highest state of development on the limestone soils in the famous bluegrass section of Kentucky and in southern Ohio. This variety is light in color and body and possesses an exceptionally large absorptive capacity for the liquid flavoring materials used in the manufacture of plug tobacco.

The methods of preparing, sowing and caring for the seed beds are about the same as described for the fire-cured export tobacco. Burley tobacco gives the best results when grown on virgin soil or on a bluegrass sod which has been standing for at least six or eight years. Under these conditions two or three excellent crops of tobacco can be obtained, after which the results are unsatisfactory until the land has again stood in bluegrass for several years. In preparing the land, a bluegrass sod should be turned under in the fall and thoroughly cultivated with a disk harrow in

the spring. On a heavy bluegrass sod, manure or fertilizers are seldom required for the tobacco.

Burley tobacco plants should be set eighteen to twenty-four inches apart in the row, with the rows three and one-half feet apart. Transplanting by machine has proved very satisfactory. Cultivation should be shallow, frequent and thorough. The tobacco must be topped comparatively high, from fourteen to eighteen leaves being left on the plant. Careful attention must be given to the removal of the suckers. The crop should be harvested in the same manner as the fire-cured export tobacco, except that when cut it is preferred that the plants be immediately placed astride the stick, one end of which is forced into the ground at an angle in such a position that the stick bearing the plants rests on the stubble of a severed plant. The tobacco is to be left in this position till wilted and then carried to the curing barn. The sticks bearing the plants should be placed eight to ten inches apart on the tier poles.

FLUE-CURED TOBACCO

The flue-cured type of tobacco, frequently spoken of as yellow tobacco, is grown extensively in the eastern counties of South Carolina, in the northern and eastern counties of North Carolina, and in southern Virginia. It is used largely in the manufacture of cigarettes, smoking and plug tobacco, and for export. The bright color of the leaf is due mainly to the character of the soil upon which it is grown and to the method of curing. The typical soils are light sands and sandy loams with yellow or red subsoils containing a small proportion of clay. The varieties most used in growing flue-cured tobacco are strains or subvarieties of the Oronoco and the Pryor groups, such as Little Oronoco, Big Oronoco, Warne, Gooch, Adcock, Yellow Pryor, and Flanagan.

The methods of preparing and caring for the seed beds

and fitting the land are essentially the same as for the fire-cured export tobacco. The rows should be laid off three and one-half or four feet apart and the plants set twenty-four to thirty-six inches apart in the row. Transplanting should begin about the first of April in South Carolina and extend into May or even June in the western portions of the North Carolina district. The bright-yellow color of this type is one of its most valued characteristics, and for this reason large quantities of nitrogenous fertilizers must be avoided. The soils producing the best quality of leaf are naturally infertile, and commercial fertilizers are freely used with profit, but the proportion of nitrogen in the fertilizers must be kept comparatively low. For an acre of the average flue-cured tobacco soil it is recommended that a mixture be used consisting of two hundred and fifty pounds of dried blood containing sixteen per cent of ammonia (thirteen per cent nitrogen), five hundred pounds of acid phosphate containing sixteen per cent phosphoric acid, and one hundred and twenty pounds of sulphate of potash containing fifty per cent of potash. Cottonseed meal also gives good results as a source of ammonia. For a more fertile soil the quantity of fertilizer above recommended should be reduced somewhat, especially as regards ammonia. The methods of cultivation, topping, and suckering are about the same as for fire-cured tobacco.

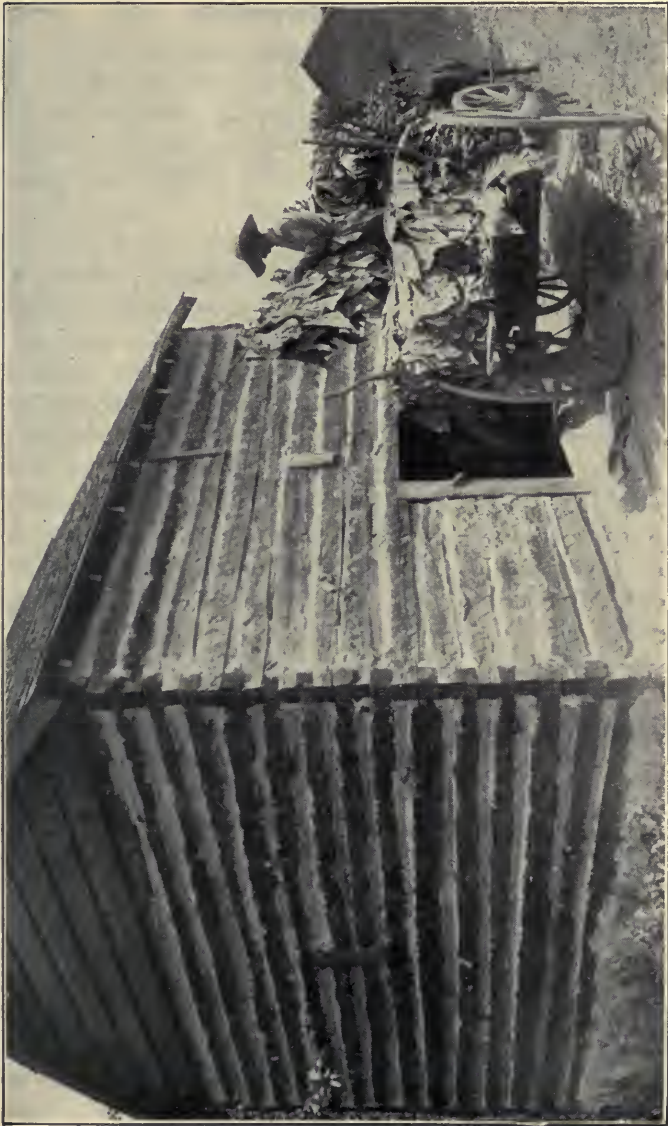
Flue-cured tobacco should be thoroughly ripe when harvested. The leaf surface should show numerous patches of a light-yellow color, and even the green portions should be of a light tint; otherwise, it will be difficult or impossible to cure the leaf properly. In the eastern portion of the flue-cured districts the preferred method of harvesting is to pick off the leaves as they ripen, beginning at the bottom of the plant and taking two or three leaves at each picking. The leaves should be taken to the barn and attached in small bunches to the sticks by means of strings. The string is

attached to an end of the stick and near this end is passed once around the stems of three to five leaves, thus forming a small bunch which will hang to one side of the stick. The string is then drawn diagonally to the opposite side of the stick and similarly looped around a second bunch of leaves and the process repeated until the stick is full, when the free end of the string is attached to the other end of the stick. In the western portion of the flue-cured district the preferred method is to harvest the tobacco by splitting the stalk, cutting it off at the base, and placing it astride the stick, as in the case of fire-cured and Burley tobacco. The field must be gone over from two to four times in order to get all of the plants at the right stage of ripeness.

DARK MANUFACTURING TOBACCOS

In the portion of Kentucky and Tennessee lying between the Burley district and the dark fire-cured sections, types of tobacco are produced in large quantities suitable for domestic manufacture into chewing and smoking tobacco. These types are mostly air-cured, like Burley, but in other respects the methods of production are quite similar to those followed for the dark fire-cured tobacco. In the southern portion of this territory, centering around Warren County, Ky., the so-called One Sucker is the principal variety grown.

In a few counties of Virginia in the vicinity of Richmond, a type of leaf long known as Virginia Sun-cured is produced. Formerly the tobacco was exposed to the sun in the process of curing (hence the name), but at the present time air curing as practiced in the Burley district is the more common method. This type is specially adapted to the manufacture of chewing tobacco. Aside from the curing and somewhat higher topping, substantially the same methods of production should be followed as have been outlined for the fire-cured export tobacco.



HARVESTING TOBACCO IN VIRGINIA; A TYPICAL VIRGINIA TOBACCO BARN.

MARYLAND TOBACCO

The Maryland type is produced extensively in the section lying between the Potomac River and Chesapeake Bay known as southern Maryland. This tobacco is light in body and color, of a dry or chaffy character, and has good burning qualities. It is an export type, and goes mostly to France, the Netherlands, and Germany.

The tobacco soils of Maryland are sandy or silty in character, the soil and subsoil being gray or yellow in color, and are usually deficient in humus. When available, stable manure gives good results. Low-grade fertilizers are quite generally used, but only in small quantities. The tobacco may be conveniently set in squares, the plants being thirty-two to thirty-six inches apart each way. Cultural methods are about the same as for other types. The plants are topped at sixteen to twenty or more leaves, depending on the vigor of the plants and the seasonal conditions. The tobacco matures in two to four weeks after topping, and should be harvested by cutting the stalk and spearing on a stick, as described for the cigar-leaf types.

THE PERIQUE METHOD

The curing of Perique tobacco is the most distinctive of all various types, and its cultivation and preparation for market is perhaps the most interesting. This industry is in the hands of the descendants of the Arcadians, who have lent much romance to the State of Louisiana. It is grown in St. James Parish, in that State, and takes its name from Pierre Chenet, who introduced its cultivation to his fellow refugees over a century ago. Here the making of seed beds begins in October, and they are reworked in December. The seed is put in about the first of January and the beds are covered with palmetto leaves to protect them from the February frosts. In February the soil is plowed and the planting takes place early in March. The tobacco is har-

vested in June and July, and the midribs are removed immediately after the leaves are taken from the stalk. These half leaves are converted into loose twists, about twenty leaves to the twist, and a dozen of the twists are put into a box where they are subjected to high pressure. The tobacco is allowed to remain under this pressure until the next day, when it is taken out and left in the air for a brief period until the juices which it has exuded become reabsorbed. This process is repeated many times, the juice being repeatedly pressed out and reabsorbed until the tobacco changes from a dark brown to a shiny black. When the cure is complete the tobacco is formed into rolls, which are called carottes, weighing about four pounds each. The process of putting up these carottes, as described by Killebrew & Myrick, is also interesting. "A cotton cloth twenty-four by eighteen inches is laid upon a table and covered with wrapper leaves, the under surface being turned uppermost. The fibres of the leaves are so arranged as to point to the middle, longitudinal line of the cloth. A layer of filler leaves, one-half inch in thickness, is placed on the wrapper leaves, extending to within one inch of the edge of the cloth. Over this layer of leaves a second cloth is placed and the tobacco is tramped. The layer of tobacco then is doubled over at each end about three inches and tramped again. The entire mass—cloth, wrappers and fillers—is then rolled into a cylinder fifteen inches long and three inches in diameter, a hole being kept through the center, making a tube into which the ends of the wrapper leaves are tucked. The ends of the cloth are then tied with strings and a rope one-third of an inch in diameter is wound tightly into a coil around the roll from end to end, by use of a windlass made for the purpose. The rope is removed from the roll at the end of twenty-four hours and then rewound more tightly. The carotte is then ready for the market. Perique tobacco often remains under pressure for twelve months, and it is

said to grow sweeter and better with time. The carottes form a species of currency with the local merchants, and they are always taken in exchange for goods received in payment of debts." This interesting strain of leaf is used not only in the United States, but throughout the world for giving strength and character to pipe tobaccos.

CHAPTER XIX

CULTIVATION OF SUMATRA TOBACCO

A FAMOUS WRAPPER TYPE—HOW IT BEGAN AND HOW IT IS GROWN AND MARKETED

Having completed our observations of the tobacco growing industry in the United States, let us take up the methods of producing those types of leaf produced in other parts of the world and which, however, figure importantly in American manufactures. Among these, so far as cigars are concerned, are Sumatra, Java, Havana, Porto Rico and Philippine tobacco. In respect to cultivation, there is a similitude between Sumatra and Java and between Havana, Porto Rico and Philippine. So, still speaking of cigar leaf only, it will suffice if we confine our descriptions to Sumatra and Havana, devoting this chapter to Sumatra and the succeeding chapter to Havana.

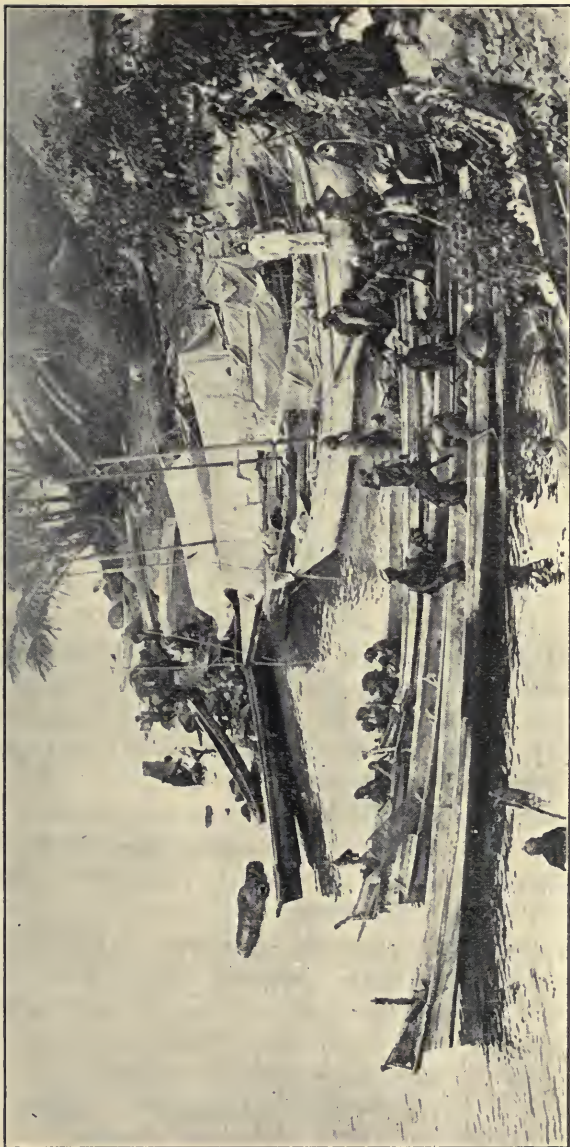
Prior to 1862 a very good quality of tobacco was produced in the eastern portion of the Island of Java, in the same group of islands with Sumatra. This had been exceedingly profitable for the planters, but about this time the crops began to bring lower prices and planters were forced to look to other localities in which a better grade of tobacco could be produced. An Arabian trader called the attention of some of his merchant friends in Batavia, the capital of Java, to Deli on the east coast of the Island of Sumatra where he claimed there was a splendid opportunity to raise a particularly fine grade of tobacco. Little was known of Deli at this time, especially of the interior. After a persistent effort the Arabian succeeded in interesting a Java planter, Mr. Nienhuys, and in March, 1863, the latter

accompanied the Arab to Deli to see what could be done in the matter. Mr. Nienhuys was received very cordially by the native sultan and succeeded in getting a firm foothold in Deli and securing several valuable franchises from the sultan. The following year Mr. Nienhuys was provided with sufficient funds by a mercantile firm of Rotterdam, and raised a crop of 50 bales of tobacco of about 176 English pounds to the bale. In 1865 he raised 189 bales. The first crop raised by Mr. Nienhuys in 1864 of 50 bales sold for 48 cents Dutch money, equivalent to about 20 cents American money, per 1.1 English pounds. The next crop (1865) of 189 bales sold for 149 cents Dutch money, or 60 cents American money, per 1.1 pounds. The 1868 crop of 890 bales sold at about ninety and one-half cents American money.

The superior quality of this tobacco attracted the attention of experts to such an extent that in 1869 a number of capitalists of Amsterdam, headed by Mr. Cremer, concluded to undertake the raising of tobacco on a large scale. They organized the "Deli Maatschappij" ("maatschappij" means company) with an original capital of 300,000 guilders (about \$120,000). Many companies and several private planters followed this lead, but the Deli Maatschappij has always been the most important organization of the east coast of Sumatra. In 1922 there were about 40 incorporated companies, with a total of about 100 plantations, and about 40 private planters in the tobacco district of the east coast of Sumatra.

PLANTING AND CULTIVATING

As a rule, each coolie makes and keeps his own plant bed in the front part of the field near the road. Occasionally a fine piece of land is picked out where all the beds are made together, but in this case every coolie has his own bed. The usual size of the beds for each coolie is about three by



SUMATRA—TRANSPORTING TOBACCO FROM THE SHORE TO THE STEAMER.

eighteen feet, or fifty-four square feet, upon which is put rather less than half of a cartridge-shell measure of seed. As it is difficult to give a definite measure of the seed required on account of the change in its vitality and the change in seasons, a number of trial beds are usually sown, so that the manager can know what is the best measure of seed to sow. It is important that the beds be not too thickly sown. The bed is about one foot high with a ditch all around it. The seed is kept by the manager in quart bottles, and this seed bottle is never given to the Chinaman. Each coolie gets a paper package with enough seed for one bed at a time. He mixes the seed well with dry wood ashes, about two or three quarts of ashes for each bed. After the bed has been thoroughly prepared, cleared of all roots and carefully raked over and well watered, the mixture of ashes and seed is carefully spread over the surface. Every six days a new seed bed is made, in order to be sure to always have fresh plants of proper size on hand when the time comes for transplanting. A bed of this size will produce about 2,000 good plants as a rule. As a coolie plants about 10,000 plants on an average in his field, it would be expected that he would make about five of these seed beds, but as a rule every coolie makes from fourteen to sixteen, and sometimes as many as twenty seed beds.

When new land is used it is not necessary to burn the beds first, as little trouble will ensue from grass and weeds; but if old land is used it is necessary to burn the land over, as is done in the United States.

Before sowing, the seed bed is covered with a sort of roof. On one side of the bed, sticks are put in about three and one-half to four feet high, and on the opposite side sticks of from three to three and one-half feet, thus giving a gentle slope to the roof, which is made of straw or prairie grass. This can be put close together or spread out as desired, in order to regulate the amount of heat received

by the small plants. In this way the seeds and tender plants are protected from the intense heat of the East India sun. Beds are always made from the east to west lengthwise. After eight or ten days the roof can be spread out considerably in the morning and evening, and after a month or five weeks it can be taken off and kept to serve for another bed. The plants are usually ready to be transplanted in from forty-five to fifty days after the seeds are sown.

SETTING THE PLANTS

Transplanting begins about the last of March and is continued until the beginning of June. Experience has shown that after that date the results are not so satisfactory.

The field is first thoroughly broken up to a depth of a foot with the tjankol. The coolie then carefully clears the piece which he intends to plant of all stumps, grass, etc., and rakes the ground carefully, so that it has a smooth and even appearance. This is done the day before the transplanting. The coolie is then provided with a plant string of the same length as the width of the field, namely, about sixty feet. Each end of the string is securely attached to a stick three feet long for the purpose of laying off the rows. The string itself is divided into spaces of two feet by securely tying red or blue ribbon or cord at these intervals. These show where the plants are to go in the row. The collie then provides himself with a plant stick about five feet long and sharpened at each end. The middle of the stick is flattened somewhat that it may be held more securely. After stretching the plant string across the field the holes are made with the stick about four inches deep and three inches wide. In this way about 250 or 300 holes are prepared in rows three feet apart, the holes in each row being two feet apart. The holes are watered immediately before the plants are put in.

About four o'clock in the afternoon, when the rays of

the sun are not very strong, the coolie takes the basket and drops a plant near every hole. When all are dropped he commences to plant. He holds the plant in the middle of the hole with his left hand and with his right hand presses the dirt around the roots carefully but firmly, so that he can give the plant a slight pull without removing it.

SHADING THE YOUNG PLANTS

If there is time, the same evening, or otherwise early the next morning, the coolies commence to put in the shade planks. These are in the shape of a shingle, are made of very thin light wood about seven or eight inches long and about five inches high. They cost from \$8 to \$90 per 10,000. Each coolie supplies himself with about 3,500 of these planks, which are added to his account, but if he desires to do so he can return them after use and get credit for what he returns.

STIRRING THE SOIL AND WATERING

The cultivation of the crop is never done as in this country by plows or cultivators, but is all done by hand with the tjankol. The field is usually cultivated three times during the season. The first time the plants are about nine inches high. The coolie places himself between two rows of plants and makes a little gutter in the middle, about the width of his tjankol, which is about eight inches wide. He takes dirt and loose earth up with this instrument and puts it against the plant, evenly divided on each side.

The heavy rains commence to fall sooner on the uplands—that is, those in the south part of the tobacco district—than in the lowlands, therefore the transplanting and cultivation begins sooner on the higher estates than on the others.

The second cultivation takes place when the plant is about twelve or fifteen inches high. The little gutter in

the middle of the row is made deeper and the soil which comes from it is again put against the plants, as in the first cultivation. Before doing so, however, the coolie takes off the leaves on the bottom of the plant to the height of about three inches and puts them around the stem and packs the soil on these. He is exceedingly careful in breaking these leaves to see that the broken end is covered up immediately, so as not to expose the injured parts to the sun. At this second cultivation the plants are carefully examined and all suckers are removed. These are broken off and buried around the stem of the plant in the same way as the leaves, so as to protect the stem.

The third and last cultivation takes place when the plants are about two feet high. The rows by this time stand in rather high ridges, so that they are well protected from the heavy rains.

TOPPING AND RIPENING

When the plant has been about forty or fifty days in the field the lower buds begin to come out and are pinched off, just as in the United States. The appearance and vitality of the plant determines how much shall be pinched off in the topping. It is usual to leave from fifteen to eighteen leaves, but in some extraordinary cases as many as twenty-four leaves are left on. After the plants are topped suckers come out in great quantities and the coolie has to keep them broken off. This is usually done in the morning.

If the topping has been done at the proper time the tobacco is usually ripe and fit to be cut about three weeks later. No definite and positive rule can be given which will indicate the ripening of the plant, and, in fact, there are various opinions upon this matter. The tobacco when ripe has a yellowish appearance, the leaves, especially the inside ones, have little light brown lumps and take on a

somewhat swollen appearance, while the edges commence to curl up toward the underside and assume a dark brown color. The time from transplanting to harvesting in Deli is from seventy to ninety days.

CUTTING AND HOUSING

Recently the system of priming has been adopted. In this method, instead of cutting the whole stalk, the leaves are taken off from the stalk and carried to the drying shed in baskets. Some growers prime off half the leaves in this way and then cut the balance of the stalk. Tobacco is never cut or primed when wet with rain or dew, as this causes the leaves to sunburn and little holes to form, which lowers the value of the leaf. The cut tobacco is very carefully kept from the ground and the pekoelan is covered while being hauled from the field to the drying shed.

HANGING AND CURING

The tobacco which has been accepted as satisfactory is hung for one day on the lower supports and is then removed to the top of the shed and the shed is filled from the top down. Green tobacco must never be hung under tobacco which is already half cured. The smaller plants are put up in the top of the shed, so far as possible, and the larger ones under them. A shed of the dimensions given will contain from 45,000 to 50,000 plants. A watchman sleeps in every shed and takes care of the opening and closing of the doors and windows for ventilation under instructions from the European assistant.

Light colors are much in demand at the present time, and for that reason in clear and warm weather all the doors and windows of the shed are kept open in order to get all the light and air possible. As a rule the doors and windows are not opened until after 8.30 or 9 o'clock in the morning, as there is much dew and moisture in the air dur-

ing the night and early morning. At first they are only opened a little, as the green tobacco must not yellow too quickly. With strong, heavy winds everything is kept tightly closed. This is a matter of experience, and no rules can be given for the ventilation of the barn.

As a rule, the tobacco is cured in from four to five weeks and is ready to be stripped and bundled.

Occasionally during continuous wet weather it is necessary to use fire in the shed. It is, of course, better not to do this.

The tobacco is stripped on a little platform about 12 feet square in the drying shed. The bottom and top leaves of the stalk are kept separate. These are again divided into ragged and those which have holes in them and those which are black and heavily speckled. These four kinds are put together in separate bundles of about fifty leaves each. They are tied with the same string with which the tobacco was hung up in the first place. This stripping is done early in the morning.

FERMENTING

The tobacco comes direct from the drying sheds to the one fermenting shed, which holds all the tobacco of the estate. It does not leave here until packed and ready for shipment to the European markets.

The tobacco is put into piles of three kinds, the "quality" or top leaves, bottom leaves, and ragged tobacco. The piles are built up on matting. One row is spread on the matting, the bundles being placed close together with the heads in the same direction. At the corners the leaves are spread out like a fan. In this way layer after layer is put on until the pile is from 4 to 6 feet high. When a large or rather a high pile is to be made, hollow bamboo rods are inserted in the middle of the pile, in which a thermometer is placed at the end of a stick. The outer end of the bamboo has a

plug of cotton, so that the temperature of the outside can not interfere with that of the inside. With smaller piles, and especially with trash and inferior tobaccos, simply a bamboo stick is inserted in the pile without a thermometer. The manager, on touching the stick when it is withdrawn, judges how warm the pile is inside. In still smaller piles the hand is simply put in between the bundles. When the temperature rises to about 100 degrees F. the pile is taken down, the tobacco is given a chance to cool off slightly, and a new pile is put up in another place. Care is taken that bundles from the interior are placed on the outside, to give those which were formerly on the outside an equal chance of fermenting. The temperature gradually goes higher until it finally attains the temperature of about 130 degrees F., when the fermentation is stopped. This maximum temperature must not be attained too quickly, as the quality of the leaf would suffer. No statement can be made as to how often the piles should be turned over, or when this should be done, as it depends upon the condition of the tobacco, especially as to how moist it was when put into the pile.

SORTING

The ragged leaves are usually assorted first of all when the coolie first comes in from the field, as there is little else for him to do at that time. The sorters sit on matting near the windows on both sides of the fermenting shed. They have in front of them wooden pins stuck on the ground in the shape of a half circle. These are for the different kinds of tobacco. The tobacco is usually divided, with infinite care and judgment, into the following kinds: Brown, dark gray, light gray, yellow, multicolored, coarse not speckled, slightly speckled, dark and brown slightly speckled, gray and light speckled all colors, little broken dark and brown, little broken gray and light, much broken

all colors, sweepings, and trash. Some of the estates have other divisions and some of the kinds here mentioned are again subdivided, but these are about the most important.

BALING

After the bundles are assorted into lengths the tobacco is pressed into bales of eighty kilograms, equal to 160 American pounds and to 176 English pounds. The trademark chosen for the estate is then put upon the outside of the matting which covers the bale and marked to indicate the grade and length of tobacco.

CHAPTER XX

CULTIVATION OF HAVANA TOBACCO

PLANTING, HARVESTING AND HANDLING THE WORLD'S MOST FAMOUS CIGAR TOBACCO

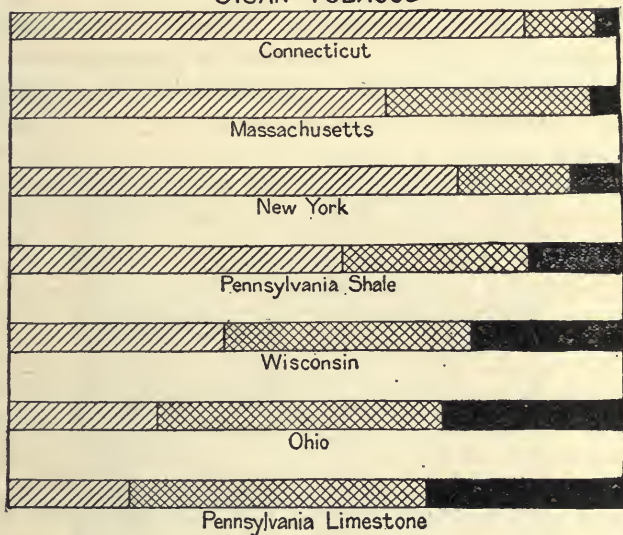
Despite the American trend of taste toward lighter-colored, silkier and more yielding wrappers for cigars, the rich, aromatic qualities of Cuban, generally known as Havana leaf, enable it to maintain its place as the aristocrat of cigar tobaccos. I will try to give, therefore, an intimate description of its progress from the seedbed to the cigar factory.

SEED AND SEEDLING

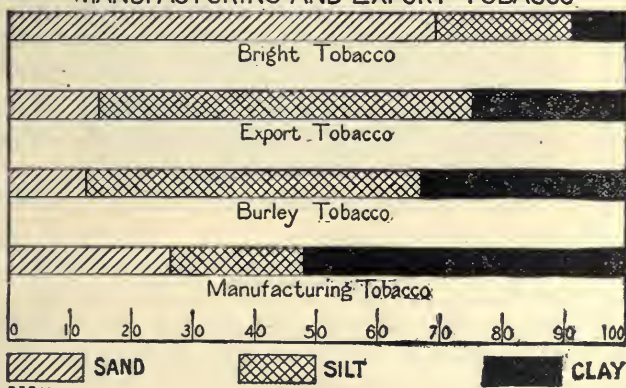
When the tobacco crop has been all gathered up and nothing but the stalks of the plants remain on the field, on each stalk or remainder of the tobacco plant a few white flowers bloom forth, which, as they mature, turn to a beautiful pink color. In time this pretty flower withers on the stalk, and in its place we find a pod of small green beans. These pods are placed on racks in the open air to dry. In drying their color gradually changes from green to a dark brown and the bean closely resembles the coffee bean as we know it. When completely dried the beans are gathered and placed in sacks and from their natural condition of dryness they break open and we find, instead, a fine brown dust. This dust, at the proper time, is sowed on virgin soil, or at least on soil used previously only to cultivate seedlings. In about six weeks we have seedlings from six to eight inches above ground. These seedlings are gath-

COMPOSITION OF TOBACCO SOILS

CIGAR TOBACCO



MANUFACTURING AND EXPORT TOBACCO



 SAND
  SILT
  CLAY

R. F. T. etc.

ered up and tied into bundles of one hundred plants, which from a little distance look very much like ordinary beans or lettuce. A curious fact concerning these seedlings may here be related which will go to show at the very outset of this study how highly sensitive tobacco is to any climatic or atmospheric change. For as long as two weeks at a time the seedlings may be kept in bunches which, to all appearances, are dried brown and utterly useless, but as soon as sufficient moisture is applied to them they become as fresh and green as when picked from the field. I would not have you understand that the seedlings have perpetual life, because they haven't. There is a limit even to what tobacco can stand.

PLANTING ABOUT OCTOBER 15

Sowing or planting, as an invariable rule, begins about the 15th of October each year, and under normal conditions the crop is ready for the first cut in about three months, bringing us into January of the following year. Of course, results depend on care, fertilizer, rainfall, the weather, sun and shade. Artificial shade, cultivation under cheese-cloth and the like have been discussed often enough. We may dismiss this phase by stating as a general principle: the more shade the lighter the colors and thinner the texture. That, however, does not tell the story of excellence, but it does account for some beautiful light colors, when tobacco is new and fresh and for the comparatively rougher textures in sun-grown stock which generally improve with age, a condition which may not be urged in favor of tobacco grown under artificial shade.

HARVESTING

A tobacco plant generally has from eight to fourteen leaves and reaches an average height of from four to five feet. In cutting, the veguero cuts two leaves at a time, and also the piece of stalk next to them. Following the first

cut we usually have two more, and in rare cases three; in each cut the leaves being smaller than those of the preceding cut. As tobacco is cut each two leaves with their piece of stalk is hung on a pole for about a month to dry.

It is at this point that the color begins to undergo a change and the "smoking" character of the leaf begins to develop. While growing in the field the color of the plant is a rich, brilliant green. After being cut the brilliancy subsides.



HAVANA TOBACCO DRYING ON THE POLES.

As the drying process proceeds these leaves change to various colors, ranging from the lightest, streakiest canary yellow to a beautiful dark brown (the ideal color). During the transitions from natural green to the final color, while drying, tobacco becomes as brittle as the thinnest egg-shell. Following a good rainfall, usually about a month after

drying has been started or, lacking a good rainfall, when artificial humidity is introduced into the tobacco barn, the brittle tobacco absorbs gratefully the moisture and is then gathered and tied into bundles of 440 leaves.

SWEATING IN PILES

These are then placed in piles, *en pilon*, which in some cases are ten or twelve feet high, and it is then that our tobacco goes through its first sweating or fermentation.



Photo Brown Bros.

HAVANA TOBACCO GROWING IN THE FIELD.

The sweating endured by the tobacco depends entirely on the height of the *pilon*, and the *veguero*, skilled in his art, regulates to a nicety the height of each pile according to the body or strength of his lot.

The sweating process completed (this sometimes happens as a natural consequence when the piles are low, but in most cases it is brought about by the gradual reduction of the size or height of the *pilon*) the tobacco is now ready for the packing house operations. I will not enter here into the many details and intricacies connected with packing and curing tobacco in the bale. Not only would it

take more space than we have at our disposal to enumerate the many times tobacco is handled and rehandled, but I dare say many would be bored by the recital of many seemingly unimportant operations. Let it suffice to say that a completed packing has more than twenty different sizes of leaves, classified, bundled and packed individually in bales, but there are also four different grades of body or strength which bring the classification note of a vega up into bewildering figures.

HANDLING AND REHANDLING

Packed tobacco received into the warehouse either in Havana or the country undergoes a second sweating in the process of curing. This second sweating is not induced by artificial means, but is the direct and natural consequence of the moistened condition of the tobacco. At this stage it is of prime importance that the greatest care be exercised in changing the position of bales. Ordinarily tobacco is stacked four or five bales high. Naturally the bottom bale in any pile is weighed down with all those on top and fermentation in such a bale might conceivably be prolonged to the point where the tobacco would be ruined. One of the most important duties of warehousemen is continually to change the position of bales until such time as the tobacco has been cured and there is no longer any possibility of the tobacco entering into further fermentation by reason of having been cured. Previous to this point the first sweating leaves the tobacco with unsettled colors—sometimes there are three to four different shades to a single leaf—but after the sweating in the bale this condition is all cleared up, so to speak, and except for being rather new and crude, the tobacco is ready to be worked.

CHAPTER XXI

THE CULTIVATION OF TURKISH TOBACCO

FOR CIGARETTE PURPOSES—HOW THE INDUSTRY WAS TAKEN OVER BY A REGIE—METHOD OF GROWING

In the two chapters immediately preceding we have disposed, agriculturally, of the foreign-grown tobaccos that figure in cigar manufacture. As to pipe and chewing tobaccos and snuff, America is entirely self-sufficient, virtually only home-grown leaf being employed.

In the American cigarette manufacturing industry there is one kind of tobacco of foreign cultivation that is extensively used, namely, Turkish.

The fact that as a result of the Balkan War in 1913, over one-third of the tobacco-producing area passed out of Turkish control did not alter the Turkish tobacco situation so far as the American cigarette market is concerned. America continues to get its supplies from the same source geographically as before.

It is likely that tobaccos coming from that territory will always be known as Turkish leaf, and in this discussion they will be referred to as such.

It is a curious fact that while tobacco as a plant is a native of the American Continent, America has to go to the Orient for her most aromatic cigarette leaves. Just at what time the seed was carried from America and the West Indies to the Orient is a detail of which there is no historical record. But it is so long ago that the elapsing period may be counted by centuries. This much we know, that the Occidental plant found in its adopted country a soil in which it lost many of its original characteristics and

gained those qualities that make for excellence in cigarette smoking.

In the early days of its cultivation in Turkey the production was on a small scale, and it was practically exempt from taxation there. Up to the year 1873 it was charged only with some small assessments.

On March 1, 1874, the system of land taxation was adopted and it prevailed up to 1883. The Turkish Government found it necessary to contract a loan and made certain concessions to the Regie, a society which then became a tobacco monopoly, and which acquired as security certain incomes of the Empire. Thus the entire tobacco industry of Turkey came under the control of the Regie.

CLASSIFICATION AND ORIGIN

The production of tobacco maintains in many parts of the Turkish Empire, but it differs both in quality and quantity in different sections. The most important tobacco producing localities are hereinafter enumerated:

1. THE DISTRICT OF ADRIANOPLE

The cultivation in this section is very extensive and the consumption of tobacco is also large, but the quality is not particularly good and exportation is comparatively small. In some parts of Adrianople, however, for example in Baba Eski and Kirkiless, the farmers have taken the seed of Xanthi and have followed the Xanthi methods of cultivation and manipulation. And in such instances the quality has been considerably improved.

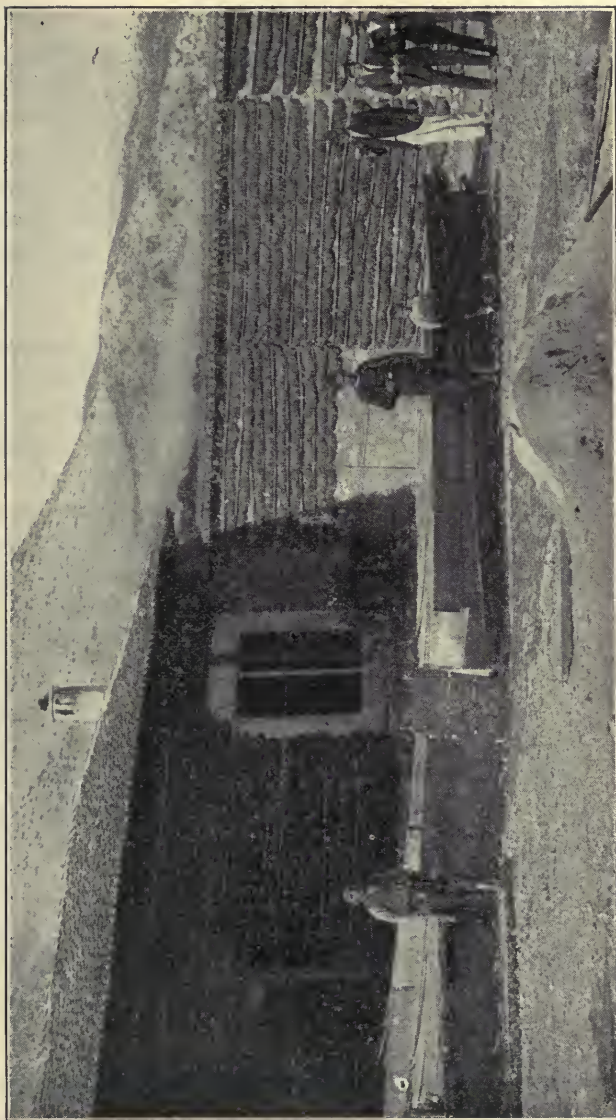
2. THE DISTRICT OF XANTHI

This is perhaps the leading section of Turkey in tobacco production. The leaf produced here is very pliable and aromatic and is noted for its sweet taste and fine burning qualities. The leaves are egg shaped and have stems. This latter is mentioned as some strains of Turkish tobacco grow

without stems. The tobacco in this section is better known to the trade under the name of "Basma," and among the Basmas tobaccos the most excellent are called "Dubeks." In the district of Xanthi there are also the Giumuldzina, Sarisavas, Maronia and others, which while they are not regarded as the true Xanthi resemble it closely. It must be borne in mind that while Xanthi produces perhaps the best tobacco of all Turkey, all tobacco-producing sections of Xanthi do not produce very fine tobaccos. Probably the finest of the Xanthis is the Yacca. The tobaccos grown on the slopes of the hills are of the fine quality, but there is quite a quantity raised in the level fields which is inferior.

3. THE DISTRICTS OF KAVALLE, DRAMA AND SERES

Some of the tobaccos furnished by these districts are about as good as those of the Xanthi product, particularly the strains raised around the towns of Edirnezkiou, Chaltaldja, Kirras, Bangeon Mountain, Darnokohoria and part of that grown at Nigritis: The kind of leaf produced in these sections is the egg shaped one known as the "Basmas," which carries with it the name of the section from which the seed originated. Besides these there is a strain of tobacco cultivated here called "Bashi Bagli," which is found particularly in the neighborhood of Prosotzaki and some villages of Pangeon. This tobacco is quite unlike the Basmas. It has large leaves, is coarser and has stems, and the manner of picking and manipulation is entirely different from the Basmas method. Bashi Bagli is really named from the style of handling. Literally the word "Bashi" means head and the word "Bagli" means tie. Bashi Bagli tobacco consists of twenty-five to thirty leaves put together in a small bundle something like carrots of Havana. The term is well known to foreign buyers, and the goods have a large market in many countries. One of the finest types grown in this district is the Mahalla.



TURKISH TOBACCO DRYING IN THE SHEDS; THIS SCENE ON A PLANTATION IN ZANTHI.

4. THE DISTRICT OF SALONICA

Salonica is also an important tobacco-producing district. The Bashi Bagli is cultivated here on a much larger scale than the Basmás. Quite a quantity is sent to foreign markets, but many of these tobaccos are used for domestic consumption. In recent years in some sections of Salonica, and particularly in the Chalkidiki peninsular, the Xanthi system of cultivation has been introduced with satisfactory results. The best packings are put up in the neighborhood of Uskup, Mituvitza, Koumanovi and Perlepe. At these latter points the tobaccos are nearly all of the stemmed variety and of light reddish color. The leaves are large, comparatively, and the manipulation is after the system of Bashi Bagli. In many villages the tobacco is really suitable for export, but is not bought by tobacco merchants as the growers cannot manipulate and pack it properly. The Regie, therefore, buys it in large quantities for domestic consumption. Much of this tobacco, too, is sold in contraband, a practice which flourishes in Turkey on a large scale.

5. THE DISTRICTS OF MONASTIO, FLORINA, SARI-GHIOL, ETC.

Turkish tobacco that is artificially watered is never as good as that which can be raised with only natural irrigation. In these districts the crops have to be watered and they are of no great value. However, at Siatista, Kozani, Selitza, Seoria and particularly in Southern Macedonia, some enterprising packers have recently improved the methods of cultivation with most promising results. Other farmers have followed suit, but unfortunately the poor reputation which these sections have keeps the large buyers at a distance.

IN ASIA MINOR

The above-named valuable tobacco producing sections were all wrested from the Turkish Empire during the war

waged against the Ottoman by the Balkan Allies. There are still some possessions left in Asia Minor which produce good tobaccos, and Turkey, therefore, is not entirely stripped of her tobacco imports. These are as follows:

1. DISTRICTS OF TREBIZONDE AND PLATANON

The tobacco produced here has stems and large leaves that are light red in color. It is extensively taken by foreign countries, but most particularly by Egypt.

2. THE DISTRICT OF SAMSOUN

This is by far the most important tobacco producing centre in Asia Minor. The leaf produced here is regarded as second only to Xanthi and Kavalla. The leaves are lance shaped, delicate in texture and red-yellowish in color. They are quite free from gum and have good taste and fine burning qualities. Here is found the so-called "Maden" style of manipulation, large quantities of which are put into the market as seconds and quite often as firsts. The production is enormous and goes almost exclusively to the foreign markets. The Maden style of manipulation and packing is quite different from the Basma style, resembling rather the Bashi Bagli.

3. THE BAFRA AND ALATZAMION DISTRICTS

These also are important producing sections. Bafra tobacco is particularly famous for its exquisite taste and aromatic quality. Most of it is stemless. It is rather a darkish red in color, and the leaves are tongue-shaped. The style of packing is like that of Samsoun, and the manipulation by tobacco merchants is done very carefully. The tobaccos of Alatzamion resemble the Bafra and have the same trade value.

4. THE DISTRICTS OF ERDA, TOSKAT, NIXAR AND ZLIAS

These sections produce large quantities of tobaccos of the Bashi Bagli style. Artificial irrigation has to be resorted

to and the value is not great. The classification of the goods after manipulation only reaches about the fifth quality. However, so great has been the demand for Turkish tobaccos recently that even these goods doubled in price.

5. THE DISTRICTS OF SINOPI, INEPOLI, ZOUN GOALDAK AND PART OF THE VALLEY OF KASTAMONIS

Tobaccos of these sections are high in quantity but low in quality and cannot be compared with Bafra and Samsoun, although the climatic conditions prevailing are about the same. If there is any preference the tobaccos of Sinopi are superior to the others and are more largely exported.

6. THE DISTRICT OF ISMIT

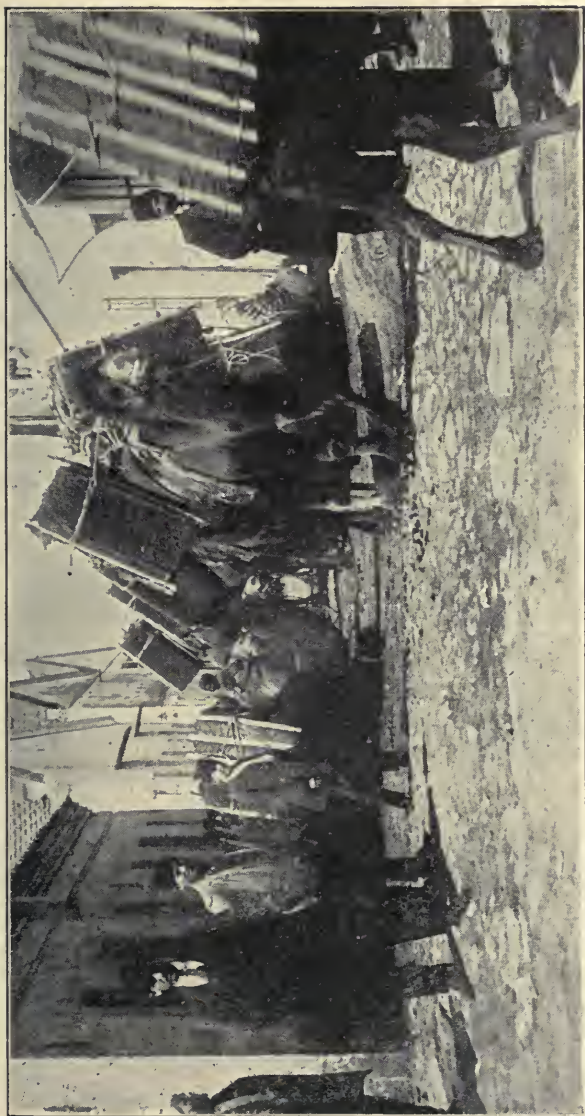
This belt extends to Afion Kara Hissar, and is among the more important tobacco producing centres in Asia Minor. The goods are largely exported, although they are not of a very high quality. The farmers here are not enterprising, and do practically nothing toward improving the product.

7. THE DISTRICTS OF PALERMO, GIOUNEA, RALIKKESER AND KERMASTI

The style of packing is similar to the Bashi Bagli, and the leaves are large, yellow and reddish in color and have unreliable burning qualities. The majority of the plantations are "watered." The greatest production centre is around Giounea, where quite large quantities are sold at small prices.

8. THE DISTRICTS OF SMYRNA, INCLUDING ADRAMITION, SEDGIKIOS AND AGIASOULOU

The tobaccos of these sections have a particularly fine taste and are highly sought after by the trade for blending purposes. It has been said that without the mixing in of



IN SMYRNA—BRINGING IN TURKISH TOBACCO FROM THE COUNTRY TO BE GRADED, BALED AND SHIPPED. IT IS TRANSPLANTED BY MEANS OF THE WATER BUFFALO FROM THE OUTLYING DRYING SHEDS TO THE MAIN WAREHOUSES.

some Smyrna tobacco a good cigarette cannot be manufactured. The production here is quite extensive.

9. SYRIA, WHERE LATAKIA COMES FROM

Recently efforts have been made to introduce the cultivation of tobacco in Syria from the seed of Kavalla and Kanthi. Experiments at Lebanon gave satisfactory results, and all the production of Syria is exported to Egypt.

It is from Syria that the famous Latakia comes. Its place of origin is the Laodicea, mentioned by John in the Apocalypse, Latakia being the modern form of the name. This tobacco is not used extensively by American manufacturers, but it is a great favorite as a blending tobacco for pipe mixtures in Europe, particularly in England and the British colonies. Its peculiar taste and aroma are due to its being cured in the smoke from the fires of camel-dung, which is a common fuel in Arabia.

CULTIVATING, MARKETING AND BLENDING

Turkish tobacco, owing to the peculiar qualities which characterize it, is a sensitive plant and requires careful and elaborate manipulation during the process of its development from the seed to the cigarette.

PLANTING

Very early in the Spring the seeds are planted in the seed beds and the new shoots require great care up until about the end of April, when replanting operations begin. This work continues according to the weather conditions, but is usually completed about the end of May. The seedlings are planted in straight lines, the plants being set twenty centimeters from each other and the rows about sixty centimeters apart. When the plants begin to bud the soil around them is reworked and every care taken to prevent weeds and to keep the earth in a natural state of moisture.

HARVESTING

The harvesting is governed by atmospherical conditions as well as by the progress of the growth. The lower leaves are always picked first and the upper leaves last. These latter are better and bring higher prices.

As the leaves are plucked they are threaded upon strings and left exposed to the open air under a shelter until they are dry. After having been allowed to hang in this fashion twenty to twenty-five days they are brought into the warehouses where they remain up to the time of the manipulation.

CURING

This is done by the farmer and consists of taking the leaves from the strings and packing them one upon the other, after which they are covered with a blanket and left in piles, much after the fashion of the American style of bulk sweating. This operation usually begins in November. A little later comes the packing operation which differs in method according to the section in which the tobaccos are produced.

PACKING

Unfortunately the packing operation as performed by the farmers is very unreliable, partially on account of their ignorance, but more particularly because of a desire to deceive the tobacco buyer when the goods are sold. The farmers as a rule are very wily and resort to methods in packing that are likely to deceive sometimes even the most expert buyer. They insert bad leaves between good ones and in this manner try to increase the price of their goods.

As a result it is one of the most essential things that buyers of Turkish tobacco and manufacturers of cigarettes should have the most expert agents at the packing centres, men having been born and raised in the country being preferable for this work. The whole problem of successful

cigarette manufacture depends upon the exact valuation of tobacco at the time of purchase.

HOW IT IS MARKETED

After the tobacco is put into bales it is offered for sale to the tobacco merchants and they begin to examine the goods. This period is called the "Epoch of the purchases" and is one of the most important and most trying stages of the crop process. When the foreign demand happens to be very strong there is a veritable battle among buyers, as the result of which all the farmers, honest and dishonest alike, fare bountifully.

After the deals are closed the farmers are obliged to transport the tobaccos to the warehouses of the tobacco merchants, that is to the towns, and here is made the second and final manipulation. This is done very carefully, the farmers' packages being taken all to pieces and the tobacco being reexamined, reclassified and rebaled.

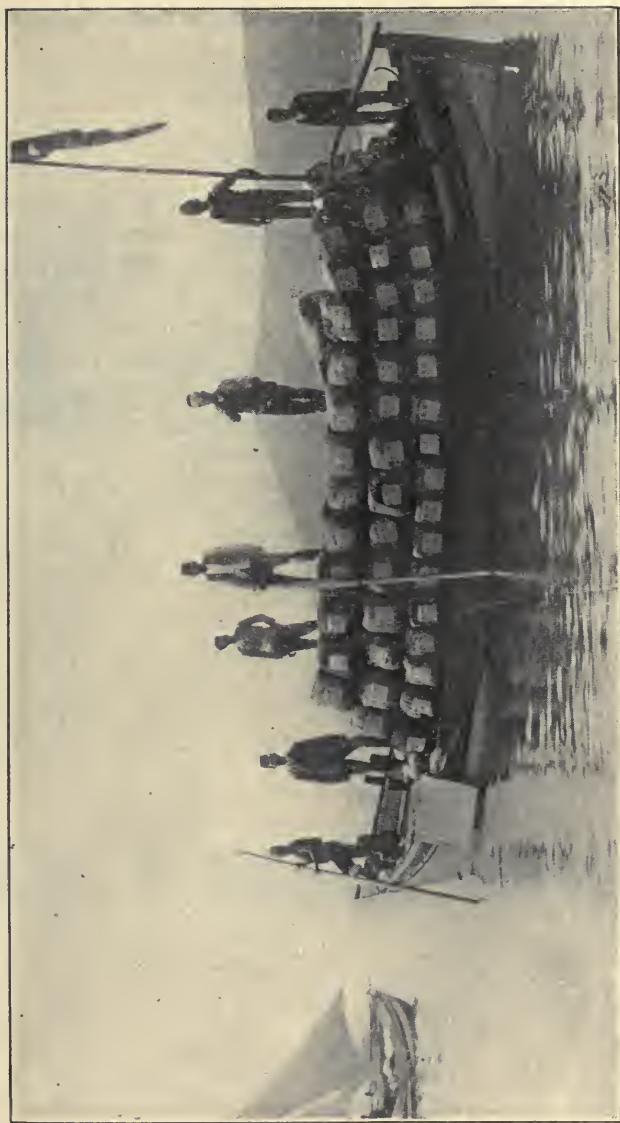
At this manipulation the classifications, generally speaking, are as follows: Firsts, seconds, thirds, fourths, first-fifths, second-fifths, sixths, first-sevenths, second-sevenths, also Tzikinti.

These classifications are varied somewhat by different merchants according to their personal ideas and to the requirements of their trade and to the point of shipment.

Upon repacking, the best leaves are put up in small packages and those of inferior quality in larger packages, all being carefully wrapped so as to suffer no damage under transport.

Thus the goods are delivered to the cigarette factories all over the world.

Despite the many hardships of governmental monopoly and the entire lack of official encouragement the production of Turkish tobacco has steadily increased for many years. And such are the peculiar climatic soil conditions of those



IN CAVALLA—A LIGHTER OF TURKISH TOBACCO IN MID-HARBOR.

provinces that all attempts to duplicate Turkish leaf in other countries have ended in failure.

THE ART OF BLENDING

At the same time, as will have been noted by the above, various kinds of Turkish tobacco differ very radically in their characteristics, and it is a peculiarity of the business that no one strain of Turkish tobacco makes the perfect cigarette, but a blend of various types is necessary to get the acme of smoking excellence. Thus the occupation of blending has become a fine art in the trade, and it is regarded as vitally important that the Turkish leaf buyer as well as the factory superintendent must have the particular gift of judging accurately the taste and aroma of all tobaccos.



part V manufacturing

CHAPTER XXII

CLASSIFICATION OF THE MANUFACTURED PRODUCTS

TECHNICAL MEANING AND COMPOSITION OF CIGARS, CIGARETTES, SMOKING AND CHEWING TOBACCO AND SNUFF, AND THEIR SUBDIVISIONS

In the foregoing chapters I have endeavored to give the reader a comprehensive idea of all strains of tobacco leaf grown in, imported to, exported from or consumed within the boundaries of the United States, including a substantial knowledge of the planting, cultivation, harvesting and curing of those tobaccos, and the particular uses to which the tobacco of each locality is best adapted. Having followed the progress of the leaf from the seed to the packing house, we now come to the subject of the manufactures of tobacco, i. e., the cured leaf converted into the various forms in which it is consumed.

The manufactures of tobacco may be generally classified as follows:

Cigars.

Cigarettes.

Smoking and chewing tobacco.

Snuff.

These will be discussed in the order enumerated above.

CIGARS, DEFINED AND CLASSIFIED

All products of tobacco rolled into the proper form for smoking and made wholly and entirely of tobacco are officially designated cigars, the only differentiation made by the Government (which keeps a close surveillance over the

industry because of its being a taxable commodity) being based upon weight per thousand.

In trade nomenclature, however, the classifications are as follows:

- (a) Cigars.
- (b) Little cigars.
- (c) All tobacco cigarettes.
- (d) Stogies and cheroots,

DEFINITIONS OF CIGARS

Cigars, meaning everything better than stogies and pack-age goods, are again subdivided by the trade as follows:

IMPORTED

Cigars sold in this country which are made in factories in Cuba. This term is not applied in this country to cigars imported from the Philippines or Porto Rico.

MANILA

Cigars which are the products of the Philippine Archipelago.

PORTO RICO

Cigars manufactured on the Island of Porto Rico.

CLEAR HAVANA

Cigars made in the United States of Cuban tobacco exclusively, made entirely by hand and in exactly the same style and manner of workmanship as that employed in Cuban factories. Cuban workmen are largely employed in such factories. The kind of cigar designated as a "Key West" comes under the clear Havana classification, and a special comment on the use of this term is apropos. Key West, situated on the coral reefs in the south of Florida, and only ninety miles from Havana, was the point at which clear Havana cigars were first manufactured in the United

States on a large scale. For many years hardly any cigars of this class were made anywhere else in this country, and thus the term "Key West" cigars came to have a distinctive meaning, as signifying cigars made entirely of Cuban tobacco and by Cuban workmen. Gradually, however, Cuban style factories were opened and grew into prominence at other points, particularly Tampa, Fla., Chicago and New York. Although a great many smokers still use the words "Key West" in their old significance as meaning a clear Havana cigar, this is not accepted in trade terminology, and no cigar not made in Key West should be designated as a Key West cigar.

BONDED CLEAR HAVANA—Cigars the same as above but made in a factory operated "in bond" with an agent of the U. S. Customs Department always in attendance and who opens and closes the factory. This system is fully described in a succeeding chapter.

SEED AND HAVANA

Domestic cigars made with American (or German) workmanship, with filler partly or wholly of Havana tobacco, and the wrapper of Sumatra, Java or domestic tobacco and a binder of domestic tobacco.

BROADLEAF CIGAR

Under Seed and Havana must be included the "Broadleaf cigar," a term commonly used to designate a Seed and Havana cigar, the wrapper of which is Broadleaf Connecticut tobacco.

SHADEGROWN CIGAR

Also included in this is the "Shadegrown cigar," having a wrapper of Shadegrown Connecticut (or Florida) leaf, a domestic binder and a Havana or part Havana filler. "Mild Havana" is a common but not clearly defined classification, accepted in the trade as meaning a Havana and domestic blend.

NICKEL GOODS (OR CLASS A CIGARS)

This is the term usually applied to the ordinary five-cent cigar which is made either entirely of domestic tobacco, or with a Sumatra wrapper and a domestic binder and filler; and partially or entirely by machines or mechanical means. In some factories the mold system is employed. Minor exception may be taken to this definition. Also called Class A cigars, because so designated under the Internal Revenue regulations.

FIVE-CENT CLEAR HAVANAS

For instance, up to the time of the World War, some clear Havana factories, made, in connection with their larger sizes, a small cigar, which though it retailed at five cents, was made purely of Havana tobacco and in the regular Cuban style, in which they used up their small wrapper leaves and small ends of filler stock. There was little or no profit in this class of goods, however, and it was only made by the larger manufacturers either to utilize a waste product or to augment their trade on larger sizes. Its production ceased in or about 1914.

RESAGOS

Another exception was the *resago* or *segundo* (second), by which is meant a cigar with an imperfect Havana wrapper, a domestic binder and a filler of Havana scraps or cuttings. Some manufacturers also made a nickel cigar with all or part Havana scrap filler. These and other variations do not invalidate the general definition of nickel goods or Class A given heretofore. The rise of costs coincided with the World War rendered their production commercially impossible.

LONG FILLER AND SHORT (OR SCRAP) FILLER

These are terms (rather than classifications) meaning that the cigar has a filler composed of sprigs of leaf ap-

proximately as long as the cigar itself; or that it has a filler composed of the scraps or cuttings that accumulate in the factory during the process of manufacturing.

LITTLE CIGARS AND ALL TOBACCO CIGARETTES

Goods of the character suggested by these terms; usually sold in small pocket packages, manufactured wholly or partially by machinery, either of domestic or Havana tobacco or both.

STOGIES AND CHERROOTS

Cigar-shaped rolls of cheap domestic tobacco, made quickly with no particular effort as to appearance, usually machine manufactured, and retailing at two, three or four for five cents. Stogies are usually closed at the head (or mouth end) like a cigar; cheroots are usually open at both ends.

CIGARETTES DEFINED AND CLASSIFIED

There are seven kinds of cigarettes marketed in this country as follows:

- (a) Turkish (sometimes termed Egyptian),
- (b) Russian,
- (c) Virginia,
- (d) "Blended,"
- (e) Havana,
- (f) Porto Rico,
- (g) Philippine.

Of these, however, the Virginia and "Blended" are by far the most popular. Next in importance comes the Turkish. The demand for the others is comparatively inconsequential and confined almost exclusively to the foreign population.

DEFINITIONS OF CIGARETTES

TURKISH

There are two kinds of Turkish cigarettes—imported and

domestic. The former are cigarettes manufactured in foreign countries, such as Turkey, Egypt, Germany, Belgium, France and England, of Turkish tobacco. The latter, which as a matter of fact are most usually meant by the phrase "Turkish cigarettes," are made in this country of Turkish or Greek tobacco. The term "Egyptian cigarettes" is practically a misnomer. As explained in the chapter on leaf tobacco, there is no tobacco grown in Egypt. Of course, in the case of a cigarette being manufactured in an Egyptian factory of Turkish tobacco, the term might be correctly applied, but so few Egyptian-made cigarettes are imported to this country that the term has no significance in the trade except as a misnomer for the Turkish article. It is claimed, however, that the oval shape in which Turkish cigarettes are now almost universally made originated in the Egyptian factories, and possibly this may have something to do with the perpetuation of the term.

RUSSIAN

These also consist of imported and domestic cigarettes. The former are made of Russian, Greek and Turkish tobaccos in Russian factories. The latter are cigarettes of the same nature made in this country. They differ in construction from Turkish cigarettes in that they are round instead of oval and have paper mouthpieces attached.

VIRGINIA

These are cigarettes made in this country of bright Virginia and North Carolina tobacco; and occasionally a blend of Burley. With a few exceptions they are round in form not oval.

"BLENDED"

Cigarettes made of a combination of Turkish and domestic tobaccos. Both the round and the oval shapes are used in this class, but largely round. This division grew to immense proportions coincident with the World War.

HAVANA, PORTO RICAN AND PHILIPPINE

These are radically different from the cigarettes heretofore mentioned in that they are made of what is known in America as the cuttings of cigar-leaf tobaccos. These are the *picadura* or cuttings from the cigar factories, or the *botes* or small leaves of tobacco of the various countries from which they get their names. These cigarettes are of two classes: pectoral (those having brown paper wrappers) and white (those having white paper wrappers). The pectoral papers were so named originally on account of having been treated with a preparation supposed to have medical properties. These are usually of *algodon* or cotton paper, while the white are either of cotton or rice paper. Straw colored paper also is sometimes used. Some cigarettes of this character are made in this country of the foreign grown tobaccos, while others are the product of factories located in the countries where the tobacco is grown.

DEFINITIONS OF TOBACCOS

SMOKING

Smoking tobacco is divided by the trade into the following general divisions:

- (a) Granulated,
- (b) Long Cut,
- (c) Plug Cut,
- (d) Scrap.

Granulated is, as the name implies, tobacco cut or broken into granules so that it can be readily poured into the pipe without manipulation by the hands.

Plug Cut is any tobacco which is made into a plug during the process of manufacture and afterwards cut into smaller pieces. Sliced plug, cube cut, crushed plug, etc., are variations of this division.

Long Cut includes all tobaccos cut into shreds or strings,

and under this heading are curly cut, Bird's-eye and most of the so-called "mixtures."

Scrap is, generally speaking, the cheapest form of smoking tobacco, and consists, as the name suggests, of scraps of tobacco leaves broken into small pieces, heavily sweetened and adapted for either smoking or chewing.

CHEWING

Chewing tobacco is divided by the trade into the following classifications:

- (a) Plug (and twist),
- (b) Fine Cut,
- (c) Long Cut,
- (d) Scrap.

Plug, as the name signifies, is tobacco manufactured into plugs or twists and packed in wooden caddies. It is broadly classified by the trade as Burley and Green River, according to the stock from which it is made. There are other classifications based on the appearance and details of manufacture, such as light, dark, mahogany, rough, smooth, etc.

Fine Cut is chewing tobacco cut into fine shreds and marketed either in foil or paper packages, or in pails.

Long Cut is similar in appearance and manufacture to that described by the same term under the heading of smoking tobaccos; but under the chewing division it signifies tobacco so flavored and sweetened as to be suitable for chewing as well as smoking.

Scrap tobacco has already been described in the smoking division, being suitable both for chewing and for the pipe.

SNUFF

The trade divides snuff into four kinds, as follows:

- (a) Maccaboy,
- (b) Rappee,
- (c) Swedish,
- (d) Scotch.

The latter is sub-divided as follows: *Plain, Sweet, High-toast and Salt.*



THIS IS THE FAMOUS "BRIGHT" CIGARETTE TOBACCO GROWN IN PARTS OF NORTH CAROLINA, SOUTH CAROLINA AND VIRGINIA.

CHAPTER XXIII

THE MANUFACTURE OF CIGARS, CHERROOTS AND STOGIES

THE SPANISH METHOD USED IN MAKING CLEAR HAVANA GOODS—HOW SEED AND HAVANA CIGARS ARE MADE—MACHINERY AND APPLIANCES

While many labor saving devices have been introduced in most branches of tobacco manufacture, there is a marked difference in this respect between cigars and the other forms. In the manufacture of snuff, chewing and pipe tobaccos, cigarettes and all tobacco cigarettes, machinery plays an important part.

In cigars, however, while mechanical appliances have been generally introduced, hand work still figures importantly. The employment of machinery graduates from the fairly extensive use of it in making domestic and blended appliances at all in the clear Havana division.

In the manufacture of Seed and Havana cigars, and five-cent cigars of the better class, mechanical devices may be described as aiding the hand rather than superseding it, although there are machines which make a complete cigar.

From the commoner grades of nickel cigars down to the cheapest "little cigars" or short smokes machinery is more in evidence.

In the production of high-grade cigars there seems to be something in the touch of the human hand that mechanics have not been able to perfectly imitate; but at this time (1922) marked progress is being made in that direction.

In the cigarette division it is quite the contrary. There are machines that make cigarettes as perfectly in every way

as they can be made by hand; indeed, it is quite generally claimed in the industry that the machine does its work even better than the hand, more accurately and more uniformly.

MANUFACTURE OF CLEAR HAVANAS

As the original hand method forms the basis of all others, it will be described first.

Registering and Storing.—In every step of its process through the factory, once it arrives there in bales, the mer-



MAKING CIGARS BY HAND IN AN AMERICAN FACTORY.

chandise receives expert attention. In *tercios* (bales) it is first "laid-down" for inspection, tested as to quality and burn, and "registered" by the manager of the factory, who, having done this, puts on the counter-marks that are used in the factory to designate the grade and *tiempo* (time) that such tobacco may be found to be in at the time registered.

After the notations are put on the bales and the records taken, these bales are then stored by *vegas*, which in clear language means according to the plantation on which the tobacco was grown, in *tongas* or stacks. The manner in which the bales are piled is also done according to the



HAVANA TOBACCO—CAROTS OF TOBACCO, EXTRACTED FROM THE BALES, ARE BEING EXAMINED AND TESTED BY EXPERTS, IN A WAREHOUSE IN HAVANA, CUBA.

tiempo of the tobacco, since in certain condition, especially when new, they are piled sometimes high, sometimes low, on ends or on side, according to the quality and *calentura* of fermentation in which received. This process of keeping tobacco in condition is one of the most important factors in the manufacture of Havana cigars, for on it depends the proper curing necessary before the leaf is taken from the bale and put into work. In addition to the revision of registering of wrappers, countermarks are also put on these bales, designating the range of sizes for which they are best adapted, according to the brand in which they are to be used, as well as the "type" or the market or country for which they are best suited. Some high grade factories work tobacco from three to five crops, and as tobacco is bought for their express use from the districts most adapted to their brand, they can in this way "go" from one crop into another and maintain their individuality or quality, which is made possible by the manner of handling tobacco in the blending room.

Preparing the Filler—Filler tobacco, like wrapper, in the bale, arrives bound into manopos or carats, each of which contains four *gavillas* or hands. Each *gavilla*, when time has come to work up that particular lot, is shaken to loosen the leaves separating one from another. It is then "cased" or wet, and afterwards "shaken out." After this process the tobacco is spread out to air and several hours afterwards it is either piled in baskets or in vats to get it into condition to be "stripped." This preparation is made one day for the work of the day following. The stripping of the leaf is done by girls, who, after removing the stem, puts it on boards, in heaps from three to six inches high; it is then put on racks and dried, that is to say, put into proper condition for the last or final curing process, which consists in carefully packing the tobacco in barrels which are well ventilated, and put away in the filler loft where the tobacco is

kept from two weeks to a year, according to its grade and quality. The next process is that of blending, which is to mix the proper grades of tobaccos together for the purpose of making the "blend," or *liga* as it is called in Spanish, for the different sizes and grades which the factory is making. There is no stipulated number of these so-called blends, but there are on an average eight or ten standards, and sometimes the "specials" will run a great many more. After the tobacco is properly blended and inspected, it is put into large cases or departments and delivered to the galera or rolling room to be worked into cigars.

Preparing the Wrapper—As to wrappers there are sometimes quite a number of wrapper bales open at the same time, from which the tobacco is withdrawn in carats and used according to the requirements of the day. The process of casing and use of the wrapper is under the direct management of the foreman of the selecting department, whose business it is to keep up with the requirements of each size and the market for which the cigars are intended. He also inspects selections and withdraws the wrappers from the bales accordingly; he sees personally to the casing or wetting of the same. As soon as it is withdrawn from the bale, the wrapper is shaken up, the leaves being separated one from the other to insure to each the proper amount of moisture; they are then cased, and later spread out, the water being allowed to evaporate. In this shape the tobacco is let to stand from three to five hours after which it is divided into *tarea* (day's work) for the wrapper strippers and placed in small barrels or kegs, for delivery to the selecting department in time for work on the following day.

Assorting the Wrappers—After being stripped it is given over to the different selectors—first, second assistant and third—as may have been designated; from it they make the separations, or selections, for the sizes of cigars which may be making at that time. The selections are made as to size,

color, texture and quality, as well as differently for the different countries where the cigars are marketed and for the specialties the factory may be producing. There are probably from seventy-five to one hundred different selections to make, depending of course entirely upon the requirements of the factory concerned. After selections are made the wrappers are counted out in small pads of twenty-five and delivered to the cigarmakers, each of whom after receiving his wrappers gets the filler corresponding to the size of the cigar that he is making, and proceeds to the rolling.

Making the Cigars—The tools of the cigarmaker consist merely of a square piece of hardwood board, a knife and a pot of gum tragacanth. He sits at a table upon which rests the board, and at which there is also a guage on which the different lengths are indicated. Fastened to the front of each table is a sack or pocket of burlap into which the cuttings that accumulate on the table are brushed. The operator deftly cuts his wrapper from the leaf, fashions the filler into proper form and size in the palm of his hand (this is known as the "bunch") and rolls the tobacco into cigar form. In winding the wrapper around the "bunch" the operator begins at the "lighting end" of the cigar, called the "tuck," and finishes at the end that goes into the mouth, which is called the "head." A bit of gum tragacanth is used to fasten the leaf securely at the "head." The cigar is then held to the guage and is trimmed smoothly off to the proper length by a stroke of the knife at the "tuck." The cigars are taken up in bundles of fifty each.

Selecting and Packing—The cigars are revised during the day by the cigar foreman, who examines the shape, length, workmanship and conditions of the cigars rolled by each man. On the following morning a general revision is given the preceding day's work in the revision room. After the general revision the cigars are transferred to



16.-- GALERA
CIGAR MAKERS

CIGARMAKERS AT WORK. THIS IS THE SPANISH HAND METHOD, PREVALENT IN CUBA AND IN MANY AMERICAN SHOPS WHERE CLEAR HAVANA CIGARS ARE PRODUCED.

the packing department and arranged in *escaparates* (cabinets) of cedar, where they are kept from three days to a week before they are packed, in order that they may dry out. When proper condition has been attained they are assorted on large tables in the following manner: The *escogedor* (picker) starts his table in two grades, the *seco* (dry) and *manchado* (glossy); then these two grades, that is to say, *seco* and *manchado*, are subdivided into colors which are shaded from *maduro* to *claro*. Each is separated into from thirty-five to fifty piles of distinct shades of color. The Spanish packing is based upon from eighty to one hundred separate or subdivided colors. The *escogedor* also throws out the "seconds" and arranges the cigars to be packed in the style and quality desired.

The *escasador* (packer) then packs the cigars in boxes or bundles accordingly. After these cigars are packed they are put into a press and given the final pressure, and then banded.

Pay of Cigarmakers—When the cigarmaker ties up his bundle of fifty cigars, he attaches to it a slip of paper upon which is marked his number. This enables the manufacturer to keep an accurate account of the number of cigars made by each workman and also to place the responsibility for any defects in the workmanship. Cigarmakers are paid by the piece, the scale of wages being so much per thousand.

Pasting and Shipping—Before being shipped, the boxes are opened and the cigars are reinspected by the manufacturer, who affixes a permanent color mark on the package. The goods then go to the pasting department. The boxes, when they are received from the cigar box factory, usually bear the inside trimmings and label, the edging and the front mark. In the pasting room they are further adorned with the outside label and tag, and the

caution notice and internal revenue stamp are affixed. The goods are then ready for delivery.

MAKING SEED AND HAVANA CIGARS

In the production of Seed and Havana and nickel cigars, the manufacturer is not so dependent upon the skill of the workman. Of course, the extent to which the hand manipulation is employed differs widely in the various factories, but in none is the strictly Cuban method adhered to as in the clear Havana workshop.

The Seed and Havana and nickel business embraces two methods which are sometimes used in conjunction, one with the other. These are known as "team work" and "mold work." Again, some manufacturers of these classes of cigars employ suction tables for putting on the wrappers, while some do not, and some employ machines for making the bunches while others do not.

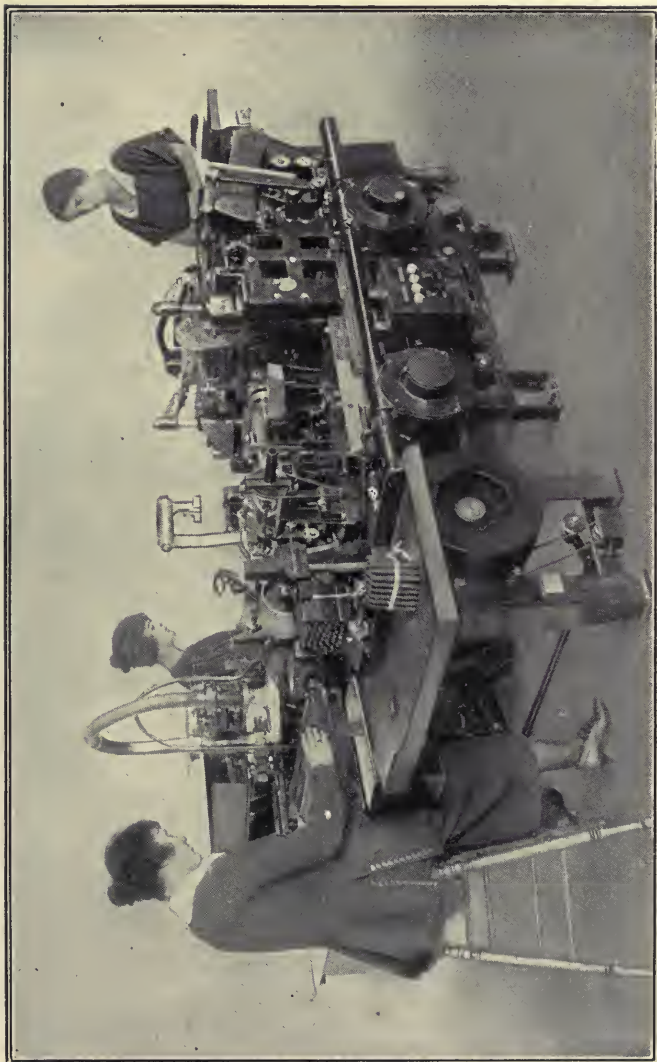
I will undertake first to describe the *modus operandi* in a strictly high-grade Seed and Havana factory.

Material used—There are several combinations of tobacco that are employed to a greater or lesser extent in making this kind of cigars; sometimes a Vuelta Abajo or Semi Vuelta filler, sometimes a Connecticut Broadleaf or Havana Seed binder, sometimes a fine Florida or Porto Rican Wrapper. But for the great bulk of Seed and Havanas the stock used is, for the filler, tobacco raised in the Remedios section of Cuba; for the binder, Wisconsin; for the wrapper, Sumatra, Java or Shade-grown. The tobacco is stripped, cased and prepared for the cigarmaker very much the same as in the Cuban handwork factories. In Cuban handwork, of course, the nature of the workmanship does not call for binders, and the tobacco is classified into wrappers and fillers only. In other methods a binder is required, and the binder stock is usually resweated after casing, the same as the filler.

Team Work Method—The cigarmakers are given their wrappers in pads sufficient to wrap fifty cigars each, and the binder and filler stock is portioned out accordingly. The workmen are usually grouped in teams of three, one bunchmaker and two wrapper rollers, it being calculated that two wrapper rollers are required to keep the bunchmaker busy. The wrapper rollers sit on either side of the man who shapes the bunches, and they work with knives and boards as in the Cuban factories heretofore described. The bunchmaker selects his binder leaf, and lays his sprigs of filler within it, after which he rolls the whole into cigar form, the binder forming a sort of rough wrapper around the filler. The roughly formed cigar is then taken over by the wrapper man, who cuts his wrapper and rolls it around the bunch in the same manner as that employed by the Cuban workmen.

The Use of Molds—Many Seed and Havana factories and practically all nickel factories use molds in connection with this operation. These molds are of wood and hold about twenty cigars each. Their place in the cigarmaking operation is between the making of the bunch and the putting on of the wrapper. The bunchmaker, instead of passing the bunches directly to the wrapper roller, places them in the matrices of the mold and fastens down the cover, and they are there left until they have shaped themselves perfectly to the form of the matrix. They are then taken in hand by the wrapper roller, who completes the operation.

Use of Suction Tables—Suction tables are used for putting on the wrappers in nearly all large factories making nickel cigars, and they are also used extensively in Seed and Havana factories. By the aid of the suction table the process of wrapping cigars is considerably expedited, and the manipulation of the machine can be learned in a short time as compared with the years of experience required for the proficient hand-operator. The suction table operator sits at the table and places the wrapper leaf upon a per-



THIS MACHINE MAKES 480 CIGARS PER HOUR.

forated plate. By pressing a lever with the foot a vacuum is created beneath the plate, which holds the leaf smoothly and snugly against the surface of the table. The perforated plate is exactly the shape and size which the leaf must be to go properly around the cigar, so that by the manipulation of a roller around the sharp projecting edge of the plate, the leaf of tobacco is quickly trimmed to the exact form desired. The bunch is then taken in hand by the operator, while the leaf is still held taut and smooth by the air suction from beneath, and he deftly encases it in the wrapper.

NICKEL CIGARS, STOGIES AND SHORT SMOKES

In addition to the contrivances already named, there are used in some nickel cigar factories machines which make the bunch itself, encasing it in the binder and delivering it ready for the molds. The operator simply feeds the tobacco leaves into the machine.

There is also in use in some factories an ingenious machine which removes the stem from the tobacco.

Stogies, cheroots and "little cigars" are made after the same fashion. In the case of stogies and cheroots both ends are left open, so that the hand operation of putting a "head" (closed point) on the article is obviated and they can be made more cheaply and quickly than regular cigars. Women are largely employed in suction table factories.

The straight-shaped all tobacco cigarette is made largely by machines, which cut the wrappers out of the leaf with a die, roll them around the fine cut filler and paste the edges together. Two girls usually operate this machine, one feeding in the filler and another feeding in the wrapper.

MAKING CIGARS BY MACHINERY

Notwithstanding the prevalence of the methods heretofore described, an increasing quantity of cigars are now being made entirely by machinery due to the perfecting of a

machine for that purpose. With a few mechanical movements this ingenious machine selects the filler for a cigar, lays it perfectly straight insuring perfect combustion, puts on the binder, neatly trims and turns the ends, and then completes the job by applying the wrapper in such a perfect manner that there is turned out a well finished beautifully shaped, complete cigar; and this entire operation is completed in the short space of seven seconds. Despite the fact that the machines had only been perfected for a little over three years, more than 600 of them were in use in 1922. The fresh work machines have a capacity of 480 cigars per hour, and the yearly output of a machine is estimated at a million cigars.

Four girls are required in the operating crew for a machine. One young lady lays the filler on a feed bill that carries the tobacco under a knife, where the filler is cut into the size required for the charge. From this first cutting operation the filler is next conveyed under the teeth of two corrugated cutters where the head and tuck ends are trimmed to the desired length of the cigar. After having been cut and trimmed the charge is next conveyed by a charge transfer to a rolling belt, where it is rolled within a binder leaf. This binder has been previously prepared by a second operator, known as the binder layer, whose duty it is to spread the binder leaf over a cutting die, from whence the binder is transferred by a suction arm to the rolling apron. Coming out of the rolling apron, the bunch (filler and binder rolled together) is next transferred to a crimping station, where the bunch is again trimmed to the desired length and the head of the cigar (the end you put in your mouth) is formed. From the crimper the bunch goes to the wrapping station, where the wrapper is applied.

No part of the cigar machine is more ingenious than the wrapping process. The wrapper leaf is spread on a

die, much the same as the binder leaf, and the wrapper is then carried over the wrapping station on a suction arm. The lower end of the wrapper is drawn from the suction arm by a tuck needle and caught between rollers rotating the bunch and the edge of the bunch itself. The pull of the rollers is sufficient to overcome the pressure on the suction arm, and the wrapper is thus drawn from the arm and rolled tightly around the bunch, completing the cigar.

After it has been fed into the machine from the various loading stations the tobacco is never touched by human hands until the finished cigar is delivered to the inspection board.

CHAPTER XXIV

MANUFACTURE OF CIGARETTES AND TOBACCOS

MACHINERY FIGURES LARGELY IN THESE BRANCHES— METHODS OF PREPARING THE TOBACCOS— THE IMPORTANCE OF BLENDING

The cigarettes of this country, both Turkish and Virginia, are mostly made by machinery. Machines to do this work have been perfected to such a marvelous degree that they produce the article in a more perfect form, more rapidly and at less expense, than the work can be done by hand. The hand-made industry in this line, therefore is reduced to small manufacturers, who cannot afford to lease or buy a machine; and to a comparatively small trade in odd sizes, and in small separate orders of goods marked with a private crest, monogram or name. Most factories making Turkish goods have a hand-work department to take care of special orders of this kind.

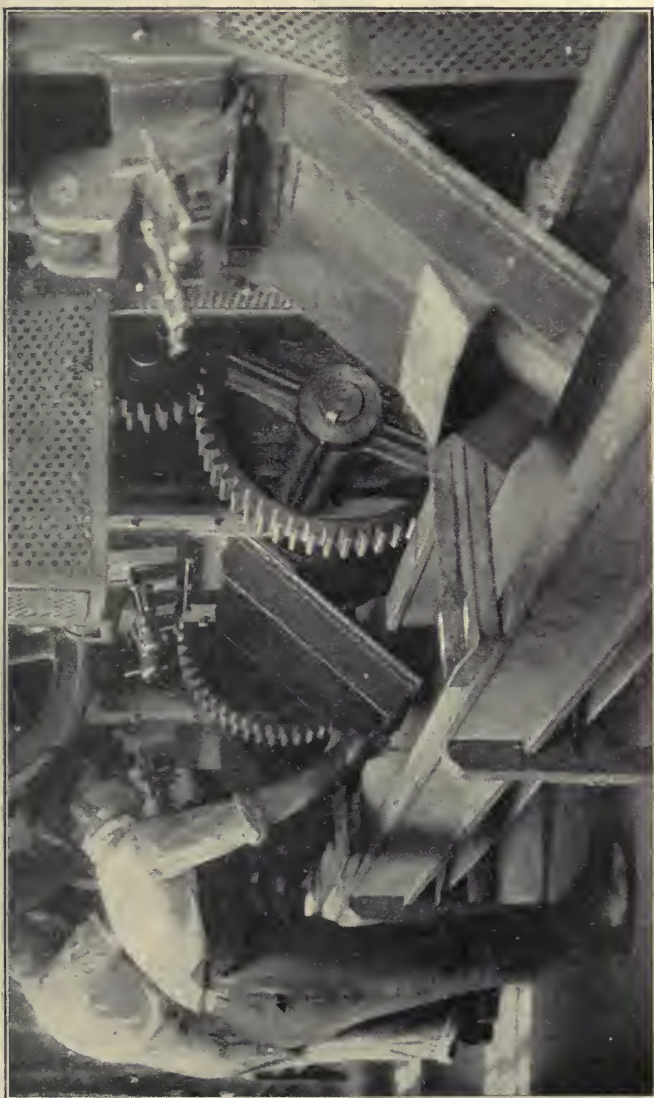
The methods of manufacture of Turkish and Virginia cigarettes are almost identical. The only notable difference is that in making the Turkish cigarettes generally no flavoring or dressing of any kind is applied to the tobacco, while in making the cheaper cigarettes of North Carolina and Virginia tobacco, the leaf is sometimes treated with a solution of glycerine or other sweetening solution, which serves to make the smoke smoother on the tongue, and to retain the moisture. Owing to the prevalence of false notions about so-called "doping" of cigarettes, it might be well for me to reiterate that, in the higher grades, there is absolutely no foreign substance of any kind applied to or contained in the tobacco; and that even in the cheaper grades, the

tobacco is treated with nothing except a sweetener, like glycerine which is absolutely harmless, and in many cases not treated at all. And as to the paper used for wrapping the tobacco, it contains no deleterious substance of any kind.

Because of its extraordinary increase in popularity with the present generation of tobacco devotees, the cigarette is entitled to a generous share of attention in this volume.

In undertaking to describe the processes through which the finished article is evolved, it is necessary to begin even before the raw material reaches the factory. The tobacco employed chiefly in domestic and blended cigarettes is the "bright" variety found in Virginia and North Carolina in the districts commonly called the "Old Belt" and "New Belt." How it is grown and harvested has been described in a preceding chapter.

The curing process begins when the farmer hangs the leaves in his tobacco barn. Great care is exercised in this first cure in the barn, in order that polesweat shall not set in and that the proper yellow color may be obtained without loss to those juices which are necessary to flavor and flexibility. By the "flue" method the barns are warmed with a system of warm air pipes. The yellowing process requires about two days and nights, during which the temperature is maintained at 90 to 100 degrees. Then comes the fixing of the color, which is done by raising the temperature 2 degrees an hour up to 130, leaving it there until the tobacco is cured, then raising it gradually to 170 or 180 degrees. Throughout this process the humidity and ventilation, as well as the temperature, have to be watched closely. After this first cure the farmer takes the tobacco from the laths on which it has been suspended and strips the leaves from their stalks. This can be done only under certain desirable weather conditions. The tobacco is now in what is known as "farmer's order." After being stripped, the leaves are sorted according to length, quality and color and are tied



THIS IS HOW CIGARETTE TOBACCO IS CUT INTO SHREDS.

into bundles, or "hands," which weigh about one-half pound each. These are placed in piles on a platform and are covered with oilcloth to prevent them from drying out.

The tobacco now goes to the auction warehouses that are established throughout the belts. Here the tobacco is placed in piles and the auctioneer, accompanied by buyers for the various brands of cigarettes, goes from pile to pile, selling each to the highest bidder.

After being sold, the leaf is conveyed in flat baskets, holding from 100 to 400 pounds each, to wagons and is taken to the "prizing" houses, or redrying plants, as the case may be. Prizing is pressing the tobacco into hogsheads, after which it is taken to the storage warehouses to be "aged." The redrying process consists also of reordering the tobacco and in the prizing house the farmer's order is succeeded by the purchaser's order. This is also called "reconditioning." The redrying is done by means of a huge machine having a number of heated chambers through which the tobacco passes on an endless belt. When the tobacco comes out of these chambers it is bone dry. It then passes through a cooling chamber and the operation is concluded by a stemming process. The packing in hogsheads is accomplished by a pressure of 1,000 pounds. In the hogsheads the ageing process is continued, the tobacco being in storage warehouses generally located where there is a climate similar to that under which the tobacco was grown. No artificial heat is employed. Here in the hogsheads it undergoes two sweats each year, one in the Spring and one in the Fall. Technically, the age of tobacco means the number of natural sweats through which it has gone. Always there are from three to five crops, from three to five years old, undergoing this ageing process. When the desired ageing has been accomplished the tobacco is removed from the hogsheads and reconditioned and the stem, or midrib, removed from the leaf. From twenty-five to thirty per cent. in weight of

the tobacco is lost through stemming. Next it is put through a cleansing process by which all traces of sand and grit are eliminated.

Then comes the very important process of blending. This is the operation that perhaps gives more individuality to each brand than any other stage of preparation. Different sections produce tobaccos of different character; furthermore the crop of one season differs from that of another season in the same locality. Each manufacturer blends his leaves in accordance with his own ideas and resources.

After the blending operation the tobacco is repacked in hogsheads and taken to the factory. Here it is again re-assorted and reconditioned, after which it is ready for what might be termed the manufacturing process.

If the cigarette is to be one of the Turkish blend kind, another blending is made at this stage. Also, if the cigarette is a pure Turkish cigarette, a factory blending is necessary. In my chapter dealing with the cultivation of Turkish leaf, I have shown how the various crops and strains of Turkish leaf are blended by the tobacco buyer and are packed and repacked in bales. In the factory the Turkish tobacco is taken out of the bales and placed on shelves in a sweat room. When the leaves become softened by the moisture, they are ready for the factory blending. Quantities of the leaves are taken from several bales, possibly fifteen or twenty, and the factory blender mixes them in precisely the right proportion, according to the formula of that particular factory and that particular brand. In the case of Turkish cigarettes these blenders are usually natives of the Orient, who have cultivated the art to a high degree of perfection. The pads of leaves from the various bales are taken to the "pickers'" tables where the tiny Oriental leaves are picked apart, that is, separated one from the other, and are carried by the moving table-tops and further on by a belt to a cylinder which is revolving and through which they are

blown in live steam upward into a hopper. Here the air-blast is released at the top, the leaves dropping through the bottom and lodging on trucks. That completes the blending processes, although the tobacco is left in these trucks for a period of time, in order that the fragrance of the different varieties may thoroughly intermingle.

While waiting in the trucks the moisture becomes evenly distributed and the leaves become sufficiently pliable for cutting or shredding.

We are now returning to cigarettes generally—domestic, “blended” and Turkish. Cutting is done by a great machine equipped with a knife which can be adjusted to cut the tobacco to any degree of fineness required. The blended tobacco is discharged upon a moving belt that carries it to a cylindrical drier heated to about 150 degrees. Emerging from the drier, it passes through the cooling cylinder after which it falls into portable boxes where it remains twenty-four hours or over.

After the tobacco is shredded, it goes to the cigarette-making machine proper, except in cases where a dressing is applied. In some kinds of cigarettes no dressing is used. In others a solution of pure glycerine or some such simple sweetener is sprayed on the tobacco for the double purpose of making the smoke smoother to the tongue and to enable the cigarette longer to retain its moisture and make it less susceptible to changes of climate and weather conditions.

Whether the cigarettes be of Turkish or domestic tobacco the machine process is the same. The cigarette machine is a marvel of cleanliness, accuracy, speed and mechanical ingenuity. It completely makes the cigarettes and prints the trademark at the rate of 400 cigarettes per minute, which amounts to 190,000 in a working day.

The shredded tobacco is fed into a large hopper at the top of the machine. It travels from the hopper into a slit between two drums, having thousands of small curved



CIGARETTE MAKING BY HAND; ONLY ABOUT 40 A MINUTE.

teeth, and is then picked up by a small-toothed cylinder and is drawn by a fan cylinder to a slowly traveling canvas belt, where it lies in a flat layer less than a half inch thick. From the belt it is thrown into a hopper and from there it is deposited on the cigarette paper which is being unwound like a ribbon from an inch-wide spool. Revolving dies print the name of the cigarette in exactly the right spot, while the paper is yet flat. If part of the design is to be bronzed, the bronze dust is flapped on the "sizing" by velvet daubers, and a revolving brush dusts off the superfluous powder.

The ribbon-like paper continues to travel on and under the metal hopper where the tobacco lodges upon it, as above described. The paper with the tobacco upon it encounters a thick canvas belt with which it is carried through a "tongue." This tongue is a sort of funnel through which the paper tape with the tobacco on it passes, the funnel gradually tapering so that at its extreme end the paper is rolled about the tobacco in the form of a cigarette. One edge of the paper, however, is left protruding and pure vegetable paste is spread upon it by a laterally revolving wheel. The edge of the paper is pressed down and pasted as the now perfectly formed but endless cigarette slips through the small end of the funnel. Next the long tobacco filled paper tube encounters the cutting attachment, a circular knife which turns at a speed of 4,000 revolutions a minute, and cuts the "cigarette rod," as it is called, into the desired cigarette length. The completed cigarettes are then automatically deposited on a stationary flat plate at the rate of 400 per minute. The machine is attended only by one girl and a mechanic, the latter looking after several machines.

The cigarettes are gathered and inspected and carried in trays to the packing department, if they are to be plain-

end cigarettes, and to the tipping room, if they are to be cork tipped.

The cork-tipping machine is operated by a girl. There are various makes, but that known as the suction machine has been longest in use. The cork is in strips and is fed from a reel. The machine wraps the strip around the end of the cigarette, cuts it and pastes it, and drops the cigarettes into hoppers ready for the packing room.

Oval cigarettes, which include nearly all of the pure Turkish variety and mostly all cork-tipped goods, are packed by hand. A good worker does this at the rate of 3,000 cigarettes per hour—300 boxes of ten each—the work being done by girls. Round cigarettes of the popular type, made in the large factories, are packed by machinery.

Cork comes largely from Northern Africa and Southern Europe. It is the bark of the cork of the tree. For cigarette purposes it comes to us from factories in Spain and Germany, in the form of sheets about the size of an ordinary hand blotter, but no thicker than tissue paper. In the cigarette factories the delicate sheets are backed with fine tissue paper, which is the same color as the cork. These cork sheets in turn are cut into strips, the width of a cigarette tip, after which they are ready for the tipping machine.

THE MANUFACTURE OF CHEWING AND SMOKING TOBACCO

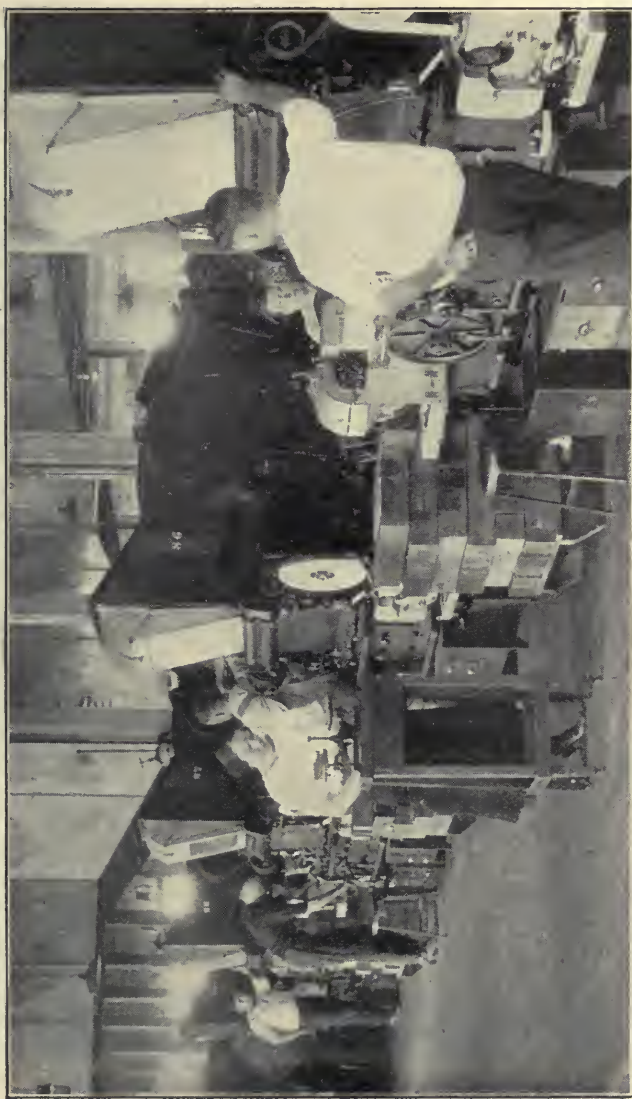
Plug and Twist—For plug and twist tobacco the Burley of Kentucky and Ohio and some grades of Virginia and Carolina are used for the fillers, while the wrappers are of Virginia, Carolina and White Burley. The tobacco comes to the manufacturer in casks which weigh from 700 to 1,000 pounds, the tobacco being packed in layers with only a little pressure. The manufacturing process begins with shaking out and casing the tobacco, after which it is sorted,

leaf by leaf, some leaves being suitable for one brand and some for another. After another casing, either by steam or water, the midribs are removed, and the tobacco is flavored by dipping the leaves into a receptacle containing the sauce used for flavoring. This liquid is always the result of experiments by the manufacturer, some using one formula and some another. Licorice paste, cane sugar, maple sugar, molasses, and rum are among the ingredients most commonly used. Next the tobacco is weighed, being divided by weight into quantities necessary to form a plug, and each of these quantities is put into a sort of mold which presses it into plug form. Thus far only the filler stock has been used. But after leaving the shapers, the plugs are given over to workmen who put on the outside leaf or wrapper. After passing an inspection the plugs are then put under hydraulic pressure, during which they undergo a fermentation. The plugs are then re-inspected, tagged and packed snugly into the strong wooden boxes in which they appear on the market.

Cut Plug—Cut plug tobaccos go through much the same process, except that they are run through a cutting machine and are packed in paper boxes or tins in quantities prescribed by the internal revenue regulations.

Fine Cut—Fine-cut chewing is made much after the fashion of smoking tobacco, except that it is treated with richer sauces.

Pipe Tobaccos—In selecting stock for pipe tobacco, other than the plug cut variety, the manufacturer selects tobaccos not so much for their absorbent qualities as in the case of chewing tobacco, but more for their natural flavor and burning qualities. The leaf used consists of the preferred strains of Virginia, North Carolina, South Carolina, Tennessee, Kentucky, Maryland, Eastern Ohio, some Turkish, Latakia, the Perique of Louisiana and occasionally a little Havana. The blend is made while the tobacco is in leaf



A BATTERY OF CIGARETTE MACHINES. WITH ONLY ONE OR TWO GIRLS IN ATTENDANCE SUCH A MACHINE MAKES THE COMPLETE CIGARETTE, INCLUDING THE PRINTING, AT THE RATE OF 400 PER MINUTE.

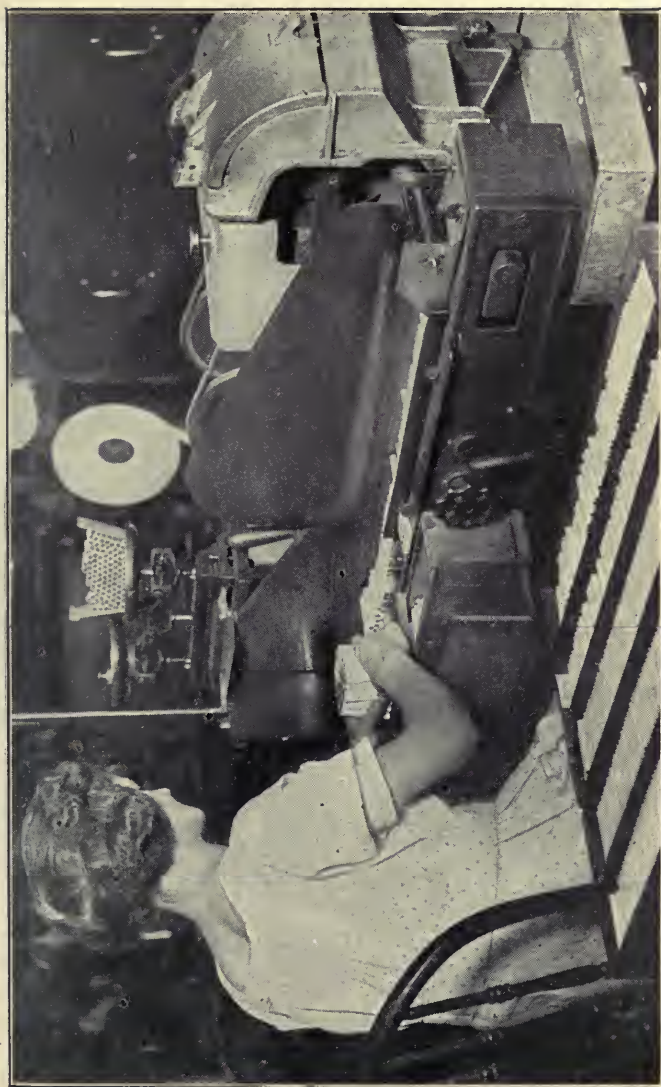
form, portions of the various kinds being assembled according to the formula followed by the manufacturer. The leaves are then flaked, granulated or shredded by machinery and the desired flavoring is applied. Some styles of packages, especially the cloth sack variety, are put up by machinery; others are packed by hand.

THE MANUFACTURE OF SNUFF

The actual process of snuff manufacture consists in fermentation or curing. This is but the natural process which all tobacco undergoes carried to greater length and directed by artificial means. The minutiae of the details through which the tobacco is carried in these processes are, of course, the secrets of the individual firms, and perhaps vary to some extent with the different houses, but in the essentials they are the same, and all revolve around the fermentation process.

Fermentation—The fermentation is for the purpose of expelling the acids, “bitters” and essential oils of tobacco; and recent experiments have demonstrated that it also expels a portion of the infinitesimal quantity of nicotine that is to be found in tobacco. It has been demonstrated by scientific analysis that snuff contains only but half as much nicotine as the tobacco from which it was made, and it may be stated broadly that whatever ingredient of tobacco is capable of being translated into gas is expelled by the fermentation process.

To turn the raw material into snuff requires from eight weeks to six months. The term “snuff” is not used in this connection as meaning the finished product; and as used by the manufacturers the term indicates tobacco that has gone through the processes that give it the “snuff” quality. Thus it may be “snuff” when still in the leaf form, and some tobacco is not actually “snuff” until a number of



CLOSE-UP OF A CIGARETTE MACHINE; THE CIGARETTES ARE DEPOSITED IN A TROUGH AND REMOVED IN TRAYS TO THE PACKING ROOM.

weeks after it has been grained. This depends upon the kind of product that is intended to be produced.

Another interesting fact in connection with the manufacture of snuff is that no tobacco under two years of age is used, and much of the raw material from which snuff is made may be as much as three years old before it is considered fit for being manufactured. While it is not necessary that the tobacco should be of the fancy grades, as the color and size of the leaves are immaterial, nevertheless it must have quality—that is, body and strength. The darker types of Virginia and Tennessee tobacco are principally used.

Speaking as regards the manner of manufacture, snuff is either wet or dry.

Making Dry Snuff—In manufacturing dry snuff the tobacco passes through the various fermentation processes until the snuff quality has been secured (when it is known as snuff, even though in the leaf form), and then it is passed through dryers until it is bone dry. The graining process comes next. The snuff is ground in a muller, which process is similar to the druggists' mortar-and-pestle operation, conducted on a large scale by machinery, rollers doing the same work as the pestle. The ground product is then sieved as carefully as wheat flour, and the seasoning process follows. The work of seasoning requires from sixty days to six months, the snuff in the meantime remaining packed tightly in bags or barrels. The remainder of the work of manufacture consists merely of the detail of packing in suitable packages.

Making Wet Snuff—In manufacturing wet snuff, the final fermentation process does not take place until after the tobacco has been ground, and even though reduced by the muller to fine particles, it is "ground tobacco" and becomes snuff only when the requisite fermentation has been gone through with.



MACHINES, ASSISTED BY GIRLS, PACK THE CIGARETTES IN BOXES OR "CUPS."

After the cure, the various flavoring ingredients are added. The one principally used is Attar of Roses.

Varieties—The different varieties of Scotch snuff are all dry. Strong or Plain Scotch is a dry unflavored product and very strong; Sweet Scotch is a dry sweet snuff, and Salt Scotch is merely dry snuff, salted. Hightoast is a heavy dry Scotch snuff, toasted much as bread is, and the toasting gives it its characteristic flavor. It is an old-fashioned snuff and is going out of vogue.

Maccaboy is a semi-wet snuff, highly flavored, and is going out of use. It is very old-fashioned.

Swedish snuff contains a large percentage of moisture; it is very coarse and highly flavored. It is so-called because it is largely used by the Swedes. In Sweden the per capita consumption of snuff is eight or ten times as great as in this country.

Rapee is a kind of snuff made in France, or made after the French formula.

CHAPTER XXV

MANUFACTURING CIGARETTE PAPER

THE PUREST AND CLEANEST PAPER MADE — HOW TASTELESSNESS AND PERFECT COMBUSTION ARE ATTAINED

Cigarette paper is manufactured by the same general process as other papers, with variations necessary to achieve purity, fineness, tastelessness and combustibility. It is with these peculiar characteristics that this chapter has to do, and through the courtesy of the editor of *Paper* I am able to present them herewith:

The cigarette paper industry dates back to about the middle of the last century. To the writer's knowledge the first cigarette paper to be manufactured was made by the old established Mauduit mill situated in Quimperlé, France. Today this paper is being manufactured largely in France, Austria, Italy and Spain, and to some extent in Germany, England and this country. Cigarette paper certainly deserves a rank among the highest grades of fine tissues, and no paper presents more difficulties of manufacture. Needless to say the methods of manufacture, which have undergone but few changes since the paper was first made, are kept secret by mills engaged in its fabrication. What is known, however, is that more than ordinary care in the operation is necessary, and the mill engaged in the manufacture of cigarette paper is forced to sacrifice quantity production for quality.

VARIETIES OF CIGARETTE PAPER

Most of us are familiar only with the plain white ciga-

rette paper or rice paper as it is sometimes called by the smoker. There is, however, a great quantity of other than white cigarette paper manufactured. These are what are generally known as Spanish types, for the reason that they are consumed mostly in Spain, Cuba, and the South American countries. There are at least twenty grades included among the Spanish types. They are usually colored with various shades of brown, sometimes to imitate the appearance of a cigar wrapper, and often sweetened to suit the smoker's taste. These types go under various names, such as Pectoral, Pectoral jaspeé, Choritto, Canarios, etc.

Every country seems to have its own idea as to what constitute the correct weights for cigarette papers. American manufacturers of cigarettes use paper varying in weight from 17 to 25 gr. per square meter. Spanish types vary from 25 to 36 grams. Russian type cigarettes require a 15 gram paper, while the Turks use a paper weighing as high as 40 grams for the square meter. The finest French cigarette paper used for booklets the world over weighs but 10 grams to the square meter and is as beautiful a tissue as one would care to see. (In converting from French to American standards a 10 gram paper corresponds approximately to what we call a four pound paper.)

PROPERTIES OF A GOOD PAPER

Let us now examine some of the characteristics found in a good quality of cigarette paper. We will confine ourselves to papers used in this country only.

Rags—The principal materials used are linen rags, hemp and flax. These are used together in various proportions according to the quality of paper desired. Cotton rags and sulphite are also used, but in very small quantities only. Probably the fibre best answering the requirements of cigarette paper is ramie. This is not in general use, however, owing to its excessive cost.

Appearance.—Cigarette paper should absolutely be pure white in color. This requires painstaking manufacture, as certain linen stocks bleach out only with great difficulty. The paper must be opaque, so that the tobacco will not show through. Absolute freedom from pin holes is also essential for the sake of appearance and to facilitate even burning.

Combustibility.—The degree of combustibility imparted to a paper demands upon the requirements of the cigarette manufacturer. The majority require a combustible paper which will cause the cigarette to be consumed even if left standing. Others require that the cigarette shall consume itself slowly. To produce a completely combustible paper several methods can be employed. Experience shows that the more porous a paper is the better the cigarette burns. The composition of the paper from the point of view of pulp and weight does not seem to exercise a great influence upon the combustibility, which depends above all upon the porosity. But at the same time one must produce a paper having a good appearance; the cigarette manufacturer objects to a porous paper.

INCREASING THE COMBUSTIBILITY

The property of combustion can be augmented by increasing the ash content through the addition of mineral products. On examining this case we see that it is still the porosity which plays the important role, for the fibres seem to suffer a perforation by the addition of the mineral substances. However, these fine pores are covered by the charge which gives the paper a good aspect.

Among the mineral substances used for this purpose are calcium carbonate, magnesium carbonate and *craie de Medon*, a mixture of these two chalks.

If one insists, however, that the paper is combustible, without giving too much ash and that mineral substances

should not be used, this can be accomplished by submitting the paper to a nitrating process. Many people object to a paper so treated due to the fact that the cigarette on being consumed produces a crackling spitfire effect which they consider objectionable.

From a hygienic point of view one ought to use by preference these papers, which with weight being equal, have the largest ash content, because with surface equal, the latter encloses the least quantity of organic fibres and consequently the least products of volatile combustion.

As was previously stated some manufacturers object to a paper rendered combustible by nitration. A simple test for the manufacturer is as follows: Ignite a sample of the paper in question in the centre by means of a cigarette. Remark how the paper is consumed. A nitrated paper will burn rapidly in a circular form just to the very edge of the sample. A paper which is not nitrated will not burn in a regular manner and will become extinguished before the edge of the sheet is reached.

It may be of interest to know that cigarette paper is sold in two forms: (1) In bobbines (rolls having a width of about 30 millimeters and a length of 3,120 meters); one of these rolls being sufficient to produce about 40,000 cigarettes; (2) the paper is also sold flat in reams when it is to be used in making up booklets for those who desire to "roll their own."

CHAPTER XXVI

THE MANUFACTURE OF BRIAR PIPES

WHERE THE BRIAR COMES FROM—WHAT AMBER IS— FACTS ABOUT MEERSCHAUM

The wood from which briar pipes are made is the root of the White Heather, known to the botanist as *Erica Arborea*, a plant, or shrub, that is found in the south of France, on the slopes of the Italian Alps and on the island of Corsica. After being cleaned of earth the briar roots are sawed into rough blocks of various sizes, packed in jute sacks, and are ready for the pipe manufacturer to begin his work. Many attempts have been made to find a plant in this country that would do as a substitute for the imported briar, but without success.

There are, of course, many grades of briar (or *bruyere*) and it is the relative scarcity of the most preferred quality that accounts largely for the widely varying prices of briar pipes.

The first step in the manufacture of a pipe from the briar root is to remove from the blocks all moisture. To this end they are allowed to remain in the drying room of the factory three to four months without being subjected to any artificial heat, after which they are placed in special dryers, remaining there about four weeks; and when dry as a bone they are ready for the workmen.

Skilled selectors sort and grade the different blocks according to size.

The blocks are "trimmed to size" by men operating circular saw machines; i. e., all blocks intended for the same size pipe are cut to the same length and thickness, operators trimming off the sides and ends.

The next machine hollows out the cavity intended for tobacco and shapes the upper part of the bowl.

The frazing machine forms the stem of the pipe and cuts away the wood from the lower part of the bowl. The pipe, while in this machine, which is merely a modification of the turning lathe, receives the shape it is destined to have through the use of a steel "model."

The "upright borer" finds the centre of the "shank," or stem, drilling a hole about an inch deep.

The ferruling department determines the size of the shank, what kind of mouthpiece, etc., the pipe shall have and puts through the air hole to the tobacco chamber.

In the sandpapering department the pipe is sandpapered four times—twice with different grades of coarse sandpaper and twice with fine. The sandpapering is accomplished by holding the pipe against a rapidly revolving wooden wheel covered with sandpaper. These wheels are shaped at their edges to fit the various angles and curves of the pipe, and some of them are small enough to fit the inside of the bowl, which receives exactly the same treatment as the outside.

The pipes are put into a wire basket with coarse meshes, which is dipped several times into a vat of stain of the color desired, and then undergoes the various "buffings" that are necessary to set the stain and bring out the grain of the wood, and which constitute the first of the polishing operations. There are four buffings—a tripoli buff, a sheepskin buff, a muslin buff and a cotton-flannel buff. A buff consists of a wheel made of about eighteen layers of cloth, or leather, made to revolve at a very rapid rate around its axle. The rapidity of the revolution causes the cloth wheel to stand out rigidly, and the pipe to be polished is held against the perimeter of the wheel. The tripoli buff takes off the sediment left by the stain, and a sheepskin buff burns the coloring into the wood. The muslin buff gives a



BRIAR IN THE ROUGH; THIS VIEW TAKEN IN CORSICA.

delicate finish and brings out the grain, and the cotton flannel buff gives the pipe its final polish after the bit and mountings have been put on and just before the pipe is ready for packing.

After the pipe bowls are polished they go to the mounting department, where they are bored to fit the mouthpiece. Then the ferrule and bit are joined to the bowl, making the pipe ready for stamping. This is done on a stamping machine by means of steel dies and golf leaf, after which the pipes receive a final polish and are ready for packing and shipping.

SHELL BRIARS AND OTHERS

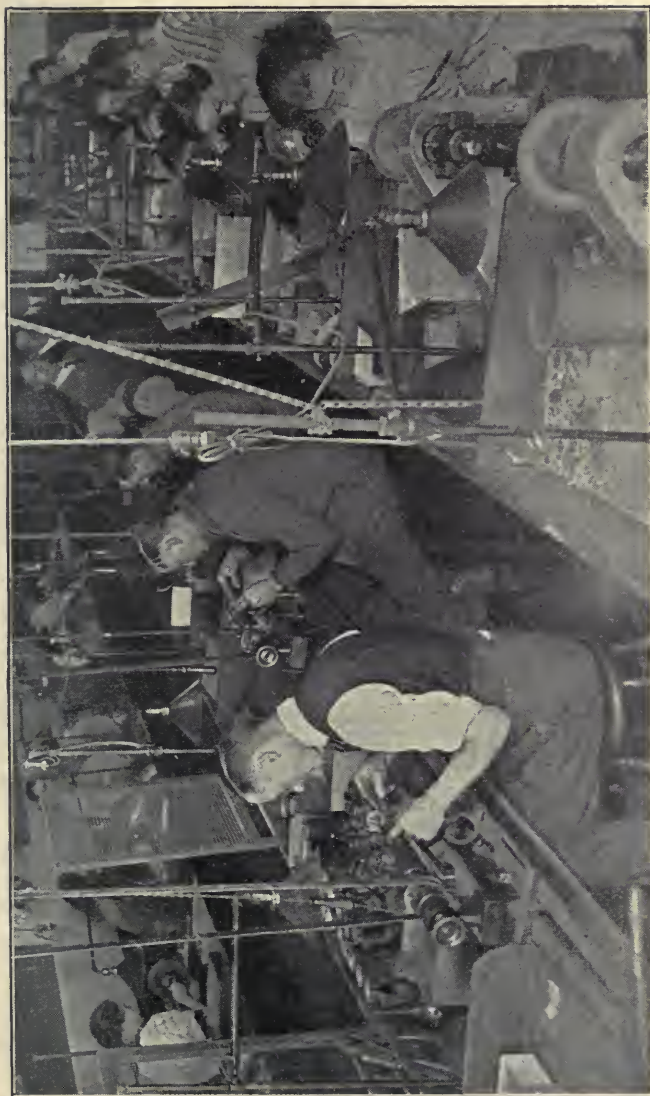
Shell briars, sometimes called relief briars, are those the bowls of which have irregular corrugations on their outer surfaces, like a walnut shell. This effect is obtained by a sandblasting process which grinds out the soft veins of the wood, throwing the harder veins in relief.

Naturals are pipes that have been highly buffed, and sometimes lightly oiled, but which are not stained or varnished.

Old Bruyere and other names, adopted individually by various manufacturers, are given to the high-grade, dark-colored briars that are neither varnished or stained but are either boiled in oil or repeatedly oiled and dried. By these processes the "new" taste is largely eliminated.

PIPE BITS

The most popular materials for bits are hard rubber (vulcanite) and amber or substitutes for amber, such as bakelite and celluloid compositions. Other materials are used, but by far the largest number of pipes have bits of vulcanite and bakelite. The rubber mouthpieces are purchased by the pipe manufacturers from the rubber manufacturers. The pipe manufacturers make their own amber mouthpieces, however. The celluloid, amberoid, bakelite



Courtesy A. Frankau & Co.
INTERIOR VIEW OF A MODERN BRIAR PIPE FACTORY IN FULL OPERATION.

and other bits are also purchased by the pipe manufacturers.

Amber—Fossilized resin, found in beds of bituminous wood principally along the Baltic coast and near the sea coast of Prussia, where they have regular mines for working it. Under a stratum of sand and clay about twenty feet long there is a stratum of bituminous wood, which is impregnated with amber deposits. It is pretty well established that amber is a petrification of the resinous juices or gums of trees.

Amber is imported from Prussia in cakes, or plates, from seven-eighths of an inch to one and five-eighths inches thick and about eight by four inches in size. These cakes are a manufactured product, however, amber being originally mined in small odd-shaped chunks. Many years ago the practice was to carve the bit from the original piece of amber, but this was a very costly proceeding, as much of the amber was lost in the cutting; so it is now, through a process that is the secret of the Prussian Government, which has a monopoly of the amber business, made into the cakes above described and each cake bears the imprint of the Government factory. The cakes are cut by a bandsaw into sizes suitable for the object intended to be made; the pieces are sand-papered to take out the teeth-marks of the saw, and after having been filed and cut into the shape desired, are provided with an air hole by means of a drill, after which they undergo various polishes with pumice, tripoli, etc.

If ignited amber will burn with a pale, yellow flame, producing a good deal of black smoke and leaving a shining black carbonaceous residue. It requires an expert eye and a trained familiarity with amber to distinguish positively between it and some of the imitations which are used in the pipe trade. Amber develops electrical phenomena by friction, and this has some times been used as a test, but it is a fact that celluloid and amberoid compositions, in some qualities, can also be made to develop this phenomena; so that



Courtesy A. Frankau & Co.

TURNING THE BOWL.

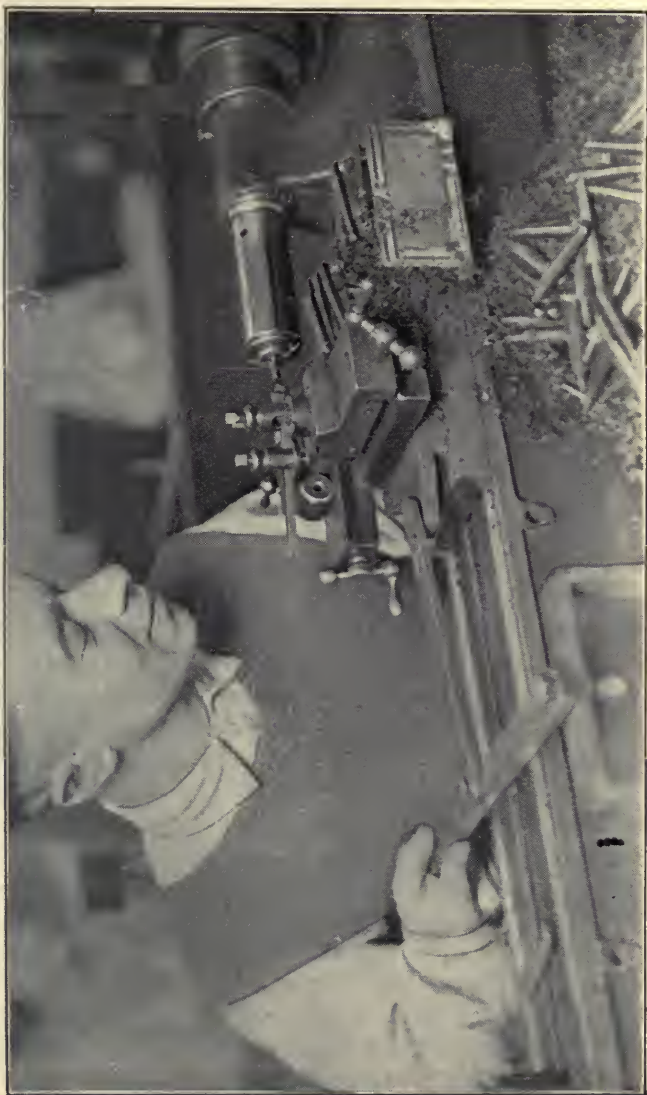
while in amber the electrical effect is more pronounced than in the others, the friction test is not conclusive. There are two qualities of amber, the transparent and the opaque, or clouded. The latter is much tougher and therefore more serviceable.

Vulcanite—Manufactured sap of the india rubber tree. The best grade of stems are cut from solid blocks, are hand-made, a good deal like amber stems; are tasteless and tough. The cheaper rubber stems are molded like the celluloid.

Bakelite—A comparatively recent scientific discovery, a composition. Will not burn, and is tasteless; looks like amber, costs about half the price of amber, and does not easily crack or break, but has a tendency to turn dark with use and exposure to strong daylight or sun. Is not made in all shapes, only a few standard sizes and shapes.

MAKING MEERSCHAUM PIPES

Meerschaum is known chemically as hydrous silicate of magnesia. The name is derived from the German word meaning sea-foam, and the substance was so named because in olden times it was believed to be petrified sea-foam. The best quality of meerschaum is found most abundantly in Asia Minor and in lesser quantities in Greece, Spain, Morocco and Moravia. It has also been found in South Carolina, Arizona and a few other States in this country, but not generally in marketable quality or quantity. The meerschaum from which pipes are made comes exclusively from Asia Minor. Abundant mines of it are on the Eskishehr Plains, about two hundred miles from Constantinople. The substance taken out of the mines by the surrounding inhabitants is carried in the rough to Eskishehr. It is soft when first mined, but on being exposed to the air becomes hard. After being thoroughly dried and hardened, the lumps of meerschaum are scraped and cleaned and afterwards waxed and polished. They are then assorted into four sizes, eight grades to a size, and



Courtesy A. Franke & Co.

TURNING THE TENONS OF VULCANITE BITS.

shipped to the pipe manufacturing centers. The polishing that the blocks receive at the mines is for the purpose of determining the quality. The best quality is very porous and contains no sand.

The manufacture of meerschaums varies from that of briars in that the machine plays a very insignificant part, all work being done by hand. The block of meerschaum is first put into water and allowed to remain there from ten to twenty minutes. It is then cut by a skilful workman with a sharp knife into a rough outline of a pipe, and goes to another, who deftly trims it more nearly into pipe shape. It then goes to a workman operating a foot-lathe, who gives the bowl its shape, and other deft fingered operatives cut away the rough edges and shave off all the roughness and inequalities that may have been left. The tobacco hole is then hollowed out by a man in charge of a machine and the air hole is drilled by another. The pipe then remains for twelve hours in the drying room where all the moisture is taken out of it. The screw is then fitted to the stem and the bit put in place. The stem is then filed to the size of the amber bit, and the "schachtel" process follows. This means that the pipe is sand-papered with sharkskin and a small bit of fine bullrush, which is known as a "schachtel-balm." The pipes are then boiled in white beeswax from three to five minutes, after which they receive their final polishing with cotton flannel and specially prepared polishing material.

Meerschaum is an excellent material for artistic carving, and some carved tobacco pipes are gems of art. Owing to the fact that the original workman of this type, who came from European countries (Germany principally), were disinclined to teach their trade to apprentices, very little of this class of work is done in this country. A great many so-called meerschaums sold in this country are made from artificial meerschaum, a material composed of the chips of dust meerschaum bonded with some solution and molded into blocks.

CHAPTER XXVII

THE CALABASH, CORNCOB AND CLAY

THE PIPE BOWL THAT IS MADE BY NATURE—GOURDS
FROM SOUTH AFRICA—COBS AND CLAYS
ARE THE CHEAPEST

Calabash pipes made from imported South African gourds were in fashion in England for a number of years before coming into vogue in America. These pipes are formed from the crooked necks of a large gourd (*Lagenaria vulgaris*) belonging to the well-known group of plants which includes the cucumber, the melons, and the squashes. Pipes made from the imported gourds are expensive, American dealers usually charging six dollars and even twelve dollars apiece for them. They are the lightest pipes made for their size, are graceful in shape, color like meerschaums, and are delightful smokers.

Unlike the pipes which are turned out by machinery, no two of these calabash pipes are alike. In this lies much of their charm. In this, likewise, lies their cost, for, unlike the great mass of pipes turned out by machinery, the crook of the calabash varies so that each mouthpiece must be made to fit it and each lining of meerschaum or plaster of Paris must be specially adapted. In our land of labor-saving machinery and expensive hand labor this is what makes the pipes costly.

ARTIFICIAL SHAPING OF THE GOURDS

It was discovered that with a little care and patience it was possible to cause these gourd necks to grow into any desired shape. To do this, it is necessary to provide half-

inch boards 6 by 8 inches in size, riddled with quarter-inch holes as close together as they can be bored. Each board has its accompaniment of 5 or 6 pegs, which should be about 3 inches long, whittled to fit the holes, and padded with cloth so that they will not scratch the tender gourd. One of these boards is required for each pipe until its neck is set at the right curve; then it can be removed and used for another. The young gourd when still quite young and before its delicate neck has hardened is laid on the board and gently bent in the desired direction and pegged in place. By the following day the tension will be relaxed and the fruit can be still further forced into shape. Three or four resettings of the pegs are usually enough to carry the gourd to the point where the neck is fixed in form.

Pipes formed in this manner become invested with still greater individuality. Unlimited opportunity is afforded for the exercise of ingenuity in the making of new forms and individual tastes regarding the shape of a pipe can be fully gratified. By this method gourds were formed with a double curve in the neck, making unnecessary a curved mouthpiece. If the vines run over the ground, the boards used serve the additional purpose of keeping the gourds off the soil.

METHODS OF MAKING THE PIPES

To make a pipe the neck end of the gourd should be cut off and all pith carefully removed from the inside. The thin outside cuticle should be scraped off with a sharp knife before it dries; at least it comes off easier then and if left on will form food for molds. Whiting or pumice may be used for polishing the hard surface, if not smooth enough after thoroughly scraping. Sandpaper will scratch it and should not be used.

The drying of the gourds seems a simple thing, but it is in reality so difficult that it should be specially explained. After the pipe gourds are harvested, the necks, particularly



Courtesy A. Frankau & Co.

SPINNING THE SILVER FERRULE.

if not properly cleaned and scraped, are in great danger from molds. If stored in a warm, close room for only a few days the cuticle will be covered with unsightly spots, which ruin the hard layer beneath by discoloring it. The necks, after being cleaned and scraped, will cure best if hung up in a cool, dry room where plenty of air is circulating and where they will not freeze. If a place where the sun can strike them can be found, so much the better.

The making of the pipe should be postponed until the gourds have become well seasoned. The necessary accessories are a rubber mouthpiece, a bowl, and some thin cork strips, the cost of which should not exceed fifty cents. In addition to these a few cents' worth of plaster of Paris will be needed. Cut off smoothly the tip of the small end and bore through it with a knife blade into the narrow cavity of the neck. Into this screw firmly a crooked rubber mouthpiece with its ivory-threaded nipple. If there is difficulty in getting the hard ivory to cut its own thread, even after soaking the tip of the gourd neck in hot water, a number 16-18 or 18-18 machinist's die, according to the thread of the nipple, should be used to cut the thread. The large trumpetlike end of the gourd neck is next cut with a fine saw at the proper angle and low enough so that a regular cheap meerschaum bowl will fit into it, having its rim flush with the outside of the gourd. A few teaspoonfuls of plaster of Paris mixed with water to form a stiff paste is spread as a thick layer for half an inch inside the rim of the gourd neck. The meerschaum bowl is first greased and then forced into place against the fresh plaster and left just long enough to allow the plaster to set slightly, not over three minutes at most; otherwise it will stick fast.

The setting for the bowl is now made, but not perfected until a strip of thin cork, such as many cigarettes are tipped with, has been glued smoothly over the surface of the plaster. Before doing this a little of the plaster of Paris should

be scraped out to allow for the thickness of cork. If too much is removed and the bowl is loose the difficulty can be corrected by cutting down the edge of the gourd. This can best be done with a flat file or by holding the end of the gourd against the side of a grindstone: When properly done the meerscham bowl fits snugly, but is easily removed by a twist of the fingers when the pipe is to be cleaned.

This is the completed pipe, and with all the necessary things at hand it can be made in half an hour.

Many smokers prefer a push stem and the calabash lends itself readily to this style of pipe. Recourse must again be had to the tobacconist for the mouthpiece, and this time instead of the bone nipple a ferrule of suitable size must be secured. The operation is exactly the same as for the fitting of the screw stem up to the time that the hole is made in the small end with a pocket knife. For a push stem this should be continued until the hole is slightly larger than the stem to be used. If the ferrule is of the proper size it is then only necessary to force it into place over the end of the gourd and the pipe is complete.

When a push stem is used the bowl can be made entirely of plaster of Paris and the cost of the pipe still further reduced. A thin piece of cardboard with a central perforation is fitted into the gourd just below the point where the bottom of the bowl is to come. A thin mixture of plaster of Paris is then poured into the gourd to form a layer about a quarter of an inch thick on the pasteboard disk. Any smooth cylindrical object, such as a homeopathic vial with a diameter suitable for the inside of a bowl, is well greased and placed upright in the end of the gourd to form a core. The space around the core is then filled with plaster of Paris, and as soon as it has begun to set the core is removed. A small perforation in the bottom of the bowl about the size of a large knitting needle is made as soon

as the plaster of Paris has completely set and the pipe is complete.

This style of bowl is permissible in a push-stem pipe, since the pipe can be readily cleaned from the stem end, thus obviating the necessity of a removable bowl.

A well-made calabash pipe will appeal to the discriminating pipe smoker as possessing the much valued characteristics of the long German pipe in a much more convenient form. The bowl occupies but a small part of the hollow neck and the remainder of the space forms a receptacle below the bowl that answers the same purpose as the lower bowl of the German pipe in keeping juices from entering the stem and allowing the smoke to cool.

HOW CORNCOB PIPES ARE MADE

Ninety-seven per cent of the cob pipes manufactured in the United States are made in the little town of Washington, on the bank of the Missouri, about fifty miles from the city of St. Louis. Who made the first cob pipes is a matter of learned dispute in the town of Washington, the honor being claimed by many. It is said that Daniel Boone, the hunter and pioneer, always smoked a "Missouri meerschauum." It is also contended that cob pipes were first used by the Indians, and as both corn and tobacco are original products of America, and were cultivated by the Indians, it is very probable that the statement is correct.

The cob pipe industry has been of great value to the Missouri bottom farmer. The soil and climate seem to be most favorable for producing the kind of corn suitable for pipes—i. e., an ear with a large cob. This fact, combined with selection and other special treatment, has produced a species of corn, the cob of which is abnormally large both in length and diameter.

The value of this product may be realized when it is known that the farmer receives about as much for the cobs

as he does for the corn. One acre of ground there will produce about 4,000 good cobs, which are worth on an average about \$2.80 per thousand.

After shelling, the cobs are sorted, and only the largest are taken to market. The factories keep on hand about 6,000,000 cobs each. On an average each cob will produce one and one-half pipes. The 27,000,000 pipes made in Missouri require 18,000,000 cobs, which, at \$2.80 per thousand, makes a sum of \$50,400 that the Missouri farmers receive each year for their cobs, which were formerly a waste product.

Chutes lead from the storehouse to the factory, into which the cobs are shoveled and discarded into the saw room, where they are caught in a box. The boxes of cobs are carried to an automatic sawing machine and are cut into proper lengths for pipes. The sawing machine discharges the cobs onto a conveyor, which takes them to another conveyor, where they are sorted into three grades and taken to the boring machine, which cuts the hole for the tobacco.

All of the pipes are hand turned. It would seem that automatic machines should be used for this purpose, but the fact that no two cobs are of the same size and the fact that one factory makes seventy-five different designs of pipes, renders machine turning impracticable.

After turning, the pipes are put into a rumbler, which is a large revolving cylinder of wood, riddled with holes about one-half inch in diameter. This treatment removes any loose fibre which may adhere to the cob, after which they are charged into the filling machine. This is also a wooden cylinder and has a capacity of forty gross of pipes at one charge. In this machine the pipes are revolved in a thin solution of plaster of paris, from thirty to forty minutes, and all pores and crevices are compactly filled with the plaster.

After two days in the drying room the pipes go to the

first sandpapering and varnishing machine, which first sandpapers and then gives them a coat of varnish, at the rate of 112 pipes per minute. They are then dried for two days and are fed to the slickening machine. In this machine the spindles reverse so that each pipe is sandpapered both with and against the grain.

The pipes which now have a smooth hard surface are fed between two rapidly revolving discs covered with sandpaper, by which the ends are smoothed. They are then fed into the tubes of the stem hole boring machine which bores these holes at the rate of seventy-five per minute.

The pipe now goes to the labeling machine, which automatically labels fifty pipes per minute.

After passing through a varnishing machine which is operated by boys and varnishes 45,000 pipes per day, the pipes are dried and packed in cases for shipment.

The stems are made from Arkansas cane and from Weisacatl wood, which is imported from Germany. The making of the stems is very fast work and is done by boys. The pipes and stems are packed in separate cases and go to the storeroom to await shipment.

HOW CLAY PIPES ARE MADE

The clay is first ground and mixed in a mill resembling an enormous coffee grinder, after which it is dried, or tempered, as the technical expression has it, until it is of the proper consistency for the molder's hands. The skilled workman takes the soft, pliable material, which has been rolled by an assistant into the shape of a piece of macaroni with a lump at the end, the macaroni-like portion being the stem and the lump the bowl. With almost incredible swiftness and accuracy, he runs a long steel needle through the whole length of the stem to make the draft, and then lays the clay into a steel mold, which splits open the middle like a clam shell. This mold is put into a press, and one

turn of the wrist squeezes it tightly together. Another movement brings down the lever, which punches out the bowl, and the pipe is ready for the finisher, who scrapes off all rough edges and irregularities. The pipes are then laid on trays and allowed to dry. They are next put into a kiln and baked twenty-four hours, at the end of which time they are taken out and cooled, and the operation is complete.

CHAPTER XXVIII

MANUFACTURE OF CIGAR BOXES

“SPANISH CEDAR,” THE WOOD THAT HAS AN AFFINITY FOR TOBACCO—QUANTITIES AND KINDS OF WOOD

It is a peculiar fact that Cuba, which furnishes what is generally accepted as the best cigar tobacco, contributes also the most favored wood for making cigar boxes. It is a belief of long standing in the cigar trade that this wood, known as “Spanish cedar,” has a marked affinity for Havana tobacco, and that even the best cigars are improved in flavor by the qualities which they absorb from the wood of the Cuban cedar box.

CIGAR BOX LUMBER

Years ago nothing but Cuban cedar was used in the manufacture of boxes for Havana cigars; but as the forests near the waterways were gradually thinned by the woodman's axe and the cedar became more difficult to procure and to transport to shipping points, box manufacturers were compelled to seek elsewhere for a part of their supplies.

It was found that in some sections of Mexico a species of cedar was obtainable which is almost, if not quite, as well adapted to cigar box purposes as the Cuban wood, so that today the better grades of cigar box lumber come from Manzanilla, Cuba, and from the neighborhood of Vera Cruz, Mexico. Naturally, the better grades of this lumber are selected for the higher-priced boxes, while the poorer grades go into boxes for the cheaper goods. There are also made large quantities of boxes from domestic white wood, the

boxes from this lumber being used for the extremely cheap grades of cigars.

HOW THE BOXES ARE MADE

The box-making business has been reduced almost entirely to a mechanical operation, the material being planed, cut, sawed and nailed by machinery. The box manufacturer usually trims the box in part—that is, he puts on the inside trimmings and the edging, in which shape the box goes to the cigar factory. The cheapest box made costs the cigar manufacturer at the rate of about ten cents each, and the price ranges from that up to about eighteen cents. Fully trimmed, however, with the outside label, tag, etc., which is affixed by the cigar manufacturer, the cost of a good-grade box approximates about twenty cents. The various sizes of cigar boxes are designated as tenths, twentieths, fortieths and eightieths. These terms are derived from the fractional division of 1,000—i. e., a fortieth packing is a box containing, or intended to contain, twenty-five cigars, or the fortieth part of a thousand cigars.

Boite Nature, which is the French for natural box, is the term used for boxes of good Spanish cedar, extra heavy stock and carefully finished, but without varnish or lithographic decorations.

No man knows exactly how many cigar boxes are annually made in the United States, or how many feet of lumber go into them, according to *Barrel and Box*. The Government has published figures covering about one-half of the United States, and the figures are pretty accurate for that area. A good deal of difficulty is experienced in reducing statistics to board feet in order to obtain a common basis of measurement, because many cigar box makers buy veneer of different thicknesses; some buy lumber and some purchase logs. Making due allowance for unavoidable errors in reducing the mass of statistics to board feet, the follow-

ing table shows the Government's figures as far as they have been published:

Kind	Ft. Board Meas. Per Year.
Spanish Cedar	20,290,358
Yellow Poplar	4,610,250
Basswood	3,703,500
Tupelo	3,081,800
Red Gum	3,058,750
White or Soft Elm.....	1,672,500
Cypress	1,559,027
White Oak	228,200
Red Oak	175,000
Mahogany	161,000
Sycamore	160,000
Black Gum	100,000
African Cedar	31,000
Sugar Maple	23,450
Red Cedar	20,000
Redwood	16,000
Balm of Gilead.....	1,250
Circassian Walnut	250
Rosewood	100
Total	38,892,352

These statistics represent all regions of the United States, from Florida to Maine, and from Virginia to California, but only some of the States, because the investigation is being made by States. With authentic figures covering half the country an estimate is made for the remaining sections. That gives a total annual use of cigar box lumber in the United States of 58,338,802 board feet.

It is impossible to be wholly accurate in estimating how many cigar boxes that much lumber will make. Different manufacturers will reach different conclusions. There is no standard size, but the various sizes range from boxes for a dozen up to capacities for 100 or more, and different thicknesses of wood are used.

Suppose that one board foot of lumber is good for four cigar boxes; the total number of boxes made yearly in the United States reaches the enormous number of 233,355,208. That is probably not too high an estimate.

This estimate, of course, takes no account of containers made from tin, paper-mache, or card board, or glass jars, which serve the purpose of cigar boxes,



part vi governmental

CHAPTER XXIX

GOVERNMENTAL REGULATION OF TOBACCO

EXACTING FEDERAL LAWS TO WHICH LEAF DEALERS AND MANUFACTURERS HAVE TO CONFORM—BONDS —HOW ACCOUNTS MUST BE KEPT—STAMP DENOMINATIONS—LEGALIZED PACKAGES

If one would start in the candy manufacturing business one needs only to buy some sugar and chocolate, engage some workers, get the necessary equipment, rent a building, and go ahead. Not so when you start in the tobacco manufacturing business. Whether it be cigars, cigarettes, smoking tobacco, chewing tobacco, or snuff, before you start you are confronted by a maze of governmental restrictions, obligations, responsibilities, and regulations. Your factory might consist only of a hall bedroom, your operating force might comprise yourself only, your equipment one cigar manufacturer's knife, and your raw material five pounds of leaf tobacco—still you must conform in every detail to this appalling array of federal laws and Treasury Department regulations. All of which is simply because tobacco is a taxable commodity and Uncle Sam is resolved that not one cigarette, one cigar, or one ounce of tobacco shall pass from producer to consumer without delivering its legal toll.

In March, 1922, the tobacco division of the Internal Revenue Bureau completed a revision of the tobacco regulations. It was the first revision that had been made in more than ten years and it is likely to prove the last in many years to come. The regulations are printed in pamphlet form and cover, with appendix and index, 175 pages. There are thirteen chapters. Omitting those portions and chapters dealing with penalties for violations, instructions to revenue

officers and all not absolutely essential material, I present here the regulations substantially complete—so complete as to be adequate to the requirements of any of my readers. The devotee, by a mere glance, may form some conception of the difficulties with which the production of his favorite brand is surrounded; the man contemplating entering the business will find here all the information he requires; and those already in the field may use this condensation of rules for purposes of reference with complete assurance of their reliability and sufficiency.

INTERNAL REVENUE REGULATIONS

RELATING TO TOBACCO, SNUFF, CIGARS, AND CIGARETTES, AND THE PURCHASE AND SALE OF LEAF TOBACCO

SALE OF LEAF TOBACCO BY FARMERS

Sec. 12. SALE OF LEAF TOBACCO BY FARMERS—No restrictions of any kind are imposed upon farmers and growers of tobacco in regard to the sale of their leaf tobacco. No books are required to be kept, nor need any registration or report of their leaf tobacco be made, nor is any liability to tax on account of such sales incurred by them. In respect to leaf tobacco produced by them and leaf tobacco of their own growth and raising sold by them, they are not regarded as dealers in leaf tobacco or as manufacturers of tobacco. The foregoing is restricted to such leaf tobacco as the farmer has grown himself and which is in the condition as cured on the farm. A farmer may sell such leaf tobacco to any person, irrespective of whether or not such person is registered and liable to account therefor under the internal revenue laws, or is a consumer, and he may also sell any quantity, either loose in the hand, or in a hogshead, case or bale, or other container.

A farmer who rents his land for growing tobacco may receive in payment of rent a portion of the crop and sell it in the same manner, and he may purchase the balance of the crop owned by his tenant and if he sells the entire crop at a single sale, he will not incur liability as a dealer in leaf tobacco. If the farmer should make a plurality of sales in order to dispose of the portion purchased from the tenant he would be liable as a dealer in leaf tobacco. See Chapter III.



THE GREATEST SOLDIER-HEROES IN MODERN HISTORY HAVE BEEN HABITUAL SMOKERS. AMONG THESE MAY BE MENTIONED MARSHAL FERDINAND FOCH, OF FRANCE, AND GENERAL JOHN J. PERSHING, OF THE U. S. A., HERE SEEN VIEWING A BIT OF PENNSYLVANIA SCENERY FROM THE REAR OF A TRAIN.

A farmer who purchases leaf tobacco from other growers is not free to dispose of such tobacco under the same conditions as that of his own raising, but in order to sell such leaf tobacco lawfully must quality as a dealer in leaf tobacco (see Ch. III) and be guided by the restrictions governing such business.

One who purchases a crop of tobacco before it is severed from the land does not thereby become the farmer or grower of such tobacco, but may sell it only after qualification as a dealer in leaf tobacco and in accordance with the law applicable thereto.

Sec. 13. FARMER MAY EMPLOY AN AGENT—If a farmer or grower of tobacco places his tobacco in the hands of a qualified dealer in leaf tobacco to be sold for him, such dealer may sell and deliver such tobacco only in accordance with the restrictions imposed by law. Any other agent employed by a farmer or group of farmers who may form a pool to sell his or their tobacco for him or them may sell for his principal or principals, the farmer or farmers, without incurring liability as a dealer, provided he is employed on other than a commission basis or is not compensated on the basis of the selling price, and (1) conducts all sales in the name of his principal or principals; (2) transmits to his principal or principals the proceeds of such sales without deduction of any kind, and (3) keeps record of receipts and sales of goods, which will enable him to furnish information showing (a) with respect to receipts, the date thereof, the quantity received, and the name and address of the principal or principals, and (b) with respect to sales, the date thereof, the quantity sold, the name and address of the purchaser, and the selling price.

Sec. 14. FARMER'S LIABILITY—The farmer or grower of tobacco who prepares his leaf tobacco or any part of it for consumption, except for his own personal use, by stemming, twisting, crushing, grinding, pressing or rubbing, plaiting, rolling, cutting or sweetening, or other process, is, in respect to the manipulation of such tobacco, no longer a farmer relieved of all liability, but is regarded as liable to all the provisions of law and the regulations governing the manufacture of tobacco or cigars, and to tax on the product disposed of for consumption or sale.

DEALERS IN LEAF TOBACCO

Sec. 15. DEFINITIONS AND CLASSIFICATIONS—(a) *Person*—See Section 4.

(b) *Dealer*—The term "dealer" as used in this chapter shall, with the exception indicated below, include every person whose business

it is, for himself or on commission, to sell, or offer for sale, leaf tobacco, and every person who, as a principal, receives leaf tobacco into his actual possession. One who operates a warehouse, stemmery, or rehandling plant will be regarded as a dealer and will be required to make report of the tobacco received for such purposes.

(c) *Buyer*—A buyer employed by a dealer will not himself be regarded as a dealer, unless he purchases on his own account.

(d) *Manufacturer*—A manufacturer who receives leaf tobacco for resale or for any other purpose than to manufacture it into completed tobacco products, or who receives leaf tobacco off his bonded factory premises, shall be regarded as a dealer and will be required to report the tobacco thus received or stored.

(e) *Classification*.—For reference purposes, dealers will be classified as follows: Class 1, operators of leaf sales warehouses; class 2, operators of tobacco storage warehouses; class 3, operators of rehandling plants; class 4, operators of stemmeries; class 5, packers, exporters, and all other persons not included in classes 1 to 4, liable as dealers within the intent of this section.

Class 1. *Leaf Sales Warehouses*—Any person who sells at auction leaf tobacco received from farmers or from a dealer of class 4 or 5 is regarded as included in class 1 as an operator of a leaf sales warehouse.

Class 2. *Tobacco Storage Warehouses*—Any person operating a warehouse for the storage of tobacco for others is regarded as included in class 2 as an operator of a tobacco storage warehouse.

Class 3. *Rehandling Plants*—Any person operating any plant where leaf tobacco in green condition is handled by mechanical means, or otherwise, to place it in keeping condition, is regarded as included in class 3.

Class 4. *Stemmeries*—Any person operating an establishment where leaf tobacco is stemmed or stripped by hand or by machine is regarded as included in class 4.

Class 5. *Miscellaneous*—Any person not included in classes 1 to 4, inclusive, engaged in buying and selling leaf tobacco, as, for instance, a packer, or exporter, or any person who for himself or others receives leaf tobacco to sell or offer for sale, or consign for sale on commission or otherwise, falls in this class. The manufacturer receiving leaf tobacco off his bonded factory premises is included in this class.

Sec. 16. *REGISTRY*—Every person incurring liability as a dealer

is required to register with the collector of the district. See sections 55 and 56 in regard to details.

Separate registration will be required with respect to each place of business at which sales are made and each establishment having immediate direction and control of any place or group of places where tobacco is stored or handled. If one is an operator of more than one class (see sec. 15, subdivision (e)), at the same or different places, but makes all sales and keeps a consolidated record covering all his establishments at one and the same place, he will be required to register only once.

Registry is a requirement entirely separate and distinct from that with respect to the statement covered by section 17.

Sec. 17. STATEMENT—Every person who commences business as a dealer shall, at the time of commencing business, file with the collector of each district where registered, or required to register, a statement in duplicate, subscribed under oath, setting forth the place and the street and number where his business is being, or is to be, carried on, and describing each place where leaf tobacco is held by him as a principal. This statement shall be made on Form 772. The different storage locations to be described thereon shall be designated by consecutive numbers. Any number of storage places located in the same city or town shall be described under one number. The purpose of such numerical designations is to enable the dealer reporting shipments or receipts of tobacco (see sec. 20) to refer by number rather than by a more extensive description to the place from which the tobacco is shipped or where it is received. Whenever a dealer in leaf tobacco adds to or discontinues any storage place, he shall file a new statement in duplicate under oath. Each storage place in respect to which there has been no change shall be described in such new statement under the same number as in previous statements.

Sec. 18. BOND—Every dealer in leaf tobacco must, with respect to each place for which registration is required, give a bond in duplicate with surety satisfactory to, and to be approved by, the collector of the district. The bond, to be executed on Form 771, shall be in such penal sum, not less than \$500, as the collector may require.

Sec. 19. ASSIGNMENT OF NUMBERS TO DEALERS AND COLLECTOR'S CERTIFICATES—When the collector shall have received a return on Form 277 for registry in his district (see sec. 55) and statement on Form 772 properly filled out (see sec. 17), accompanied by bond,

Form 771 (see sec. 18), and shall have approved the bond, he shall issue to the applicant a certificate of registry on Form 282, and assign to the dealer a number which shall be entered in certificate on Form 773, which he shall also issue. The latter certificate shall set forth the place, including street and number, where the business of the dealer is to be carried on, and describe each place of storage as reported in the dealer's statement on Form 772. The collector shall issue as many additional certificates on Form 773 as are necessary for the posting of one such certificate at each place of storage. If the same premises are used as a place of business and for storage, it will be necessary to issue one certificate only on Form 773 for such premises.

SEC. 20. FORM 774, TOBACCO INVOICE OR NOTICE OF SHIPMENT—*Description and purpose of*—Form 774, furnished by collectors, is to be used as an invoice or notice of shipment of tobacco by a dealer. These forms are printed on paper of two colors, white and yellow, and are put up in pads with the white and yellow sheets alternating.

(1) *By whom executed*—(a) Each dealer, except as shown in subdivision 4 (e) of this section, must execute Form 774 for each shipment or delivery of tobacco. (b) Each dealer receiving leaf tobacco from farmers or from a leaf sales warehouse, or imported tobacco (see subdivision 4 (d), (e), and (f) of this section), must execute Form 774 in the same manner as though he were the shipper.

(2) *Execution of forms*—An original or white and a duplicate or yellow Form 774 shall, in every case, be filled out at the same time (preferably manifolded by typewriter) for each shipment or delivery of tobacco. The forms shall be numbered consecutively, beginning with No. 1, on January 1 of each year (each duplicate being given the same number as the corresponding original), except that in those cases where, as hereinafter provided, the forms are executed by the person receiving the tobacco instead of the person shipping or delivering it (see subdivision 4 (d), (e), and (f) of this section), the serial number shall be omitted. The form shall show:

(a) The name of the person to whom and the place to which the tobacco is shipped or delivered. Each export shipment will also show the name of the port of export, and, if made from an interior point, the name of the common carrier. Separate Form 774, in duplicate, shall be prepared to correspond with each "Shipper's

export declaration" filed with the collector of customs under (customs) T. D. 37470.

(b) The business of such person, if located in the United States, to be indicated by appropriate letter, as "D" for dealer in leaf tobacco, "C" for cigar manufacturer, and "T" for tobacco manufacturer. If the tobacco is shipped abroad, the letter "E" for export should be entered; if shipped to a State institution (see subdivision 4 (c) of this section) the letter "X," or, if stolen, destroyed by a deputy, or by casualty (see subdivision 4 (b) of this section), the letter "Y" should be entered.

(c) And if he is a dealer or manufacturer, his number and the district and State (abbreviated) in which he registered.

(d) The date of shipment or of delivery, either to the person for whom the tobacco is intended or to a carrier or carrier's agent for transportation to such a person.

(e) The designated number of the storage place from which shipment or delivery is made.

(f) The number of hogsheads, tierces, cases, or bales in which the tobacco is packed. If loose, so state.

(g) The quantity of tobacco shipped or delivered, reported in the column the heading of which corresponds with the class to which the tobacco belongs. Actual weight must be reported, if ascertained, and the weight reported will be so understood unless otherwise indicated; if "marked" weights are reported, change printed word "actual" to "marked."

(h) The condition of the tobacco (whether green, redried, or resweated) at the time of shipment or delivery.

(i) The registered name of the dealer making the shipment and the letter "D" entered under the heads of "Shipped or delivered by" and "Bus.," respectively, his number, and the district and State (abbreviated) in which he is registered.

Sec. 21. RECORD OF RECEIPT AND SHIPMENT OR DELIVERY OF TOBACCO—Every dealer in leaf tobacco shall keep Record 59, Revised, which will be furnished him by the collector and which corresponds with Book 59 heretofore provided by the dealer himself. Every dealer shall enter in Record 59, Revised, day by day, and on the same day upon which the circumstance, thing, or act to be recorded is done or occurs, an accurate account of all tobacco received and shipped or delivered by him. Receipt of the bill of lading will be regarded as equivalent to receipt of the tobacco

covered thereby and entries must be made accordingly. It is deemed impracticable and unsatisfactory to require dealers in leaf tobacco to report both purchase and sale as well as receipt and shipment of tobacco. Under these regulations, dealers will be required to report only the receipt and shipment or delivery of tobacco which will furnish the Government with the information necessary to show that the tobacco is properly accounted for.

Sec. 22. MONTHLY REPORT—Every dealer in leaf tobacco is required to furnish to the collector of his district, on or before the 10th day of each month, a true and complete report under oath on Form 775 of all tobacco received and shipped or delivered during the month next preceding.

Sec. 23. INVENTORY—Every dealer in leaf tobacco at the time of commencing business and on the 1st day of January in each year, and also at the time of concluding business, if on a day other than January 1, is required to make and deliver to the collector of the district in which he is registered a true inventory, showing the places where his tobacco is stored and the kinds and quality of each kind of tobacco held by him at each place on said date. Such inventory shall include all tobacco in his possession, but will not include tobacco owned by him, but held by another dealer, who must include it in his inventory. Such inventory shall be made under oath on Form 776, and shall show also the condition of the tobacco (whether green, redried, or resweated) on the inventory date. Actual weighing of tobacco on the inventory day will not be required, but if the tobacco is not weighed, the inventory should show that the "marked" weights are reported.

Sec. 24. LIMITATIONS—(a) Tobacco shall be shipped or delivered by a dealer in leaf tobacco only in quantities of not less than a hogshead, tierce, case, or bale, except when shipped to or from a leaf sales warehouse, and except when shipped or delivered to a duly registered manufacturer of cigars for use in his own manufactory exclusively. Shipment or delivery shall be made only to other dealers in leaf tobacco, to registered manufacturers of tobacco, snuff, cigars, or cigarettes, or for export. (b) By-products—scraps, cuttings, and clippings—may be transferred only under permit by one cigar manufacturer or tobacco manufacturer to another manufacturer, but not to a dealer in leaf tobacco.

Sec. 25. ASSESSMENTS—A tax of 18 cents per pound is levied, and will be assessed and collected on all leaf tobacco (a) sold, removed, or shipped by a dealer in leaf tobacco in quantities less than a hogs-

head, tierce, case, or bale, except leaf tobacco handled by a leaf sales warehouse and except to a duly registered manufacturer of cigars for use in his own manufactory exclusively; (b) shipped to a person other than a dealer in leaf tobacco or a registered manufacturer of tobacco, snuff, cigars, and cigarettes, or for export; (c) in respect to which no report has been made by such dealer in his inventories, records, invoices, or reports, as provided by law.

Sec. 27. MISCELLANEOUS—(a) A registered dealer in leaf tobacco may stem his tobacco without being regarded as a manufacturer of tobacco as defined in section 58.

(b) A dealer in leaf tobacco is also privileged to manipulate leaf tobacco in a manner to produce what is known as "Black Fat," "Black Horse," etc., tobacco without qualifying as a manufacturer of tobacco. He may export such tobacco the same as other leaf tobacco without the execution of an export bond, which is required only in case of exportation by a manufacturer.

SPECIAL TOBACCO TAXES AND REGISTRY

Sec. 30. EXTENSION OF EXISTING STATUTES—All administrative, special, or stamp provisions of law, including the law relating to assessment of taxes quoted in these regulations, so far as applicable, are extended to and made to apply to the special taxes on manufacturers of tobacco, cigars, and cigarettes.

Sec. 31. WHO MUST PAY SPECIAL TAX—Every person commencing business as manufacturer of tobacco, cigars, or cigarettes, and continuing as such, must pay special tax therefor, as provided in these regulations. In case a person operates more than one factory, a separate liability in respect to each is incurred and a separate special tax for the operation of each factory must be paid.

Sec. 32. ADDITIONAL LIABILITY—If a factory, in respect to which special tax has been paid, is removed to a new location, liability to additional special tax will be incurred unless the change of location is registered, as required in section 50.

Sec. 34. WHEN SPECIAL TAX BECOMES DUE—Special taxes become due on commencing the business of manufacturing tobacco, snuff, cigars, or cigarettes, respectively, and must be paid for the period from the first day of the month in which business was commenced to the first day of July following, or the proportionate part of the annual rate (see sec. 40). For example, a manufacturer commencing business any time in October will pay for nine months, or three-fourths of the yearly rate, determined as provided in section



THAT TOBACCO INSPIRES DEMOCRACY IS ESTABLISHED BY THIS PHOTOGRAPH OF GEORGE V, BRITAIN'S BELOVED KING, CRUSHING A CIGAR BETWEEN HIS TEETH AND HAULING IN THE MAINSAIL, WITH THE SAILORS, OF THE ROYAL YACHT BRITANNIA.

41. In respect to a manufacturer continuing in business, special taxes become due on the first day of July in each year, and must be paid for one year at the rate imposed by law (see sec. 40).

Sec. 35. BUSINESS TO BE REGISTERED—Each person engaged in business as manufacturer of tobacco, manufacturer of cigars, or manufacturer of cigarettes must register with the collector of the district his name or style, place of residence, and the place where the business is carried on.

Sec. 36. RETURN TO BE MADE—Each person liable to special tax as a manufacturer of tobacco, manufacturer of cigars, or manufacturer of cigarettes shall make return in respect to each liability on Form 11 printed by the Government and supplied to each collector for distribution and to be obtained from him. The return shall be made, under oath, except as provided in section 37.

SEC. 37. VERIFICATION OF RETURN—OATH—If the amount of the tax covered by the return, whether covering the whole year or only a fractional part thereof, is more than \$10, it must be under oath. If the tax is not in excess of \$10, the return may be signed or acknowledged before two witnesses in lieu of an oath. The witnesses must themselves sign the return in their capacity as such.

Sec. 38. WHEN RETURNS SHOULD BE FILED AND WITH WHOM—Every person liable to special tax as manufacturer of tobacco, manufacturer of cigars, or manufacturer of cigarettes, on commencing business, must file, and thereafter while thus liable, not later than the 31st day of July of each year, again file with the collector or deputy collector a properly verified return on Form 11.

Sec. 39. PENALTIES FOR DELINQUENCY AND FRAUDULENT RETURN—Any manufacturer who fails to file special tax return on Form 11 within the time prescribed by law is liable to an additional amount equal to 25 per cent of the total tax due, except when it is shown that the failure to file the return within the prescribed time was due to a reasonable cause and not to willful neglect. If a false or fraudulent return is willfully made the taxpayer is liable to an additional amount equal to 50 instead of 25 per cent of the total tax.

Sec. 1002 [Rev. Act of 1921]. That on and after July 1, 1922, there shall be levied, collected, and paid annually, in lieu of the taxes imposed by section 1002 of the Revenue Act of 1918, the following special taxes, the amount of such taxes to be computed on the basis of the sales for the preceding year ending June 30—

Manufacturers of tobacco whose annual sales do not exceed fifty thousand pounds shall each pay \$6;

Manufacturers of tobacco whose annual sales exceed fifty thousand and do not exceed one hundred thousand pounds each pay \$12;

Manufacturers of tobacco whose annual sales exceed one hundred thousand and do not exceed two hundred thousand pounds shall each pay \$24;

Manufacturers of tobacco whose annual sales exceed two hundred thousand pounds shall each pay \$24, and at the rate of 16 cents per thousand pounds, or fraction thereof, in respect to the excess over two hundred thousand pounds;

Manufacturers of cigars whose annual sales do not exceed fifty thousand cigars shall each pay \$4;

Manufacturers of cigars whose annual sales exceed fifty thousand and do not exceed one hundred thousand cigars shall each pay \$6;

Manufacturers of cigars whose annual sales exceed one hundred thousand and do not exceed two hundred thousand cigars shall each pay \$12;

Manufacturers of cigars whose annual sales exceed two hundred thousand and do not exceed four hundred thousand cigars shall each pay 24;

Manufacturers of cigars whose annual sales exceed four hundred thousand cigars shall each pay \$24, and at the rate of 10 cents per thousand cigars or fraction thereof, in respect to the excess over four hundred thousand cigars.

Manufacturers of cigarettes, including small cigars weighing not more than three pounds per thousand shall each pay at the rate of 6 cents for every ten thousand cigarettes, or fraction thereof. * * *

In computing under this section the amount of annual sales no account shall be taken of tobacco, cigars, or cigarettes sold for export and in due course so exported.

Sec. 40. RATES OF TAX—The rates of tax are shown by the table below, and are the amounts payable for a full year:

Manufacturers of tobacco:

Annual sales not over 50,000 pounds.....	\$6.00
Annual sales over 50,000 and not over 100,000 pounds.....	12.00
Annual sales over 100,000 and not over 200,000 pounds.....	24.00

Annual sales over 200,000 pounds.....	24.00
And in respect to excess over 20,000 pounds, per 1,000 pounds or fraction thereof.....	.16
Manufacturers of cigars:	
Annual sales not over 50,000 cigars.....	4.00
Annual sales over 50,000 and not over 100,000 cigars.....	6.00
Annual sales over 100,000 and not over 200,000 cigars.....	12.00
Annual sales over 200,000 and not over 400,000 cigars.....	24.00
Annual sales over 400,000 cigars.....	24.00
And in respect to excess over 400,000 cigars per 1,000 cigars or fraction thereof.....	.10
Manufacturers of cigarettes, including small cigars weighing not more than 3 pounds per 1,000; per 10,000 cigarettes, including small cigars or fraction thereof.....	.06

Sec. 41. COMPUTATION OF TAX—The amount of special tax to be paid by a manufacturer of tobacco, manufacturer of cigars, or manufacturer of cigarettes is to be computed upon the basis of sales as noted below. "Sales" means sales of the manufactured product of a particular manufacturer subject to stamp tax. In computing the amount of annual sales no account shall be taken of tobacco, cigars, or cigarettes sold for export and in due course so exported.

Sec. 42. PAYMENT FOR SPECIAL TAX—Remittance of the full amount of special tax due, computed as provided in section 41, must be submitted with the return on Form 11 to the collector or deputy collector. Since return may be filed within the calendar month in which liability is incurred, no liability to penalty for carrying on business without payment of the special tax imposed thereon will be incurred until delinquency in filing return has occurred, except on commencement of business. Manufacturers should file their returns and make payment of special tax when a new fiscal year is commenced, as soon after July 1 as their sales for the preceding fiscal year can be ascertained; and, in any event, within the calendar month in which liability is incurred, except in case of sickness or absence, as provided in section 38.

Sec. 43. TAX PAID BY STAMP—The payment of special tax by a manufacturer of tobacco or cigars or cigarettes is evidenced by stamp issued by the collector to the manufacturer upon receipt of properly verified return on Form 11, accompanied by remittance of the full amount due. Stamps for manufacturers of tobacco whose sales exceeded 200,000 pounds; for manufacturers of cigars whose sales exceeded 400,000 cigars; and for manufacturers of cigarettes

and small cigars, known as "improvised" stamps, must be ordered by collectors from the department, and, having been paid for, will be issued as soon as received by them. Stamps are issued in sheet form without month coupons for manufacturers of cigars, \$4 class, where taxes are paid for a full year and no penalty on account of failure to make return in time is incurred. Coupon stamps are also issued for this class when tax is paid for a portion of a year only or penalty is incurred, and for all other classes not mentioned in this section.

Sec. 45. **LOSS OF STAMPS**—When special tax stamps have been lost or destroyed, the fact should be reported to the collector at once for the purpose of obtaining from him a certificate of payment. In such cases, the collector will issue certificate of payment of the special tax, on Form 785 (formerly 7541), which must be posted in place of the stamp, otherwise liability for failure to post stamp (see sec. 44) will be incurred.

Sec. 46. **CHANGE OF OWNERSHIP THROUGH DEATH**—Whenever a manufacturer, who has paid special tax, dies, his wife or child or executors or administrators or other legal representatives may carry on such business for the residue of the term for which tax has been paid without any additional payment, subject to the conditions hereinafter stated. The wife or child or executors or administrators or other legal representatives of the deceased manufacturer must, however, execute Form 11. The form thus executed must show, also, the name of the original manufacturer, together with all other data required. As to liability in case of failure to register, see section 53.

Sec. 47. **CHANGE OF OWNERSHIP FROM OTHER CAUSES**—A receiver or referee in bankruptcy may continue the business under the stamp issued to the bankrupt manufacturer at the place and for the period for which the tax was paid. An assignee may continue business under his assignor's special tax stamp without incurring special tax liability. A wife to whom her husband has sold his business may continue business under such stamp. In each of these cases the change must be registered with the collector in a manner similar to that provided in section 46.

Sec. 48. **CHANGES IN FIRM**—When one or more members of a firm or partnership withdraw, the business may be continued by the remaining partner or partners under the same special tax stamp for the remainder of the period for which the stamp was issued to the old firm. The change shall, however, be registered in the same

manner as required in section 46. Where new partners are taken into a firm the new firm so constituted can not carry on business under the special tax stamp of the old firm. It must make return and pay its own special tax, reckoned from the first day of the month in which it began business, even though the name of the new firm be the same as that of the old. Where a partnership which has paid special tax forms a corporation, a special tax stamp must be taken out in the name of the corporation.

Sec. 49. CHANGES IN CORPORATION—A corporation may, upon application to the collector, change its name without creating a new special tax liability, provided its charter permits such a change. A copy of the charter must be filed with the application and the stamp forwarded to the collector for proper notation. Additional special tax stamp is not required by reason of an increase of capital stock of a corporation if State laws creating the corporation provide for such changes without the formation of a new corporation. A stockholder in a corporation, who, after its dissolution, carries on the same business, incurs new special tax liability.

Sec. 50. REMOVAL OF FACTORY—PROCEDURE BY TAXPAYER—Whenever a manufacturer desires to move his factory to a location other than that specified in his last return, on Form 11 (see sec. 36), and stated in his special tax stamp (see sec. 43), he should, not later than the month in which the removal occurs, register the change of location with the collector of the district within which the old place of business is located, by filing an additional Form 11, executed under oath or otherwise, as required by section 37, and designated "removal registry."

MANUFACTURERS OF TOBACCO

Sec. 58. DEFINITION—Every person is regarded as a manufacturer of tobacco whose business it is to manufacture tobacco or snuff. The cutting, pressing, grinding, crushing, or rubbing of any raw or leaf tobacco, or otherwise preparing raw or leaf, or manufactured or partially manufactured tobacco or snuff, or the putting up for use or consumption of scraps, waste, clippings, stems, or deposits of tobacco resulting from any process of handling tobacco, or by the working or preparation of leaf tobacco, tobacco stems, scraps, clippings, or waste, by sifting, twisting, screening, or any other process, constitutes manufacturing. Every person who sells leaf tobacco, except the farmer or grower of the tobacco, to consumers must qualify as a manufacturer of tobacco.

The term "quasi" manufacturerers of tobacco has come to be applied of a class of manufacturers of tobacco whose handling of tobacco material in one way or another embraces one or more elements described above as constituting manufacturing tobacco or snuff, but who do not produce a taxable product. Included in this class are growers of perique tobacco, by reason of their method of producing this type of tobacco material, also dealers in this type of material, and scrap dealers or handlers of by-products of cigar and tobacco factories, such as scraps, cuttings, and clippings, etc., material which the law permits to be transferred from one manufacturer to another (see sec. 124), snuff grinders, manufacturers reclaiming scraps from stems, or producing scrap filler for cigars, and manufacturers of fertilizer, and insecticide, nicotine, etc., who desire to purchase from registered manufacturers or dealers, tobacco materials, including stems, which have not been rendered unfit for manufacture into a taxable product.

Sec. 59. REGISTRY AND PAYMENT OF SPECIAL TAX—Every manufacturer of tobacco or snuff must make return on Form 11 and pay special tax and otherwise comply with the provisions in relation thereto in sections 29 to 54.

Every manufacturer of tobacco or snuff who removes, otherwise than as provided by law, or sells, * * * without having paid the special tax * * * as required by law, any tobacco or snuff, * * * shall in addition to the penalties elsewhere provided by law for such offenses, forfeit to the United States all the raw material and manufactured or partly manufactured tobacco and snuff, and all machinery, tools, implements, apparatus, fixtures, boxes, and barrels, and all other materials which may be found in his possession, in his manufactory, or elsewhere. (See 3372, R. S.)

Sec. 60. MANUFACTURER'S BOND—Every manufacturer of tobacco or snuff shall, before commencing business, give a bond, on Form 40, in duplicate. The penal sum of the bond shall not be less than \$2,000 nor more than \$20,000, and shall be fixed by the collector according to the quantum of business proposed to be done by the manufacturer, who has the right of appeal to the Commissioner in respect to the amount of the bond. The bond must be submitted to the collector of the district and be approved by him.

Sec. 61. STATEMENT TO BE FURNISHED TO COLLECTOR—Every person before commencing the manufacture of tobacco or snuff is required to furnish, without previous demand therefor, to the collector of the district in which the manufacture will be carried on, a

statement on Form 36, *in duplicate*, setting forth the place where such manufacture is to be carried on, giving street and number, if it is possible for same to be furnished, and describing the premises bonded as his factory by metes and bounds, also stating the number of cutting machines, presses, snuff mills, hand mills, or other machines to be used in manufacturing on said premises, the name, kind, and quality of the product proposed to be manufactured in said factory, and if the same is manufactured by him as agent for any other person, or is to be sold or delivered to any other person under a special contract, giving the name, address, and business or avocation of the person for whom manufactured or to whom it is to be delivered.

Sec. 62. COLLECTOR'S CERTIFICATE—FORM 41—Every manufacturer of tobacco or snuff must obtain a certificate on Form 41 from the collector, which he shall issue after receiving statement and bond properly executed and approving the latter. Such certificate shall set forth, in addition to the details furnished in the manufacturer's statement, the amount of his bond and his factory number (see sec. 63). This certificate is required to be posted by the manufacturer in a conspicuous place within his manufactory.

Sec. 63. EACH FACTORY NUMBERED—Each manufactory of tobacco or snuff shall be assigned a number by the collector, which number shall not be held at the same time by any other manufacturer of tobacco or snuff in his district, nor thereafter be changed except for reasons approved by the Commissioner of Internal Revenue.

Sec. 64. MANUFACTURER'S SIGN—Every manufacturer of tobacco or snuff is required to place and keep on the side or end of the building wherein his business is carried on, so that it can be distinctly seen, a sign (in the English language) with letters thereon not less than 3 inches in length, painted in oil colors or gilded, giving his full name and business.

Sec. 65. INVENTORY TO BE MADE AT COMMENCEMENT OF BUSINESS ON JANUARY 1 OF EACH YEAR AND AT TIME OF CLOSING—Every manufacturer of tobacco or snuff is required to make and deliver to the collector of the district a *true* inventory, prepared on Form 70a hereby prescribed, and verified by his own oath, of the quantities of each of the different kinds of tobacco, unstemmed leaf, stemmed leaf tobacco, scraps, cuttings and clippings, tobacco in process of manufacture, or snuff flour, stems, waste, licorice, sugar, and gum, and other materials; and the quantities of each of the different kinds of manufactured tobacco or snuff, whether stamped or un-

stamped, and the value of all attached and unattached stamps, held or owned on his bonded factory premises, before the commencement of business, on the 1st day of January of each year.

Sec. 66. MANUFACTURER TO KEEP BOOK 74—Every manufacturer of tobacco or snuff is required to keep a book which shall conform to Form 74, and to enter therein daily an accurate account of all the unstemmed and stemmed leaf tobacco, scraps, cuttings, and clippings, tobacco in process of manufacture, snuff-flour, stems, licorice, sugar, and other materials received by him at his factory, and all the articles aforesaid removed under permit, the quantities of the different kinds of manufactured tobacco and snuff produced, removed tax paid or in bond for export, and the value of all stamps purchased and used. All entries must be made in ink. To enter daily means at the close of business of each day that materials are received at, or removed from, the factory, or tobacco and snuff are manufactured or removed tax paid, or in bond for export, or stamps purchased are received. Manufactured tobacco and snuff, and stamps will be reported as removed tax paid and used, respectively, at the close of the day that the stamped packages are removed from the bonded factory premises.

Tobacco material of whatever description, and whether it be imported material or refuse scraps, cutting, clippings, waste, sweepings of tobacco, and other by-products of tobacco or cigar factories, shall, when received, be accounted for by the manufacturer on his Book 74. Other materials include salt, chicle, gum, and other substances.

Sec. 67. MONTHLY RETURNS—Every manufacturer of tobacco and snuff is required on or before the 10th day of each month to furnish to the collector a true and complete abstract from the book (sec. 66) he is required to keep, verified by his oath, of all transactions reported therein during the month next preceding. Such abstract will be made on Form 62, denominated Tobacco Manufacturer's Monthly Return, to be obtained from the collector.

Sec. 68. RATES OF TAX ON TOBACCO AND SNUFF—DATE EFFECTIVE—WHEN TAX ACCRUES—(For rate see Chapter XXXI) The tax is imposed by the provisions of the Revenue Act of 1921, which became effective upon its passage. That act was approved November 23, 1921. Such tax is imposed on all chewing and smoking tobacco, fine-cut, cavendish, plug, or twist, cut or granulated, of every description, on tobacco twisted by hand or reduced into a condition to be consumed, or in any manner other than the ordinary mode of



THE HALL OF COLUMNS

It is a fact not generally known that tobacco is used decoratively, and its artistic virtues perpetuated, in the National Capitol at Washington. Most artists and lovers of art, however, have admired what are known as the tobacco capitals in the hall of columns and in the circular collonade outside the Supreme Court. The capitals topping the pillars in the hall of columns (shown above) are beautifully carved tobacco leaves with drooping tips, somewhat conventionalized. The design of the capitals in the circular collonade near the Supreme Court (opposite page) includes also the flower of the tobacco plant and is even more beautiful than the others.



THE CIRCULAR COLLONADE

Much historic interest is attached to these capitals. They are the work of Francisco Iradella, born in Carrara, Italy, in 1793, and who died in Washington in 1831. He was engaged by Giovanni Andrei in 1816 to come to this country to work upon the sculptural decorations of the Capitol. His first work in the Capitol was the modeling of these so-called "tobacco capitals." In a letter from Latrobe to Thomas Jefferson, written at Washington, November 5, 1816, this first work of Iradella is commended. After the death of Andrei, in 1824, Iradella became sculptor in charge of the work in the Capitol and continued in this position for three years.

drying and curing, prepared for sale or consumption, even if prepared without the use of any machine or instrument, and without being pressed or sweetened, and on all fine-cut shorts and refuse scraps, clippings, cuttings, and sweepings of tobacco. Tax also accrues on snuff manufactured of tobacco or any substitute for tobacco, ground, dry, damp, pickled, scented, or otherwise, of all descriptions, when prepared for use, and on snuff flour when sold or removed for use or consumption. The tax accrues on such manufactures upon removal from the factory or place where they were made, or upon sale prior to such removal, and is to be paid by the manufacturer thereof by the affixing of stamps before removal. Refuse scraps, clippings, cuttings, etc., are, however, not subject to tax when removed from the factory in compliance with section 124 of these regulations.

Sec. 70. SIZES OF PACKAGES OF TOBACCO AND SNUFF—Every manufacturer of tobacco is required to put up all his manufactured tobacco for sale, or removal for sale or consumption, except for export as provided in section 74, in packages of the following description and in no other manner:

All smoking tobacco, snuff, fine-cut chewing tobacco, all cut and granulated tobacco, all shorts, the refuse of fine-cut chewing tobacco which has passed through a riddle of 36 meshes to the square inch, and all refuse scraps, clippings, cuttings, and sweepings of tobacco, and all other kinds of tobacco not otherwise provided for, in packages containing $\frac{1}{8}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{5}{8}$, $1\frac{3}{4}$, $1\frac{7}{8}$, 2, $2\frac{1}{4}$, $2\frac{1}{2}$, $2\frac{3}{4}$, 3, $3\frac{1}{4}$, $3\frac{1}{2}$, $3\frac{3}{4}$, 4, 5, 6, 7, 8, 10, 12, 14, or 16 ounces.

Snuff may also be put up in bladders and in jars containing not exceeding 20 pounds.

Cavendish, plug, and twist tobacco may be put up in wooden packages not exceeding 200 pounds net weight (in respect to use of packages other than wooden, see sec. 73). This provision is construed as permitting the putting up of these kinds of tobacco in packages, containing 16 ounces or less of the same description as prescribed for other kinds of manufactured tobacco. Each package must contain the exact quantity of tobacco according to the denomination of the stamp affixed thereto.

Leaf tobacco intended to be sold to consumers by a person other than the farmer or grower thereof shall be put up in packages as above prescribed in respect to all other kinds of tobacco not otherwise provided for, containing not exceeding 16 ounces, net weight.

Perique tobacco intended for consumption or sale, and not intended for sale to another manufacturer as material, shall be put up as follows: Small packages containing not more than 16 ounces shall correspond in size to packages containing smoking tobacco; carottes, torquettes, or other form of perique tobacco weighing more than 1 pound may be inclosed in suitable wrappings, boxes, or other packages, properly labeled and stamped by affixture of an internal revenue stamp which shall, in denomination and value, denote the actual net weight of the tobacco contained in the package.

Sec. 72. SUBDIVISION PACKAGES PROHIBITED—Since stamps for manufactured tobacco and snuff are now supplied in numerous small denominations, manufacturers will not be permitted to pack plug, smoking, or fine-cut chewing tobacco, or snuff in unstamped sub-divisions or parcels for repacking in larger packages to which the proper stamp is affixed. The unit package is the size of package prescribed by law. This prohibition, however, does not preclude the use of tin foil.

Sec. 73. PACKAGES OTHER THAN WOODEN—Packages other than those made from wood to be used for packing cavendish, plug, or twist tobacco must be approved by the Commissioner, under the provisions of section 134.

Sec. 3362 [R. S., as amended]. * * * *Provided*, That these limitations and descriptions of packages shall not apply to tobacco and snuff transported in bond for exportation and actually exported.

Sec. 75. STAMPS PROVIDED—DENOMINATION AND CLASS—Stamps have been caused to be prepared in accordance with the requirements of section 139 for payment of the tax on tobacco and snuff, and have been furnished to collectors for sale to manufacturers of tobacco and snuff in their respective districts.

Sec. 76. USE OF ORDER FORMS FOR STAMPS—Tobacco and snuff stamps will be sold by collectors to duly registered manufacturers of tobacco only in their respective districts. (See sec. 139.) Manufacturers must use Form 172 in ordering tobacco stamps and Form 173 for snuff stamps, which forms are printed by the Government only and furnished to collectors for distribution.

Sec. 77. MODE OF AFFIXING TOBACCO AND SNUFF STAMPS—Each package containing a statutory quantity of tobacco or snuff (see sec. 70) shall, before removal from the bonded factory premises where made, have affixed thereto the proper internal-revenue stamp

or stamps of such denomination as will cover fully the tax on the net weight of the contents. Tobacco stamps must be used only on packages of tobacco, and snuff stamps only on packages of snuff. Such stamps can not be used interchangeably.

(a) A single stamp only shall be securely affixed to the outside of every package containing 16 ounces or less of tobacco or snuff in such a manner as effectually to seal the same and render it impossible to remove the contents without breaking the stamp. The use of two or more stamps on any such package is prohibited, since a stamp is provided for each size of package containing not over 16 ounces, prescribed by law, and no other sizes of packages are authorized.

(b) A single sheet stamp of denomination $\frac{1}{2}$ or 1 pound, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 20, or 24 pounds, or a single book stamp of denomination 5, 10, or multiples of 10, up to 60 pounds, with requisite number of coupons of denomination 1 pound attached, shall be used on all packages of cavendish, plug, or twist or perique tobacco where no fractions of pounds are involved.

(c) If the contents or net weight of a package of cavendish, plug, or twist or perique tobacco weighing over 1 pound is such that the tax can not be paid by the use of a single stamp, the manufacturer will affix to such package a stamp of that denomination approaching nearest to the net weight of the package, and affix one and if necessary more stamps of other denominations to cover the amount of tax actually due on the tobacco; and the 1-ounce coupon stamp or the ounce tobacco stamps may be used interchangeably for that purpose. Similar use of snuff stamps under like conditions is authorized in respect to packages containing more than 16 ounces but not more than 20 pounds of snuff.

(d) Each wooden box or caddy of cavendish, plug, or twist tobacco shall have the stamp or stamps affixed over or upon one corner or angle and at an equal distance from each end, and there shall be made in each package, for the reception and protection of the stamp or stamps, a groove or indentation at least one-eighth of an inch in depth, unless such stamp or stamps after being affixed is or are shellacked or varnished. When two stamps are used upon the same package, they should be affixed adjoining each other.

Sec. 79. CANCELLATION OF TOBACCO AND SNUFF STAMPS—(a) Each stamp affixed to a package of manufactured tobacco or snuff by the manufacturer thereof shall be canceled in the following manner. The cancellation—

(1) Shall appear on the face of the stamp in legible letters and figures.

(2) Legend shall consist of the number of the manufactory wherein the article so stamped taxpaid was made and the district and State in which it is situated, and date of cancellation to include the month and year; abbreviations such as "Fac. No." preceding the number of the factory, "Dist." for district, preceded by the number thereof, if any, name of State, and the month in date of cancellation are permissible. Illustration: "Fac. No. 348, 1st Dist. Mich.," or "Fac. No. 123, Dist. Fla.," over "Oct. 26, 1920."

(3) Shall be accomplished by the use of a rubber stamp or printing press, or by perforation in the manner prescribed in subdivision (b), or by writing in ink of a permanent character.

(4) Shall be effected prior to the removal for sale or consumption of any package of tobacco or snuff on which the stamp is affixed.

(b) In case of cancellation by perforation (see subdivision (a) (3)), the numerals of the factory number alone will be sufficient without further qualification, while the name of the State may be suitably abbreviated or its initial letters given, and the date may be indicated by numerals if preferred, signifying the number of the month of the calendar, the date of the month, and the last two figures of the current year. Illustration: 348—1 Mich. 10-26-20. The several figures and letters of such cancellation shall be clearly outlined and suitably spaced for legibility, distinctness, and in canceling stamps, especially those of small dimensions, the perforation must not be so large as to render it impossible to determine the denomination of the stamp so attached.

(c) All stamps affixed to any wooden package of tobacco or snuff shall be further canceled by sinking a portion of the stamp into the wood of the package with a steel die. The collector of the district will supply dies to manufacturers who are required to use them under this provision. They shall be returned to the collector, when they are damaged or broken to be exchanged for new dies, or when their further use is not required.

Sec. 80. CAUTION NOTICE ON EACH PACKAGE—Every statutory package of tobacco or snuff must, before removal from the bonded premises where made, have printed thereon, or securely affixed thereto by pasting, a label on which is printed the number of the manufactory, the district and State in which it is situated, and the words of the caution notice as provided by law. The prescribed wording shall occupy a space not less than 2 inches wide by 3 inches

long, and when in label form it shall be printed on plain white paper and be separate and independent of any other printed matter, and shall be substantially in the following form:

Factory No. —, — District, State of —

NOTICE—The manufacturer of this tobacco has complied with all requirements of law. Every person is cautioned, under the penalties of law, not to use this package for tobacco again.

Observance of dimensions above prescribed will be waived in respect to packages containing 16 ounces or less of tobacco or snuff, but in such cases the prescribed wording must be distinct and legible.

Sec. 81. MARKING WOODEN PACKAGES—All wooden packages containing cavendish, plug, or twist tobacco, except when removed in bond for export and actually exported (see sec. 74) shall have printed or marked thereon the manufacturer's name and place of manufacture, the registered number of the manufactory, the gross weight, the tare, and the net weight of the tobacco in each package.

Sec. 85. RECLAIMING SCRAPS FROM STEMS—Scraps may be reclaimed from stems, for removal under permit, only in premises bonded as a factory of a manufacturer of tobacco. All tobacco stems in their natural condition received on such premises must be properly accounted for by the manufacturer. The manufacturer may thrash the tobacco stems by hand or by machines and reclaim the refuse scraps or the granulated tobacco from such stems, and such products may be removed in bulk as material and without the payment of tax, directly to the factory of another manufacturer of tobacco or cigars under permit as provided in the case of other refuse scraps in section 124.

This class of material shall be designated and treated as tobacco in process of manufacture, and no allowance will be made in the accounts of manufacturers receiving the same for any alleged loss in manufacturing such material into a taxable tobacco product. Collectors shall classify such material in permits issued by them as "Tobacco in process of manufacture."

Tobacco stems, from which scraps have been reclaimed, may be sold to other manufacturers or to dealers in leaf tobacco, under permit as provided in section 124. Such stems may not be disposed of to persons not qualified as manufacturers or as dealers in leaf tobacco until the collector has been notified of each such intended disposition, in order that a deputy may be detailed to



THOMAS A. EDISON, ELECTRICAL WIZARD AND INVENTOR OF THE PHONOGRAPH, IS SHOWN HERE DIVIDING HIS ATTENTION BETWEEN A NEWSPAPER AND A CIGAR.

supervise the weighing first, and then the rendition of such stems unfit for tobacco manufacture, before removal from the factory premises. This in order to establish credit in such manufacturer's account, to be taken in the manner provided in section 130. Each manufacturer will be required to keep a special account showing the quantity of stems put in process for reclamation of scraps, and the quantity of scraps under the designation of "Tobacco in process" reclaimed therefrom, each day, and he shall submit an abstract of such special account with his monthly return.

MANUFACTURERS OF CIGARS

Sec. 87. DEFINITION—Every person is regarded as a manufacturer of cigars whose business it is to make or manufacture cigars for himself or who employs others to make or manufacture cigars. The term "cigars" is held to include cigarettes and cheroots and will have that meaning in these regulations, except where the context clearly indicates it is used in a more limited sense. A person may make cigars for his own consumption without incurring liability under the internal revenue laws, provided he does not make them within the bonded premises of a cigar factory or on premises where such articles are sold and he neither sells nor gives such cigars away.

Sec. 88. REGISTRY AND PAYMENT OF SPECIAL TAX—Every manufacturer of cigars weighing more than 3 pounds per thousand and every manufacturer of cigarettes or small cigars weighing not more than 3 pounds per thousand must make return on Form 11 and pay special tax and comply with the provisions in relation thereto in sections 29 to 54.

Sec. 89. MANUFACTURER'S BOND—Every manufacturer of cigars or cigarettes shall, before commencing business, give a bond on Form 71, in duplicate, to be submitted to and approved by the collector of the district. While the law fixes \$100 as the minimum penal sum of a cigar manufacturer's bond, with no maximum, it is considered advisable, since the taxes have been increased, that no cigar manufacturer's bond should be approved in the penal sum of less than \$500.

Sec. 90. STATEMENT TO BE FURNISHED TO COLLECTOR—Every person before commencing the manufacture of cigars or cigarettes is required to furnish, without previous demand therefor, to the collector of the district in which the manufacture will be carried on, a statement on Form 36½, in duplicate, setting forth the place

where such manufacture is to be carried on, giving street and number, if it is possible for the same to be furnished, and describing the premises bonded as his factory by metes and bounds, and stating the number of cigar makers to be employed where the cigars are made by hand, and the number and kind of machines to be used in the manufacture of cigars or cigarettes with the daily capacity of each, and when the cigars are to be manufactured for, or to be sold and delivered to any other person, the name, residence, and business or occupation of the person for whom they are to be manufactured or to whom they are to be delivered.

Sec. 91. COLLECTOR'S CERTIFICATE, FORM 41½—Every manufacturer of cigars or cigarettes must obtain a certificate on Form 41½ from the collector, which he shall issue after receiving statement and bond properly executed, and approving the latter. Such certificate shall set forth, in addition to the details furnished in the manufacturer's statement, the amount of his bond and his factory number. This certificate is required to be posted by the manufacturer's statement, the amount of his bond and his factory number. This certificate is required to be posted by the manufacturer in a conspicuous place in his manufactory.

Sec. 92. ASSIGNMENT OF NUMBER TO MANUFACTURER—Each manufacturer of cigars and cigarettes shall be assigned a number by the collector, which number shall not be held at the same time by any other manufacturer of cigars or cigarettes in his district, nor be thereafter changed. Each manufacturer will be notified as to the number assigned him in the collector's certificate, Form 41½.

Sec. 3388 [R. S.]. Every cigar manufacturer shall place and keep on the side or end of the building within which his business is carried on, so that it can be distinctly seen, a sign, with letters thereon not less than three inches in length, painted in oil colors or gilded, giving his full name and business. Any person neglecting to comply with the requirements of this section shall, on conviction, be fined not less than one hundred dollars nor more than five hundred dollars.

Sec. 93. MANUFACTURER'S SIGN—Every manufacturer of cigars or cigarettes is required to place and keep on the side or end of the building within which his business is carried on, so that it can be distinctly seen, a sign (in the English language) with letters thereon not less than 3 inches in length, painted in oil colors or gilded, giving his full name and business.

Sec. 94. INVENTORY TO BE MADE AT COMMENCEMENT OF BUSINESS ON JANUARY 1 OF EACH YEAR AND AT TIME OF CLOSING—Every manufacturer of cigars or cigarettes is required to make and deliver to the collector of the district a *true* inventory, prepared on Form 70b hereby prescribed, and verified by his oath indorsed thereon, of the quantities of each of the different kinds of tobacco, unstemmed leaf, stemmed leaf tobacco, scraps, cuttings and clippings, stems, waste, the number of cigars weighing more than 3 pounds per thousand, cigars weighing not more than 3 pounds per thousand, cigarettes weighing not more than 3 pounds per thousand, cigarettes weighing more than 3 pounds per thousand, showing the number stamped and unstamped, the value of the different classes of stamps, attached and unattached, separately in each case, and the number of cigar boxes held or owned on his bonded factory premises on the 1st day of January of each year. Inventory as aforesaid must also be made and filed with the collector at the time of beginning business as a manufacturer and at the time of discontinuing such business.

Sec. 95. MANUFACTURER TO KEEP BOOK 73—(a) Every manufacturer of cigars or cigarettes is required to keep a book which shall conform to Form 73, and to enter therein *daily* an accurate account of all the unstemmed, stemmed leaf tobacco, scraps, cuttings, and clippings, and stems received by him at his factory, and all such articles removed therefrom, the number of cigars or cigarettes manufactured and removed tax paid or in bond for export, used by employees, including cigar makers, for personal consumption or experimental purposes, and stamps of each class purchased and used.

(b) Each employee of a manufacturer of cigars is permitted to use for his own personal consumption and for experimental purposes not to exceed 21 cigars per week without the same being packed in boxes and stamped. Such use of cigars will not be restricted to the bonded factory premises. If the number of tax-free cigars to which an employee is entitled is not taken by him each week, the number of cigars not so taken will not be allowed to accumulate in the hands of the manufacturer, nor will they be allowed to be taken later, nor will credit therefor be allowed in the manufacture's account for a subsequent period. Tax-free cigars furnished to or taken by employees for personal consumption and for experimental purposes will not, after they have been so taken or furnished, be permitted to be commingled with the manufacturer's stock of cigars on hand. An employee will not be permitted to accumulate such cigars within the bonded factory premises.

The law restricts the use of tax-free cigars to the employee individually; therefore, an employee will not be permitted to take tax-free cigars and give them away. Cigars found in the hands of a person other than an employee of a manufacturer of cigars not packed in boxes, properly labeled, branded, and stamped, are subject to forfeiture.

Sec. 96. MONTHLY RETURNS—Every manufacturer of cigars or cigarettes is required on or before the 10th day of each month to furnish to the collector a true and accurate abstract from the book which he is required to keep (sec. 95), verified by his oath, of all his transactions during the month next preceding. Such abstract will be made on Form 72, part 1, denominated Cigar Manufacturer's Monthly Return, when cigars weighing more than 3 pounds per thousand are to be accounted for, or on Form 72, part 2, when cigarettes or small cigars are to be accounted for. When it is necessary to use both parts 1 and 2, Form 72, entries relating to materials will be made on the front page of part 1 and continued on part 2, *only* after part 1 has been completely filled in; both forms will be kept securely together. These forms are to be obtained from the collector. In respect to entries relating to tobacco materials and attachment of Form 774 in support of same, also submission of returns, see section 127.

The entries of cigars and cigarettes manufactured, removed tax paid, in bond for export, or tax free for personal consumption by employees, etc., and stamps of each class purchased or used as well as the separate balances of stamped and unstamped cigars and cigarettes, and attached and unattached stamps of each class actually on hand at the beginning and close of each month or period, must agree with the corresponding entries in the manufacturer's revenue book. The entries for the beginning of the month must agree with the balances entered in the manufacturer's book and report for the preceding month. The respective accounts of cigars and cigarettes and stamps of each class must also be balanced.

Sec. 97. RATES OF TAX ON CIGARS AND CIGARETTES—DATE EFFECTIVE—WHEN TAX ACCRUES—(For rates see Chapter XXXI)—The taxes are imposed by the Revenue Act of 1921, which became effective upon its passage. That act was approved November 23, 1921.

Cigars weighing more than 3 pounds per 1,000 are divided into five brackets or classes in the rate schedule. Under each bracket such cigars, if manufactured to retail within the range of prices specified therein, are taxed at a certain rate. The different classes into which these cigars fall, from the lowest to the highest rate of

tax imposed thereon, will be denominated, respectively, Class A, Class B, Class C, Class D, and Class E. The stamps denoting the tax are similarly designated.

The law provides that whenever reference is made to cigars manufactured or imported to retail at not over a certain price each, then in determining the tax to be paid regard shall be had to the ordinary retail price of a single cigar. It is recognized that the retail price of the same cigar may be different in different sections of the United States. In such case the tax to be paid shall, in the absence of evidence establishing the fact that the cigars were actually manufactured to be sold at a different price, be determined upon the basis of the retail price of such cigar in the section affording the principal market for the same. Where there is more than one price for the same cigar in such section, the tax to be paid will be determined according to the price at which the majority are sold therein. The tax to be paid will be determined from the foregoing facts as they exist at the time the cigars are sold by the manufacturer or removed from the factory or place where made for consumption or sale. When cigars are so tax paid, the fact that a retailer may subsequently sell them at a price in excess of the maximum for the class shown by the letter on the stamp affixed to the package will not subject them to any increased tax nor will it cause the manufacturer to incur any additional tax liability. The same ruling applies when stock obtained by retailers before an advance in the manufacturers' or jobbers' price is similarly sold. Under such circumstances the manufacturer must still govern himself in the matter of taxpaying his cigars according to rule in regard to the retail price in the principal market.

The taxes on cigars and cigarettes accrue upon removal of such manufactures from the factory or place where they were made, or upon sale prior to such removal, and are to be paid by the manufacturer thereof by the affixing of stamps before removal.

Sec. 98. CLASSIFICATION OF CIGARS AND CIGARETTES—Cigars are defined by law to be all rolls of tobacco or any substitute therefor, wrapped with tobacco, and cigarettes are defined to be all rolls of tobacco or any substitute therefor, wrapped in paper or any substance other than tobacco. Cheroots are held to be cigars as provided in section 87.

Sec. 99. SIZES OF PACKAGES OF CIGARS AND CIGARETTES—All cigars weighing more than 3 pounds per 1,000 shall be packed by the manufacturer in boxes not before used for that purpose containing 5, 10, 12, 13, 25, 50, 100, 200, 250, or 500 cigars each, no more and no less.

All cigarettes and small cigars weighing not more than 3 pounds per 1,000 shall be put up in packages or parcels containing 5, 8, 10, 12, 15, 16, 20, 24, 40, 50, 80, or 100 cigarettes or small cigars each, no more and no less. The only cigars or cigarettes exempt from these requirements are those allowed by law to be taken for personal consumption or experimental purposes (sec. 95b) or removed for export in accordance with the provisions of Regulations 29 (sec. 210). Every person, including the manufacturer, who sells or offers for sale, or delivers or offers to deliver, any cigars in any other form than in new boxes or packages, or who uses again for packing cigars a box which has once been used for that purpose, or who packs in any box or package any cigars or cigarettes in excess of or less than the number provided by law to be put in each box, is liable to a fine for each offense of not more than \$1,000 and imprisonment for not more than two years.

Sec. 100. PACKING COUPONS, INSERTS, PICTURES, ETC., IN PACKAGES—In respect to advertising matter in packages of cigars or cigarettes, or packing therein, attaching, marking, branding, etc., on them, of any features in connection with a lottery or any indecent or immoral picture, representation, print, or word, see section 135.

Sec. 101. SUBDIVISIONS OR PARCELS OF PACKAGES—The statutory number of cigars, weighing more than 3 pounds per thousand, contained in the box may be separated into a number of parcels and inclosed in tin-foil or light wax-paper wrapping, paper or ribbon bands, or other wrappers or inclosures open at one end, and in such manner that the number and size of the cigars contained in each parcel may be determined without removing them from the box or from such inclosures.

Subdivisions or parcels of 5 or 10 cigars will only be permitted when such subdivisions are covered or made up of material flimsy and unsubstantial in character, such as tin foil or paraffined paper, and on which it is not possible to imprint brands or caution notices nor to affix stamps. Such subdivision parcels, owing to their form and construction, will not be regarded as constituting "packages" within the meaning and intent of section 3392 of the Revised Statutes providing for the packing of cigars weighing more than 3 pounds per thousand. Such cigars so subdivided into parcels must remain in the stamped statutory box until they are sold and delivered directly to the consumer, and the whole number of cigars placed in each box must correspond to the number denoted by the stamp affixed to the box.

Packages containing 5 or 10 cigars, constructed of substantial

material, and so formed as to completely cover and protect the cigars contained therein, and on which it is possible to imprint the caution notice and factory brand, and which from their shape and design will admit of the internal revenue stamp being affixed so as to seal the package, will be regarded as statutory packages, and are required to be packed, branded, and stamped in the manner provided for other statutory packages of cigars.

Sec. 102. PACKAGES OTHER THAN WOODEN—Packages other than those made from wood are permitted to be used for packing cigars when approved by the Commissioner under the provisions of section 134.

Sec. 103. EXPORT PACKAGES—Cigars or cigarettes packed expressly for export and which shall be exported to a foreign country are not required to be put up in packages of the same sizes as prescribed in case of removal for domestic consumption, and such export packages are not required to bear caution notice label, as prescribed in section 109, or factory brand, as prescribed in section 110.

Sec. 104. STAMPS PROVIDED—DENOMINATION AND CLASS—Stamps have been caused to be prepared in accordance with the requirements of section 139, for payment of the taxes on cigars and cigarettes, and have been furnished to collectors for sale to manufacturers of cigars or cigarettes in their respective districts, as follows:

(a) Stamps of Class A, Class B, Class C, Class D, and Class E for the different rates of tax imposed on cigars weighing more than 3 pounds per thousand in the denominations of 5, 10, 12, 13, 25, 50, 100, 200, 250, and 500.

(b) Stamps for the tax payment of cigars weighing not more than 3 pounds per thousand in the denominations of 5, 8, 10, 12, 15, 16, 20, 24, 40, 50, 80, and 100.

(c) Stamps of Class A for the tax payment of cigarettes weighing not more than 3 pounds per thousand in the denominations of 5, 8, 10, 12, 15, 16, 20, 24, 40, 50, 80, and 100.

(d) Stamps of Class B for the tax payment of cigarettes weighing more than 3 pounds per thousand in the denominations of 5, 8, 10, 12, 15, 16, 20, 24, 40, 50, 80, and 100.

Sec. 106. MODE OF AFFIXING CIGAR OR CIGARETTE STAMPS—Internal revenue stamps of denominations corresponding with the number of cigars or cigarettes required by law to be packed in each package and of the various classes to denote the tax at the different rates imposed by law upon such articles are provided for sale by collectors to manufacturers in their respective districts for affixture to



CHARLES P. STEINMETZ, CHIEF ENGINEER OF THE GENERAL ELECTRIC CO. AND FOREMOST INVENTOR OF THE TIME, SMOKES WHILE AT WORK IN HIS LABORATORY AS WELL AS IN HIS HOURS OF LEISURE.

packages of cigars and cigarettes manufactured by them. A single stamp only, of the proper denomination, class, and value, shall be securely affixed by the manufacturer to each package of cigars or cigarettes in the following manner and before removal of the same from the place of manufacture for sale or consumption in the United States:

(a) *Cigars Weighing More Than 3 Pounds per 1,000*—Stamps for the various classes of these cigars shall be firmly attached *on the outside* of the boxes and in such manner as to seal the box and prevent removal of the cigars without breaking the internal revenue stamp.

(b) *Cigarettes and Small Cigars*—(1) Stamps of the denominations 5, 8, 10, 12, 15, 16, 20, or 24 for cigarettes or cigars weighing not more than 3 pounds per 1,000 or cigarettes weighing more than 3 pounds per 1,000 shall be affixed in such manner as to seal packages made of pasteboard or other substantial materials, and shall be affixed to packages of flimsy or less substantial materials either in such manner as to seal the same or to the sides thereof. (2) Stamps of the denominations of 40, 50, 80, or 100 for cigars or cigarettes weighing not more than 3 pounds per 1,000, or cigarettes weighing more than 3 pounds per 1,000, shall be attached on the outside of the packages, and in such manner as effectually to seal the same.

Sec. 108. CANCELLATION OF CIGAR AND CIGARETTE STAMPS—

(a) Each stamp affixed to boxes, packages, or other containers of cigars or cigarettes by the manufacturer thereof shall be canceled in the following manner. The cancellation—

(1) Shall appear on the face of the stamp in legible letters and figures.

(2) Legend shall consist of the number of the manufactory wherein the article so stamped tax paid was made and the district and State in which it is situated and date of cancellation, to include the month and year. Abbreviations, such as "Fac. No." preceding the number of the factory, "Dist." for district, preceded by the number thereof, if any, name of State, and the month in date of cancellation are permissible. Illustration: "Fac. No. 348, 1st Dist., Mich.," or "Fac. No. 123, Dist. Fla.," over "Oct. 26, 1920."

(3) Shall be accomplished by the use of a rubber stamp or printing press or by perforation in the manner prescribed in section 79 (b), or by writing in ink of a permanent character.

(4) Shall be effected prior to the removal for sale or consumption

of any package of cigars or cigarettes on which the stamp is affixed.

Sec. 109. CAUTION NOTICE ON EACH PACKAGE—Every statutory package of cigars or cigarettes must, before removal from the bonded premises where made, except for export (see sec. 103), have affixed thereto, by pasting, a label on which shall be printed, or have printed directly on each package, the number of the manufactory, district, and State in which it is situated, and the words of the caution notice as provided by law. The prescribed wording shall occupy a space not less than 1½ inches wide by 3 inches long, except as hereinafter provided. It must be clear and legible, and when in label form shall be printed on plain white paper, separate and independent of any other printed matter. The form of notice shall be as follows:

Factory No. —, — District, State of —

NOTICE—The manufacturer of the cigars herein contained has complied with all the requirements of law. Every person is cautioned not to use either this box for cigars again, or the stamp thereon again, nor to remove the contents of this box without destroying said stamp, under the penalty provided by law in such cases.

The word "cigarettes" shall be substituted in the above as the case may require. Compliance with the above dimensions of the caution notice will be waived in the case of packages of small cigars and cigarettes. The manufacturer if he so desires may increase the size of his caution notice label and print immediately above it his name as manufacturer, and his address, and the trade-mark name of the cigars or cigarettes, but such printed matter must not encroach in any way upon the space reserved for the caution notice, which must be printed solid.

Sec. 110. FACTORY BRAND—Every statutory box or container of cigars or cigarettes shall before removal from any factory for consumption or sale in the United States have stamped, indented, burned, or impressed therein, in a legible and durable manner, the number of cigars or cigarettes contained therein, the number of the manufactory and the number of the district and State. The foregoing is a requirement separate and independent of the caution notice and can not be combined therewith.

Sec. 111. CLASSIFICATION LABELS—Every manufacturer must affix to each box or container of cigars weighing more than 3 pounds per thousand a conspicuous label indicating the clause of the section

under which the cigars therein contained have been tax paid, which must correspond with the tax-paid stamp on said box or container. Such label shall be not less than one and one-half inches long nor less than three-fourths of an inch wide, and shall be affixed to the front of the box or container. The labels shall bear the appropriate one of the following statements:

"The cigars herein contained were manufactured to retail at not more than five cents each and are so tax paid."

"The cigars herein contained were manufactured to retail at more than five cents each and not more than eight cents each, and are so tax paid."

"The cigars herein contained were manufactured to retail at more than eight cents each and not more than fifteen cents each, and are so tax paid."

"The cigars herein contained were manufactured to retail at more than fifteen cents each and not more than twenty cents each, and are so tax paid."

"The cigars herein contained were manufactured to retail at more than twenty cents each, and are so tax paid."

The legend must be legible in all cases and may be printed directly on the front of each box.

In order to minimize the possibility of error in affixing proper labels, manufacturers will be permitted to use the appropriate class letter, A, B, C, D, or E, on such labels, which letter should appear directly to the left of the printed matter and the length of the label may be increased approximately one-half inch for this purpose. The price limitations of the different classes may be expressed in numerals, if desired, at the option of the manufacturer.

Sec. 112. MANUFACTURE ON COMMISSION OR SHARES, OR FROM MATERIAL FURNISHED BY ANOTHER PERSON—Whenever cigars of any description are manufactured, in whole or in part, upon commission or shares, or the material is furnished by one party and manufactured by another, or the material is furnished or sold by one party with an understanding or agreement with another that the cigars are to be received in payment therefor, or for any part thereof, the stamps required by law shall be affixed by the actual maker before the cigars are removed from the place of manufacturing.

Sec. 115. MANUFACTURER OF CIGARETTES PURCHASING CIGARETTE TUBES—Each manufacturer of cigarettes purchasing any cigarette paper made up into tubes is required to give a bond on Form 777, in duplicate, conditioned that he will use such tubes in the manu-

facture of cigarettes or pay thereon a tax equivalent to the tax imposed by section 703 of the Revenue Act of 1921. Such bond shall be in amount not less than \$100 and with sureties satisfactory to the Commissioner. Each such manufacturer shall keep Record 152, showing the date of receipt by him of all cigarette tubes purchased or imported upon which no tax has been paid (see T. D. 2807), the name and address of the person from whom purchased, also the number of tubes on hand at the beginning and close of each month, and number used each day. A return on Form 778, to be made under oath, in duplicate, and filed with the collector of the district on or before the 10th day of each month, shall contain a complete abstract of the record of tubes kept by the manufacturer during the month next preceding.

Tax-paid cigarette tubes shall not be brought on the bonded premises of any manufacturer of cigarettes, except under the supervision of a deputy collector, who will see that the number of such tubes is charged in the manufacturer's record, and that the packages in which such tubes are contained are destroyed.

Sec. 116. COLLECTOR'S RECORD OF MANUFACTURERS—Every collector is required to keep in Record 11 an account with every person engaged in the manufacture of cigars or cigarettes in his district, showing the name of each manufacturer, the location of his factory and his factory number, and to enter in his record, in respect to each manufacturer, a copy of every inventory and an abstract of his monthly returns, which will show the condition of each manufacturer's account. This record shall be open to the inspection of only the proper internal revenue officers, including deputy collectors and internal revenue agents.

PROVISIONS COMMON TO TWO OR MORE SUBJECTS

Sec. 117. BONDS—(a) (1) Bonds required to be given under the provisions of laws cited in these regulations may be executed with individual sureties or a corporate surety which has been authorized (under section 3 of above act) to do such business by the Secretary of the Treasury, subject to the limitations prescribed by Department Circular No. 356, which is issued quarterly by the Secretary of the Treasury, and subject to the provisions of Department Circular No. 3, dated January 5, 1910, or such amendatory circulars as may be issued from time to time. Section 1329 of the Revenue Act of 1921 provides that Liberty or other bonds of the United States may be deposited as security, in lieu of surety or sureties,

on any penal bond. Each collector will request instructions before accepting such collateral.

(2) Said bonds will not be executed for any fixed period of time; the liability will be a continuing one, without regard to whether a guarantee or surety company executing the same may collect from the principal an annual premium or fee. Bonds executed on forms other than those printed by the Government will not be accepted or approved by collectors. No collector having the approval of any bond shall exact that it shall be furnished by a guarantee company or by any particular guarantee company. All bonds must be executed in duplicate. Both copies of each bond must bear notation as follows: "The rate of premium on this bond is \$—— per thousand; the total amount of premium is \$——";

(3) A new bond may be given at any time, or may be required in the discretion of the collector, or under the instructions of the Commissioner. A new bond shall be required immediately in case of the death, removal, or insolvency of a personal surety, or insolvency of a corporate surety on any bond. Executors, administrators, and assignees continuing business must execute a new bond immediately. When, in the opinion of the collector, the interests of the Government demand it he may and shall require a manufacturer or dealer to give a new bond for an increased amount.

Sec. 135. CONTENTS OF STATUTORY PACKAGES—(a) *Lottery Features Barred*—Manufacturers are required to put up their tobacco, snuff, cigars, and cigarettes in certain packages and in no other manner. Statutory packages of tobacco, snuff, cigars, or cigarettes shall contain only the tax-paid article in the quantity or number and kind indicated by the stamp or stamps affixed to the package, except advertising matter of inappreciable weight, such as small advertising cards, coupons, certificates, paper bands, circulars, trade-mark tin tags, and trade-mark strips which do not materially increase the size of the package, and which are intended as an advertisement of the business of the manufacturer and concern the manufacture and sale of his product and no other business; and such advertising matter will not be prohibited, although intended to be returned to the manufacturer or to some person designated by him on the coupon and exchanged for other articles, provided the distribution of the prize articles does not depend upon the event of a lottery.

The manufacturer's registered factory number, district, and State shall appear upon each card, coupon, or certificate which may be placed within a statutory package.

T. D. 1819—Dec. 3, 1912: The equality or inequality of the redemption value on the one hand, or cost to the manufacturer on the other hand, in the case of coupons or inserts with, or inserts without, redemption value, respectively, determines whether statute is violated.

T. D. 2319—Apr. 8, 1916: Any differentiation as to character of coupons to meet varying conditions in different States which bar their use constitutes violation of statute.

(b) *Indecent pictures, prints, or words, etc.*—It is not the purpose of the Commissioner to define or decide what pictures, representations, print, or words must be regarded as immoral or indecent as distinguished from other pictures, representations, print, or words that may be regarded as legitimate, and manufacturers must refrain from submitting to the office any question relating to the proposed use of doubtful matter for advance official opinion, and the circulation of advertising matter will be at the risk of the manufacturer inclosing the same in statutory packages.

If a manufacturer is found violating the law with respect to lottery tickets and indecent and immoral pictures, representations, prints, or words, the penalties imposed by section 3456 of the Revised Statutes will be invoked. (See sec. 137.)

Sec. 142. PUBLICATION OF RECEIPTS FROM SALE OF STAMPS—A collector may furnish to persons desiring such information a monthly statement of the amounts received from sales of each class of stamps in his district, provided the number of taxpayers is so large as to preclude the possibility of determining from such a statement the output or operations of any individual manufacturer.

Collectors are warned, however, that no such statement should be furnished in any district where, by the consolidation of the sales of separate factories controlled by one person, a combination of persons, a corporation, or a company, it is possible to ascertain the output or operations of any individual manufacturer.

SALE OF TOBACCO PRODUCTS

Sec. 174. DEALER IN TOBACCO—DEFINITION—A person whose business it is to sell or offer for sale manufactured tobacco, snuff, cigars, or cigarettes is regarded as a dealer in tobacco. Dealers in tobacco are not now subject to special tax or required to register with the collector, but they must conduct such business at some definite location, except that they may sell or offer for sale manufactured tobacco, snuff, cigars, or cigarettes in, or from, original stamped packages upon passenger railroad trains or upon steamboats or other vessels engaged in the business of carrying passengers. In respect to the

sale of tobacco products while traveling from place to place in the town or through the country, which is the business of a peddler of tobacco, see Chapter XII, section 202.

Sec. 175. SALES AT RETAIL FROM STAMPED PACKAGES—Retail dealers only may sell, or offer for sale, manufactured tobacco, snuff, cigars, or cigarettes from packages packed and stamped by the manufacturer or importer and which also otherwise comply with the law. Such sales are commonly made in respect to cigars weighing more than 3 pounds per 1,000 and plug tobacco, and are lawful when made at retail by retail dealers. Tobacco manufactures must remain at all times in the original stamped packages until sold and delivered either in such packages or from such packages by retail dealers to customers.

Each package of tobacco or snuff or cigars or cigarettes sold by one dealer to another for resale must contain the product originally packed therein and in quantity corresponding with the denomination of the stamp affixed to the package.

Sec. 181. STAMPS TO BE DESTROYED WHEN PACKAGE IS EMPTIED—When any package of tobacco, snuff, cigars, or cigarettes is emptied, the person in whose hands the same may be must destroy the stamp or stamps to prevent reuse. Scratching sufficiently is a common method.

Sec. 182. LIABILITY FOR TRAFFICKING IN EMPTY STAMPED PACKAGES—It is a violation of law either to sell or to give away or to buy or to accept any empty package with stamp intact, and which had contained manufactured tobacco, snuff, cigars, or cigarettes.

Sec. 187. DUMMY PACKAGES FOR ADVERTISING PURPOSES—DISPOSAL OF EMPTIED PACKAGES—Socalled "dummy" cigar boxes or other empty cigar or tobacco containers or imitations of statutory packages intended for advertising or display purposes, stamped, branded, or marked in any way so as to show that any provisions of the internal revenue laws have been complied with may not lawfully be purchased, received, sold, or given away.

Sec. 188. VENDING MACHINES—Machines designed for the automatic sale of tobacco products must be approved by the Commissioner before their use is authorized. A working model or photographs of such machine which will show that the rules for construction of such machines set forth below have been complied with must be submitted to the Commissioner for inspection and approval. The rules laid down for the construction of vending machines are as follows:

The machine, whether constructed of wood or metal or a com-

bination of both, must have glass panels so placed that the statutory package of the tobacco product when in position therein may be inspected to ascertain whether it complies in every respect with the internal revenue laws without unlocking the machine or removing the package therefrom. Such inspection will be made for the purpose of determining whether the package has the proper stamp affixed and canceled, and whether it bears the required caution notice label and brand or mark.

The mechanism for delivery of the articles must provide for practically a direct feed from the original stamped package. In the case of sales from a statutory package the stamp must remain on the package until the contents are sold, when the emptied package shall be immediately removed, and the stamp thereon utterly destroyed. (See sec. 181.) Such emptied package can not be reused for sales from vending machines or again used by a manufacturer of such product.

PEDDLERS OF TOBACCO

Sec. 202. DEFINITION—Every person (except a manufacturer of, jobber, or wholesale dealer in manufactured tobacco, snuff, cigars and cigarettes, or the agent or the salesman of such manufacturer, jobber, or wholesaler selling and delivering or offering to sell and deliver only to dealers) who sells or offers to sell and deliver manufactured tobacco, snuff, cigars, or cigarettes, traveling from place to place in the town or through the country, is regarded as a peddler of tobacco. A person, other than one as excepted above, who solicits orders and subsequently delivers the goods himself, traveling from place to place, would be regarded as a peddler of tobacco. But a person, employed by a dealer, who solicits orders for taxpaid tobacco manufactures, which orders are accepted at the dealer's place of business, may subsequently deliver such goods without being regarded as a peddler of tobacco.

Persons who travel on foot or by public conveyance from place to place in the town or through the country, and who sell and deliver manufactured tobacco, snuff, cigars, or cigarettes, are regarded as peddlers of tobacco.

Persons traveling from one to another of such public gatherings as farm vendues, fairs, bazaars, political meetings, etc., without having any fixed particular place for making sales will be regarded as peddlers of tobacco. In respect to persons who put up booths or stands at such gatherings and at these fixed places of business sell cigars and tobacco taken from original stamped packages, see

section 174. In respect to a person who travels on a railway train or steamboat and sells and delivers tobacco and cigars from original stamped boxes to passengers, see section 174.

Sec. 203. **PEDDLER MUST REGISTER**—Every peddler of tobacco is required to register with the collector of the district.

Sec. 204. **STATEMENT**—Every peddler of tobacco, before commencing business, or, if already commenced, before continuing to peddle tobacco, snuff, cigars, or cigarettes, shall furnish to the collector of his district a statement, on Form 95, in duplicate.

Sec. 205. **BOND**—Every peddler of tobacco shall also before commencing business execute a bond, in duplicate, on Form 111, in the penal sum of \$500, to be approved by the collector of the district. A forfeiture of such bond will be declared if the principal shall be found guilty of the sale or offer for sale of manufactured tobacco, snuff, cigars, including cigarettes or leaf tobacco, in other form than in original and full packages, as put up by the manufacturer for sale, properly stamped, labeled, and branded, and the stamps canceled.

Sec. 206. **COLLECTOR'S CERTIFICATE**—Every peddler of tobacco must secure certificate of registry on Form 285 (sec. 56). This certificate, which will show the name of the peddler, his residence, and that he has filed the required bond, will be issued by the collector of the district, upon receipt of the required return for registry, statement and bond. Such certificate is good only to June 30 of the calendar year following, when, if business is continued, return for registry for the next fiscal year must be again filed, and new certificate of registry secured.

Sec. 207. **PEDDLER'S SIGN**—Every peddler of tobacco, snuff, cigars, or cigarettes traveling with a wagon will be required to affix and keep on same in a conspicuous place a sign, painted in oil colors or gilded, giving his full name, business, and collection district. See section 209 for penalty for failure to comply with this provision.

Sec. 208. **MAY SELL ORIGINAL STAMPED PACKAGES ONLY**—A peddler of tobacco may sell or offer for sale tobacco, snuff, or cigars (including cigarettes and leaf tobacco) in original, full, and unbroken packages only as put up by the manufacturer for sale, properly stamped, labeled, and branded, and the stamp canceled.

CHAPTER XXX

PROCESS OF MANUFACTURING IN BOND

METHOD BY WHICH CLEAR HAVANA CIGARS ARE PRODUCED UNDER A GOVERNMENT GUARANTEE —THE BONDED REGULATIONS

As the law providing for the manufacturing in bond of cigars for domestic consumption is comparatively a new institution, its exact intent, purpose and requirements are frequently misunderstood.

The law does not compel any manufacturer to bond his factory, nor does it compel any member of the trade to depart from the methods that have been in vogue for many years.

For a long time, particularly since the Pure Food and Drug Law was enacted, there was a feeling in some manufacturing circles that there ought to be a law against the use of the term "Clear Havana Cigars" in connection with cigars that were not made exclusively of Havana tobacco. But it was found that Congress would not entertain legislation of that character. The position of the Government was just this:

"It is within our province to forbid a mixture of coffee and chicory, for instance, to be sold as coffee, and to forbid a mixture of sugar and sand to be sold as sugar; but it is not within our province to assume responsibility over the particular grades of sugar sold by any merchant or manufacturer. If you want legislation forbidding a manufacturer to substitute cabbage leaves or alfalfa for tobacco we will give it to you, but we cannot attempt to maintain a dictatorship over the different kinds of tobacco which manufacturers may use in their cigars. One kind of tobacco is

no more injurious to the public health than another kind of tobacco. It is a matter of individual preference or taste, and a matter of confidence between the individual manufacturer and the individual consumer."

Of course, the legislature did not say this in exactly these words, but such was its attitude in the matter.

Then the manufacturers interested in the subject went to work to find some other way in which the desired end could be accomplished. The result was that in 1913 they succeeded in having incorporated in that part of the tariff laws treating on the subject of manufacturing in bond the following:

"Provided, that cigars manufactured *in whole* of tobacco imported from any one country, made and manufactured in such bonded manufacturing warehouses may be withdrawn for home consumption upon the payment of the duties on such tobacco in its condition as imported, under such regulations as the Secretary of the Treasury may prescribe, and the payment of the Internal Revenue taxes accruing on such cigars in their condition as withdrawn, and the boxes or packages containing such cigars *shall be stamped to indicate their character, origin of tobacco from which made, and place manufactured.*"

It will be seen that under this provision the manufacturer can make any kind of cigars he chooses in bond. Or, he can make any kind of cigars he chooses *not* in bond.

But he cannot withdraw cigars made in bond and get the Government bonded stamp unless his cigars are "manufactured in whole of tobacco imported from any one country."

Of course, no one wants to manufacture cigars "manufactured in whole of tobacco imported from any one country" unless that country is Cuba; so that the law, in effect, requires cigars manufactured in bond to be made entirely of Havana tobacco.

In other words clear Havana cigars may not necessarily be manufactured in bond, but cigars manufactured in bond must, of necessity, be clear Havana.

The restrictions now in effect, however, go even further than this, for in that part of the bonded clause which says the goods may be withdrawn "under such regulations as the Secretary of the Treasury may prescribe," rulings have been made to the effect that there shall be designated, on the Government bonded stamp, the particular kind or method of manufacturing used.

This law and these regulations are now in operation, but there is nothing in them which makes compulsory any departure from the old and established methods of operation.

No manufacturer of Clear Havana cigars has to convert his factory into a bonded manufacturing warehouse unless he chooses so to do.

In case he does, a U. S. Customs Agent is assigned to duty at the factory and is constantly in attendance. And none but he may open or close the factory.

THE TREASURY DEPARTMENT RULINGS

Following is the Treasury Department decision in which instructions were given to internal revenue officials and through them to many cigar manufacturers and others interested as to the meaning, scope, effect and operation of the law;

"CIGARS MADE IN BONDED MANUFACTURING WAREHOUSES.

"Withdrawal of cigars made in bonded manufacturing warehouses under the provisions of Section V, Paragraph M, of the tariff act of October 3, 1913.

"Treasury Department, October 10, 1913.

"To Collectors of Customs and Others Concerned:

"Section V, Paragraph M, of the tariff act of October 3, 1913, provides in part "That cigars manufactured in whole of tobacco imported from any one country, made and manufactured in such

bonded manufacturing warehouses, may be withdrawn for home consumption upon the payment of the duties on such tobacco in its condition as imported, under such regulations as the Secretary of the Treasury may prescribe, and the payment of the internal revenue tax accruing on such cigars in their condition as withdrawn, and the boxes or packages containing such cigars shall be stamped to indicate their character, origin of tobacco from which made and place of manufacture.

"The provisions of Articles 506 to 513, inclusive, Articles 514 to 524, inclusive, only so far as applicable, and Articles 525 to 538, inclusive, of the customs regulations of 1908, are hereby extended to the bonding and operation of warehouses for the manufacture of cigars.

"Only tobacco imported from one country may be taken into premises bonded for the manufacture of cigars, for use in making cigars. Cigars manufactured from such tobacco may be withdrawn for consumption in the United States upon the filing of an entry in the form provided by Article 257 of the customs regulations of 1908 for the withdrawal of merchandise from bond for consumption, such form of entry to be modified to correspond to the facts.

"The entry must specify in detail the quantity of tobacco from which the cigars were made and duty shall be paid on the tobacco used, in its condition as imported, at the rates provided in the appropriate paragraphs of the tariff act of October 3, 1913.

"In order to comply with the requirement that duty shall be paid on the tobacco used, in its condition as imported, collectors will require the weighing and examination and proper records to be kept of all tobacco taken directly into the bonded manufacturing warehouse from the import vessel. In the case of tobacco transferred from bonded warehouse into a bonded manufacturing warehouse from which to make cigars, the records of the examination and weights at the time of the importation and entry of such tobacco will be used in arriving at the correct amount of duties due on the tobacco.

"The collector will require, before the removal of the cigars from the bonded premises, under a withdrawal for consumption, that internal revenue stamps shall be affixed to the boxes containing the cigars and that the boxes shall be stamped to indicate the character of the cigars, the origin of the tobacco from which made and the place of manufacture.

"Signed, C. S. HAMLIN,
"Assistant Secretary."

Articles 506-513 to which the above refers provide that the manufacturing warehouse must be in a separate building located at a customs port; that application to establish such a warehouse must be made to the collector of customs, the building must be approved by fire underwriters; that bond must be filed and sent to the collector of internal revenue for the district in which the manufacturing warehouse is to be located for his approval; that the warehouse shall be in the custody of the customs authorities and part of it shall be used for storage, and that access to the building shall be denied the generality of people. Articles 514 to 524, permit boxes, labels, bands, etc., to be taken into the bonded factory-warehouse without the payment of tax; the transfer of the manufactured cigars from one warehouse to another without the payment of duty, in original packages. They also provide for appraisement, transfer from vessel and re-warehousing. Forms are prescribed for application to transfer, withdrawal for transfer, ownership bond, transfer order and permit. Under the old regulations, which are to be applied as far as practicable, duty free materials other than tobacco for use in making cigars may be taken into the factories. Other features of the articles referred to cover the exportation of the manufactured product, proof of export being required; also lading, transportation, temporary deposit in warehouse, transfer bond, renewal of bond, discontinuance, etc.

CHAPTER XXXI

THE FEDERAL TAXATION OF TOBACCO

A REVIEW OF THE TAX SCHEDULES THAT HAVE BEEN ENACTED SINCE 1862—PRESENT INTERNAL REVENUE TAXES AND CUSTOM DUTIES

On July 1, 1862, ad valorem internal revenue taxes were imposed upon cigars as follows: Valued at not over \$5 per M, \$1.50 per M; valued at over \$5 and not over \$10 per M, \$2 per M; valued at from \$10 to \$20 per M, \$2.50 per M; valued at over \$20 per M, \$3.50 per M.

That law was repealed June 30, 1864, when new rates were prescribed on cigars as follows: Valued at not over \$5 per M, \$3; valued between \$5 and \$15 per M, \$8; valued from \$15 to \$30 per M, \$15; valued from \$30 to \$45 per M, \$25; valued at over \$45 per M, \$40. In that law cheroots and cigarettes were taxed separately for the first time. The rate on cheroots was fixed at \$3 per M, provided they were not worth over \$5 per M. On cigarettes valued at not over \$6 per 100 packages of 25 each, a tax of \$1 per 100 packages was prescribed and on cigarettes valued at over \$6 per 100 packages of 25 each, the rate was \$3 per 100 packages, while there was a special tax of \$3 per M on cigarettes made wholly of tobacco.

In 1865 the law was changed again, there being a flat tax of \$10 per M upon "cigars and cheroots made wholly of tobacco or any substitute therefor." By the same law taxes of 5 cents per package were levied on cigarettes valued at not over \$5 per 100 packages of 25 each, five per cent on cigarettes valued at over \$5 per 100 packages and \$10 per

M on cigarettes "made wholly of tobacco or of any substitutes therefor."

The act of 1866 imposed taxes of \$2 per M upon cigars, cigarettes and cheroots valued at \$8 per M or less, \$4 per M upon the same if valued at from \$8 to \$12 per M, and \$4 plus 20 per cent if valued at over \$12 per M. The following year there was a tax of \$5 per M assessed on cigars, cheroots and cigarettes of all descriptions, but in 1868 that rate was limited to cigars and cheroots, while cigarettes were divided into two classes by weight, the same division that prevails today. The rates in 1868 were \$1.50 per M upon cigarettes weighing not over three pounds per M and \$5 per M upon cigarettes weighing over three pounds per M.

In 1875 the tax on cigars and cheroots was advanced to \$6 per M, while little cigarettes went to \$1.75 per M and big cigarettes to \$6. Next came a reduction in 1883 to \$3 per M on cigars and cheroots, and 50 cents on little cigarettes, and \$3 on big cigarettes. For over fourteen years there was no change until the act of July 24, 1897, the Dingley tariff law, divided cigars according to weight—over three pounds per M and not over three pounds per M. The rates of internal revenue fixed by that law were \$3 per M on big cigars, \$1 on little cigars, \$3 on big cigarettes and \$1 on little cigarettes.

The following year the Spanish war necessitated increases to \$3.60 per M on big cigars and big cigarettes and \$1.50 on little cigarettes, the rate of \$1 remaining unchanged on little cigars. In 1901 big cigars dropped back to \$3 while little cigars were reduced to 54 cents per M. The next year big cigarettes were lowered to \$3. From 1901-1902 until 1909, when the Aldrich-Payne law was enacted, little cigarettes paid ad valorem internal revenue taxes as indicated above.

The tax rates on "manufactured tobacco" have also been varying with the years. In July, 1862, the rate was fixed at two cents per pound on smoking tobacco "made exclu-

sively of stems," which was thirty-five cents on "smoking of all kinds not otherwise provided for," forty cents on Cavendish, plug, twist, etc., and fine-cut chewing, and forty cents on snuff. In the following year the rates were revised again with this result: fifteen cents on "smoking, not sweetened, stemmed, or butted," thirty cents on "tobacco twisted by hand, etc.," and fine-cut shorts, forty cents on smoking tobacco if "sweetened, stemmed or butted" and forty cents on chewing tobacco. In 1868 the tax was thirty-two cents per pound on "chewing, etc., smoking, etc., part of the stems removed," sixteen cents on "smoking, exclusive of stems, etc.," and thirty-two cents on snuff. A tax of twenty cents per pound was assessed in 1827 upon tobacco, "all kinds, except snuff, cigars, cheroots and cigarettes." This was increased to twenty-four cents in 1875 and dropped to sixteen cents in 1879 and eight cents in 1883.

In 1890 a law was passed reducing the tax on smoking and manufactured tobacco and snuff to six cents. In 1898 manufactured tobacco and snuff were raised to twelve cents a pound tax owing to the Spanish War, but the rate was reduced to six cents in 1902. The Aldrich-Payne law made an increase to eight cents in 1909.

In October, 1914, a measure was enacted providing for an increase in internal revenue to offset the loss of customs duties which followed the declaration of war between Germany and allied nations in Europe. This law went into effect November 1, 1914, but merely established special taxes on dealers in tobacco and leaf tobacco and manufacturers of tobacco products, ranging from \$6 a year for leaf dealers whose sales did not exceed 50,000 pounds to a tax of \$2,496 a year for cigar manufacturers producing over 40,000,000; and the same tax for manufacturers of cigarettes producing over 100,000,000. The tax rates on the products themselves was left unchanged; namely \$1.25 per thousand on cigarettes weighing not over three pounds per

thousand; \$3.60 on cigarettes weighing over three pounds per thousand; \$.75 on cigars weighing not over three pounds per thousand, \$3 on cigars weighing over three pounds per thousand, and \$.08 per pound on snuff and chewing and smoking tobacco.

At that time the customs duties on tobacco were: On



PIPES FROM ASHANTEE, AFRICA, MADE OF RED CLAY,
THE DOTS AND LINES BEING FILLED WITH WHITE.

cigars and cigarettes, \$4.50 per pound and 25 per cent ad valorem; \$0.35 on unstemmed filler, \$0.50 on stemmed filler; \$1.85 on unstemmed wrapper, \$2.50 on stemmed wrapper; \$0.35 on scrap tobacco; and \$0.55 on manufactured tobacco, including snuff.

On November 2, 1917, a new revenue measure went into effect which was an innovation in tobacco taxation, inas-

much as it placed the cigar rates on a sliding scale basis. Little cigars (weighing not more than three pounds per thousand) were increased to \$1; cigars weighing above three pounds per thousand were divided into five classes based on the retail price at which they were intended to be sold. Class A included cigars to retail at not more than four cents each and the tax remained the same, \$3. Class B, more than four cents each and not more than seven cents each, were increased to \$4; Class C, more than seven cents each and not more than fifteen cents each, were increased to \$6; Class D, more than fifteen cents each and not more than twenty cents each, were increased to \$8; and Class E, more than twenty cents each, were increased to \$10. Three-pound-per-thousand cigarettes were increased to \$2.05 per thousand, and cigarettes weighing over three pounds were advanced to \$4.80 per thousand. The rate for tobacco and snuff was made \$0.13 per pound. Cigarette paper and cigarette tubes, formerly tax-free, were subjected to rates of half a cent for a book of fifty sheets; one cent for a book of 100 sheets; and two cents per 100 cigarette tubes.

In February, 1919, there went into effect a measure which still further increased the Internal Revenue rates on tobacco products. Little cigars went to \$1.50 per thousand; class A cigars were increased to \$4, class B to \$6, class C to \$9, class D to \$12 and class E to \$15. Three-pound cigarettes went to \$3 and large cigarettes to \$7. Tobacco and snuff rates were increased to eighteen cents.

On May 27th, 1921, a bill known as the Emergency Tariff Act, was passed which increased the duty on cigar wrapper tobacco to \$2.35 per pound for unstemmed leaf, and \$3 per pound for stemmed leaf. The Emergency Tariff schedule was nullified and succeeded by the permanent tariff act of 1922 which reduced the customs duty on wrapper leaf to \$1.85 on unstemmed, and \$2.50 on stemmed. A few other

minor changes affecting the tobacco trade were provided for in that measure.

The rates, internal revenue and customs, prevalent at the time of the publication of this volume, are given here-with:

INTERNAL REVENUE TAX RATES

Cigars weighing not more than 3 pounds per 1,000, per thousand	\$1.50
Large Cigars:	
Cigars weighing more than 3 pounds per 1,000, if manufactured or imported to retail at	
Class A—Not more than 5 cents each, per thousand....	4.00
Class B—More than 5 cents each and not more than 8 cents each, per thousand.....	6.00
Class C—More than 8 cents each and not more than fifteen cents each, per thousand.....	9.00
Class D—More than 15 cents each and not more than 20 cents each, per thousand.....	12.00
Class E—More than 20 cents each, per thousand.....	15.00
Cigarettes:	
Weighing not more than 3 pounds per 1,000, per thousand.	3.00
Weighing more than 3 pounds per 1,000, per thousand....	7.20
Tobacco:	
However prepared, manufactured or imported, and sold or removed for consumption, or sale, per pound.....	.18
Snuff:	
However prepared, manufactured or imported, and sold or removed for consumption, or sale, per pound.....	.18
Cigarette papers, on each package, book or set containing	
More than 25 but not more than 500 papers.....	.00½
More than 50 but not more than 100 papers.....	.01
Over 100 papers for each 50 or fraction thereof.....	.00½
Cigarette tubes:	
For each 50 or less.....	.01

IMPORT DUTIES

Cigars, cigarettes, cheroots*.....per lb. \$4.50 and
25% ad val.

LEAF TOBACCO, ETC.*

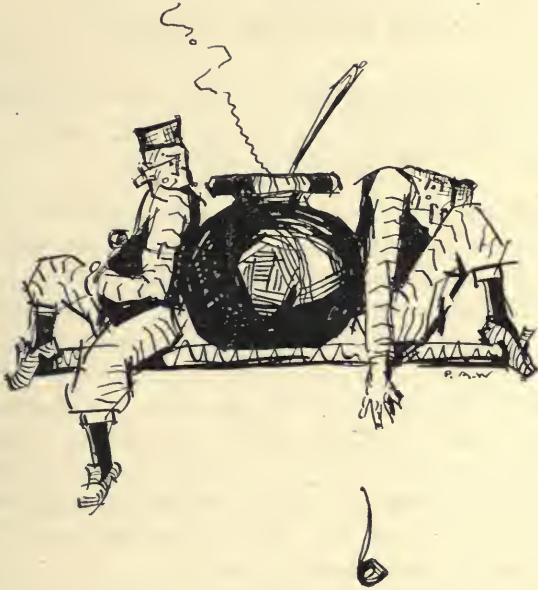
Unstemmed fillerper lb. 35c.
Unstemmed wrapperper lb. \$2.10
Stemmed fillerper lb. 50c.
Stemmed wrapperper lb. \$2.75
Scrap tobaccoper lb. 35c.
Stems, cut, ground or pulverized.....per lb. 55c.
StemsFree
All other tobacco manufactured or unmanufactured,
including snuff.....per lb. 55c.

*Tobaccos and tobacco products imported from Cuba receive a tariff reduction of twenty per cent from the above rates.

PIPES, SMOKERS' ARTICLES, ETC.

Cigar and cigarette cases and cutters.....80% ad val.
Cigar and cigarette holders of metal.....80% ad val.
Cigarette books and book covers and cigarette paper.50% ad val.
Briar Root, etc.10% ad val.
Pipes (clay), valued at more than 40c. per gross...45% ad val.
Pipes (clay), valued at not more than 40c. per gr..15c. per gross
Cork paper30% ad val.
Pipes and smokers' articles, not of metal.....60% ad val.
Cigars and cigarette holders, not of metal.....60% ad val.
Pouches60% ad val.
Meerschäum20% ad val.
Amber, manufactures of20% ad val.
Raw Amber20% ad val.
Licorice Rootper lb. ½c.
Licorice Paste25% ad val.
Licorice (extract)25% ad val.

Mixed bales, containing both wrapper and filler tobacco, pay wrapper duty on entire contents if wrapper portion of bale exceeds 35 per cent.



part viii merchandising

CHAPTER XXXII

CIGAR STORE MANAGEMENT

THE VALUE OF COURTESY AND SERVICE—APPARENTLY INSIGNIFICANT DETAILS THAT MAKE RETAILING SUCCESSFUL

To tell one how to run his business, and at the same time to avoid being pert, pedagogic and patronizing, is not ordinarily a simple achievement. In this particular case it is easy enough because I frankly admit at the outset that I am not a cigar merchant and make no pretense of being an authority on cigar merchandising. I am, however, a sort of clearing house for the mistakes, the failures, the experiences and the successes of many others. And that which follows is the wisdom, not of the author, but of a half dozen of America's most successful cigar-store operators. To beginners in the cigar business, particularly, these hints are commended.

First of all be convinced that twice as high rental usually means more than twice as much profit. Get a good location. If you can't start in a good location, *don't start*.

Good window displays changed weekly are half the battle. Nine times out of ten it is the window that introduces the customer to the store.

Economy in light is in the end an extravagance. The cigar store must be brightly lighted both day and night. There should be no dark corners in it. If you have awnings in front, see that they are hung high, and do not fail to raise them entirely so soon as the movement of the sun will permit.

Dust is a pernicious enemy of good business. A customer

who has to blow dust from his box of cigarettes or can of tobacco may never return. Sweeping powder should be used liberally in a cigar store, and a half hour after the sweeping is done the duster should be applied. Windows and showcases should be wiped daily and cleaned often, especially in dry weather.

Never try to hurry your customer. Give him plenty of time. If he is hesitating between two brands or two articles and you are busy, excuse yourself politely until you have waited on someone else and then return to him.

It is a good thing to keep goods under glass as much as possible, but do not neglect an opportunity for good display on this account. Do not be afraid to risk the soiling of a pipe or a few cigars now and then. A dealer can always get his money back out of shop worn goods by the special sale or job-lot method.

Do not run your wall shelves up so high that the goods cannot be reached readily. There are better ways of saving space than this. If you are short of space leave the out-of-the-way places for reserve stock, but always keep a good supply for immediate use within easy reach of the hand.

In small stores, plan the arrangement of counters, etc., with a view to giving the customers as much space as you can to walk around in. It is sometimes surprising how much you can make of a limited space when you take time and care to study the question.

In buying, remember that it is easier to overstock than it is to underbuy. Cigar and tobacco salesmen, as a class, are good men, honest, hard working and polite. They should be treated courteously and given the same consideration that you would expect if your positions were reversed. At the same time, the dealer must remember that the ambition of most salesmen is to sell large bills, and the buyer should be careful not to be persuaded against the dictations of his own judgment and knowledge of his business affairs.



A MODERN AMERICAN CIGAR STORE; ALL GLASS SHOW-CASES, ENCLOSED SHELVING, STOCK CAREFULLY CONDITIONED, ALERT SERVICE.

At the same time, the cigar dealer must remember that every time he runs out of an active brand, he is giving his business a black eye.

A want book should be kept in every cigar store, and entries made in it before supplies are entirely exhausted. A card index is perhaps better than the ordinary want book. The card must show the stock on hand at short period inventories, new stock received when any is added, and stock sold. Do not forget that turning away a customer through not having the brand he calls for means not only the loss of the profit of the sale, but in most cases, the loss of the customer.

Read your trade paper, and if you are an employer or manager, see that your clerks read it. Frank Farrington, the well-known authority on retail store management, says: "I have found trade journals exceedingly useful and reliable. I would far rather depend upon the trade journal than upon the traveling man. The trade journal holds no brief for any concern. It is open to all. It is just as much interested in getting hold of good new things about which to advise its readers as its readers are in hearing about the goods. It will keep any retailer posted if he will give it a chance. Money invested in such papers is productive of the best return you can get for such a small investment."

Never take a cent over the counter without saying "Thank you." This is a little thing but it means much. No matter how busy you are or how many times you have to do it, say "Thank you." It pays every time. Receive every customer pleasantly but not too cordially, unless the acquaintanceship warrants more familiar greeting. The best general rule is to be polite and cheerful to every one. If you know the name of the customer, always address him by it. We all like to be called by name.

If a customer calls for something you have not got, don't make the mistake of telling him it is not good or that you



IN THE ORIENT STOREKEEPING IS DIFFERENT. HERE IS A CHINESE TOBACCONIST IN NANKING. HIS STAND IS MADE OF PACKING CASES AND ALL MERCHANDISE IS EXPOSED. CIGARS, CIGARETTES AND TOBACCOS ARE ON SALE.

“never heard of it.” While he may not outwardly resent this, inwardly he feels that you have disparaged his judgment; and you have done yourself no good. You may say that you have had no calls for it recently, but even this must be tactfully expressed if you would keep his good will. “Sorry” is a good word here.

Give every man his money back if he wants it. Sometimes it may come hard but it pays in the end. This has been tried and proven.

When selling cigars at retail, there are many little facts well-known to most retailers of experience but valuable only if told to customers. Most dealers are apt to take it for granted that customers must have the same knowledge as themselves, but were they to take the trouble to communicate bits of information at opportune moments it would be found that people do appreciate occasional tips.

When cigars do not draw well, press them carefully at the tuck to make them burn freely. Sticking a knife or pin in cigars from the head seldom helps the drawing. Sometimes smokers have cut off too small a bit of the tip.

When placing cigars in a tube or holder it is always best to moisten the tip of the cigar before putting it into the tube. This causes the cigar to adhere to the holder, and also softens it sufficiently to make it fit well and insures a good draft.

When placing cigars in an open-end pouch or pocket, have the tuck up. If they should break a little on this end it will affect the smoking less.

Keep a cloth handy to wipe cases promptly. Dust means dirt to the customer, so keep showcases clean.

Don't hesitate to reserve a box of cigars for any customer, if color suits him. He may be a crank, but you'll make a friend by watching and catering to his moods. Try to remember his brand, but if it is a cheap one don't spring it

on him when he walks in with friends. Perhaps he wants something better.

Don't lay boxes of cigars on their sides, as this position is apt to spoil ends.

About pronouncing names of brands, sizes, etc., especially Spanish or other foreign names, policy dictates that you let customers call them what they will. Don't air your superior knowledge to the point of irritability.

Pay attention to kicks. Receive them in good spirit. Investigate them all. Sometimes standard goods might, through some accident, be wrong. It's to your interest to know.

Suggest, but don't argue. You know very well that smoking is one-half imagination. Allow for it.

Don't throw change at a customer; lay it before him.

Don't be automatic; be human.

Be interested and attentive.

Be sincerely courteous.

Be patient.

CHAPTER XXXIII

STOCK AND PROFIT SYSTEM

FOR THE RETAIL CIGAR AND TOBACCO DEALER THIS METHOD WILL STOP THE "LEAKS"

Probably the vast majority of men who start in the retail cigar business know very little about business science. Certainly very few are trained accountants. Such being the case, it is not surprising that the novice frequently finds it impossible to discover the "leaks" which soon become manifest in their results and mystifying as to their causes. If the business is expected to pay and to grow, the smaller it is, the more important that an accurate check be made on both stock and profits. The following system will be found both simple and effective.

First take your inventory at retail (selling price). This can either be done by listing each article separately, or more quickly by bulking all articles selling at the same price vs. so many articles at five cents—ten cents—fifteen cents, etc. The latter is by far the quicker method and will enable one to take an inventory aggregating four or five thousand dollars in less than one hour.

Having the total stock on hand at retail, from now on, charge all merchandise to the stand at the selling price. A good way to do this is to extend the selling price of the merchandise on the invoice opposite the cost price, and charge the stand with the total of the bill at the selling price. This will also enable one to watch the percentage of gross profit on each bill of merchandise purchased.

The clerk must keep a record of all rebates on box sales, gratuities, etc., and the total amount of this record is credited to the stand when checking the next inventory.

On the following week or month when the inventory is again taken (at the retail price), this system will word out as follows:

ASSUME THE ORIGINAL INVENTORY TO BE \$2,000

Stock on hand, July 1st (at selling price).....	\$2,000
Purchases, July 1st to Aug. 1st (at selling price).....	3,000
	<hr/>
Total	\$5,000
Stock on hand, Aug. 1st (at selling price).....	\$1,800
Sales from July 1st to Aug. 1st.....	3,100
Box Rebates	75
Gratuities	25
	<hr/>
Total	\$5,000

If there is no shortage in the stock, this is the way the stock should check. If the stock is short, of course, it will show a deficit.

It is simply a case of having so much, receiving so much, selling so much, and having the balance left.

This is a system which does not show gains and losses. It is only intended to check stock. It is simple, accurate, and quick, and can be used for a large or small business; one stand or a hundred stands.

If it is desired to learn the profits during the period between inventories, reduce the stock to the cost price by deducting the sum of the average gross percentage of profits in the following manner:

Merchandise at retail selling price.....	\$1,800
Average gross profit 30%.....	540
	<hr/>
Merchandise on hand, at cost.....	\$1,260

This amount of course, is not absolutely accurate, but will not vary enough to warrant the taking of a double inventory.

In a retail business, one must always base the percentage of profit on the selling price. So many merchants make the

mistake of figuring profits on the cost price and charging cost of operation on the selling price. This error causes them to spend many unhappy hours pursuing the elusive deficit which the fallacy of their systems create.

If merchandise costing \$750 is sold for \$1,000, the profit is \$250, or 25 per cent (not 33 $\frac{1}{3}$ per cent). If rent cost \$50, salaries \$80 and incidentals \$20, a total of \$150, the cost of operation is 15 per cent. The net gain is the balance of \$100, or 10 per cent.

The rest is nothing more than single or double entry bookkeeping.

This system, when studied, can be expanded to show as many details as desired or required. I believe it to be the shortest way to check the stock on hand, and after all, this is the most important thing; as a leak on this end will sink a good ship quicker than a torpedo.

FIGURING PERCENTAGES OF PROFIT

There are two methods of calculating the percentage of profit on business transactions. It's the old problem over again of a man who sells two houses at \$10,000 apiece. On one house he makes 25 per cent profit and on the other he takes a loss of 25 per cent. Does he make or lose by the double transaction and how much?

In the wholesale and retail cigar trade profit percentages are figured on the *sale* price, the theory being that the average retailer sets an arbitrary percentage of profit on his retail transactions. Let us say he sets 25 per cent as his percentage. In such a case the retailer determines his sales for a day as being \$100 and he immediately figures \$25 as his profit on the day's business.

On the other hand the manufacturer claims that profit must be calculated on the investment made. He says that if you buy an \$80 cigar and sell it at 10 cents straight that you have made \$20 on an investment of \$80 or 25 per cent profit.

"Oh, No!" counters the retailer, "You don't make a profit until after you have made the sale and if you sell for \$100 something that costs you \$80 why you have made \$20 and no amount of figuring will turn \$20 profit on a \$100 sale into 25 per cent. I am not interested in the investment. What counts with me is the amount of business I do!" "Now there you are wrong," says the manufacturer; "you

TABLE OF PROFITS FOR THE RETAILER

Showing retail prices, cost prices and percentages of profit.
(Fractions omitted or approximated)

5 cents		2 for 15 c.		3 for 25 c.		ten cents		2 for 25 c.		fifteen c.	
Cost	% pft.	Cost	% pft.	Cost	% pft.	Cost	% pft.	Cost	% pft.	Cost	% pft.
30.	40	45	40	50	40	80	40	75	40	90	40
30.50	39	46	38 $\frac{1}{2}$	51	38	81	39	76	39	91	39 $\frac{1}{2}$
31.	38	47	37 $\frac{1}{2}$	52	37	82	38	77	38 $\frac{1}{2}$	92	38 $\frac{1}{2}$
31.50	37	48	38	53	36	83	37	78	37 $\frac{1}{2}$	93	38
32.	36	49	34 $\frac{1}{2}$	54	35	84	36	79	38 $\frac{1}{2}$	94	37 $\frac{1}{2}$
32.50	35	50	33 $\frac{1}{2}$	55	34	85	35	80	36	95	36 $\frac{1}{2}$
33.	34	51	32	58	32	88	34	81	35	96	36
33.50	33	52	30 $\frac{1}{2}$	57	31	87	33	82	34	97	35 $\frac{1}{2}$
34.	32	53	29 $\frac{1}{2}$	58	30	88	32	83	33 $\frac{1}{2}$	98	34 $\frac{1}{2}$
34.50	31	54	28	59	29	89	31	84	32 $\frac{1}{2}$	99	34
35.	30	55	26 $\frac{1}{2}$	60	28	70	30	85	32	100	33 $\frac{1}{2}$
35.50	29	56	25 $\frac{1}{2}$	61	26	71	29	86	31	101	32 $\frac{1}{2}$
36.	28	57	24	62	25	72	28	87	30 $\frac{1}{2}$	102	32
36.50	27	58	22 $\frac{1}{2}$	63	24	73	27	88	29 $\frac{1}{2}$	103	31 $\frac{1}{2}$
37.	26	59	21 $\frac{1}{2}$	64	23	74	26	89	28 $\frac{1}{2}$	104	30 $\frac{1}{2}$
37.50	25	60	20	65	22	75	25	90	28	105	30
38.	24	:	:	66	20	76	24	91	27	106	29 $\frac{1}{2}$
38.50	23	:	:	67	19	77	23	92	26 $\frac{1}{2}$	107	28 $\frac{1}{2}$
39.	22	:	:	:	:	78	22	93	25 $\frac{1}{2}$	108	28
39.50	21	:	:	:	:	79	21	94	24 $\frac{1}{2}$	109	27 $\frac{1}{2}$
40.	20	:	:	:	:	80	20	95	24	110	26 $\frac{1}{2}$
:	:	:	:	:	:	:	:	96	23	111	26
:	:	:	:	:	:	:	:	97	22 $\frac{1}{2}$	112	25 $\frac{1}{2}$
:	:	:	:	:	:	:	:	98	21 $\frac{1}{2}$	113	24 $\frac{1}{2}$
:	:	:	:	:	:	:	:	99	20 $\frac{1}{2}$	114	24
:	:	:	:	:	:	:	:	100	20	115	23 $\frac{1}{2}$
:	:	:	:	:	:	:	:	:	:	116	23
:	:	:	:	:	:	:	:	:	:	117	22
:	:	:	:	:	:	:	:	:	:	118	21 $\frac{1}{2}$
:	:	:	:	:	:	:	:	:	:	119	20 $\frac{1}{2}$
:	:	:	:	:	:	:	:	:	:	120	20

invested \$80 in a thousand cigars and by selling them at \$100 for the thousand you have made \$20 on an \$80 investment and therefore your profit is 25 per cent, for \$20 is the quarter part of \$80, or 25 per cent. You are wrong when you figure any other way."

Well, is the retailer wrong? As surely as custom makes laws just so surely is the great majority right, even if it is wrong. That's a paradox worthy of Chesterton; but for the purposes of this volume I shall go with the majority, even

though logic and mathematics are both opposed. No doubt the table of percentages here published will be infinitely more acceptable based on the sale price than if it were based

TABLE OF PROFITS FOR THE RETAILER

Showing retail prices, cost prices and percentages of profit.
(Fractions omitted or approximated)

: 3 for/50 c. :	20 cents :	25 cents :	30 cents :	3 for \$1 :	35 cents :
: Cost % pft :	: Cost % pft :	: Cost % pft :	: Cost % pft :	: Cost % pft :	: Cost % pft :
: 99 40 :	: 120 40 :	: 150 40 :	: 180 40 :	: 180 46 :	: 210 40 :
: 100 39 :	: 121 39½ :	: 151 39½ :	: 185 38 :	: 185 44 :	: 215 38½ :
: 101 39 :	: 122 39 :	: 152 39 :	: 190 36½ :	: 190 42 :	: 220 37 :
: 102 38 :	: 123 38½ :	: 153 38½ :	: 200 33 :	: 200 40 :	: 225 35½ :
: 103 38 :	: 124 38 :	: 154 38 :	: 205 31½ :	: 205 38 :	: 230 34½ :
: 104 37 :	: 125 37½ :	: 155 38 :	: 210 30 :	: 210 36 :	: 235 32½ :
: 105 36 :	: 126 37 :	: 156 37½ :	: 215 28 :	: 215 35 :	: 240 31½ :
: 106 36 :	: 127 36½ :	: 157 37 :	: 220 26½ :	: 220 33 :	: 245 30 :
: 107 35 :	: 128 36 :	: 158 36½ :	: 225 25 :	: 225 32 :	: 250 28½ :
: 108 35 :	: 129 35½ :	: 159 36½ :	: 230 23 :	: 230 30 :	: 255 27 :
: 109 34 :	: 130 35 :	: 160 36 :	: 235 21½ :	: 235 29 :	: 260 25½ :
: 110 33 :	: 131 34½ :	: 161 35½ :	: 240 20 :	: 240 27 :	: 265 24½ :
: 111 33 :	: 132 34 :	: 162 35 :	:	: 245 26 :	: 270 23½ :
: 112 32 :	: 133 33½ :	: 163 34½ :	:	: 250 24 :	: 275 22½ :
: 113 32 :	: 134 33 :	: 164 34½ :	:	: 255 23 :	: 280 20 :
: 114 31 :	: 135 32½ :	: 165 34 :	:	: 260 21 :	:
: 115 30 :	: 136 32 :	: 166 33½ :	:	: 265 20 :	:
: 116 30 :	: 137 31½ :	: 167 33 :	:	:	: 40 cents
: 117 29 :	: 138 31 :	: 168 32½ :	:	:	: Cost % pft :
: 118 28 :	: 139 30½ :	: 169 32½ :	:	:	: 240 40 :
: 119 28 :	: 140 30 :	: 170 32 :	:	:	: 245 38½ :
: 120 27 :	: 141 29½ :	: 171 31½ :	:	:	: 250 37½ :
: 121 27 :	: 142 29 :	: 172 31 :	:	:	: 255 36½ :
: 122 26 :	: 143 28½ :	: 173 30½ :	:	:	: 260 35 :
: 123 26 :	: 144 28 :	: 174 30½ :	:	:	: 265 33½ :
: 124 25 :	: 145 27½ :	: 175 30 :	:	:	: 270 32½ :
: 125 24 :	: 146 27 :	: 176 29½ :	:	:	: 275 31½ :
: 126 24 :	: 147 26½ :	: 177 29 :	:	:	: 280 30 :
: 127 23 :	: 148 26 :	: 178 28½ :	:	:	: 285 28½ :
: 128 22 :	: 149 25½ :	: 179 28½ :	:	:	: 290 27½ :
: 129 22 :	: 150 25 :	: 180 28 :	:	:	: 300 25 :
: 130 21 :	: 151 24½ :	: 181 27½ :	:	:	: 305 23½ :
: 131 21 :	: 152 24 :	: 182 27 :	:	:	: 310 22½ :
: 132 20 :	: 153 23½ :	: 183 26½ :	:	:	: 315 21½ :
: 133 20 :	: 154 23 :	: 184 26½ :	:	:	: 320 20 :
: 134 19 :	: 155 22½ :	: 185 26 :	:	:	:
: 135 19 :	: 156 22 :	: 186 25½ :	:	:	:
:	: 157 21½ :	: 187 25 :	:	:	:
:	: 158 21 :	: 188 24½ :	:	:	:
:	: 159 20½ :	: 189 24½ :	:	:	:
:	: 160 20 :	: 190 24 :	:	:	:
:	:	: 191 23½ :	:	:	:
:	:	: 192 23 :	:	:	:
:	:	: 193 22½ :	:	:	:
:	:	: 194 22½ :	:	:	:
:	:	: 195 22 :	:	:	:
:	:	: 196 21½ :	:	:	:
:	:	: 197 21 :	:	:	:
:	:	: 198 20½ :	:	:	:
:	:	: 199 20½ :	:	:	:
:	:	: 200 20 :	:	:	:

on the cost price. The table has the virtue of being a practical guide for the great body of cigar dealers, whereas no such claim could be advanced in its favor had only the manufacturer's viewpoint been considered.

Let us go back to the man who sold those two houses for \$10,000 apiece. From the retailer's viewpoint that man broke even on the double transaction. Ask the "average man" and the answer will be: "Why he neither lost nor gained." But let us see if that really is the case. The first question is: "How much did those houses cost?" On house "A" he lost 25 per cent on a sale price of \$10,000; therefore \$10,000 is 75 per cent of the cost price of that house and it is simple arithmetic to determine the unknown cost by dividing \$10,000 by 75 per cent which gives \$13,333.33.

Now as to house "B," sold also at \$10,000, he made 25 per cent profit. In this case \$10,000 represents 125 per cent of the cost price and, going back to school days arithmetic, we find that if \$10,000 represents 125 per cent then 100 per cent, which is the cost price we are seeking, would be \$8,000.

The combined cost of the two houses is thus shown to be \$21,333.33 and if the combined sale price was \$20,000 then that man lost \$1,333.33, and he did not break even, after all.

No amount of retailer reasoning can change those facts; and that inexorable arithmetical law underlies the viewpoint of the manufacturers. But, as I said before, I adopt the retailers' viewpoint here because that basis gives a lower percentage than the manufacturers' method. And even though some retailers were minded to figure according to the manufacturer's way, he has a minimum already figured out for him as a guide and he can easily add, and safely too, about five per cent more than the table shows.

After all is said and done, the only person vitally interested in the profits of the two houses mentioned above was the seller; so I say let each one figure for himself and then we'll all figure right, even if we are wrong.

CHAPTER XXXIV

KEEPING CIGARS IN CONDITION

THE BASIC PRINCIPLE IS UNIFORM ATMOSPHERE— CONSTRUCTION OF THE HUMIDOR—REGULA- TION OF HEAT AND MOISTURE

The quality of leaf from which any tobacco product is fabricated is manifestly of supreme importance. Yet the quality and character of the raw material is no more important than the care and conditioning of the product from the time it leaves the workers' table until it is ultimately consumed. This is true of all of the various forms of tobacco manufacture. However, since cigars and cigarettes in the ordinary packings of wood and paper are particularly sensitive to atmospheric influences, let us confine our observations to those two products, especially cigars.

So long as leaf tobacco is in the bulk—in cases or bales—it virtually conditions itself. It may be apparently dry, but it retains in a large measure its own juices and oils. Upon removal from the bulk it is taken over by the workers, under whose trained hands it is properly conditioned, packed, and shipped. Presumably, and we may say actually, it is in a perfect state when delivered to the dealer.

From the time the dealer receives it until the smoker consumes it, is the dangerous period. So far as the smoker is concerned little need be said on this subject. Most of the cigars and cigarettes consumed go directly into consumption from the dealers' hands, and the small advance supplies laid in by smokers are easily taken care of by means of the various makes of individual humidors on sale at all cigar stores.

It is the dealer, with his always large stock of merchan-

dise, who is most vitally concerned in the matter of keeping his products in proper condition, or, to put it differently, in preserving the condition in which the goods are when they arrive from the factory.

One of the most successful cigar merchants in the United States once said:

“The keeper of a cigar store should watch first his humidior and then his cash register.”

Many a successful retailer can trace the chief reason for his success to the condition in which he kept his stock; while, reversely, the majority of failures in that line have been due to ignorance or neglect of this essential. The very finest cigar may be rendered unpalatable through want of attention in this particular. And it is the same with cigarettes.

Now the art of keeping cigars or other tobacco merchandise in the proper condition cannot be taught by rote or rule, as one would teach elementary mathematics. There is a basic principle to be observed, and, after that, experience, observation, and common-sense complete the course and determine the degree of success attained.

This basic principle is that the merchandise should be kept in an atmosphere, the temperature of which is about 65 and the humidity about, but not over, 75.

Ordinarily, merchandise is not in showcases or wall-cases long enough to necessitate or demand more than ordinary precautions. Package goods are turned over rapidly and, so long as the sale and replenishing are done on the rotation system and the shelves are refilled twice a day in dry weather, there is not much chance for deterioration. Nevertheless, covered compartments are advantageous, although, unfortunately, they are not always practical. As to showcases, they are easily equipped with clay moisteners and the opening and closing of the doors supplies all necessary ventilation.

CONSTRUCTION OF THE HUMIDOR

It is the dealer's humidor, or vault, in which his surplus stock is kept and in which cigars remain for weeks and sometimes for months, that demands close study and constant vigilance.

The old idea that a humidor must be made largely of brick and cement or on the icebox principle has become obsolete in the light of later day experience.

It is assumed, of course, that the humidor is not to be located too close to a steam-pipe, over a furnace, or over a cellar that is unusually damp or foul. With this presupposition, all a humidor needs to be is a virtually airtight room with a degree of available ventilation and equipped with a humidifying device and a hydrometer and thermometer that may be used as guides. If the humidor is to be used for purposes of display as well as storage, the exposed walls may be partly, or largely, of glass and the exterior of the woodwork as ornate as may be desired. The important thing is that the lumber be well-seasoned and all joints tight. This means sidewalls, floor and ceiling.

Avoid green and resinous woods. Avoid pungently odorous woods, excepting cedar. It is a curious fact that cedar, especially the Cuban and South American cedar, has an affinity for tobacco. Some factory humidors are constructed entirely of red cedar. It is an advantage either in factory or store to have at least the shelving of this material. It may or may not be beneficial to the flavor of cigars; but it certainly lends a pleasantly aromatic odor to the atmosphere of the vault, which is beneficial psychologically if in no other way.

Provisions should be made for ventilation, as dead air is not wholesome. But, since the door is opened frequently and may be left slightly open when desired, one small ventilating aperture near the ceiling is sufficient; two, one at each end, are ample. Ordinarily the door should remain



A TOBACCONIST'S SHOP IN THE TIME OF JAMES I. FROM A REPRINT IN BRATHWAIT'S "SMOAKING AGE," PUBLISHED IN 1617 AND THUS ESTABLISHING THE EARLY USE OF THE INDIAN FIGURE AS A TOBACCO SHOP SIGN.

closed, but this is a matter to determine after observation.

Always remember that moist air is heavier than dry air and settles downward. At one end of the room, near the ceiling is the place for the humidifier. The preferred type is that having a water-wheel and a fan which blows the air through the dripping water and which permits the regulation of humidity by running or stopping the apparatus.

There should be a small electric heater in localities that are subject to periods of extreme cold. The reason for this is that extremely cold air does not take on moisture readily, and if the room were too cold the humidifying apparatus would be ineffective and the air would become too dry.

Thus equipped, and with a thermometer and hydrometer to register your air condition, you have but to apply observation, vigilance, and common-sense to keep your stock of cigars in uniform and proper condition.

Use the heater sparingly and have it in the middle of your floor space, as remote from the stock as possible. Remember that its only purpose is to prevent the air from getting too cold to take up the moisture of the humidifier. Watch your hydrometer closely and start and stop the humidifying machine accordingly.

If, through some inadvertence, your cigars are permitted to become extremely dry take care that they are not brought back to a proper condition too quickly. It is this over-anxiety to recondition the cigars that often causes trouble. In remoistening cigars too hastily the outside wrapper stretches and expands, because it absorbs the moisture more readily than the filler. The consequence is that the wrapper has a tendency to loosen, and when smoked the cigar "leaks air." The process of bringing dry cigars back to their normal degree of moisture should occupy, as nearly as is practical, the same length of time as was required to dry them out. The humidity of the container should be raised very slowly, so that as the goods absorb the humidity the

inside of the cigar will increase in moisture along with the outer leaves. Thus, the danger of "blistering" the cigar is obviated.

Cigars should be removed from the humidior only when they are ready to go directly into the case. There should be no intermediate stage of lying on open shelves or in exposed places about the store. Once in the showcases, the effect of overhead moisture must not be underestimated. Cigars, sold from the case are always sold from the top of the box. That is to say, first the upper layer, then the second, and so on to the bottom row. As the upper strata of air are denser than the lower strata, it is logical that the upper layers of cigars in the box are more charged with moisture than the lower ones. This is as it should be, in order to have the bottom layer in good condition when it is reached for vending. The man behind the counter should always be careful to sell first the cigars that have been longest in the case, so far as is consistent. Sometimes a dealer has two or more boxes of the same brand and size in the case and in these instances he should always try to hand out goods from the box that was first to leave the humidior.

In the matter of cigarettes, tobaccos, etc., this principle of rotation should be carefully adhered to. Tobaccos are so generally packed nowadays in tins or other moist-proof wrappings that they are well protected from meteorological influences. Cigarettes, however, are quite as susceptible as cigars. For the benefit of the cigarette it would be a good thing if airtight wall cases were used; but these are not always practicable, and the next best thing is to keep the goods moving out *in strict rotation*. When the compartment runs low and it is necessary to put in more cigarettes, these packages should be put in at the bottom so that those already in the compartment will be handed out first. Care should be taken to have not more than a day or two days'

supply of cigarettes exposed at a time. It is quite as necessary to guard against too much moisture as too little moisture in handling cigarettes, for if these goods absorb too much water, the tobacco discolors the paper and renders them unsalable. Cigarette stock should always be allowed to remain in their original cartons until as near the time of sale as possible,

CHAPTER XXXV

CIGAR SIZES AND COLOR MARKS

HOW THE NAMES OF SHAPES ORIGINATED AND WHAT THEY MEAN—THE COLOR OF A CIGAR NOT A SURE INDICATION OF "STRENGTH"

The words "size" and "shape" are nearly synonymous in cigar terminology, and either word, when used in the trade, usually implies a combination of both meanings. That is, by either "size" or "shape" is meant the formation of a cigar—length, thickness and contour. The name of the particular size and shape of the cigar contained in a box is usually printed on the front of the box, and this is called the "front mark," so that "size," "shape," and "front mark" are almost interchangeable terms.

Many Cuban factories and some domestic clear Havana factories pack cigars under as many as forty or fifty different front marks. Some of these shapes or given arbitrarily-chosen and fanciful names which do not really represent an individual size, while others are inappreciable gradations from more or less standard front marks. As a matter of fact, there are only about twenty or thirty front marks which are broadly recognized by the trade as representing each a differently shaped cigar; and even these are not accurately standardized, either as to size, shape or name. They begin with a little three-and-a-half-inch smoke called variously Petit Duc, Coquetta, etc., and range upward to a large and very expensive size, called Presidente, Noblezas, Ambassadors, etc., measuring seven-and-a-half-inches.

STANDARD FRONT MARKS

The following list of twenty-five front marks is fairly representative of the nearly-standard sizes made in this country. They are not given in progressive order, the number before each name being merely as a Key to the accompanying illustrations.

- 1—Coronas.
- 2—Imperiales.
- 3—Invincibles.
- 4—Perfectos.
- 5—Palmas Reales.
- 6—Incomparables.
- 7—Invincible Chicos.
- 8—Perfecto Grande.
- 9—Triangulares.
- 10—Puritanos (Ideales, Standards, Royals, Statesmen).
- 11—Epicures.
- 12—Bock Panetelas.
- 13—Students, Gems, etc.
- 14—Perfecto Especiales (Perf. Finos, Perf. Extra).
- 15—Deliciosos.
- 16—Plazas.
- 17—Perlas.
- 18—Brevas.
- 19—Petit Ducs.
- 20—Bishops.
- 21—Straight Londres or Boston Grande.
- 22—Rothschilds..
- 23—Conchas.
- 24—Favoritas.
- 25—Straight Conchas (Dianas, Majestics).

















Among the many other sizes are Queens, Needles, Predilecto, Brilliante, Esceptionale, Solomone, Sensibles, Vitolas, de Luxe, Fancy Tales of Smoke, Palmas, Pets, Chiquitas, Bouquets, Belvideres, Napoleons, Exclusivos, Superbas, Imperials, Peerless, Ponies, Caballeros, Alfonso, Juniors, Cazadores, Club House, etc., together with their appended variations such as Especiales, Extra, Extra Fina, Chica, Grande, etc.

Imported cigars usually run smaller than corresponding shapes in domestic Clear Havana goods.

The question is sometimes asked: What was the origin of these various front marks? All of them originated in Havana, and most of them have been in use for many years, having been adopted by the early Cuban manufacturers, partly for their euphony and partly for the qualities which the words suggest. For instance *coquetta* means flirt; *Puritano*; Puritan; *delicioso*, delicious; *perfecto*, perfect; *favorita*, favorite; *cazadora*, huntress; *breva*, pressed figs, etc. Some of the told-time front-marks have legends connected with their adaptation. There is a story for instance, that many years ago, before the industry in Cuba was as large as it is now, a small manufacturer in Havana struck the popular fancy by making a cigar that was very soft and spongy, which became known as the *panetela*, which is the Spanish for sponge. The word eventually came to be employed in describing what is now known as the Panetela shape. There is also a pretty well-established tradition that the *Londres* (London) originated from a size which first became popular in the British capital. The English equivalent of *concha* is shell; and that of *entre actos*, is between the acts, suggestive of the short smoke.

CHAPTER XXXVI

PIPES AND THE RETAILER

IMPORTANCE OF EDUCATING THE SMOKER TO THE ADVANTAGES OF A HIGH GRADE PIPE— HOW TO SHOW PIPES

There isn't a retail cigar store keeper in this country today who could not make pipes and smokers' articles pay the rent, provided he had a fairly good location. This is not a wild guess. I could mention fifty stores that do this today. Just for comparison you can pick out a dealer in a city of a population of 50,000 who does a tremendous pipe business which shows him big profits; and fifteen or twenty miles away, you have another high-class dealer in another city of the same size who says he cannot sell fine pipes and only sells cheap goods and finds the business unprofitable.

There is something radically wrong with this latter dealer, which, however, can be easily explained. The live dealer in the first city keeps his pipes clean, has good window displays, keeps posted on new styles and shape, knows how to talk to his customers intelligently and carries quality goods.

It is so easy to keep your pipes in good condition, so that they are attractive to the eye. All that is required is a selvyt cloth or chamois skin for cleaning the bowls and some powdered "rough" to clean the ferrule. In so many cases a dealer will leave his pipes in the window until the sun has taken off the fine polish and the ferrules have turned black. Is it any wonder that when a customer looks at the pipe he goes away in disgust? If some of our pipe makers could see their pipes after the retailer has had them for a few months, they would never believe it was the same briar

STANDARD PIPE STYLES*



Above:
Straight Egg Shape

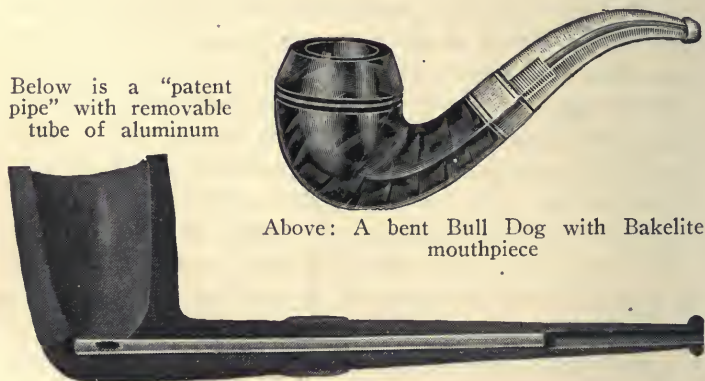
Below:
Straight Bull Dog
Shape



Above:
Bent Bull Dog Shape

Below:
Bent Egg Shape

Below is a "patent
pipe" with removable
tube of aluminum



Above: A bent Bull Dog with Bakelite
mouthpiece

*Pictures by courtesy of Wm. Demuth & Co.

they had turned out with such skill, care and attention.

The manufacturer, on the other hand, is very jealous of his reputation and does not care to have his goods placed with dealers who do not care to keep the stock looking clean.

In most factories, pipe making is an art, not a trade, and if you could see how they turn out a pipe, the care and attention given to every detail, you would soon realize that you are doing, not only yourself, but the pipe manufacturer, an injustice in not properly taking care of your stock. The next time you visit a city that has a high-class pipe store, go in and look over their show windows and cases, see how nicely the bowls are cleaned, the ferrules polished, and the way in which the goods are displayed in the show cases, and notice the different atmosphere in the store.

You will then realize why they have built up a reputation and continue doing a high-class pipe business year in and year out. So many retailers figure one pipe is the same as another. A successful dealer takes the view that quality is the first consideration. After he has quality and confidence in the line he carries, he can talk convincingly and make his sales easily.

Bear in mind that your troubles end when you sell a fine briar. The pipe is fully guaranteed, your customer is satisfied and because of the satisfaction he gets from this fine pipe he, himself, will take the trouble to tell his friends about it and where he bought it.

The average clerk has too little knowledge of the difference between a good pipe and a poor pipe; and when a customer asks him the difference between a \$1 pipe and a \$6 pipe his explanation is such that the customer feels he is getting as good a value at \$1 as he is at \$6. This means a big loss in profit to the retailer and does not build his business on a solid foundation.

There is no "fake" about pipe quality and value. The

reason the dealer makes more on a \$6 pipe than a \$1 pipe is because the turn-over is greater. A little explanation to the customer that the \$6 pipe is strictly a first-quality bowl and has gone through the fire process, has been calcined, the wood is absolutely perfect and thoroughly seasoned, the workmanship the finest, the stem hand-made of the finest Para rubber, etc., and you can easily convince your man why the pipe is worth the difference. It is well to bear in mind that there are sixteen qualities of briar wood and a strictly first-quality briar root is not easy to find. The percentage is about six to a gross of stummels. The rubber stems used on high-priced briars are made from the finest Para rubber. They are cut and finished by hand, which gives them a very smooth finish and renders them almost impossible to bite through.

There is no such thing as a pipe costing too much money, considering the length of time it can be used. Suppose a customer paid \$6 for a briar pipe and we will figure he smokes six pipefuls of tobacco a day, making 2,190 smokes a year. It costs him a little over two-tenths of a cent a smoke—that is, of course, provided he smokes the pipe for one year. Some people have smoked their pipes for twenty years. A fine pipe, the longer you smoke it, the sweeter it smokes; a cheap pipe, not having the seasoning, becomes strong and the customer becomes dissatisfied. It is not uncommon to find smokers who have used the same pipe for several years who would not part with it for any amount of money.

When a customer asks any question pertaining to pipes, the clerk should have sufficient knowledge to answer him immediately and never reply, "I don't know." Remember, the man who comes in to purchase a pipe figures he is talking to an expert; and this impression must stick until the sale is made. It is just as easy to sell a fine pipe as it is a

cheap one, simply by pointing out the advantages of the fine briar.

Within the last few years there has been a tremendous increase in the sale of fine briars, and this also has caused a big increase in the sale of fine smoking mixtures, which brings a desirable trade to your store and allows you a good margin of profit, as high-grade smoking tobacco is never sold at a cut price.

In showing a pipe, the way you pick it up and the first impression you make on your customer will help you make the sale. Pick up the pipe as if it were a fine diamond and hold it up and make some fitting remark about the perfect balance, attractive style, etc. Do not just lay it on the counter; you must remember that the pipe itself cannot talk.

In England, where the sale of pipes is such a tremendous factor to the retail store, their methods are entirely different from ours. They rely entirely on beautiful window displays and personal service at the counters. They are never hurried and the attention they give a customer compels him to buy.

To become successful you must study pipes continually and observe in your various talks the things you say that make the best impression. Be efficient in your knowledge of the general pipe business. Do not lose your enthusiasm once you get started. Suggestive force is the greatest salesman in the world today. Keep suggesting to your trade that you carry the finest pipes made and it will not be long before you have made several new customers. Do not be afraid to show him your highest grade pipes first, as it is so easy to come down in price. No man is ever insulted because you judged him on too high a plane, and the chances are, while his intentions might have been to buy a cheap pipe, he will at least buy one at a medium price.

While it is distinctly advantageous for a dealer to develop the sale of his highest-grade pipes he should not suffer his

cheap lines to be neglected. There are many localities where some people and some places where many people do not have \$6 or \$5 or even \$2 to spend for a pipe. Their custom, however, is well worth retaining and the fifty-cent pipe buyer is entitled to the same sympathetic attention as the \$6 pipe buyer. But opportunities for cultivating faith in and a desire for better merchandise should never be overlooked.

CHAPTER XXXVII

THE PIPE REPAIRING DEPARTMENT

SERVICES OF AN EXPERT REQUIRED BUT WITH EQUIPMENT AND A LITTLE EXPERIENCE THE NOVICE MAY MAKE MANY REPAIRS SUCCESSFULLY

To be a regular pipe-repairer, one must be a pipemaker. Expert repairers invariably are men who have worked in pipe factories and learned the trade. One of the difficulties in the way of learning the repair business outside a factory is the danger of spoiling merchandise. When you undertake to repair a pipe you do so at your own risk. If, during the process, you irreparably injure the man's property you have to make it good.

Nevertheless, it is quite possible for one who has had no pipe-making experience to learn to make many simple repairs providing he has deft fingers and a mechanical turn of mind. If he is particularly apt, and by practicing on accumulated "cripples" of his own, or on cheap and shop-worn merchandise, he may become really expert.

THE TOOLS FOR A SIMPLE OUTFIT

You will need for the simplest repairing the following outfit: A flat file, a three-cornered file, a pair of pliers, a few pieces of stiff wire, a small gimlet, some sand paper, a small quantity of plaster of paris, and a little gum arabic. This equipment will cost less than one dollar, but will work wonders if used intelligently.

You will also require a very limited stock of pipe bits (your jobber or manufacturer from whom you buy pipes

can supply you). A small number of each of the more popular styles only is necessary.

REMOVING BROKEN SCREWS

When pipes are brought in to be repaired, usually the remnants of the screw or the plug are left imbedded in the stem of the bowl. Your three-cornered file if pushed into the remaining bit of screw or rubber plug and turned carefully will usually result in the part coming out easily. If the screw has been cemented in, this method will not abstract it. Don't attempt to force screws out. A broken pipe will be the only result. Now as to plugs: If the first trial does not bring it out, frequently, and after several attempts, each of which loosens the plug a little, it can be removed. But where plugs are fastened firmly, if the gimlet is screwed in, a firm pull will generally dislodge the obstinate bit of rubber. The writer has removed thousands of plugs by these simple methods and only remembers breaking two pipes. But to be on the safe side always tell the customers before attempting a job: "This is taken out at your own risk. We are not responsible for breakage." Where pipes have no metal bands they are liable to crack, otherwise risk of breakage is small. Heating the pipe at the metal band will aid in removing parts of rubber plug, as it softens the rubber.

To remove screws cemented into pipe or amber: Heat a wire and insert into screw. Several applications will usually result in softening the cement sufficiently to permit ready removal of the screw. To set screws in meerschaum or amber: Mix a little gum arabic with plaster of paris and add enough water to make a paste. Keep the gum arabic and plaster of paris ready in separate small bottles and mix in a saucer or in the empty top of a tobacco tin as needed. Apply a small quantity to screw and after adjusting it in required position allow it to set for a few hours to harden thoroughly.

ABOUT BITS AND PLUGS

When fitting rubber bits and plugs (the part that fits into the pipe) if they are too large, they can be reduced to the proper size in several ways. They can be filed down by using care when filing that the bit is turned constantly to keep it rounded, or they can be sandpapered down. This makes a neater job. To do this, hold sandpaper in one hand and twirl the bit with the other until it is sufficiently reduced, or one may heat the plug slightly and it can then be forced into the hole of the pipe. Still another method is to ream out the hole of the pipe. All these methods are good sometimes. A little experience will qualify one to judge of the best way to work.

A PLACE FOR EVERYTHING

Where pipe repairing is made a specialty a drawer should be reserved for finished work and subdivided into compartments. For the average cigar store a division of the alphabet into groups of six letters will suffice. This facilitates speedy finding of work when customers call for it. A record book should be kept, giving date when repair was left, price (cost of work in cipher), description of article, etc., thus enabling one to keep accurate tolls on whether this department pays or not.

The easiest way to keep a large variety of pipe bits is to place each style in a small cardboard box and sew a sample on the box for exhibit. Use boxes of a uniform size and appearance.

MEERSCHAUMS AND FANCY GOODS

In England, where the pipe is supreme, the art of repairing these goods is highly developed. We therefore borrow from the *Cigar and Tobacco World*, of London, some additional hints for this chapter.

Small repairs are easily done by most people, and fill up

spare time pleasantly. In the large cities it is better to place all repairs but the most trifling in the hands of a professional pipe repairer; but to the smaller-town dealer that means cost of postage and loss of time; yet that is unavoidable with customers' repairs, unless it be simply replacing a screw or re-cementing a mouthpiece to the stem. There is always the risk of breakage in attempting that for which the proper tools (notably a lathe) are not to hand. Of course, this does not apply so forcibly to one's own stock goods, but should a customer's pipe—perhaps a well-colored meerschäum—be broken, he will be very much annoyed, and probably demand three or four times the original cost.

THE TOOLS FOR REPAIRS

Two flat safe-edged files, fine and medium, a jeweler's fine three-square file, three square bradawls or "rimers" (for enlarging bores of screws, etc.), a burnisher of some kind, a small pair of pointed pliers, a piece of stout copper wire, and a stiff knitting-needle will be all that is likely to be required. Then there are the materials, viz., two sheets of fine sand paper, Nos. O and OO, a small tube of liquid glue, a bottle of liquid gum, and some fresh plaster of paris; we mention small quantities because both of these ingredients for making cement should be always fresh as, should either be "sour," the cement will not set. About three dozen silver bands of assorted sizes, two gross of assorted bone screws, of which some should have shoulders and a few dozen tiny pins for fastening pipe-case hinges, will complete the equipment.

Having unscrewed the mouthpiece and probably found something projecting from the stem, the next move is to ascertain what that "something" is. If it be a broken pipe brush or a piece of string, there is unlikely to be any difficulty in pulling the same out with a pair of pliers; but if it be cane, straw, grass, or anything equally fragile, by no

means try to pull it out, or it will break and increase the trouble. If any difficulty arise in removing the obstruction, the best thing to do is to replace the mouthpiece; clear the bore at the bottom of the bowl; stop up the mouthpiece with a wax match and the bowl with a cork, having previously half-filled the bowl with methylated spirit, then fix the pipe so that the bowl remains upright, and leave it for twelve or eighteen hours. It will then be found that the spirit has disintegrated the oily particles, and may thus render the obstruction more easy to remove. Should you not succeed in this, tell your customer that you must send it to a professional pipe-repairer, who may have to "drill" through the obstruction.

UNSTOPPING A BENT PIPE

Few people realize that it is impossible to curve a bore, and that consequently, that of a bent pipe must consist of two, or sometimes three straight bores, meeting at convenient angles, and it is the little pockets unavoidably made at these angles by the pipe-maker (for he is working in the dark) that cause the difficulty in cleaning or unstopping bent pipes. The best plan is to work at first from the bowl, pushing the obstruction towards the mouthpiece with a piece of pliable copper wire. But if it be the short bore from the bowl that is blocked up, then insert a knitting-needle up the stem to create a resistance to the bradawl, or something of that kind, with which the short bore is to be cleared. It is not of consequence if the short bore be enlarged by this process; in fact, it is rather an advantage; but be very careful not to pierce the bottom of the bowl.

It is only when the damage is trivial that the shopkeeper should undertake the repairs himself; moreover, one must discriminate the repairs himself; moreover, one must discriminate between stock goods and those belonging to customers; in the latter case the owner must agree to any pro-

jected repairs or alterations, and should be appraised of the probable cost. With stock, the only object is to make the damaged article salable.

FIXING A LOOSE MOUTHPIECE

A very small but frequent repair is occasioned by the mouthpiece becoming loose generally caused by shrinkage of the little screw joining it to the stem; this applies to stock; but when it occurs in pipes in use the cause is the decomposition of the cement by the acid of the saliva of the smoker. If the mouthpiece be slightly loose and overturns somewhat, remove it and dip the screw in thin gum; after ten or fifteen minutes replace it in the exact position it should be, and put the pipe aside to dry. But a different process is needed if the screw is loose from the meerschaum. With a small pen knife scrape away the face of the old cement in the screw, and clean properly the surfaces of the mouthpiece and stem where they should join. In the case of a smoked pipe clear away *all* the old cement and clean the bore with a pipebrush dipped in a little spirit.

HOW TO MAKE THE CEMENT

Make a small quantity from plaster of Paris and liquid gum; the bottom of a cup or saucer will be found useful; on this put a little pile of plaster, add gum, stirring and mixing it all the time, until the mixture becomes a thick paste. This cement sets rapidly, therefore, if disturbed in the process, mix a fresh lot. Now put some of the paste in the stem of the pipe, then insert the screw attached to the mouthpiece and press the same firmly; wipe off the superfluous cement carefully, and then blow strenuously down the mouthpiece, or insert a stout blunted wire, so as to expel the loose portions from the bore, otherwise the stem will be blocked by dry cement. Now rest the pipe bowl downward, in the case, or elsewhere so that the mouthpiece stands alone, and leave it for a few hours to dry.

TO REPAIR A BROKEN STEM

There are several modes of repairing fractures. As a rule meerschaum breaks off fairly level, but the fracture is likely to be irregular when on or close to the screw, owing to the leverage of the mouthpiece. In this connection it may be remarked that imitations of meerschaum mostly show "conchoidal" or shell-like fractures; they are seldom worth repairing. For a clean break in the stem of a meerschaum pipe, let your professional repairer make the broken edges quite flat and insert a disc of meerschaum of a slightly larger diameter than the stem; all three parts to be joined with a bone screw; this is known as a "collar-joint," and is equally applicable to a new as to a colored pipe. If broken close to the stem there is likely to be a crack longitudinally; if a customer's pipe, the best repair is with a silver band fitting closely, and extending a trifle over the mouthpiece, which thus becomes a fixture; but if it be a stock pipe, have the broken part removed and replaced by a new piece of meerschaum.

WHEN BROKEN CLOSE TO THE BOWL

If this happens to a stock pipe it is impossible to repair it satisfactorily; it would not find a purchaser; it is better to face the loss and save the case and mouthpiece which will, probably come in for a future repair, and thus repay you part of the loss. This kind of break more frequently occurs to a colored pipe, because the meerschaum is then more sodden close to the bowl. If the owner be very fond of his pipe, it is quite possible to have it repaired by having an ivory or bone tube inserted inside the stem and the bottom of the bowl, the tube being spread out there like a tiny funnel; the repair is further strengthened by an outside mount, finishing on the bowl with an angle, which is then secured with a silver pin.

Some of the edges are so sharp that it is common accident

to chip off a piece of the meerschaum; in all probability it is a small piece; if so, it is an easy matter to trim the broken edge with a sharp penknife, always supposing that the surrounding carving will admit the operation without disfigurement. If, however, the fracture be too large to treat in this manner satisfactorily, then carefully wrap the broken-off piece in tissue paper, place it inside the bowl, and put the pipe away for future treatment when you can sit down quietly and uninterruptedly. Then get some Major cement or other transparent preparation with which the fracture can be repaired in such a manner that it does not show where joined. Seccotine is not colorless enough for this work. A very small portion of cement should be used, it being necessary to allow it to dry perfectly, after which the superfluous cement must be very carefully removed with a knife. This job must be done with perfectly clean fingers, as dirt, grease, or even perspiration on the fracture will prevent the cement holding. Should you have any doubt about your capability, then send the pipe to a professional pipe-repairer. A colored or partially colored pipe does not require so much care, as the trimming off or fracture can be darkened with tobacco juice.

With cheap goods it is best to put broken ones into the "cripples' box" (of which we will treat hereafter); but with better qualities—they generally break close to the mouth-piece—attempts should be made to repair them by cementing the broken parts together, letting the same become perfectly dry, then cover the fracture with a silver band. If the screw simply becomes loose, then proceed in the same manner as with meerschaum, but using liquid glue instead of plaster and gum; as a rule, they are loose for want of a little moisture only. When screws are broken, it is sometimes possible to extract the broken pieces and put in new ones; but, as a rule, it is better to put the pipes in the "cripples' box," taking care to place the mouthpieces in the

bowls after wrapping them in paper; this to ensure that the right mouthpiece can be afterwards put to the right pipe.

REPAIRING AMBER AND AMBEROID

There are very few repairs which the novice can not do himself, with the exception of when the lip-piece is broken or bitten off. With small pieces it is not worth the time and trouble that the repair involves; but it is different with a long, and therefore expensive, mouthpiece. To begin with, the fractured part must be cut off level with the small three square file, or, better still, with a very fine small saw such as metal-workers use; now with the medium safe-edge file held flat on the table or bench, the cut-off end must be made smooth by moving the amber, held perfectly upright, from end to end of the file. The next process is to cut a lip on the amber with a fine file; the lip must be started somewhat thicker than would seem to be necessary, because the subsequent trimming will considerably reduce it. Now graduate the cut along the amber so that the result may not be too stubby and sudden; this is the most difficult and tedious part of the process. When done, trim the end of the amber and the new lip to a crescent shape, with the medium and fine files in succession. To get the right shape take an unbroken mouthpiece as a pattern. The repaired mouthpiece now requires polishing, firstly with No. 00 emery paper, then with 0 pumice-stone and oil. Rub with white-ning to finish.

JOINING AMBER

When amber or amberoid is bodily broken send it to your pipe-repairer, who can join the edges after filing them flat, by inserting a screw; as this shortens the mouthpiece, it is necessary in a bad break to insert also a piece of amber or amberoid to fill up the gap, when the screw goes completely through the new piece, which may well be of a different

color to the original without disfigurement; on the contrary, it frequently enhances the appearance.

CORRECTING OVERTURNED MOUTHPIECES

With stock goods the overturning is generally caused by the screw having shrunk from drought, and is easily remedied by the application of moisture; but with customers' pipes it is mostly caused by constant unscrewing for cleansing purposes; in these cases it will mostly be found that the portion of the screw inside the stem of the meerschaum or briar, as the case may be, is very firmly fixed. To correct this overturning it is needful to cut down the joining face of the mouthpiece so as to convert the "over-turn" into a complete half-turn; sometimes this proves to be insufficient and a whole turn is required. The cutting-down process is effected with the file held quite flat on the table, and the amber worked steadily and firmly to and fro; trying the mouthpiece on the screw frequently so as not to file off *too* much.

Another authority offers a simpler and perhaps more effective method. His instructions are as follows:

At any time a mouthpiece overturns, either a briar or meerschaum pipe: Unscrew the amber mouthpiece, take a little rosin and pulverize it to a dust. Dip the amber in the rosin and the mouthpiece will fit true with the pipe. No filing will be necessary with this little operation.

VULCANITE MOUTHPIECES

Vulcanite mouthpieces are of two kinds, viz.: molded and cut from the solid block. The former are the more liable to breakage, particularly in frosty weather. They are not easily mended. In fact, it is cheaper to replace them. Pipes to which these are attached should be put into "the cripples' box." The most frequent breakages of the solid vulcanites occur to the lip part, and are caused by strong-jawed smok-

ers, of which there are many, biting them through. It is quite a simple matter to cut a new lip on vulcanite, but in the absence of a lathe, it is very difficult to polish properly. This is not very important with a pipe in use, as one can make it fairly smooth with some kind of a burnisher, such as a round tool which is made of hard steel. On the other hand, the customer may object to his mouthpiece being made shorter and consequently "stubby." The alternative is to have a new mouthpiece made, which will give you less trouble and pay you quite as well, or better, than repairing it yourself. With the customer it is a question of delay and cost.

VULCANITE AND AMBER

In this connection it is well to know that if an expensive amber mouthpiece be broken close to the stem, a very efficient and slight repair can be effected by having a piece of vulcanite joined to the amber to take the place of the fractured part.

HORN MOUTHPIECES

These are practically unbreakable, but some horn "laminates" or chips off in scales. It is also liable to split when of a poor quality. They cannot be repaired. Bent horn will sometimes straighten somewhat when exposed to the heat of the sun in the window, also when being smoked. They are easily re-bent by soaking them for a few minutes in hot water to make them pliable. Then bend with the fingers and hold so, until quite cool.

THE CRIPPLES' BOX

We now come to this oft-mentioned receptacle, which may well be an old deep cigar-box, or something of that kind. The principal object of this box is that it should be used for the cheaper kinds of broken fancy goods, or even for those of the better kind which have been put aside for

future treatment. One might think that it is not worth while to trouble about the cheaper kinds, and that they might as well be thrown away at once. This is most decidedly wrong, because it is by small economies that we learn the important item, "thrift!" What we have to consider, however, is the cost of repair as compared to the original cost of each article. There may be many "cripples" which a handy man can repair himself in his own spare time, and this is where the silver bands, the bone screws, etc., come in. Of those articles which are beyond repair, the mouthpieces, screws and cases should be saved for future possible use.

TO REPAIR THE PIPE CASES

Under this heading we include cases for cigar and cigarette holders. It is not uncommon for the outside leather to get slightly torn. Mend these as soon as discovered with liquid gum. If the spring of a case does not act satisfactorily, remove the contents and ascertain the cause. It may be a piece of leather or plush lining against the flat of the inside of the spring, which can be removed with a sharp knife, or the spring may require to be slightly bent with a fine pair of pointed pliers, either forwards or backwards as may be required, so that the case opens and closes easily. Sometimes the tiny hasp requires a little filing of the inside edge. Sometimes hinges require a new pin. Now replace the article in the case; if the former be too large for the latter, someone has put the wrong pipe in it; if so, search through your stock for a case with a pipe too small, and exchange the contents.

Shabby cases frequently spoil a sale, for they indicate "old stock." Therefore, it is necessary to keep them as fresh-looking as possible; even to sending them to the pipe-case-maker to revarnish and, if required, reline.

CHAPTER XXXVIII

COLORING MEERSCHAUMS ARTIFICIALLY

THE COVETED TINT MAY BE ACHIEVED WITHOUT SMOKING — ALSO HOW TO “SET” A NATURALLY COLORED PIPE

Virtually all owners of meerschaum pipes take considerable delight in coloring them naturally by the smoking process. There are comparatively few, however who succeed in bringing them successfully to a perfect color. Failures are due usually to accidents or mistakes on the part of the smoker in the care of the pipe, frequently to impatience, and occasionally perhaps to the fact that his particular piece of meerschaum does not adapt itself perfectly to the coloring process. However this may be cigar dealers are often requested by owners of meerschaum pipes to have their pipes artifiically colored. The process of “setting” the color of meerschaum pipes and also of artifiically coloring them is one that cannot be followed to a successful conclusion without a good deal of experience, and, I might say, a good many experiments by the artisan.

Cleaning.—The first stage in the procedure is to clean the pipe. The interior of the bowl should be thoroughly scraped out, and the entire pipe cleaned with the aid of a chicken feather and alcohol. After the pipe is carefully cleaned and the amber stem removed, it must be placed in an oven where the temperature is from 130 to 140 degrees. The purpose of this is to bake entirely out the wax and superfluous tobacco juices with which the pipe is impregnated.

Removing Scratches.—When this has been accomplished

the pipe should be taken from the oven, and all scratches and dents removed. This is done with a little linseed oil and No. 0 pumice stone rubbed on smoothly with a piece of soft flannel. When the mars and scratches have been removed, rub the surface of the meerschaum with oxalic acid. This opens the pores of the meerschaum, after which the pipe should be set aside for three or four hours. It should then be taken up and again rubbed lightly.

Burning in the Color.—Now stop up the bowl of the pipe carefully with a cork, so that it is practically air and liquid tight, and stop up the hole where the screw is with a little plaster of Paris. Then take analine dyes, ox blood and Soudan brown, and mix them with linseed oil into a sort of paste. Rub this carefully all around the outside of the meerschaum bowl and the meerschaum part of the stem, taking care that the color is smoothly and evenly distributed. Now comes the delicate part of the process, namely, burning the color in over an alcohol lamp. By experimenting with discarded pieces of meerschaum the operator will find that eventually he can produce any particular shade that he desires.

Polishing.—Next allow the pipe to become completely cooled off, after which it should be brought to a very high polish. This can be accomplished by rubbing its surface lightly with rottenstone and a little water, applied with a piece of cotton flannel.

I would not advise any novice to attempt this process the first time on a pipe of much value or one that is not his own property, as it requires considerable experience to get satisfactory results.

Setting Color.—To “set” the color of a naturally colored pipe the same process is used, except that the dyes are not applied.



part viii miscellaneous

CHAPTER XXXIX

THE PESTIFEROUS TOBACCO BEETLE

CHIEF ENEMY OF THE INDUSTRY—TWO METHODS OF ERADICATING THE PEST BY FUMIGATION

One of the most troublesome and expensive features of tobacco culture, particularly in the southern districts, is the control of numerous insects, which if not combated would oftentimes completely destroy the commercial value of the crop. Among the more important insects attacking the tobacco plant may be mentioned the tobacco flea-beetle, the tobacco "wireworm," cutworms, the hornworms, or "green worms," and the tobacco budworm. Of these the hornworms, or "green worms," are usually the most destructive.

For detailed information regarding insects attacking tobacco and methods of combating them, the reader is referred to Farmers' Bulletin 120, entitled "The Principal Insects Affecting the Tobacco Plant," obtainable from the Superintendent of Documents, Washington, D. C.

THE TOBACCO BEETLE

It is with the insect enemy of the manufactured products, such as cigars and cigarettes, that this chapter has to do; an enemy that destroys hundreds of thousands of dollars worth of merchandise in a single year. I refer to the tobacco beetle, or *Lasioderma serricornis* Fabr., as it is known entomologically. So far as I know the place of its origin is not established, but it is found in products from Cuba, Porto Rico and the Philippines, as well as native American merchandise. For many years it has been a persistent and pernicious enemy of the tobacconist.

The United States Department of Agriculture, after exhaustive research and many experiments, has discovered certain remedies for the pest, which if applied with care and thoroughness, generally prove effective. Through the courtesy of the Department it is my privilege to relate in this chapter the results of these investigations as reported by

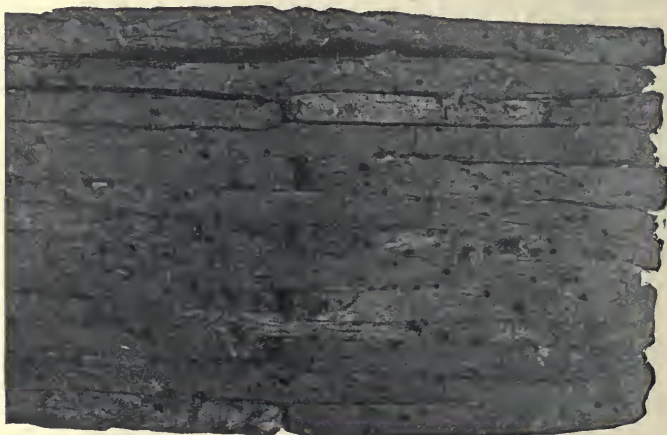


CIGARS PERFORATED BY THE TOBACCO BEETLE

Mr. G. A. Runner, Entomological Assistant, working under the direction of Mr. L. O. Howard, Chief of the Bureau of Entomology.

This small beetle is an indoor species, is the most widely distributed of all insects affecting tobacco, and is one of the worst pests of the tobacco industry. Usually it is present

in some stage at all times in practically all tobacco warehouses, cigar and tobacco factories, and extensive wholesale or retail establishments. It lives within its food substance during all stages of its existence. For this reason it is spread easily, and its capacity for injury is large. With tobacco, as well as with its other food substances, of which it has a variety, the actual quantity consumed is usually of far less importance than the presence of refuse, dust, dead bodies of the beetles, etc., which soil the manufactured product or make it unsalable and worthless. In a valuable



CHEWING TOBACCO INJURED BY THE TOBACCO BEETLE (*Lasioderma serricornis*).

product like fine leaf tobacco used as wrapper, or in expensive cigars or cigarettes, a very few beetles are capable of causing serious damage in a very short time.

LOSSES DUE TO THE TOBACCO BEETLE

Losses occasioned by the tobacco beetle, either directly or indirectly, occur wherever tobacco products are handled. Statements received from manufacturers show that the loss at the factories is large, estimates from some of the larger

concerns ranging from \$5,000 to \$25,000 per year. This, however, probably represents only a small part of the loss from damage to cigars, cigarettes, and manufactured tobacco in the hands of the jobbers and retailers. A heavy loss also occurs from damage to leaf tobacco, but it is difficult or impossible to obtain even an approximate estimate of the total loss.

CHARACTER OF INJURY

Injury by the tobacco beetle is almost entirely the work of the larvæ, or young. The adults, or beetles, do not seem to injure tobacco directly in any way except when burrowing out after transforming from the pupa or resting stage.

This insect damages cigars and pressed tobacco by eating out or burrowing small cylindrical tunnels and leaving them filled with a mass of dust and excrement. In cigars the holes sometimes extend straight through from one side to the other; in other instances they wind about through the filler of the cigar so that a large part of the interior is destroyed without much evidence of injury showing on the wrapper. The larvæ often work between two closely packed cigars, slitting the wrapper lengthwise for some distance. In a box or package a single larva may injure several cigars. The pupal cells frequently show between closely pressed cigars or on the edge of the band. Dust and refuse from feeding collect in the bottom of the box and between the cigars. Injured cigars do not draw well and burn unevenly, and dust is drawn into the mouth of the smoker.

In cigarettes holes are bored through the wrappers and frequently through the cork tips. The interior of the cigarette is filled with refuse, and the wrapper becomes soiled and discolored. Injury is more likely to occur in cigarettes made from the sweeter, milder types of leaf, such as are used in the more expensive grades. Fine Turkish tobaccos are especially liable to infestation.

Smoking and chewing tobaccos often become badly worm-eaten. In the pressed kinds galleries are formed, and in chewing tobacco the wrapper is cut and the edges furrowed. Granulated and fine-cut tobaccos become mixed with the dust and refuse from feeding and with dead bodies of the adults. Pupal cells occur on the sides of the container or in the tobacco. Holes are found in the paper or tin-foil wrapping.

Leaf tobacco is affected in much the same manner as cigars. The larvæ bore holes in every direction through the leaves, and the tobacco becomes soiled with dust and refuse. Fine wrapper becomes worthless. In leaf tobacco used for filler, for manufactured tobacco, or for snuff, the damage is confined more to the tobacco actually consumed by the larvæ than it is in the manufactured products, the mere sign of infestation making the finished product unsalable and worthless.

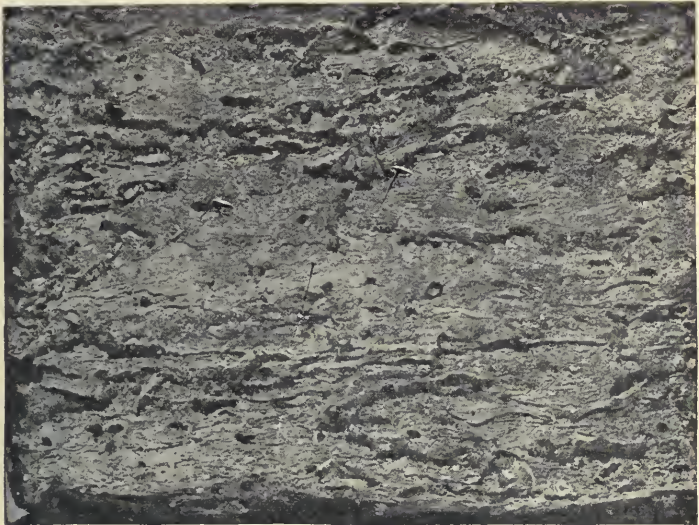
DESCRIPTION OF THE INSECT IN ITS DIFFERENT STAGES

The Egg—The egg of the tobacco beetle is a small, pearly white, oval object about one-fiftieth of an inch in length. Owing to its small size and to the fact that commonly it is laid in creases or folds of the leaf, it is not seen readily, and to many persons familiar with the other stages of the insect is an unfamiliar object.

The Larva, or Grub—The larva, grub, or worm stage of the insect is most likely to be noticed in infested material. The larva when fully grown is about one-sixth of an inch in length and yellowish white in color. It is fleshy and grublike in appearance and usually lies in a curved position. The head is pale brown and the body is covered with long, silky, yellowish-brown hairs, to which particles of the food substance or refuse adhere, giving the larva a somewhat dusty or dirty appearance. The legs are short and pale brown. When newly hatched from the egg the larva is

very minute, being only about one-fiftieth of an inch in length, and is more active than when more fully grown.

The Pupa—The pupa is an inactive or quiescent stage which the insect assumes before transforming to the adult, or beetle. The pupa period is passed normally within a closed cell composed of small particles of the food substance and refuse cemented together with a secretion of the larva. The pupa is about one-seventh of an inch in



PRESSED CUT SMOKING TOBACCO SHOWING BURROWS OF LARVAE AND EXIT HOLES OF ADULTS OF THE TOBACCO BEETLE.

length. It is white when first transformed from the larva stage, but before becoming adult it gradually assumes a brownish tinge, the eyes becoming reddish or reddish brown. It lies on its back in the pupal cell. Should the cell be broken open and the pupa removed, transformation is completed in an apparently normal manner, providing the pupa is protected from rapid evaporation. When infested leaf

tobacco is handled, many bare pupæ may be seen which have been dislodged from the fragile cells or cocoons between the leaves of tobacco.

The Adult, or Beetle—The beetle is the fully developed, or adult, stage of the insect. It is uniformly dull reddish yellow or brownish red. The head is broad and the eyes are small. The head is bent down nearly at right angles with the body, giving the beetle, when viewed from the side, a characteristic humped appearance. The beetles vary greatly in size, the average length being about one-tenth of an inch. The female beetles average somewhat larger than the males.

DISTRIBUTION AND DISSEMINATION

Commerce has served to distribute the tobacco beetle widely, and probably this insect occurs now in all countries having a temperate, subtropical, or tropical climate. In warm tobacco-growing countries such as Cuba and the Philippines, where the beetles are numerous and breed continuously throughout the year, they are being sent out constantly to other countries in shipments of cigars or in leaf tobacco. The nature of their food and their habit of living and breeding continuously in their food substance aid in their spread without much effort on their part.

The increase and spread of the insect in tobacco factories in this country within comparatively recent years has been very noticeable. Experienced tobacco dealers and manufacturers attribute this to the more general use of steam for heating factories and other buildings. The higher and more uniform temperatures maintained make breeding conditions more favorable for the insect, and the chance that development will be checked or the insects killed out by the cold weather is not as great as before steam heat was employed.

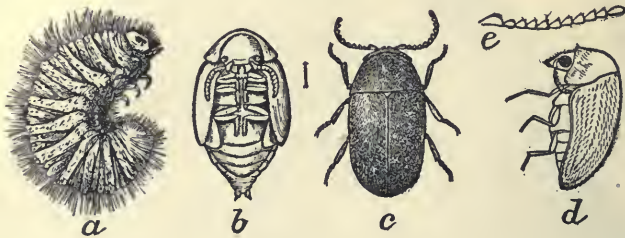
The recent rapid expansion of the tobacco industry has



CIGAR TOBACCO SHOWING WORK OF THE TOBACCO BEETLE.

carried the pest, in leaf tobacco or in tobacco products, to many localities where, until within the last few years, it had been unknown.

In this country the beetle now is disseminated so generally that it is a common occurrence to find it in show cases and storage rooms or humidors in cigar stores where worthless or infested stock is not properly treated or destroyed. The majority of shipments returned to cigar and tobacco factories come from dealers in the South and from other localities where climatic conditions are especially favorable for the rapid increase of the insect. Even in summer comparatively few complaints come from dealers in certain of the Northern States and Canada. In view of these facts,



TOBACCO BEETLE: *a*, LARVA; *b*, PUPA; *c*, ADULT; *d*, SIDE VIEW OF ADULT; *e*, ANTENNA. *a-d*, GREATLY ENLARGED; *c*, STILL MORE ENLARGED. (CHITTENDEN.)

when damaged goods are returned to the manufacturers after having been in the hands of the dealers for some time, it is always possible that the product was not infested when shipped out from the factory.

FOOD SUBSTANCES

The tobacco beetle feeds upon a variety of dried vegetable substances and upon a few of animal origin. Its more common food is cured leaf and manufactured tobacco. In drug stores and grocery stores often it is found infesting dried roots and leaves of certain kinds and pressed yeast

cake. In drug stores frequently it becomes a serious pest and causes considerable loss. Numerous cases of injury to plush upholstery in furniture and to dried plants in botanical collections have been recorded. The insect also feeds upon tobacco seed.

LIFE HISTORY AND HABITS

THE EGGS

Period of Incubation—The egg stage at ordinary temperatures in summer lasts from 6 to 10 days. In warm weather during summer it averages about 8 days. Eggs kept at a constant temperature of 80° F. nearly all hatch the sixth or seventh day after they are laid. Cool weather may retard hatching for a considerable time.

THE LARVÆ

Newly hatched larvæ are somewhat more active than later, and owing to their extremely small size readily enter boxes or containers holding tobacco. When exposed to light, the larvæ disappear within the food substance or under cover as quickly as possible. They are able to crawl for short distances and often migrate from infested to uninfested material. This habit sometimes accounts for the quick appearance of injury in freshly made cigars. Partly grown larvæ shaken from leaf tobacco have been found on cigarmakers' tables. These larvæ easily enter the open ends of the cigars, and in a very short time their work may be noticed in the bundle or box of finished cigars. Several cigars in a box or package may be injured by a single larva. Preference is shown for the thinner or chaffy leaves of cured tobacco, and for certain types of high grade that are mild and sweet flavored. Strong, heavy types of leaf tobacco ordinarily are not injured to such an extent as are the milder or thinner types, unless stored for a long time. Leaf tobacco which is fire cured or smoke cured, such as that

grown in the dark-tobacco sections of Virginia and in the "black patch" of Kentucky and Tennessee, seldom is badly injured. This is due in part, perhaps, to the flavor or quality given the leaf by the smoke, as well as to the natural qualities of tobacco of this type. The smoke seems to act for a time as a repellent since the same type of leaf, flue cured, is attacked readily, although not to so great an extent as lighter bodied types. These types, as well as all others, however, are more likely to be injured after the leaf has become aged. The changes brought about by long storage of any tobacco seem in some way to make it more acceptable as food for the larvæ.

Length of Larva Stage—At ordinary room temperatures in summer the larva or feeding stage extends over a period of from 30 to 70 days, depending mainly on the temperature and on the character, abundance, and condition of the food. In cold weather the larvæ become dormant and may remain in this condition for some time. It is mainly in this stage, in cool climates, that the insect passes the winter. When the larvæ have finished feeding and are incased within the pupal cells they are able, either as larvæ or as pupæ, to stand a considerable degree of cold. Larvæ within the cells are also more able to resist treatment with fumigants. Activity in the larva stage ceases at temperatures ranging from 60° to 67° F. The most favorable conditions for rapid development of larvæ are a suitable food substance in a compact or concentrated form, high and uniform temperature, high humidity, and protection from strong light and from rapid evaporation.

The Pupal Cells—After the larvæ have become fully grown and ready to transform to the pupa stage they construct cells or cocoons, usually within the food substance. In leaf tobacco these cells usually are found along the midrib or in folds of the leaf. In boxes of cigars some of the cells may be found between the cigars and the sides of the

box, but the greater number are found within the cigar. In leaf tobacco the cells frequently are incomplete, the larvæ using folds of the leaf for part of the cells. Within dense substances the surrounding material forms the necessary protection, the walls of the cell being fragile and thinly lined. The cells are more or less egg-shaped and about one-fifth of an inch long. Often they are without definite shape.

The Prepupa Stage—Before transformation to pupæ there is ordinarily a period of from 4 to 12 days during which the larvæ within the cells undergo structural changes, but if exposed to low temperatures they may remain in the cells for a considerable time before these changes take place. Before changing to pupæ the larvæ lie in a curved position within their cells, and their movements cause the cells to become considerably larger than the larvæ. Their bodies then contract and become more deeply wrinkled.

THE PUPÆ

The pupa stage of the tobacco beetle at room temperatures during the warmer months of the year lasts from 5 to 10 days. The average of 38 records obtained at Tampa, Fla., during July, 1913, was found to be 7.8 days.

THE ADULTS

When the change to the beetle or adult stage has taken place the beetles remain inactive in the cells for from 3 to 7 days. After emerging they remain at rest for a day or more, their color gradually deepening to reddish brown. At first the beetles are comparatively soft, and they do not attain their final degree of hardness until they are ready to move away from the pupal cell. They crawl or fly about actively and are capable of flying for a considerable distance. They avoid intense light and move about most actively in subdued light or in darkness. When in the dark they are attracted toward subdued daylight or to artificial

light. In tobacco warehouses they may often be found in large numbers at the windows in late afternoon, the flight toward the windows being heaviest at sunset. During the day the beetles will be found most numerous in secluded places, such as crevices in the walls or in the leaf tobacco. They have a habit of feigning death when disturbed. The adults generally begin to mate the second or third day after becoming fully mature. In tobacco warehouses the beetles seldom are found active at temperatures below 65° F. Activity increases as the temperature becomes higher, but ceases between 117° and 120° F.

Length of the Adult Stage—In warm rooms, or in summer, the beetles die much sooner than when emergence occurs during cooler weather. Although they may gnaw through tobacco or other food substances to escape from the locality where transformation took place, little evidence of feeding has been observed. Adults have been found to lay eggs and live the normal length of time whether food was present or not. Under usual conditions they live from three to six weeks.

Oviposition—Egg laying usually begins in from two to six days after emergence. In warm places where tobacco is not subjected to temperatures much below 70° F., eggs may be found at any time. In the Middle and Northern States, where tobacco is kept in unheated buildings and the temperature is about the same as out of doors, the eggs are laid only during the warmer months of the year. In experiments at Richmond, Va., the last eggs were obtained from beetles kept in an unheated building on October 28, 1914, and the first eggs were obtained the following spring on May 2. There seems to be a rather common belief that the eggs are laid on the leaf of tobacco in the fields or during the process of curing, and that these eggs do not develop until the tobacco is handled or made up into cigars or other products. This is not the case, as the eggs at ordinary tem-

peratures hatch a few days after they are laid, and the beetle does not infest tobacco until after it is cured. The eggs adhere very lightly to leaf tobacco and are dislodged easily by handling. The beetles deposit their eggs in crevices or folds of the leaf, or in secluded places away from the light, and where the closely packed food substance protects the eggs from evaporation. The egg-laying period normally lasts from 2 to 17 days, and the number laid by each female is approximately 25 to 30.

SUMMARY OF LIFE HISTORY

The insect lives in its food substance during all stages of its existence. In tobacco or other food substance kept constantly warm breeding is continuous, and there may be as many as five or six generations a year. Under usual conditions in tobacco warehouses in the latitude of Virginia and Tennessee there are three or four generations a year. The time required to complete the life cycle of the insect depends mainly upon temperature and may be as short as 45 days, normally varying in summer from 45 to 70 days. Eggs are laid in the food substance. They hatch in from 6 to 10 days. The larva period is from 30 to 50 days and the pupa period from 6 to 10 days. Under usual conditions adults live from three to six weeks. In temperate climates the insect passes the winter mainly in the larva stage. It thrives best where the temperature and humidity are high and in tobacco or other food substances protected from rapid evaporation.

SEASONAL ABUNDANCE AND NUMBER OF GENERATIONS

In food substances kept constantly warm all stages of the beetle may be found at any time, and the great variation in the time required for development gives constant overlapping of generations. Under usual conditions in tobacco warehouses and in unheated buildings there are, however,

well-marked periods when the adults are most abundant. In the latitude of Virginia and Tennessee there seems to be a period of greater abundance of the adults coinciding with the first warm weather in June, and again in August and early September. At Clarksville, Tenn., starting with the egg stage, in early May, three or, under some conditions, four generations are possible. At Richmond, Va., three generations may occur under warehouse conditions before the appearance of cold weather, the adults appearing in May, July and October, and from the adults emerging earliest in the spring there may possibly be a fourth generation reaching the adult stage before winter.

NATURAL CHECKS

Several natural agencies serve to check the increase and spread of the tobacco beetle, among which are low temperature, the drying out of food, the molding of food, parasitic and predatory insects, mites, jointed spiders, and false scorpions.

CLIMATIC CONTROL

In the temperature zone a comparatively small proportion of the insects survive the winter when exposed to even moderate cold, long continued, or to sudden abnormal changes in temperature. Severe freezing at temperatures lower than 10 degrees above zero (Fahrenheit), even for a short time, exterminates them completely. Evidences of the effect of freezing on the tobacco beetle have been observed on many occasions, and it is not uncommon to find leaf tobacco or other food substances, which have been exposed to low temperatures, completely free from all live stages of the tobacco beetle, although its condition shows that there had been a heavy infestation previously.

DRYING OUT AND MOLDING OF FOOD SUBSTANCES

The multiplication of the beetles is checked severely when

the food substance is exposed to excessive evaporation, and when it becomes moldy, as it does frequently, more or less complete extermination of the beetles results. It is often owing to this fact that infestation from damaged or worthless products which have become moldy does not extend to uninfested products near by.

PARASITIC AND PREDACIOUS ENEMIES OF THE TOBACCO BEETLE

Insects

Among enemies that prey upon the tobacco beetle the most important, so far as known, is a reddish-brown beetle about one-fourth of an inch in length. Both the adult and its larva, a pink worm slightly larger than the adult, feed ravenously on different stages of the tobacco beetle.

Several species of four-winged, wasplike parasites of the tobacco beetle are found in infested warehouses and manufactured tobacco. Some of these are extremely abundant and doubtless are important factors in natural control.

Other Enemies

A small mite feeds on the eggs of the tobacco beetle, and at Key West, Fla., a large jointed spider and a much smaller scorpion-like spider were found to feed on the larvæ. The jointed spiders frequently tear large holes in cigars in search of their prey.

REPRESSION

PREVENTIVE MEASURES

In cigar stores and small establishments it is not difficult to eradicate the tobacco beetle. Infested stock may be treated and the building thoroughly cleaned. The humidors or storage closets should be perfectly tight, and infested stock should be destroyed or treated as soon as signs of infestation are noticed.

In large factories and tobacco warehouses, however, complete eradication in many instances is extremely difficult, or

perhaps impossible. The factories in some cases are old wooden buildings, roughly built and containing innumerable cracks and crevices in which tobacco dust and refuse have accumulated, offering ideal hiding and breeding places for the beetles. Even in modern factories of brick or concrete construction it is difficult to eradicate the insect completely after it has once become established, but it is much easier, of course, to keep such buildings clean and free from accumulations of refuse material in which the beetles may breed. The measures to be employed in eradication work or in sterilizing buildings will depend upon local conditions.

For destroying the different stages of the beetle in crevices of floors or walls, live steam applied through a nozzle from movable pipes or hose, hot water, gasoline, carbon disulphid, or dilute ammonia may be used. Suction cleaners also may be used to advantage for such work. In cigar factories the stock of leaf tobacco should be kept in a tight or screened room, as far as possible from the rooms in which the cigars are made or handled. Trays of unsorted cigars should be covered or kept overnight in a screened compartment, as eggs deposited on the cigars at this time, even from a single beetle, may be the cause of heavy losses afterwards.

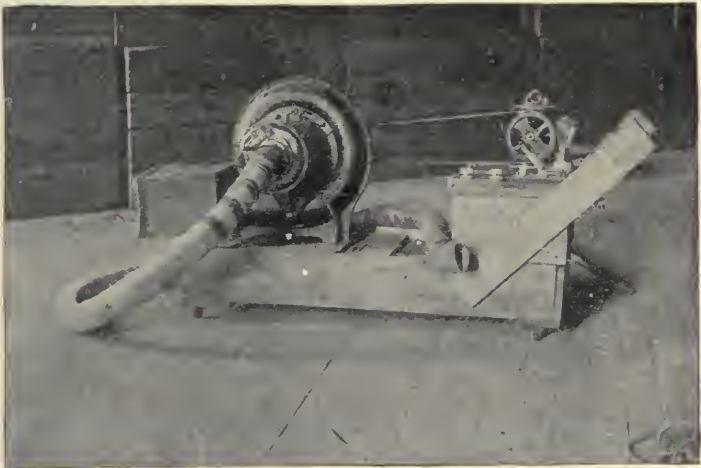
SOURCES OF INFESTATION IN FACTORIES

In cigar and tobacco factories the greater number of beetles are brought in with the leaf tobacco. Beetles also breed from infested stock and from accumulations of refuse material. Factories in some instances are in close proximity to tobacco warehouses where beetles are present in large numbers. A comparatively small number of beetles in rooms in which cigars are made, or in rooms where the cigars or other classes of manufactured tobacco are packed, is sufficient to infest the stock seriously by depositing eggs in it. The protection of the finished product before it is packed is

generally of more importance than the condition of the raw material, as with most classes of manufactured tobacco the process of manufacture frees it from different stages of the beetle present in the raw material.

COLD STORAGE

The modern cold-storage plants now found in most cities furnish a convenient, inexpensive, and effective means of



SUCTION FAN USED FOR COLLECTING ADULTS OF THE TOBACCO BEETLE
IN A TOBACCO WAREHOUSE.

sterilizing infested tobacco. The method has been used to a considerable extent, but the temperatures more commonly used have the effect of suspending insect activity instead of causing death. Cold storage at temperatures between 32° and 65° F. prevents further damage as long as the material is held in storage. The different stages of the beetle are not killed, however, and activity is resumed when the tobacco is removed from storage. When lower temperatures are available a more satisfactory and effective method is

to subject the tobacco for a week or more to the lowest temperature that can be obtained. A long series of experiments with infested tobacco in cold storage at low temperatures has shown this method to be thoroughly effective.

The cold-storage room should be as dry as possible, and the cigars or manufactured tobacco should be removed from storage when the air outside is dry, to prevent sweating. Some system of dry cold storage or air-tight receptacles for holding the cigars or tobacco is desirable, although not absolutely necessary if care is taken to remove the material when the air is dry. If the material is removed from storage when the air is damp, the condensation of moisture may make the tobacco or cigars more liable to mold, or may cause discoloring, staining, or warping of the boxes or containers.

A large number of cigars placed in cold storage by a manufacturer were kept under observation by the writer. The cigars were not put in containers, the boxes being merely piled on the floor of the cold-storage room. The boxes were removed when the air outside was dry and put under presses in a dry room for a time to prevent warping of the covers of the boxes. The treatment proved thoroughly effective in killing all stages of the beetles. The manufacturer reported that no injury to the cigars as a result of the treatment was apparent. Different lots were kept at a temperature of about 12° F. for from one to four weeks.

Although there are certain objections to the cold-storage method of control, such as loosening of the wrappers of fine cigars by sudden changes in temperature, danger of sweating when removed from cold storage, injury to quality from too rapid aging, etc., it has certain advantages and in some cases may be found more desirable than other methods of treatment. When precautions are taken to prevent sweating, it is evident that the exposure of manufactured or leaf tobacco to cold in a cold-storage room is not more apt to

cause injury than the exposure of the same material to low temperatures during winter.

FREEZING DURING WINTER

In localities where severe freezing occurs the doors and windows of warehouses or other buildings where tobacco is stored may be thrown open at favorable times during the winter and the tobacco subjected to freezing temperatures. This control measure has been employed by tobacco men in different sections of the country, and excellent results have been reported, the degree of success in exterminating the beetles or checking their increase depending upon the temperatures obtained. Experiments made with infested manufactured tobacco have shown that it may be sterilized easily by this means.

The modern practice of storing certain classes of leaf tobacco in hogsheads in sheds, giving practically out-of-door conditions and variations of temperature, furnishes an effective means, in cool climates, of reducing injury to leaf tobacco which may be stored in this manner.

ALTERNATIONS OF HEAT AND COLD

Experiments made with infested tobacco indicate that the effectiveness of cold in killing different stages of the beetle can be increased by alternations of heat and cold. Sudden and extreme changes in temperature seem more destructive to the beetles than longer exposures to moderate cold. This method is applicable also to cold-storage treatment of infested tobacco.

EFFECT OF HEAT ON DIFFERENT STAGES OF THE TOBACCO BEETLE

It has been found that adults of the tobacco beetle become inactive after a few minutes' exposure to heat above 117° F., but recover unless, for a considerable length of time, the temperature is kept higher than 120°. An exposure

of one hour at temperatures between 140° and 150° proved effective in killing all stages of the beetle. The time required for treatment depends upon the quantity and character of the material. A temperature of from 125° to 140° F., continued for a few hours, or of 150° for a short time, has been found effective under ordinary conditions.

EFFECT OF HEAT DURING THE PROCESS OF MANUFACTURE

Tests made in tobacco factories have shown that the temperatures reached during certain processes of manufacture are sufficiently high to sterilize the tobacco quickly and effectively as it passes through the driers. Reinfestation of the finished product depends on the methods of packing, handling, and storing.

THE USE OF STEAM IN STERILIZING TOBACCO

While steam furnishes, under some circumstances, an effective and convenient means of sterilizing empty storage rooms or warehouses, numerous difficulties prevent its use in sterilizing infested tobacco. If leaf tobacco is exposed to steam at high temperatures for any length of time it becomes more brittle, the texture of the leaf and the aroma are changed as the natural oils are drawn out, and the color becomes darker. Notwithstanding the general prejudice against steaming, however, there seems to be considerable evidence that mild steaming may be employed to advantage in treating certain classes of cigar tobacco, and the process is said to have been used to a considerable extent. A convenient method of steaming cigar tobacco in revolving drums, with the steam under pressure of about four atmospheres, is said to have been used successfully in the Philippines. In the application of steam the principal requisite is to see that the tobacco does not become too wet. The temperature should not be too high or the steaming be long continued.

TRAPPING

In rooms where cigars or manufactured tobaccos are packed a very few beetles are capable of doing a great deal of damage by depositing eggs on the finished product. In



ARRANGEMENT FOR USING STICKY FLY PAPER TO COLLECT ADULTS OF THE TOBACCO BEETLE IN TOBACCO WAREHOUSES.

many cases the process of manufacture has sterilized the tobacco thoroughly, and precautions to keep the beetles away during the time it is handled and packed will prevent damage to the product later. The windows of packing rooms

should be examined daily and the adults destroyed by brushing them onto sticky fly paper, or by other means. The adults are readily attracted to hands of leaf tobacco suspended in the rooms and may be collected in this way. The leaf tobacco used for this purpose should be heated or fumigated once each week in order to destroy the egg before they have time to hatch. The adults are attracted toward the light, and an effective means of trapping consists of inclosing electric lights in sticky fly paper. Sheets of fly paper spread on the window sills also were found to destroy many beetles. The adults fly more readily to blue or violet light than to red or orange. Color screens, however, cut down the intensity of a light. Ordinary electric-light bulbs of clear glass, of the improved and nitrogen-filled types, which transmit light rich in rays of short wave lengths, are well adapted for use as sources of light in connection with trapping.

FUMIGATION

Fumigation has been in general use for many years as a method of destroying certain classes of insects and is a standard weapon against insects infesting mills and warehouses. It may be used to advantage in controlling the tobacco beetle, although this pest has been found to be considerably more resistant to fumigants than most insects. The insulation afforded by the pupal cells and by compressed tobacco seems to protect the larvæ or pupæ within from the action of the fumigant. A few insects protected in this manner are likely to survive, although all stages not specially protected are killed. In most cases, however, only a small percentage of the insects survive, and these, if an additional treatment is thought advisable, may be destroyed by a second fumigation given about two or three weeks later. Adults and eggs are the only stages likely to be present at this time, and these unprotected stages are easily destroyed by the fumigant. In the treatment of infested

tobacco it has been determined by many experiments that stronger dosages of fumigants must be used than are employed ordinarily against other insects.

Expert tobacco men have examined and kept under observation tobacco and cigars fumigated with carbon disulphid and hydrocyanic-acid gas, and all were of the opinion that these fumigants had no noticeable effect upon the tobacco. In order that it might be determined whether or not any deposition of cyanogen in cigars occurs as a result of the hydrocyanic-acid gas treatment, different lots of freshly made cigars were fumigated with heavy dosages and sent to the Bureau of Chemistry, United States Department of Agriculture, for examination. No trace of hydrocyanic-acid was found in any of the samples. Duplicates from each lot were also submitted to expert cigar men, and all reported no apparent difference between the fumigated and unfumigated cigars.

The properties and characteristics of the various chemicals used in fumigation should be understood thoroughly in every particular by the operator in order that necessary precautions may be taken and the work done properly. The process of fumigation, however, is simple and easily applied.

HYDROCYANIC-ACID GAS

For the generation of hydrocyanic-acid gas in fumigation, sodium cyanid (NaCN) or potassium cyanid (KCN), sulphuric acid (H_2SO_4), and water are necessary. The hydrocyanic-acid gas, which is the killing agent, is produced by the action of the sulphuric acid (diluted with water) on the sodium or potassium cyanid. A high grade of the cyanid should be used, as the presence of adulterants reduces greatly the amount of hydrocyanic-acid gas given off. Sodium cyanid at present is used for fumigation more generally than is potassium cyanid and is more readily obtained.

Dosages to Use—Sodium cyanid should be combined with

acid and water to generate the hydrocyanic-acid gas, according to the following formula:

Sodium cyanid (grade guaranteed to contain not less than 51 per cent of cyanogen and practically free from chlorin), avoirdupois ounce	1
Sulphuric acid (commercial), fluid ounces.....	1½
Water, fluid ounces.....	3

Should potassium cyanid be used in place of sodium cyanid, the cyanid should be combined with sulphuric acid and water according to the following formula:

Potassium cyanid (98 to 99 per cent grade and guaranteed to contain not less than 38.4 per cent cyanogen), avoirdupois ounce	1
Sulphuric acid (commercial), fluid ounce.....	1
Water, fluid ounces.....	3

The amount of chemicals given in either of these formulas is sufficient for the fumigation of 100 cubic feet of space in the fumigation closet or room. The exposure to fumigation should last at least 24 hours. Best results are obtained by fumigating at temperatures above 70° F. For general use 4 ounces of cyanid, either of sodium or potassium, to 100 cubic feet will be found fairly satisfactory. This dosage when sodium cyanid is used requires 4 ounces of cyanid, 6 fluid ounces of sulphuric acid, and 12 fluid ounces of water. The cyanid is weighed, and the liquids, sulphuric acid, and water are measured.

For generators use earthenware jars, and these should be deep enough to prevent the liquid from boiling over. Since the gas generated is lighter than air, *place the generator underneath the material to be fumigated or on the floor of the room.* Place the chemicals for fumigating in the generating jar in the following order: *First, water; then sulphuric acid; last, just before closing the fumigating closet or room, the cyanid. Do not pour water on to the acid.*

Avoid breathing the gas, as it is deadly poisonous. The reaction of the chemicals when mixed is extremely rapid, and the generation of the deadly gas begins at once.

The fumigation closet should be perfectly tight to prevent escape of gas. In fumigating storage rooms or buildings, arrange so that the windows or doors can be opened from the outside. *Do not enter the room until it is thoroughly aired.* When the chemicals are handled with care and all details of the method understood, there is no special danger to the operator, and the method has been used in insect control for many years with few records of serious accidents. It should be stated, however, that hydrocyanic-acid gas is fatal to human beings if breathed in any quantity.

CARBON DISULPHID

While carbon disulphid is not as effective as hydrocyanic-acid gas, the ease with which it may be used makes it for some purposes the more desirable fumigant, particularly when the space to be fumigated is small or when only a small quantity of material is to be treated. The liquid carbon disulphid (CS_2) merely has to be poured into a shallow dish placed *at the top* of the compartment to be fumigated and allowed to evaporate. The gas is heavier than air and settles downward. This method of treatment is a favorite one with many cigar dealers, the main objection being the danger of fire. Carbon disulphid should be used at a rate of not less than 4 pounds of the liquid to 1,000 cubic feet of space. When only a small space is to be fumigated and the cost of the treatment is consequently slight, the exact amount of the carbon disulphid is of no particular importance, providing the amount is in excess of the dosage recommended. Best results are secured at temperatures above 70° F. The time of exposure should be from 24 to 48 hours. All odor of the fumigant disappears quickly when the substance treated is exposed to the air.

CHAPTER XL

THE WHY OF "MOLDY" CIGARS

ORGANISMS TRACED TO THE GUM USED BY THE CIGAR- MAKERS—BY USING A BORACIC ACID SOLUTION IN THE PASTE MOLDS CAN BE AVOIDED

The matter of molds forming on cigars is, with the possible exception of the tobacco beetle, the most persistent annoyance to which the cigar trade is subjected.

In 1901 a number of complaints were received from eastern cigar manufacturers to the effect that considerable losses were being sustained through the appearance of moldy growths on the finished products. These growths in some cases appeared within about three days after the manufacture and the boxing of the cigars, thus frequently being noticed before they left the factory. In some instances, however, they did not appear until after considerable periods of time. If the mold was detected before the cigars left the factory, the only recourse was to wipe off the growth by hand, a rather expensive process. Perhaps equally objectionable results followed when the mold was not discovered until the cigars were in the hands of the buyers. In either case very considerable loss was likely to result.

R. H. True, physiologist of the United States Department of Agriculture, was asked to study the problem and, if practicable, to work out feasible means by which the trouble could be remedied. Several factories in which this trouble appeared were visited, managers were consulted, and materials for further work were obtained.

Dr. True concluded, and proved his conclusions by numerous experiments, that molds are developed principally

through the gum tragacanth paste used to fasten the small flap at the head of the cigar. He suggests a remedy for molds, which he proved, first by his own experience and second by its use in cigar factories during a period of several years.

This remedy is merely the use of a boracic acid solution instead of plain water in making the paste.

A digest of his bulletin on the subject follows :

FACTORY CONDITIONS

In order to get light on the conditions to be dealt with, the processes involved in making the brands of cigars most liable to mold were observed in the factories. In the case of one factory more difficulty was experienced with Sumatra wrappers than with other sorts, and the trouble was believed to be worse in rainy seasons than at other times. The mold usually appeared most abundantly on the "head," or closed end of the cigar, less frequently on the veins or other elevated portions of the wrapper, but in some cases the entire surface was more or less involved.

PASTE USED

Gum tragacanth is used in small quantity to fasten the wrapper of the cigar in place. The wrapper is rolled tightly on the cigar, the rolling proceeding from the open end toward the head, the last portion of the wrapper remaining free being a small flap of leaf which serves to finish off the head. This small flap receives a little paste on the under surface and is then carefully brought into place. The cigar is then usually rolled with some pressure between the hand and the board or table at which the cigarmaker works, thus giving it the desired regularity of form. Thus, a little paste is always found at the head of the cigar, and if an excess has been applied, especially if the paste is rather thin, a portion is liable to be squeezed out on the board or table at

which the maker works, and the cigars may receive a more or less extensive smear of paste over the surface of the wrapper.

The paste as usually made up contains about ten parts by weight of gum tragacanth to ninety parts of water. A large stock is generally made in one container, sometimes only enough to last for the day and sometimes enough to last for a longer period. An inspection of the paste pots in several factories showed that while some were in fairly clean condition the sides of others were thoroughly covered with molds, indicating that in some cases little attention was paid to cleanliness regarding this feature.

An inspection of the wrapper leaf in no case showed visible mold, although it is a matter of common observation that when tobacco leaves are kept sufficiently moist in a closed space they can be made to mold.

MOLDS IN TRAGACANTH GUM

Tragacanth gum is usually bought in considerable quantities for use in the larger factories, and, if the samples obtained in this investigation from several such sources were representative, the highest grades of the gum are not used. It was thought possible that these gums themselves might be carriers of molds, and several samples were set away in sterile Petri dishes to which a small quantity of sterile distilled water was added. These cultures, like others to be described, when not under observation, were kept in a dark chamber in which the temperature varied between 21.5 deg. and 25 deg. C. In three days all the samples showed an abundant growth of molds, which began to develop fruiting stages on the fourth day * * * *.

INFECTION EXPERIMENTS ON WRAPPER LEAF

It having been rendered probable that the tragacanth paste was inoculated with the molds from the start, the next

question to be answered was that of the seat of the growth of molds on the wrappers. As it has already been shown that the paste itself is a favorable culture medium for these organisms, it follows that the tobacco leaf in itself is not necessarily a favorable support for the molds. However, it is well known that moist tobacco leaves do become moldy under conditions favoring this process, and experiments were made having for their object the infection of wrapper leaves with the two species of mold last mentioned. These attempts failed to produce mold on the leaves used in the absence of any substance foreign to the leaves that might act as a source of food for the fungi.

INFECTION EXPERIMENTS ON CIGARS

In view of the nature of the problem under study, the fact that cigars could be infected with molds was not open to doubt. Since it had been shown that these molds do not readily grow on wrapper leaf, it appeared probable, in view of the fact that the infection was introduced with the traganth paste, that the growth on the cigar was confined to the paste present on the wrapper. It was thought desirable to try to check up this conclusion by attempting to grow these molds on cigars. Accordingly, repeated attempts were made to grow the organisms in question on pieces of cigars moistened and placed in sterile Petri dishes or test tubes. In some cases these pieces molded and in others they did not. Usually the piece at the head of the cigar molded without difficulty, while those portions from other parts of the cigar molded less readily.

This seemed to confirm the view that the molds were introduced with and in general grew on the paste, and the appearance of the mold over a large part of the surface of a cigar indicated the smearing of excess paste over a corresponding portion of the surface.

REMEDIAL MEASURES

Having located the cause of the trouble in the organisms above discussed and having found the point of their entrance, as well as the seat of their activities, to be in the tragacanth paste, practical remedial measures seemed to lie along the line of sterilizing the paste.

In view of the conditions governing the subsequent handling and final utilization of cigars, an acceptable sterilizing agency must combine several characteristics. It must be permanent, since cigars sterilized for but a short time are liable to mold at a later period when conditions of heat and moisture concur with or follow the exposure of the cigars to the infecting organisms. The substance must be odorless and tasteless; otherwise it will alter the taste and aroma of the cigar, points on which smokers, and therefore dealers, are very sensitive. It must not alter the color or the lustre of the wrapper, since on these the selling quality of the cigars in considerable part depends.

A variety of substances having antiseptic properties were chosen for test.

PRACTICAL DIRECTIONS FOR THE USE OF THE REMEDY

A practical course of treatment based on the use of boric acid was accordingly outlined for tests on the factory basis. Since the paste evaporates water between the time of making and of using, a concentration somewhat less than saturation was recommended in making the paste. This would also tend to decrease the liability of the acid to crystallize out in a conspicuous way on the surface of the cigars should paste happen to be smeared on them. The following concise directions were prepared:

Place boric acid in warm water at the rate of one ounce of dry acid to one and three-quarters pints of water. Stir till the acid is all dissolved. Use this solution instead of water in making up the paste. Great care should be taken not to use more paste on the cigar than is necessary, since

it is liable to be smeared on the surface of the cigar, where the boric acid in the paste ends to crystallize, giving an appearance suggesting mold.

These directions have been followed for some years in the factory in which the complaints originated, and when the writer was last in communication with those in charge the boric acid treatment was in use as a routine practice and only in rare instances were molds found troublesome.

TO REMOVE MOLDS FROM CIGARS

The foregoing, of course, is not a remedy but a preventive. If, however, a dealer finds himself in possession of cigars upon which the molds have formed, they can be removed by wiping the cigars carefully with a soft, moist cloth, or by briskly using a stiff camel's hair brush; a tedious process, but there is none other in the author's knowledge.

CHAPTER XLI

TRADE FORMULAS AND RECIPES

SPOTTING CIGAR LEAF—IMPROVING COMBUSTIBILITY— RE-SWEATING—FLAVORING, SCENTING, ETC.

It has frequently been said that there are tricks in all trades. If by "tricks" is meant means and artifices for making good tobacco better and defective tobacco good, this industry, like the prestidigitator, has a hatful which it sometimes, though rarely, employs in the interest of the smoker's palate and purse.

TO ARTIFICIALLY SPOT CIGARS

Mix one teaspoonful of Marshand's Hydrozone with about $\frac{1}{4}$ teaspoonful of carbonate of ammonia, stir and crush the carbonate of ammonia in the mixture until dissolved, which will require about a minute's time; use clean wooden stick or glass rod, no metals.

Dip a small brush made of broom straw in the mixture, and sprinkle the cigars very lightly and in about 15 minutes the drops will begin to dry and yellow colored spots will appear on the cigars.

The brush can be made of a dozen broom straws cut from a new broom and can be made into a brush by being tied together at the coarse ends.

Spread fifty cigars on a long board six inches wide, sprinkle one side, and, when spotted, raise one end of the board a little, remove one cigar at the lower end and all the cigars will roll over to be spotted on their other side. After they become dry, they may be rebundled and laid away for packing.

This recipe is for a trial, and after this quantity of the mixture is used, which will spot about 100 cigars, a larger quantity of the solution can be made up. It is best to mix fresh spotting solutions every time cigars are to be spotted, as the solution if saved over will not work. After having made one or two trials, one will readily understand how to secure the best results. Ingredients can be procured at any first class drug store. It costs about ten to fifteen cents per 1,000 to spot cigars, after a very little experience.

TO SPOT LEAF TOBACCO

The most effective time for spotting leaf tobacco is when the tobacco is growing in the fields. The preparation consists of one gallon of water, two pounds of caustic lye (soap lye) and one to two pounds of glucose. This is to be applied with a compressed air sprayer, such as that manufactured by the Dayton Supply Co., of Dayton, O. The tobacco should be sprayed with this mixture about three days before it is cut. At first the spots will be black, then green and eventually yellow to light brown. The purpose of the glucose is to prevent the spreading of the drops of liquid on the leaves. The exact amount of this ingredient must be determined by experiment.

FOUR CIGAR TOBACCO FLAVORS

No. 1—Steep two ounces cinnamon and four ounces tonka bean, ground fine, in one quart of rum, preferably Jamaica.

No. 2—Moisten ordinary cigars with a strong tincture of cascarilla to which a little gum benzoin and borax may be added. Some persons add a small quantity of camphor, or oil of cloves or cassia.

No. 3—Tincture of valerian and butyric aldehyde, four drams each; nitrous ether, one dram; tincture vanilla, two drams; alcohol, five ounces; water enough to make sixteen ounces.

No. 4—Select gum myrrh, two ounces; extract of vanilla, four ounces; tincture of valerian, eight ounces; caraway seed, two ounces; bitter orange peel, two ounces; alcohol, half gallon; Jamaica rum, half gallon. Steep the myrrh in half a pint of alcohol for three days. Add this to the remainder of the alcohol, tincture of valerian, extract of vanilla and Jamaica rum. Then, after grinding the caraway seed and bitter orange peel to a powder, put all together in a jug and steep for two weeks, occasionally shaking; lastly, strain before using.

TO MAKE STRONG TOBACCO MILD

According to the Bureau of Plant Industry of the Department of Agriculture it is possible to remove the element in "strong" domestic cigar filler tobacco which produces the undesirable sharpness or pungency in the smoking thereof, and to render such tobacco as mild and agreeable to the smoker as a tobacco of much higher quality. The process which the Bureau used in its experiments is very simple and consists simply in spraying the tobacco with a small quantity of citric acid. "To a portion of the tobacco," reports the Department, "about two per cent of citric acid was added in aqueous solution by spraying, after which the sample was cased down for two days to allow the citric acid to diffuse through the leaf as far as possible. Better results could be obtained by adding the citric acid solution before the fermentation process is completed, thereby affording a better opportunity for the even diffusion of the acid through the leaf."

HOW TO TREAT MUSTY TOBACCO

Case in vinegar sixty per cent proof and then put into a case and keep warm for twenty-four hours. Take out and shake up well and put it back into the case and let it lay for twenty-four hours more. It will then be ready for working.

TOBACCO THAT IS TOO GREEN

Case in very cold water. Then put back into a case to heat up for twenty-four hours. Then take out and shake up well. Then strip it and put it back in pads, letting it lay for another twenty-four hours in the case. It is then ready for working.

A GOOD WAY TO RE-SWEAT TOBACCO

Presuming that the tobaccos are already packed in cases they should be treated as follows: Tobacco should be taken from the cases very carefully to avoid breakage and cased very lightly. It should then be permitted to stand on the drying board from two to three days, after which the tobacco should be shaken out. It should then be laid back in the cases straight and without any pressure. Care should be taken that the cases are lined with heavy paper in order to avoid evaporation. The tobacco should be permitted to lie in the cases just as long as the one who is handling the tobacco considers it necessary in order to be assured that it has gone through enough sweating. It is, of course, fair to assume that no two pieces of tobacco are alike. For instance, a thin leaf could not stand as heavy a sweat as a heavy leaf. The tobacco should not be permitted to go to more than 110 degrees and upon reaching that point should be taken from case. The hand should be shaken out again and then laid back in the case. This treatment may be repeated as often as one has the space and time to handle the tobacco. The flavor of the tobacco can be improved by adding two gallons of Valerian or cider or grape juice to every five gallons of water in which the tobacco is to be cased.

FORMULA FOR IMPROVING BURN

Don't be discouraged if somebody has sold you a lot of tobacco that won't burn and won't take it back. Take eight

ounces of crystallized salt-petre and dissolve it thoroughly in a gallon of luke-warm water. Case your poor-burning tobacco in this solution and watch the result.

The following formula, which has been successfully used by manufacturers to improve the burn of their tobacco, is based upon 100 pounds of leaf; two pounds of salt-petre, one-half gallon alcohol (100 per cent proof), one gallon port wine, nine gallons luke-warm water; all thoroughly mixed. Wrappers, binders and fillers should be thoroughly shaken so that the leaves are well separated, and then they should be cased in the above solution and left on the casing board for twelve hours. They should then be put into a case between cuttings.

PLUG TOBACCO FLAVORS

Every manufacturer of chewing tobacco has his own recipes for sauces, which he guards most jealously. There is no printed record of a plug tobacco flavor. It is known, of course, that licorice and sugar, or some other artificial sweetener, are the two chief ingredients. Rum is also largely employed. In order to get just the right combination for your particular needs, you would have to experiment yourself or employ a practical manufacturer who would be familiar with the various compounds.

FORMULA FOR SMOKING TOBACCO

A good flavoring for a smoking mixture may be obtained by macerating two ounces of cinnamon and four ounces of Tonka beans in one quart of rum. The cinnamon and Tonka beans should be ground and the rum allowed to percolate through it, which process the rum takes up the virtue of the other ingredients. A percolator can be obtained from any wholesale drug concern. If a percolator is not available, the same effect, in a more or less degree, may be obtained by putting the rum, the cinnamon and the Tonka

beans, ground, in a glass jar and allow the contents to stand for forty-eight hours, after which the rum should be strained off. Apply the mixture to the leaf with a tobacco sprayer or an atomizer.

FORMULA FOR SCOTCH SNUFF

For Scotch the following is an excellent recipe:

Sixteen pounds pearl ash, five pounds sal ammonia, four pounds salt, one hundred pounds stalks and stems.

The first three ingredients are dissolved in about twenty pounds of warm water and then poured on the stalks (finely cut) and stems. This must be allowed to stand for from ten to fourteen days until it is quite hot. Then it must be laid out to dry previous to grinding.

If the snuff is required to be scented essence of bergamot, essence of lemon, or Touquin beans will give a fine aroma.

TO SCENT CIGARETTES

Perfumed cigarettes are not popular in this country, but some manufacturers find a limited demand for them. It is found extremely difficult to get satisfactory results by applying perfume to the tobacco itself. An effective method is to scent the boxes in which the cigarettes are packed. The perfume is applied with a very fine atomizer, the bottoms of the boxes being sprayed just before the cigarettes are put into the boxes. The odor must be used very sparingly.

CHAPTER XLII

ODDS AND ENDS OF TOBACCOLAND

DIFFERENCE BETWEEN SPANISH AND AMERICAN STYLES OF CIGAR PACKING — WEIGHT OF A BALE OF HAVANA—MEANING OF A “HAND” AND A CARROT—“HAVANA TOBACCO” A MISNOMER—ETC., ETC.

This, the concluding one, is the grab-bag chapter of Tobaccoland. Throughout the work I have aspired to observe orderly classification, sequence and progression; with what success the reader may judge for himself. However, in making a book of this kind one invariably finds on one's hands, at the conclusion, sundry facts which, if they really had proper places in the story, have stubbornly resisted and cunningly eluded classification. Though they have evaded the stable they shall not escape the corral. And here they are:

TWO SCHOOLS OF CIGAR PACKING

It is almost as difficult to explain to a layman the technique of selecting and packing cigars as to describe to a man blind from birth the different colors that we fortunate ones can see. Perhaps the best way to explain the difference between the Spanish and American styles of packing would be to describe each method:

SPANISH STYLE: This is the work of skillful specialists. One man “picks” (that is, he selects according to colors); the other man “packs” as his partner passes him the requisite number of cigars for a box. One is a “picker,” the other a “packer.” The picker's table is a roomy affair five feet by three feet; the packer's table is three feet by eight feet.

TYPES OF TOBACCO AND WHERE PRODUCED



EXPLANATION OF SHADING

- | | |
|-----------------------------------|--|
| 1. Cigar leaf tobacco. | 11. Stemming tobacco district. |
| 2. New belt bright or flue-cured. | 12. Green River district. |
| 3. Old belt bright or flue-cured. | 13. Scattered burley. |
| 4. Dark open-fire-cured shipping. | 14. Burley tobacco. |
| 5. Black or olive stemming. | 15. Eastern Ohio export (spangled tobacco) burley. |
| 6. Sun and air cured mfg. | 16. Southern Kentucky and Upper Cumberland and Southern Indiana (one-sucker type). |
| 7. Maryland tobacco. | |
| 8. Upper county or bay. | |
| 9. Paducah district. | |
| 10. Clarksville and Hopkinsville. | |

The picker's table has from seventy-five to ninety piles of cigars containing from 25 to 150 cigars each. In this table a half moon has been cut enabling him to reach all parts with ease. On his left from forty to fifty piles of so-called "dry" colors and at his right from thirty to forty piles of "wet" colors (oily wrappers). These piles are laid out in horizontal rows, uniformly, in such manner that each pile has two supporting piles on either side to prevent the cigars from rolling or the piles from breaking up. Beginning at the left, the first row contains from six to eight piles of the reddest colors carefully graded as to shade from extreme claro to darkest maduro; that row is called "encendido." Next to it is the row called "colorado encendido" and then come successively "colorado pajizo," "pajizo," "pajizo verde" and "verde," each row so skillfully graded from light claro to extreme dark that the average smoker on scanning the table does not detect any difference between adjoining piles. It is only when cigars of one pile are contrasted with those of another that he sees the difference. The picker has from twenty to forty cigars in his left hand and as he looks at each cigar it is placed separately in its proper pile. The picker must have from 1,000 to 2,000 cigars selected before he can give "pila" (the requisite number for a box) to the packer. The packer chooses the best half of the "pila," which he faces and shades off for the top row, and packs the box.

AMERICAN STYLE: The American style packer has a table less than half the size of the Spanish packer's table and the operation of picking and packing is done on this table by the one person. He is given from 2,500 to 3,500 cigars as a lot. His table and method will not permit the handling of a larger quantity. The entire lot is quickly divided into three or four large piles containing from 400 to 1,200 or 1,500 cigars which are the claro, colorado claro, colorado and colorado maduro with which every smoker is



THIS FIGURE, IN THE EDITORIAL ROOMS OF THE TOBACCO LEAF, IS SAID TO BE OVER 100 YEARS OLD, A TYPICAL CIGAR STORE INDIAN, CARVED FROM A SOLID PIECE OF WOOD.

familiar. He then commences on the nearest pile, usually the claro, and takes the fifty reddest cigars and packs them; then the fifty greenest leaving the medium colors of each pile for the last, as they are most easily matched. As each fifty cigars are picked out he packs them then and there, continuing thus subdividing and packing until the lot is finished. This style packing takes longer per box than the Spanish style because the cigars have not been as carefully "picked."

COMPARISON: Spanish style work is skillfully and thoroughly done with results considering superior to American style. Another advantage of the Spanish style is that picker and packer may work indefinitely on the one size. In large factories packers work weeks at a time without changing the size they are packing.

The American style possesses the advantage of being simple and quicker, and peculiarly well adapted to certain tobaccos which run in even colors.

ODD FACTS ABOUT HAVANA TOBACCO

The Weight of a Bale.—The weight of Havana tobacco bales varies. The finest wrapper grades contain from fifty to seventy-five pounds to the bale. In Remedios, which is purely a filler type, the bales average about 135 pounds and sometimes run as high as 175 pounds. In Partido and Vuelta Abajo fillers, the bales run from eighty to 110 pounds.

Meaning of a Hand.—The finest wrapper grades of Havana tobacco are packed twenty-eight leaves to the hand, the number of leaves increasing in the cheaper grades. In the second grade of wrappers, the hands contain about thirty leaves; the third grade is packed thirty-five leaves to the hand, the fourth grade thirty-five, etc., until in the sixth grade, a hand contains fifty leaves. The leaves in hands of filler are not counter, but a filler hand contains from fifty



THE "LONGFELLOW" CIGAR STORE INDIAN. SO CALLED BECAUSE THE GREAT AMERICAN POET, AUTHOR OF *HIAWATHA*, OFTEN ADMIRERD IT. IT IS A METAL CAST.

to seventy-five leaves, according to the size of the leaf.

Four hands of either filler or wrapper are tied together into a bundle known as a carrot, and eighty carrots make a bale.

Cigar manufacturers usually count upon getting about 4,500 cigars from a bale of Havana tobacco.

What "Yaguas" Is.—The wood fibre in which bales of Havana tobacco are packed is the bark of the Royal Palm which is shed, in sections, once a month. This bark is called *yaguas* and is collected by the natives of Cuba and sold to the tobacco packers for that purpose. Bast, or *mahaguas*, is the strip of bark that is tied around a carrot.

Meaning of Capaduras.—First and second capaduras are the choice grades of Remedios Cuban tobacco and are composed of the leaves grown midway between the top and bottom of the stalk. The lowest leaves of a plant of tobacco, while the largest, have less body than leaves growing further up on the plant, and are used for binder or cigarette purposes, according to whether they are whole or broken. First capaduras are the largest leaves that have body and quality and second capaduras are the smaller leaves with the requisite character. The top leaves of the plant go into the inferior grades. Remedios is filler tobacco, and under the regulations of the United States customs service, pays only filler duty, regardless of the size of the leaves.

"Havana Tobacco" a Misnomer.—The expression Havana tobacco is, in a sense, a misnomer, as but very little tobacco is actually grown in the province of Havana. Time and usage have given the name of Havana to all tobacco grown on the island of Cuba.

FORMING AND PACKING TRIANGULARES

In forming Triangulares cigars the bundles are not pressed in molds. The cigars, when they come from the cigarmaker, are placed in triangle molds and left there for

Tobacco	\$ 270,758,695
Transfer of Estates of Decedents	\$ 139,291,712
Transportations of Freight	\$ 85,291,894
Corporations Excise Tax on Value of Capital Stock	\$ 80,580,885
Admission to Theatres, etc.	\$ 73,373,937
Automobiles Motorcycles	\$ 65,088,336
Transportation of Persons	\$ 58,042,159
Distilled Spirits	\$ 45,554,134
Tires, parts for Automobiles, etc.	\$ 39,341,826
Beverages, Non-alcoholic	\$ 33,489,185
Telegraph, Telephone and Radio Messages	\$ 28,086,182
Bonds, Capital Stock Issues, etc.	\$ 26,730,744

INTERNAL REVENUE RECEIPTS

(Fiscal Year Ending June 30, 1922)

From all sources yielding \$ 25,000,000 or over.
Exclusive of Income and Profits Taxes.

Note - In Addition to the Internal Revenue Taxes the Government is collecting about \$35,000,000 a year in Custom Duties on Tobacco.

forty-eight hours. During that time each cigar is turned in the mold three times. They are then tied into bundles, put into the boxes and put into the press like any cigars.

PACKING SMOKING TOBACCO

In packing granulated tobaccos, manufacturers use a hollow tin mold around which they wrap the wax paper. The mold is put into the can and then the tobacco is packed into the mold. After this a plunger is inserted in the mold and the mold drawn out, leaving the tobacco and wax paper in the can. The plunger holds the tobacco while the mold is drawn out.

TO PREVENT WINDOW FROSTING

A great many merchants find difficulty in preventing their windows from frosting or sweating in cold weather, which practically renders them useless for publicity purposes at a time when they are of the most value.

The physical cause of the deposits of moisture upon windows is the great difference in the temperature between the surface of the glass and the air. This is especially true when the air that comes in contact with the glass bears a relatively high portion of moisture.

As long as the glass is as warm as the circulating air, or near that temperature, there will be no deposits.

Warm air is able to carry a much larger portion of water than cold air, and the problem therefore resolves itself into the question of keeping the glass as near the temperature as the air on the outside of the window, or, reverse the reasoning, to keep the air on the inside of the window near the temperature of the coolness of the glass.

At all times try to keep as even a temperature as possible on both sides of the glass, as the cold air on the outside of the glass condenses the moisture in the warm air inside, which causes moisture or sweat to deposit on the inner surface of the pane. This sweat when freezing causes frost.

A very practical and safe solution of this problem is to have the windows so ventilated that the air on both sides of the glass is kept at about the same temperature. In order to accomplish this result, the windows must be shut off or boxed in from the inside of the store and ventilated from the outside. All of the new modern metal window construction is equipped with these ventilating tubes. In fact, one of the strongest points in favor of metal strip show window construction is the ventilating feature.

In a series of windows, where they are all connected, a 24x26-inch opening at either end of the series will in most cases answer nicely and obviate any further trouble.

A fixture designed to prevent this difficulty may be purchased from fixture houses or it can be made by practically any metal concern that deals in pipes or lighting fixtures. This shows a row of small tubes with screen protections at either end run through the show window sash at top and bottom. In case the window sash is not deep enough the tubes can be set in below the flooring of the window. This will require an elbow made especially for this purpose. If the window is large these tubes should be placed at equal distances along the upper and lower portions of the sash.

The cold air circulating through the tubes across the inside keeps steam and frost from forming. The screen shields are placed at each end of the fixture in order to prevent insects from getting into the windows and to prevent mischievous boys from pushing sticks and other articles into the tube.

As windows rarely sweat in the Summer, a cup can be placed over the inside opening to prevent dust from accumulating on the merchandise shown in the window.

OTHER METHODS

Other remedies that have been tried where the show window has not been properly constructed are as follows:

Rub the glass with a solution of equal parts of alcohol and glycerine, allowing the solution to remain on the glass.

Set an electric fan on the side of the window, so that it will blow directly on the glass.

The best solution is to see that your show windows are properly ventilated and in order to be properly ventilated they must be cased in.

LICORICE AS A TOBACCO FLAVOR

Among all sweeteners and flavors, that which seems to have the greatest natural affinity for chewing tobacco, and in some degree smoking tobacco, is licorice.

By far the largest proportion of licorice imported into the United States is manufactured into paste which is used in flavoring chewing tobacco and to a lesser extent in smoking tobacco. The ground root is also used in this connection. Probably ninety per cent of imported licorice is used in tobacco manufacture.

Licorice root is the dried rhizome and roots of *Glycyrrhiza glabra typica* Regel et Harder, known in commerce as Spanish licorice, or of *Glychrrhiza glabra glandulifera* Regel et Harder, known in commerce as Russian licorice (Fam. Leguminosae). The licorice plant is a native of south-eastern Europe and southwestern Asia as far as Persia, the variety *typica* ranging westward and the variety *Glandulifera* to the eastward.

Numerous commercial varieties, depending on different producing sections, are recognized by the trade. Spanish licorice, as here recognized, may include Italian, Sicilian, Turkish, Alicante, Tortosa, etc.

American imports of licorice have in normal times come chiefly from Turkey in Asia and Asiatic and European Russia. Imports from Spain, Italy, and other European countries have been comparatively insignificant.

WHIMS OF PIPE SMOKERS

The democracy of smoking is exemplified in the diversity of preference among smokers. William B. Leeds, famed as the richest young man in the United States, is partial to an ordinary briar pipe with a vulcanite stem, such as nearly any one could afford to buy. On the other hand, R. C. Fitzgerald, an Ohio congressman who does not pretend to any great wealth, possesses a pipe that is said to be the most costly in America. It is valued at \$2,000. This pipe is very carefully carved from meerschaum, and in fact is said to be one of the most remarkable specimens of meerschaum carving in the world. This pipe is made practically priceless through its historical interest. The late Emperor Francis Joseph of Austria once owned it. In fact, this meerschaum was presented to Emperor Francis Joseph by Archduke Franz Ferdinand, whose assassination started the World War.



INDEX

- Acadian method of curing tobacco, 47
- "A Cigarette Smokers' Lament," by W. E. S. Fales, 85
- Adrianople, tobacco industry in, 229
- "A Farewell to Tobacco," by C. Lamb, 76
- Africa, tobacco requirements in, 166
- African Negro pipes, 35
- "A Good Cigar," by N. Bull, 73
- Alaskan pipes, 32
- Aldrich, T. B., "Latakia," 72
- Alfonso XII of Spain, devotee of tobacco, 133
- Amber, 290
- American Museum of Natural History, collection of pipe bowls, 23
- American style of packing cigars, 458.
- Analysis of cigarette papers, 131
- Analysis of manufactured tobacco, 112
- Analysis of the tobacco plant, 113
- "A Pipe of Tobacco," by I. H. Browne, 69
- Asia Minor, tobacco industry in, 232
- Austria, tobacco requirements in, 166
- Babcock, James F., on tobacco, 131
- Bakelite, 292
- Barrie, J. M., "My Lady Nicotine," 64-65
- Beetle, tobacco, 418 *et seq.*
- Benzoni, mentions tobacco in 1546, 27
- Big flats tobacco, 156
- Blended cigarettes, 247
- Bloedorn, W. A., on tobacco, 124
- Bonded warehouses, 355
- Briand, Aristide, devotee of tobacco, 110
- Briar pipes, how made, 285 *et seq.*
- Brathwait, "Smoking Age," 49
- Broadleaf cigars, 244
- Broadleaf tobacco, 155, 176
- Browne, I. H., "A Pipe of Tobacco," 69
- Bull, Morris, "A Good Cigar," 73
- Bulwer-Lytton, Edward, on smoking, 72
- Buttes, Henry, writes satire on tobacco, 58
- Byron, Lord, "Sublime Tobacco," 64, 73
- Calabash pipes, 149, 295
- Cannon, Joseph, devotee of tobacco, 115
- Capaduras, 462
- Carlyle, Thomas, on tobacco, 66, 94
- Carrington, Kate A., "The Scent of a Good Cigar," 79
- Cartier, mentions tobacco in 1535, 27
- Catherine de Medici, presented with tobacco by Nicot, 33
- Catlin, George, collection of pipes, 20
- Chemistry of tobacco, 110
- Cheroots, manufacture of, 246, 251 *et seq.*
- Chewing tobacco, blends for, 163; classifications, 249; how made, 273;
- Cigar, origin of name, 2"
- Cigars, American style of packing, 458; annual production, 136; defined and classified, 242; first made, 44; growth in favor, 105; how to keep in condition, 379 *et seq.*; how to judge quality, 144; how to

- spot, 450; infection of, 446; methods of packing, 456; manufacture of, 251 *et seq*; moldy, 444 *et seq*; sizes and color marks, 386 *et seq*; tobacco used for, 154; triangulares, 462
- Cigar boxes, 304 *et seq*
- Cigar-filler leaf, soils for, 187
- Cigar flavors, artificial, 451
- Cigar leaf, domestic, 176 *et seq*
- Cigar statistics, 44
- Cigar stores, modern, 52
- Cigar store management, 366 *et seq*
- Cigar wrapper types, 177
- Cigarrel, meaning of Spanish term, 25
- Cigarette, origin of name, 26
- Cigarettes, annual production, 136; defined and classified, 246; first made, 43; growth in favor, 105; how to light, 150; how to scent, 455; manufacture of, 265 *et seq*; tobaccos used for, 163
- Cigarette papers, analysis of, 131; facts concerning, 281 *et seq*
- Cigarette stain, how to remove, 150
- Clay pipes, 302
- Clear Havana cigars, 243, 252
- Clouston, on tobacco, 122
- Cobb, Irving S., devotee of tobacco, 71
- Collins, Joseph, on tobacco, 124
- Color marks of cigars, 386 *et seq*
- Columbus, Christopher, discovers tobacco, 19
- Comstock Spanish tobacco, 177
- Connecticut, early laws against tobacco, 101; Havana Seed tobacco, 178; tobacco culture, 43, 154
- Corncob pipes, 300
- "Counterblast to Tobacco," by King James, 38, 61-63
- Cowper, praise of tobacco, 64
- Crawford, F. Marion, "Smokes of the Nations," 94
- Cuban cigars, first imported, 44
- Cuban leaf, soils for, 188
- Cuban seed tobacco, 158
- Cuban tobacco, how grown, 159, 186
- Cultivating the "manufacturing" types, 199 *et seq*
- Cultivating tobacco, 182
- Curing shade tobacco, 193
- Curing tobacco, 41
- Dark manufacturing tobacco, 206
- Davidson, R. J., analysis of tobacco, 113
- Dioscorides, on ancient smoking, 31
- Discovery of tobacco, 19 *et seq*
- Drake, Francis, brings tobacco to England, 34
- Dunlap, Knight, on tobacco, 122
- Economic side of tobacco, 126
- Edison, Thomas A., devotee of tobacco, 335
- Einstein, Albert, devotee of tobacco, 121
- Elizabeth, Queen, attitude toward smoking, 35
- Empey, Arthur Guy, story of the war, 89
- England, tobacco requirements in, 166
- Export tobaccos, 165
- Exports of tobacco in 1922, 140
- Fabens, Joseph W., "Twas Off the Blue Canaries," 84
- Fairholt, F. W., on tobacco, 120
- Fals, W. E. S., "A Cigarette Smoker's Lament," 85
- Fertilizing tobacco soils, 181
- Fine cut tobacco, 249
- Fire-cured export tobacco, 200
- Flavors, artificial, of cigars, 451
- Florida, early tobacco culture, 46; tobacco, 158
- Flue-cured tobacco, 204
- Foch, Ferdinand, devotee of tobacco, 311
- France, tobacco requirements in, 166
- Garner, Dr., on nicotine, 116

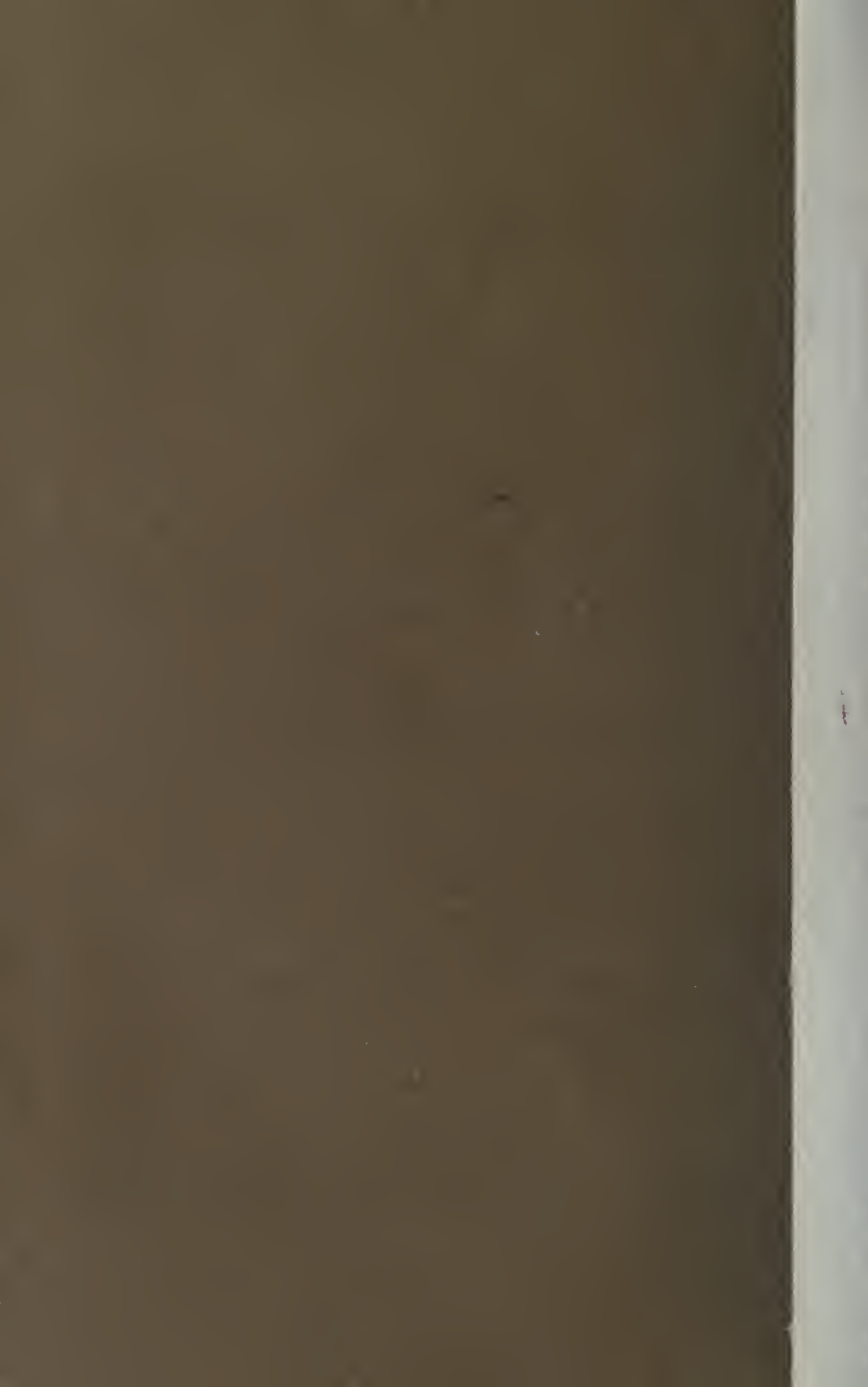
- Garner, W. W., on tobacco culture, 170
- Gebhard tobacco, 157
- George V., devotee of tobacco, 319
- George, W. S., devotee of tobacco, 75
- Gibbs, Philip, devotee of cigarette, 59
- Goethals, George W., on tobacco, 127
- Governmental regulation of tobacco, 309 *et seq*
- Grading shade tobacco, 197
- Granulated smoking tobacco, 248
- Hand of tobacco, 460
- Hankins, John, brings tobacco to England, 33
- Harding, Warren G., devotee of tobacco, 99, 103
- Hariot, writes of tobacco, in 1588, 21, 27
- Harrington, J. W., on tobacco, 128
- Harvesting shade tobacco, 190 *et seq*
- Harvesting tobacco, 184
- Harvey, George, devotee of tobacco, 125
- "Havana," by C. A. Werner, 74
- Havana cigars, 243
- Havana cigarettes, 248
- Havana seed tobacco, 155, 176
- Havana tobacco, cultivation of, 222 *et seq*; facts about, 159, 460
- Health, effect of tobacco on, 119 *et seq*
- Henley, W. E., praise of tobacco, 64
- Herrick, Myron T., devotee of tobacco, 125
- Hirshberg, Leonard N., on tobacco, 122
- Humidors, how to make, 381
- Import duties, 364
- Imported cigars, 243
- Imports of tobacco, 1922, 139
- Indian cigar signs, 49
- Indians, their use of tobacco, 20 *et seq*
- "In Favor of Tobacco," by S. Rowlands, 67
- Ingersoll, Robert, tribute to tobacco, 81
- Internal Revenue Bureau, records of tobacco products, 135
- Internal revenue regulations, 310
- Internal revenue tax rates, 363
- "In the Ol' Tobacker Patch," by S. Q. Lapius, 80
- Ireland, first tobacco crop, 36
- "Irish Hubbub," smoking story in, 56
- "Irish Tobacco Trade Journal" quoted, 81
- Italy, tobacco requirements in, 166
- James I., opponent of tobacco, 37
- Jamestown, first export port for tobacco, 37
- Java tobacco, 161
- Jonson, Ben, mentions tobacco, 56
- Kentucky, early tobacco culture, 42
- Kerr, Norman F., on tobacco, 124
- Kingsley, Charles, tribute to tobacco, 89
- Kipling, Rudyard, "The Betrothed," 64, 93
- Lamb, Charles, "A Farewell to Tobacco," 76
- "Lancet," on toxic effect of smoke, 117
- Lane, Ralph, takes tobacco to England, in 1586, 34
- Latakia, source of supply, 236
- "Latakia," by T. B. Aldrich, 72
- Leaf tobacco, classification, 154 *et seq*; dealers in 312; how to spot, 451; sale by farmers, 310
- LeGallienne, R. "With Pipe and Book," 64, 66
- Licenses for manufacturers and dealers, 45

- Licorice as a tobacco flavor, 466
 Litsey, Edwin C., "To My Pipe," 86
 Little cigars, 246
 Little Dutch tobacco, 157
 Lloyd George, David, devotee of tobacco, 111
 Long cut tobacco, 248
 Longfellow, H. W., "The Calumet," 95
 Long filler cigars, 245
 Louisiana, early tobacco culture, 46
 Louis XIII, opposition to tobacco, 39
 Lowell, J. R., "Thanks for Cigars," 64
 Lumpp, Charles F., "My Cigarette," 82
- McCann, Alfred W., on tobacco, 132
 Management of cigar stores, 366 *et seq*
 Manila cigars, 243
 Manufacture of tobacco, 42 *et seq*; statistics, 143
 Manufactured products, classification of, 242 *et seq*
 Manufacturers of cigars, laws governing, 336
 Manufacturing in bond, 353 *et seq*
 "Manufacturing" types of tobacco, 199 *et seq*
 Marketing shade tobacco, 198
 Marshall, Thomas R., devotee of tobacco, 107
 Maryland, air cured tobaccos, 164; best soil for tobacco, 208; early laws against tobacco, 102; early tobacco cultured, 40
 Massachusetts, early laws against tobacco, 99-100
 Mather, Cotton, writes on tobacco, 33
 Meerschaum, how to color, 149; how to color artificially, 415 *et seq*; used in pipes, 292
 Merchandising methods, modern, 52
 "Metamorphosis of tobacco," 60
 Mexican tobacco, 162
 Moral effect of tobacco, 127
 "My Cigarette," by C. F. Lumpp, 82
 "My Lady Nicotine," by Barrie, 64-65
 New England, tobacco culture in, 43
 New York, early tobacco culture, 46; tobacco, 156
 Nickel cigars, how made, 262
 Nicot, Jean, takes tobacco to Paris, in 1561, 33;
 Nicotiana, 109
 Nicotine, chemical properties of, 110; effect on quality of tobacco, 116; origin of name, 33
 North Carolina, early tobacco culture, 42
- Ohio, early tobacco culture, 45; tobacco, 157
 Oldfield, Barney, devotee of tobacco, 129
 Onondaga tobacco, 156;
 Oviedo, his general history mentions tobacco, 27
- Packing shade tobacco, 195
 Peddlers of tobacco, regulations for, 351
 Penn, "Soverane Herbe," 65
 Pennsylvania, early tobacco culture, 45; tobacco, 157
 Pennsylvania Broadleaf, soils for, 187
 Pepys, Samuel, on tobacco as an antidote for the plague, 88
 Per capita consumption of tobacco, 142
 Perique tobacco, how cultivated, 208
 Pershing, John J., devotee of tobacco, 311
 Philippine cigarettes, 248
 Philippine Islands, imports of tobacco from, 139
 Philippine tobacco, 162
 Pipe bowls of stone used by Indians, 23
 Pipes, briar, how made, 285 *et seq*; calabash, 295; care of,

- 148; clay, 295; corncob, 295; earliest forms of, 24; how to color meerschaum, 215 *et seq*; meerschaum, 292; peace, 20; repairing, 403 *et seq*; selling at retail, 397 *et seq*; standard styles, 398
- Plug cut tobacco, 248
- Plug tobacco, 249, 454
- Pope, Alexander, quoted, 26
- Porto Rican cigars, 243
- Porto Rican cigarettes, 248
- Porto Rican tobacco, 162
- Prince of Wales, devotee of tobacco, 107
- Profit, percentages of, 375
- Purity of tobacco, 128
- Raleigh, Walter, brings tobacco to England, 33; champion of tobacco, 34; smoking story, 55
- Red Burley tobacco, 43
- Repairing pipes, 403 *et seq*
- Resagos, 245
- Retail profits, how figured, 376
- Rhondda, Lord, on tobacco, 127
- Rich, Barnaby, smoking yarn by, 56
- Rolfe, John, colonial tobacco grower, 40
- Roosevelt, Franklin D., devotee of tobacco, 123
- Roundtip tobacco, 156
- Roush, Sigel, "To My Pipe," 88
- Rowlands, S., "In Favor of Tobacco," 67
- Russian cigarettes, 247
- Salonica, tobacco industry, 232
- Scrap chewing tobacco, 249
- Scrap tobacco, 249
- Seed and Havana cigars, manufacture of, 259
- Seed bed, the, 200
- Seneca pipe, 29
- Shade, artificial, for tobacco, 190 *et seq*
- Shadegrown cigars, 244
- Shadegrown tobacco, 156
- Shawnee pipe, 29
- Short smokes, how made, 262
- "Smoke Dreams," by A. B. Tucker, 70
- Smoker's creed, the, 151
- "Smokes of the Nations," by F. M. Crawford, 94
- Smoking mixtures, tobaccos used for, 163
- Smoking tobacco, definitions of, 248; formula for, 454; how made, 273; how packed, 464
- Snuff, annual production, 136; classifications, 249; formula for, 455; how made, 276
- Snuff-taking, early, 39
- Soil, preparing for tobacco, 181
- Soils, tobacco, 172
- Spain, tobacco requirements in, 166
- Spanish cedar, 304
- Spanish style of packing cigars, 456
- Spurgeon, Charles, on tobacco, 127
- Steinmetz, Charles P., devotee of tobacco, 343
- Stock and profit system, 373 *et seq*
- Stogies, manufacture of 246, 251 *et seq*
- "Sublime Tobacco," by Byron, 73
- Sumatra seed tobacco, 158
- Sumatra tobacco, cultivation of, 160, 211 *et seq*
- Syria, tobacco industry in, 236
- "Tarltons' Guests," smoking story in, 56
- Tax on cigars, 45
- Taxation of tobacco, 318, 358 *et seq*
- Tennessee, early tobacco culture in, 42
- Thackeray, W. M., "The Social Pipe," 87
- "The Betrothed," by R. Kipling, 93
- "The Calumet," by H. W. Longfellow, 95
- "The Discovery of Tobacco," 67
- "The Last Cigarette," by C. A. Werner, 95
- "The Scent of a Good Cigar," by

- K. A. Carrington, 79
 "The Social Pipe," by W. M. Thackeray, 87
- Tobacco — Annual production, 136; and the human family, 98 *et seq*; an Indian offering to their gods, 21; beginning of manufacture, 42 *et seq*; big flats, 156; Broadleaf, 154, 176; chemistry of, 110; chewing, 104; classes and types, 171; commercialization, 37 *et seq*; Comstock Spanish, 177; Connecticut Havana seed, 178; counties of export, 165; Cuban, 159; Cuban seed, 158; curing, 41; dark manufacturing, 206; discovery, 19 *et seq*; early curative properties, 21; early laws against, in Massachusetts, 99-100; early merchandising, 49 *et seq*; early opposition to, 38-39; early progress around the world, 34; early uses of, 22; economic side of, 126; effect on human body, 119 *et seq*; exports in 1922, 140; first shops 49; Florida, 158; flue-cured, 204; free imports, 151; Gebhard, 157; governmental regulation, 309 *et seq*; Havana, 159, 222 *et seq.*, 460; Havana seed, 154, 176; how named, 25 *et seq*; imports in 1922, 139; ingredients, 109 *et seq*; in poetry, 66; in the field of letters, 55 *et seq*; introduced into drama, 56; introduction into Europe, 30 *et seq*; Java, 161; leaf, classification of, 154 *et seq*; Little Dutch, 157; made a legal tender, 40; manufacture, 265; mentioned by Zenzoni, in 1546, 27; mentioned by Cartier, in 1535, 27; mentioned by Hariot, in 1588, 27; mentioned by Oviedo, in 1526, 27; Mexican, 162; modern crusades against, 106; moral effect of, 127; Onondaga, 156; per capita consumption, 142; perique, how made, 47; Philippine, 162; Porto Rican, 162; purity of, 128; raising under shade, 190 *et seq*; red burley, 43; round-tip, 156; shadegrown, 156; snuff-taking, 104; statistics, 135; Sumatra, 160, 211 *et seq*; Sumatra seed, 158; taxation, 358 *et seq*; trade secrets, 450 *et seq*; Turkish, 165, 228 *et seq*; white burley, 43, 164; Wiener theory concerning, 30; Wisconsin, 158; Zimmer Spanish, 157, 177, 188
- "Tobacco as a War Essential," by C. A. Werner, 90
- Tobacco beetle, 418 *et seq*
- Tobacco culture in the United States, 168 *et seq*
- "Tobacco Hearts," 81
- Tobacco industry, census figures, 143
- Tobacco Merchants' Association, 108
- Tobacco plant, the, 109
- Tobacco products, sale of, 349
- Tobacco soils, 172
- Tobago, a forked stick or cane, 25
- Toledo, Francis H. de, first to carry tobacco to Europe, 33
- Tomahawk pipes, 24, 29
- "To My Pipe," by E. C. Litsey, 86
- "To My Pipe," by S. Roush, 88
- Trade formulas and recipes, 450 *et seq*
- Transplanting tobacco, 182
- Traveler's free imports of tobacco, 151
- Treasury Department, rulings governing bonded warehouses, 355
- Triangulares, forming and packing, 462
- Tucker, A. B., "Smoke Dreams," 70
- Turkish cigarettes, 246
- Turkish tobacco, cultivation of, 165, 228 *et seq*
- Twain, Mark, favorite pipe, 57
- "'Twas Off the Blue Canaries," by J. W. Fabens, 84

- United States, tobacco culture in, 168 *et seq*
- Uppowoc, early name for tobacco, 25
- Urban VIII, Pope, bull against tobacco, 39
- Virginia cigarettes, 247; early laws against tobacco, 102; first tobacco culture in, 37
- Vulcanite, 292
- War pipes, Indian, 24
- War Revenue Act of 1917, 138
- Washington, George, a tobacco grower, 104
- Werner, Carl Avery, "Havana," 74; "The Last Cigarette," 95; "Tobacco as a War Essential," 90; "When Molly Holds the Match," 83
- White burley tobacco, 43, 164, 199, 203
- Whitney, Milton, bulletin on tobacco soils, 168
- "When Molly Holds the Match," by C. A. Werner, 83
- Wiener, Leo, theory of origin of tobacco, 30
- Window frosting, 464
- Wisconsin, early tobacco culture, 46; tobacco, 158
- "With Pipe and Book," by R. Le Gallienne, 66
- Xanthi, tobacco industry, 229
- Yaguas, 462
- Zimmer Spanish tobacco, 157, 177, 188



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