UNITED STATES PATENT OFFICE.

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PROCESS OF TREATING TOBACCO.

1,168,029. Specification of Letters Patent. Patented Jan. 11, 1916.

No Drawing. Original application filed August 25, 1915, Serial No. 47,384. Divided and this application filed November 17, 1915. Serial No. 61,936.

To all whom it may concern:

Be it known that I, JAMES K. PROBST, a citizen of the United States, residing at Lock Haven, in the county of Clinton and State of Pennsylvania, have invented certain new and useful Improvements in Processes of Treating Tobacco, of which the following is a specification.

As is well known, in the tobacco growing industry the usual practice for many years has been, to cut the tobacco plants, to carry the same to a barn and hang them up and allow them to dry or cure, and as soon as this has been accomplished, to remove the leaves from the stock, during damp or wet weather, or at a time when there is sufficient moisture in the air, to prevent breaking and injury of the delicate leaves. The leaves have then been placed into boxes or "cases," and allowed to sweat, during which process a certain amount of moisture is necessary in the tobacco, and unless sufficient moisture is present, the result will not be satisfactory.

Since it is not always possible to do the work at a time when just the right amount of moisture is present in the air, various other methods have been proposed, for example, by sprinkling the tobacco leaves, or by dipping these into suitable liquids, before the sweating, but these processes have not given entirely satisfactory results, since the sprinkling or dipping of the leaves is liable to produce a product which is either too wet or not wet enough, and also is liable to produce undesirable discoloration of the tobacco leaves.

In accordance with my present invention, I find that it is not necessary either to sprinkle the leaves, or to dip the same into a liquid, but as soon as the tobacco leaves have been placed in the cases, in which they are packed rather tightly, these cases may be put into a vulcanizer or treating apparatus, in which they are subjected to the action of hereinafter defined vapors and gases, capable of producing the desired degree of dampness of the leaves, after which the after-fermentation takes place within a very short space of time so that the tobacco may be ready for shipment within a few days after the treatment.

In my copending application, Serial No. 47,384, filed August 25, 1915, of which application the present case is in part a division and continuation, I have described and claimed an apparatus suitable for carrying out the process constituting the subject matter of the present application.

The apparatus as shown in the application above identified consists essentially of an inner receptacle comprising a sloping bottom and back, side walls, top and a door, and around the outside of this receptacle is formed a water space, provided with suitable heating means. A passage is provided between the water jacket and the inner receptacle, at a point materially above the normal water level, and means for opening or closing this passage are provided.

In carrying out the process constituting my present invention, I preferably proceed as follows: Into the water jacket I place a quantity of salt water, a solution of about 3 or 4% strength being suitable. This solution is heated to a temperature of preferably from 80° F., to 120° F., although a higher temperature, particularly during the first part of the process may be advantageous, since at a higher temperature, the mass of tobacco will become heated more rapidly. At any suitable place within the inner compartment is a receptacle or pan which, before starting the heat, and at the time of wheeling in the case of tobacco, is first filled with a suitable liquid. The character of this liquid will vary more or less, depending upon the flavor which is desired in the tobacco. For many purposes I find that a mixture of 3 quarts of cider vinegar to 1 quart of ammonia gives excellent results. To this mixture may be added if desired, 1 quart of rum. Instead of the above mixture, rum alone may be employed, which will give a characteristic flavor, and aroma to the tobacco under treatment. One gallon of the vinegar-ammonia solution, or a gallon of rum to 300 pounds of tobacco being a suitable proportion. The case having been introduced into the inner compartment or vulcanizer, and the desired quantity of the above-mentioned liquid having been placed into the receptacle and the compartment closed, heat is applied to the salt water in the jacket in any convenient manner, the vapors and gases given off from the salt water being allowed to enter the inner compartment containing the case of tobacco, through

the passage above referred to. These vapors and gases come into contact with the vinegar-ammonia mixture, or rum, or equivalent material, produce a treating vapor or mist or gas, which will be absorbed by the tobacco, until a sufficient amount has been absorbed. It is desirable to watch the generation of the vapor and gas, and the absorption of the same by the tobacco, although for ordinary purposes this is not necessary, since the tobacco cannot take up too much of the treating vapor owing to the fact that the tobacco, as soon as it has absorbed a sufficient amount of the treating vapor or gas, commences to sweat, and this sweating action prevents the absorption of any excess of the treating vapor. With ordinary sized cases of tobacco (about 200 to 400 lbs., depending on the character of the tobacco) I find that for the absorption of the treating vapor, from 4 to 15 hours is a sufficient length of time, if the temperature in the inner compartment, containing the tobacco be maintained at about 120° F., although longer time may be employed, without in any manner injuring the tobacco. After the absorption is complete, the temperature, if the same be materially above 120° F., is lowered to about that point, or below, and the sweating process then allowed to continue for a period of from 3 to 30 days, depending upon the character of the tobacco, and the contemplated use of the same. The tobacco is then ready for the manufacture of various articles, such as cigars, chewing and smoking tobacco, snuff, etc.

The mixture of cider vinegar and ammonia with or without rum, or the rum alone has a particular action upon the gum contained in the tobacco leaves. It is well known that tobacco leaves contain a small amount of a gum, which is somewhat resistant to moisture, and which in the ordinary process of treating tobacco is removed during the bulking down operation by a species of fermentation, which requires a considerable length of time. In my process the vapors of the liquid above referred to, in connection with the vapor produced by heating the salt water have the effect of rapidly "cutting" this gum in a very short time, which allows the absorption of the treating vapor or mist or gas by the tobacco.

It is to be noted that the particular gum cutting and flavor-producing reagents mentioned, namely cider vinegar, ammonia and rum, or rum alone, are given for the sake of example only, and the invention is not limited to these particular materials, as various other materials may be employed, either as substitutes for, or in addition to these materials, any agent capable of producing the effects stated being suitable.

The term "vapors" as used in the appended claims is intended to cover also the use of mist or gases.

The chemistry of the process is somewhat obscure, and I content myself with stating the steps actually performed, and the results secured by said treatment.

What I claim is:—

1. A process of treating tobacco which comprises packing cured tobacco, preparing a vaporous reagent for the treatment thereof, by subjecting salt water to heat, bringing the vapors given off, together with the vapors of a reagent capable of cutting the gum, into contact with the packed tobacco, for a period at least sufficient to permit the vapors to permeate the mass of packed tobacco.

2. In the treatment of tobacco, the step of preparing a suitable vaporous treating agent by heating salt water, and subjecting the stripped leaves of cured tobacco to the joint action of the vapors liberated from said salt water and the vapors liberated from a mixture of vinegar and ammonia.

3. A process of treating tobacco, which comprises subjecting the cured tobacco to the action of a vaporous reagent produced by bringing together the vapors liberated by heating salt water, and the vapors liberated by heating a liquid containing a gum cutting and flavor-producing reagent.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES K. PROBST.

Witnesses:
GEO. EADIE,
N. M. BRIDGEUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."