

UNITED STATES PATENT OFFICE.

ADOLPH MOONELIS, OF NEW YORK, N. Y.

ARTIFICIAL TOBACCO AND PROCESS OF MAKING SAME.

1,016,844.

Specification of Letters Patent.

Patented Feb. 6, 1912.

No Drawing. Application filed March 22, 1910, Serial No. 550,974. Renewed June 29, 1911. Serial No. 635,961.

To all whom it may concern:

Be it known that I, ADOLPH MOONELIS, a citizen of the United States, residing in the city of New York, borough of Manhattan, in the county and State of New York, have invented certain new and useful Improvements in Artificial Tobacco and Processes of Making Same, of which the following is a specification.

10 This invention relates to artificial tobacco and processes of making same; and it comprises an artificial tobacco or tobacco paper composed of pure fiber from tobacco stems and water soluble products of higher grade tobacco, such artificial tobacco upon extraction with distilled water giving an extract similar to that produced from higher grade tobacco by the use of distilled water; and it also comprises a method of producing such product wherein a paper is made from the fiber of tobacco stems, an extract or paste is made from higher grade tobacco by the aid of distilled or lime free water, such extract is incorporated into such paper and the treated paper is dried; all as more fully hereinafter set forth and as claimed.

Tobacco fiber is one of the few vegetable fibers which can be smoked. All vegetable fibers differ from each other more or less in composition and there is apparently something about the composition of the fiber of tobacco which renders it possible to smoke it. Other fibers, such as those of wood, paper, cotton, etc., upon destructive distillation, such as takes place in the act of smoking, yield pyrolytic products, like creosotes, etc., of too unpleasant a nature for smoking. But the pure tobacco fiber can be smoked. And the fiber from the stems after removal of all the bodies which can be extracted with distilled water seems to be of practically the same quality as the fiber in other portions of the tobacco leaf.

In the present invention a product of higher grade is obtained by the use of certain expedients. For this purpose the stems are first converted into paper. In manufacturing the paper all the soluble ingredients of the tobacco stems are removed and the paper obtained is a substantially pure tobacco fiber of the quality occurring in the leaf. This paper is next treated with an extract obtained from higher grade tobacco by the use of distilled water.

Tobacco contains very many water soluble components and these components are many of them of such character as to be affected by the difference in the nature of the water used as a solvent. Nearly all natural waters contain lime and saline matters; part of the lime content is carbonate and part is sulfate. These bodies have a marked effect upon the colloid substances which constitute a great part of the water soluble substances of tobacco. The effect of the lime in water as carbonate or as gypsum upon the colloids, such as the proteids, of vegetable matter is well known in various arts, and I have discovered that in tobacco extracts the same influence prevails. The extract produced from tobacco by distilled water is, not only different in character from those produced by natural waters but it is much better for the present purposes than the extract produced by hard natural waters. Such an extract made from a higher grade of tobacco by the aid of distilled water and incorporated into the cellulose gives a product which for the smoker's purpose is of nearly as high grade as the original tobacco from which the extract was made, while an extract from the same tobacco made by the aid of hard water gives a distinctly lower grade product. If the tobacco stems be, as is preferable, made into paper with the aid of distilled water, or water free from lime and other impurities which will osmose or affect osmosis, and then be impregnated or treated with a distilled water extract of a good grade of tobacco, the resulting product is also of good grade. The distilled water not only extracts more from the stems than does a hard water but it extracts more from the tobacco used for making the extract. Furthermore, the material extracted from the stems contains the detrimental components of such stems. In other words, by extracting stems with distilled water and then re-incorporating a distilled water extract of high grade tobacco, a high grade tobacco substitute is obtained even where the stems are of low grade. On treatment of the finished product with distilled water an extract is obtained of exactly the same character as is obtained from the original high grade tobacco. Distilled water is substantially inert in so far as producing any change in the water solubles on contact

therewith, a fact which is not true of any hard water or water containing lime, sulfates, alkali or saline matter.

Prior attempts at making tobacco paper have been practical failures because of ignorance of the influence of the character of the water upon the extracts obtained. A hard water extract of tobacco gives an artificial tobacco of a flavor sometimes described as rancid. There is also a difference in the character of the ash. An artificial tobacco made with a hard water burns to a red ash rather than a white.

In the present embodiment of my process, I perform the same in two stages. I first prepare a paper sheet from pure tobacco fiber which is that obtained from stems or from rather coarse tobacco. I furthermore prepare a special "paste" containing oils and juices and water soluble components of a good tobacco, using scrap, dust or cuttings. With this extract I impregnate, saturate or coat the paper or sheets so made.

In carrying out the first stage of my process I take tobacco stems, which are generally received in the form of bales or bundles, and moisten the same by sprinkling, employing distilled water for this purpose. This step is intended to soften the stems and prevent the breaking thereof. The treatment requires twenty-four to forty-eight hours, during which time the stems should be turned over and re-sprinkled from time to time, if necessary. I then deliver the softened stems to any desired form of shredding machine, in which the stems are shredded in the usual manner, after which I boil them in distilled water. This boiling step may be carried out in any desired form of boiler or digester or in what is known as a "rotary bleach." Pressure may be employed. Distilled water is added as evaporation proceeds, and the liquid is drained off after from six to eight hours. The boiling process is continued until the stems have been boiled from twenty-four to thirty hours and have become thoroughly softened. During this step the juices and oils of the stems, particularly those which are rank, bitter, and contain ingredients injurious to smokers, are passed off in the form of a vapor or extracted by the water and discarded. During this boiling step, substantially all of the oils and juices and water solubles of the stems are extracted, leaving substantially nothing but pure tobacco fiber. The distilled water does not leave behind any of the water solubles as does hard water. I then subject these stems to the action of beaters, in the well known macerating machine for making paper pulp of any fibrous material, and make pulp thereof, again employing distilled water only. From this pulp I make paper sheets, of

very thin texture, in an ordinary paper-making machine.

For making the saturating high grade extract I take tobacco scrap, dust or cuttings, of any desired quality of tobacco, and boil the same in distilled water for from eight to ten hours, preferably using the approximated proportion of fifteen pounds of tobacco to twenty gallons of distilled water. I then strain off the solution, and evaporate the liquid strained off to about thirty-three degrees hydrometer test. This evaporating step is preferably carried out in a vacuum boiler or any ordinary type of multiple effect evaporator, whereby I am enabled to avail myself of a much lower temperature, and thus prevent changing the character of some of the ingredients by subjecting them to too high a temperature. The more volatile oils and juices, which pass off in the form of vapor, may be recondensed and re-incorporated in the resultant solution. In this manner I produce a thick pasty or viscous compound which I then apply to sheets of tobacco paper, made as above described from substantially pure tobacco fiber. This paste may be applied in any desired manner, it being preferable to coat both sides of the paper in some manner that will insure reasonable uniformity of application. This may be done by sponges or rollers, and it is furthermore desirable that the paste be pressed into the paper, and the paper is preferably kept warm during this step of the process by heating pots or otherwise. I then pile the treated sheets, one upon another for saturation to uniformity. In that condition they are permitted to dry. The sheets are then ready for delivery to manufacturers or jobbers, to be cut up into the proper sizes for use as desired.

If desired, the tobacco from which certain juices have been extracted may be rolled upon a reel, and, if so, it is subsequently unrolled by saturating and pressing rollers, and before passing to the second reel, upon which it may be wound instead of piling up separate sheets, it is slightly heated to gently dry the same.

Attention is directed to the fact that the shredding step may be done away with provided there is employed what is known as a rotary bleach and heater. With this apparatus, the shredding process is carried on simultaneously with the boiling process.

It will be apparent that by the described process, I may give the finished product any flavor desired; this depending upon the character of the product used for furnishing the extract. The extraction of the oils and juices from fiber in the paper-making process leaves such paper practically tasteless so that any desired flavor may be superimposed. I can apply a solution which has been made from Habana scrap and thus impart Habana

flavor to the product. Similarly, the employment of a solution made from the scrap of Virginia tobacco, or Kentucky tobacco, or Connecticut tobacco, will impart a corresponding flavor to the product when applied to the paper.

A most important feature of my invention is the employment throughout of substantially chemically pure water. In the paper making process and in preparing the extract it is desirable that the atmosphere be excluded as much as possible. This is for the reason that by any contact with the atmosphere valuable volatile aromatic bodies are lost and because of the oxidizing influence of the air producing changes in the chemical composition of the material which results in corresponding changes in the flavor of the finished product. This exclusion of the atmosphere is more important in making the extract than in making the paper since the paper making process leaves a flavorless product behind.

My process enables me to employ if I so desire, stems from the cheaper grade of domestic tobacco, which are more available and less costly on account of the shorter distance of transportation, and apply thereto the paste provided from the scrap of imported or higher grade tobacco, giving the product, as explained, the flavor of the latter.

In the article of the present invention, the fibrous portion is composed of webbed and felted tobacco fibers in the mutual relation in which they are left by the paper making process, such fibers being of the character of those of tobacco stems while yielding substantially none of the solubles of tobacco stems to distilled water while the residue of the article is of the character of a pure-water extract of a good grade tobacco, the pure water extract of the complete article being substantially the same in character as the pure-water extract of a good grade of tobacco.

I claim as new and desire to secure by Letters Patent:

1. The process of preparing a tobacco substitute which comprises making a tobacco

paper of tobacco fiber free of water-soluble constituents and treating such paper with a distilled-water extract of a good grade of tobacco leaves.

2. The process of preparing a tobacco substitute which comprises making a tobacco paper of tobacco fiber from tobacco stems, said fiber being free of water-soluble constituents, and treating such paper with a distilled-water extract of a good grade of tobacco leaves.

3. The process of preparing a tobacco substitute which comprises making a tobacco paper of tobacco fiber with the aid of distilled water and treating such paper with a distilled-water extract of a good grade of tobacco leaves.

4. The process of preparing a tobacco substitute which comprises making a tobacco paper of tobacco fiber from tobacco stems with the aid of distilled water and treating such paper with a distilled-water extract of a good grade of tobacco leaves.

5. The process of preparing a tobacco substitute which comprises making tobacco paper from tobacco stems under exclusion of air and with the aid of distilled water and treating such paper with a distilled-water extract of a good grade of tobacco.

6. In the manufacture of tobacco preparations, the process which comprises extracting the water-soluble constituents of tobacco with distilled water.

7. As a new article of manufacture, a tobacco substitute comprising webbed and felted tobacco fibers carrying an extract of good tobacco, such substitute on treatment with distilled water giving an extract of substantially the same character as that given to distilled water by the original tobacco from which the first-named extract was procured.

In testimony of the foregoing, I have hereunto set my hand in the presence of two witnesses.

ADOLPH MOONELIS.

Witnesses:

P. FRANK SONNEK,
FRED H. BOWERSOCK.