

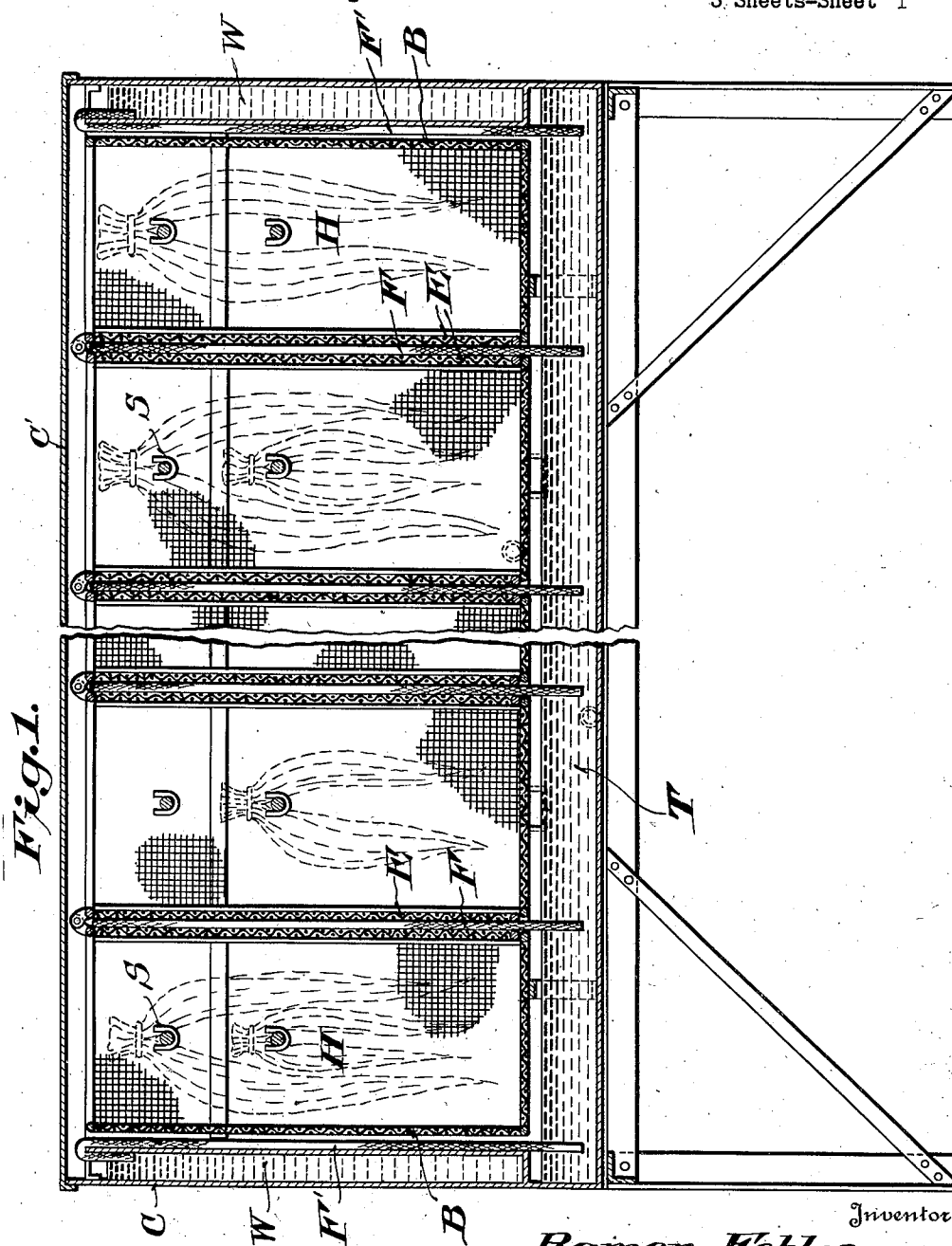
May 18, 1926.

1,585,477

R. FEBLES

PROCESS FOR CASING TOBACCO
Original Filed August 14, 1924

3 Sheets-Sheet 1



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WITNESSES:-

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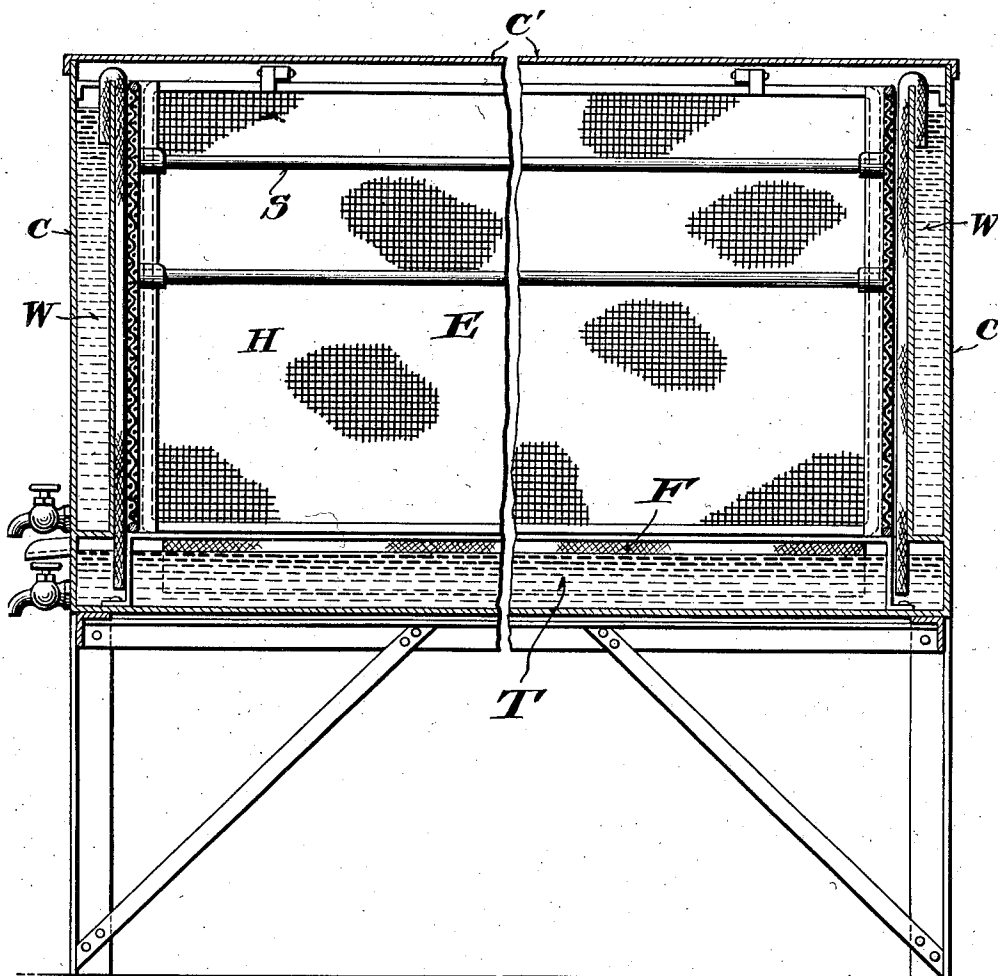
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Fig. 2.



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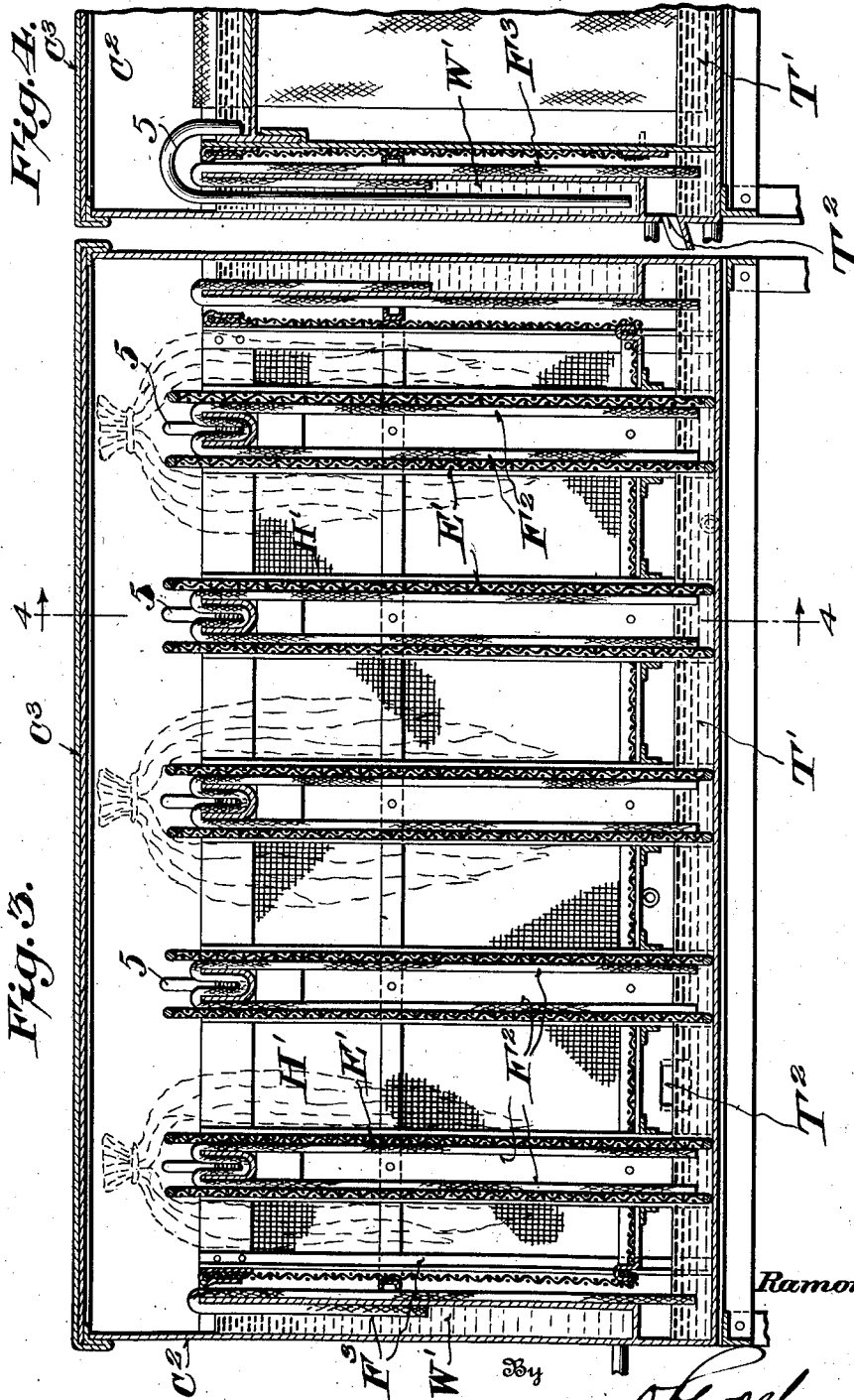
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PROCESS FOR CASING TOBACCO

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE.

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PROCESS FOR CASING TOBACCO.

Original application filed August 14, 1924, Serial No. 732,082. Divided and this application filed February 6, 1925. Serial No. 7,419.

This invention represents a new departure from the conventional methods practiced in the "casing" of cured leaf tobacco, and has for its chief object a practical and commercial process for casing cured leaf tobacco in a manner which results in preserving for a considerable length of time the quality, texture, pliability, strength and uniformity of color of the leaf whereby the cigar manufacturer, for a long period, will have the tobacco available in proper condition for stripping, booking and making into high-grade cigars.

In the "casing" of tobacco as heretofore practiced the same is actually wetted by complete immersion in water or by spraying water directly thereon. The casing of tobacco by that method is undesirable and objectionable, and until the advent of the present invention, the manufacturer has been unable to escape the losses attendant upon the water-contact method of casing. When cured tobacco is brought into contact with the water by immersion, the same is not only darkened and spotted, but otherwise becomes deteriorated because of the unavoidable "washing-out" of the natural oils and nicotine and because it is liable with that method of casing to become over-wet and too tender to handle.

As distinguished from the common water-contact process of casing cured leaf tobacco the present invention utilizes, as a factor in the casing process, the powerful avidity of affinity of tobacco for water without actually coming in contact with water or with wet parts or wet surfaces. Fundamentally, therefore, the present discovery or process contemplates subjecting the cured leaf tobacco to the action of a confined body of quiescent or still air which is substantially or approximately saturated with moisture at normal temperature, and while so exposed to such moisture charged atmosphere, to maintain the leaves of the tobacco "hand" out of actual contact with water and out of contact with wet surfaces or wet parts. And, a maximum efficiency is obtained by the process when the moisture charged atmosphere is just short of complete saturation or just short of the point of precipitation, the relative range of the process however, usually lying in excess of 85% up to within a fraction of 100%.

The present discovery or process also avoids the use of circulating means for the air, or any process which would involve a forced movement of the air because it has been found that under such conditions the moving air will tend to either dry out the tobacco or cause spotty results in the moistening thereof. Also, the present process is not to be confused with curing processes involving ordinary humidifying steps because the present invention deals with the novel idea of exposing previously cured tobacco to a confined atmosphere charged with moisture to approximately the point of saturation, thereby placing the tobacco in condition for stripping and making into cigars when it is removed from the bale. The present invention as above stated will preserve for a considerable period of time the quality, texture, pliability, strength and color of the leaf, that is to say, preserve these qualities for several weeks as distinguished from the present practice of water-contact casing which in addition to its other objections, will only keep or preserve the tobacco for a few days, usually requiring the manufacturer to "case" one day, strip the next day and then the next day work the tobacco. A delay beyond these few days in working the tobacco cased by water-contact usually results in the complete loss of the batch so cased.

The present case is in part a continuation of my copending application Serial No. 675,414, filed Nov. 17, 1923, and is also a divisional case of my copending application Ser. No. 732,082, filed August 14, 1924, so far as the process disclosed in that case is concerned.

By way of illustrating types of apparatus which may be selected for carrying the process into effect, reference may be had to the accompanying drawings, in which:

Figure 1 is a sectional view of an apparatus illustrating one way of handling and supporting the hands of leaf tobacco to permit the present process being carried out.

Figure 2 is a vertical sectional view of the apparatus shown in Figure 1.

Figure 3 is a longitudinal sectional view of a modified form of apparatus.

Figure 4 is a fragmentary sectional view taken on the line 4-4 of Figure 3.

Similar reference characters designate

corresponding parts throughout the several figures of the drawings.

Where the leaves are to be used for wrappers it is essential to maintain a uniform light color, but when leaves ordinarily suitable for this purpose are "cased" in water, they become darkened to such an extent that it is frequently difficult later to tell whether they were originally the desirable light leaf or the heavier and stronger dark leaf tobacco. In many cases it is necessary for the manufacturer to reject or throw out many pounds of tobacco which have been spoiled by ordinary water casing which makes the leaf too dark and too tender. Therefore, the chief object of the present invention is to eliminate all of this waste and produce a uniformly high quality light, glossy, and bright leaf, whose pliability, color, and strength are conserved for a considerable period of time as above explained. In the actual working of the process it has been found that no waste results and therefore the present process is of maximum efficiency.

The preservation of the natural color of the leaf is a vital factor in the making of cigars for the reason that by casing tobacco in water according to present methods, the leaf becomes discolored, spotted or darker, and makes a cigar which is almost impossible to sell.

According to the general practice now in use, tobacco in "hands" or clusters is removed from the bale and then plunged or immersed in water or sprayed with water. Then it is removed and surplus water shaken off, whereupon the leaf can be "worked" because of the increased elasticity given its texture by the water. When the leaf is properly moistened it is rendered somewhat tough, and can be worked or manipulated very much like a piece of wet chamois skin. However, casing in water is wasteful because it "washes out" the leaves and causes the leaves to discolor, spot, and give up their natural oils.

Wrappers for cigars are classed, according to color of the leaf, as claros, colorado claros, colorados, and colorado maduros. Of this group the colorado maduro is the least desirable and darkest of the four classes named, and cigars with wrappers of this type represent almost a total loss in the trade. This loss is due to the present method of "casing" the wrappers in water which not only makes the leaves too soft, but as previously indicated, washes out the water-soluble natural-leaf oils leaving only the fibrous texture in its darkened state, thereby producing an extremely inferior leaf.

The success of the present process resides in the fact that it provides for casing the tobacco without the leaves coming in con-

tact with a drop of water, and accomplishes perfect "casing" by subjecting the leaf tobacco to air saturated with very close to 100% humidity or moisture, the most effective range ordinarily lying between 85% to 100% and a minimum degree for some grades of tobacco being approximately 70%. When so subjected to such a moisture charged atmosphere the leaves can absorb the necessary water content evenly and uniformly, and without danger of over moistening or subjecting the leaves to shock or jar as occurs when the water is shaken off after immersing in water.

In carrying the process into effect it is proposed to take the leaf tobacco from the bales in which it is packed in "hands", and then lightly shake the same so that the individual leaves fall apart thereby "loosening up" the hand. After they have thus been loosened and separated so that moist air can readily make its way to all parts and all of the leaves uniformly, the said hands of tobacco are suitably supported, as for example by being placed astride suitable racks or supports designated generally as S, arranged within a container C having a cover C', holding them suspended in their open and loosened condition.

One form of apparatus that may be used in carrying out the process is shown in Figure 1, in which the container C is surrounded by a water reservoir W and has a bottom tank T. Above the level of the water in the tank T there is supported a wire basket designated generally as B having therein a plurality of compartments formed by the partitions E which include wicks F whose lower ends are immersed in the tank T. The compartments formed between the partitions containing the wicks have therein the supports S above mentioned for supporting the hands H of tobacco.

Also, it will be observed that the inside wall of the reservoir W carries wicking F' which communicates with the water in the reservoir W and also with the water in the tank T. The wicks F' entirely surround the basket B and thereby provide a surrounding water laden wall for the basket B, and the wicks F' together with the wicks F produce and maintain within and about the hand of tobacco an atmosphere charged with moisture to approximately the point of saturation.

In practice, the hands H of tobacco are loosely hung over the supports S as shown, and the cover C' placed on the container, whereupon the closed container is permitted to stand until the tobacco has absorbed moisture from the moisture laden air within the container to its natural capacity. Some tobacco being drier than others will absorb more moisture but it has been found that all tobaccos will only absorb as much mois-

ture as the condition of their texture and fiber will permit, and when this condition has been reached the tobacco will be ready for use, or may even be held in the containers without danger of sweating or becoming overcharged with moisture, and without water actually coming in contact with the leaves.

The form of apparatus shown in Figures 1 and 2 is the subject of my copending application, Ser. No. 675,414, filed Nov. 17, 1923.

Figures 3 and 4 of the drawing illustrate another form of apparatus which may be used for carrying the process into effect, the said apparatus forming the subject matter of my application Serial No. 732,082, filed August 14, 1924.

In the form of apparatus shown in Figures 3 and 4, the casing C^2 is provided with a cover C^3 , side reservoirs W' , and the bottom tank T' . In this form of apparatus, the hands H of tobacco are placed astride moisture-giving partitions E' which include the double wick F^2 that is supplied at its upper end with water from the reservoirs W' by the syphon tubes 5. The lower ends of the wicks F^2 are immersed in the tank T' , and to further assist in producing an approximately saturated condition of the atmosphere in the container C^2 , the inside wall of the reservoir W' is also provided with the wick F^3 . The wicking F^3 entirely surrounds all sides of the reservoir, and together with the wicks F^2 contributes materially to producing an atmosphere charged with moisture. This apparatus as well as the apparatus shown in Figures 1 and 2 are adapted to and capable of producing and maintaining therein a humid atmosphere of at least 75% H_2O saturation.

From the foregoing, it will be apparent that the present process consists in placing hands of leaf tobacco with the leaves loosely separated and hanging downward within a closed container in which the atmosphere is charged with moisture to approximately the point of saturation, usually between 85% to 100%.

By hydrometer observations, during the period of treatment it has been ascertained that the usual or average humidity within the container is 85% to 90% saturation. Observations noted at the beginning of the process show the usual humidity of atmosphere in the room where the apparatus is installed, but when the same is closed with the tobacco therein it has been found that the humidity curve on the hydrometer chart steadily rises until it reaches the 85° point between which and just short of 100% saturation, the most efficient results have been found to prevail throughout the process.

In connection with the form of apparatus shown in Figures 3 and 4, it will be ob-

served that the tank T' is provided with an outlet spout T^2 . It has been found that if the water is at the level permitted by the spout T^2 at the start of the process, that as long as the tobacco in the container is absorbing moisture that water will drip from the spout T^2 . When the tobacco has absorbed the capacity of moisture the dripping ceases, thus showing that the dry tobacco has the effect of a pump in drawing the water from the reservoir W' and into the wicks F^2 and F^3 the excess dropping into the tank T' and going to waste.

Up to the present time, where the water-contact casing process has been employed, it has been impossible for a cigar manufacturer to keep a reserve supply of stripped wrappers on hand, because as previously indicated, the actual contact of water with the leaf tobacco causes the same to rapidly deteriorate, with consequent loss to the manufacturer. With the present casing process however, it is possible for the manufacturer to have a four or five week's supply of stripped wrappers on hand for making into cigars without the same losing their color, pliability or strength or becoming spotted or otherwise deteriorating.

By practicing the present process a manufacturer is enabled to case the tobacco in one city and ship it to a different city and yet have it in a proper condition for use at its destination. That is to say, after the tobacco leaf has been cased by the present process and stripped the leaves may be placed in the wrapper cans and kept almost indefinitely and yet always be ready for use. On the other hand however if the tobacco was cased by the water process this would be impossible without great loss in color and quality.

The present process has been found to be 100% efficient—for example if 100 lbs. of claros are cased by this process the manufacturer is insured of receiving 100 lbs. of claro wrappers in perfect condition, the color of the wrapper being at least a shade lighter than could possibly be obtained by the water casing process in which there is always approximately a 25% loss.

From the foregoing it will be apparent that the present process has in view first loosening the leaves in the hands of tobacco, placing them on supports in a closed container, permitting them to remain in such container in the moisture-charged atmosphere until they have automatically absorbed the required amount of water, usually a period not to exceed twenty-four hours. After the tobacco has been thus cased its color, strength and pliability is substantially perfect and it may be removed and stripped and used in the usual manner for the making of cigars.

I claim:—

1. The herein described method of casing cured tobacco to preserve for a considerable time its pliability, strength and color, which consists in exposing the tobacco to a confined, still, atmosphere charged with moisture approximately to the point of saturation.
2. The herein described method of casing cured tobacco to preserve for a maximum period its pliability, strength and color, which consists in producing a still atmosphere charged to approximately the point of moisture saturation, and exposing the tobacco in such still atmosphere until it becomes moisture-saturated to its natural capacity.
3. The herein described method of casing cured tobacco to preserve for a maximum period its pliability, strength and color, which consists in subjecting the cured leaf tobacco to the action of a confined body of still air which is charged with moisture to approximately the point of saturation at normal temperature.
4. The herein described method of casing cured tobacco to preserve for a maximum period its pliability, strength and color, which consists in producing in a confined space a still atmosphere charged to approximately the point of saturation, and exposing the tobacco in such still atmosphere

while suspended out of direct contact with water.

5. The herein described method of casing cured tobacco to preserve for a maximum period its pliability, strength and color, which consists in producing a body of confined, still, and nearly moisture-saturated air, and exposing the tobacco therein for a sufficient time to enable the tobacco to absorb moisture from the air at a natural rate in accordance with its hygroscopicity.

6. The herein described method of casing cured tobacco to preserve for a maximum period its pliability, strength and color, which consists in producing in a confined space a still atmosphere charged with approximately eighty-five percent of moisture, and exposing the tobacco in said atmosphere until it becomes moisture-saturated to its natural capacity.

7. The herein described method of casing cured tobacco to preserve for a maximum period its pliability, strength and color, which consists in producing in a confined space a still atmosphere charged with approximately eighty-five to one hundred percent of moisture, and exposing the tobacco in said atmosphere until it becomes moisture saturated to its natural capacity.

In testimony whereof I hereunto affix my signature.

RAMON FEBLES.