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REDRYING OF TOBACCO

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This invention relates to redrying of tobacco and more particularly to redrying of tobacco in hogsheads.

When tobacco is brought into the market from the farm, it is customary for the farmer to wait for a moist day so that the tobacco will be reasonably pliable and capable of being handled without breaking. This extra moisture, however, together with the natural moisture of the tobacco, frequently renders it unfit for storage and it is therefore customary to redry the tobacco. This redrying has heretofore been carried out upon individual leaves of tobacco and not in the hogshead, it being customary to heat the tobacco in a current of warm air. This operation is extremely expensive and involves an excessive amount of handling.

In accordance with this invention, the tobacco is redried while in the original hogshead and in a very short period.

The redrying operation is only in part a matter of removal of moisture. It also affects the botanical and chemical characteristics of the tobacco.

In accordance with this invention, green tobacco in a hogshead is placed in a vacuum chamber and subjected to a vacuum sufficiently high to boil water therefrom at the temperature of the tobacco until it is substantially free of non-condensable gas. The product may, however, be substantially freed of non-condensable gases in any other suitable manner.

Thereafter highly superheated steam is introduced to bring the temperature of the tobacco to a much higher temperature, preferably from 175° to 200° F. The tobacco is then cooled by subjection to a vacuum and the process repeated. Preferably, the cooling operation will not lower the temperature more than 50° to 75° and the subsequent steaming with superheated steam will be to a lower temperature than the initial one.

For example, the tobacco at 60° F. may be subjected to a vacuum until its temperature has dropped to 55° F., followed by steaming with highly superheated steam to 200° F. The vacuum is then increased until the temperature has dropped to, say, 130° F. followed by a second steaming operation with superheated steam to 175° F. The temperature may then be reduced to say, 100° F. by evacuation, followed by steaming to 150° with superheated steam and subsequent evacuation to, say, 75°. In the next stage the temperature may be carried to 125° F. and

reduced, say, to 50°, at which temperature the tobacco may be discharged.

Owing to the fact that superheated steam is used on all steaming operations, whereas saturated steam only is withdrawn by the evacuating process, each step of the process results in a reduction of the moisture content, so that the final moisture content of the tobacco is substantially below that as originally had. At the same time, the tobacco receives the necessary heat treatment for proper stabilization of the material for storage.

Preferably, the operation is carried out in a heated chamber. For example, a vacuum chamber may be heated by a series of steam coils on the inside of its walls. The use of the internal heat to some extent makes up for the cooling by evaporation but is also of importance in preventing condensation on the walls which would have the effect of partially de-superheating the steam employed in the heating cycles.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom.

I claim:

1. The method of redrying tobacco which comprises substantially freeing the tobacco from non-condensable gases, heating the tobacco with superheated steam to an elevated temperature of at least 140° F. and then cooling the product by evaporation of contained moisture in a vacuum to produce a product of lower moisture content than the original tobacco.

2. The method of redrying tobacco in a hogshead which comprises substantially freeing the hogshead from non-condensable gas, heating the tobacco with highly superheated steam to a temperature of over 175° F., cooling the tobacco by evaporation of contained moisture, again heating the product with superheated steam, but to a somewhat lower temperature than the initial heating temperature, again cooling the product by evaporation of moisture, the cooling being carried out until the tobacco is at a lower temperature than after the first cooling operation, and repeating the cycle until the tobacco has a substantially lower moisture content and a final temperature substantially of the order of the initial temperature of the tobacco.

3. The method as set forth in claim 1 in which the operation is carried out in an enclosed zone, to the periphery of which heat is applied independently of the introduced steam during the operation.

4. The method as set forth in claim 1 in which the operation is carried out in an enclosed zone, to the periphery of which heat is applied independently of the introduced steam during both heating and cooling cycles.
5. The method of redrying tobacco in bulk, which comprises substantially freeing the tobacco from non-condensable gas, steaming the product with superheated steam to a temperature of at least 175° F. to 200° F., cooling the product by evaporation of contained moisture in a vacuum from 50° to 75° F., again steaming with superheated steam to raise the temperature substantially less than the amount the tobacco was previously cooled, and continuing the cooling and heating in this manner until the tobacco has a temperature approximately atmospheric and a moisture content substantially below the original moisture content.
6. The method as set forth in claim 5, in which the tobacco is continuously heated during the process.

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