No. 670,423. Patented Mar. 26, 1901.

A. L. FISHER.

CASE FOR CURING TOBACCO.

(Application filed Aug. 29, 1900.)

(No Model.)

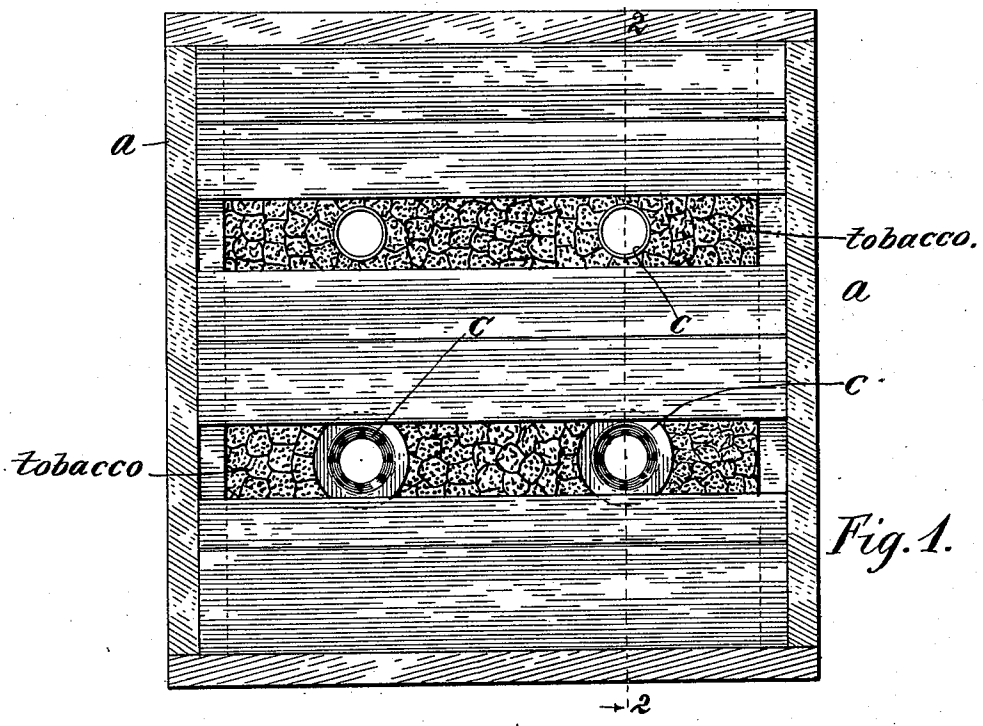


Fig. 1.

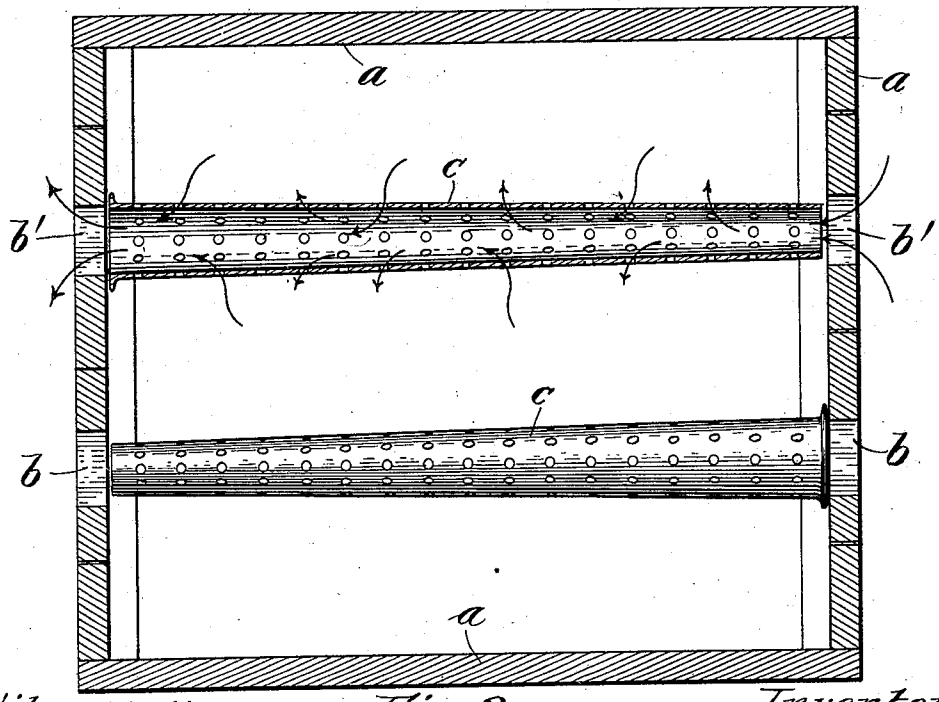


Fig. 2.

Witnesses:
Milt C. Fauner.
W. A. Leach.

Inventor:
Abel I. Fisher,
By George P. Barton,
Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ABEL L. FISHER, OF JANESVILLE, WISCONSIN.

CASE FOR CURING TOBACCO.

SPECIFICATION forming part of Letters Patent No. 670,423, dated March 26, 1901.

Application filed August 29, 1900. Serial No. 28,417. (No model.)

To all whom it may concern:

Be it known that I, ABEL L. FISHER, a citizen of the United States, residing at Janesville, in the county of Rock and State of Wisconsin, have invented a certain new and useful Improvement in Cases for Curing Tobacco, (Case No. 1,) of which the following is a full, clear, concise, and exact description.

My invention relates to the curing of tobacco, and has for its object to provide means for preventing tobacco from being damaged by black rot, dry rot, must, mildew, or the like while it is being cured.

As is well known, leaf-tobacco before it is fit to be manufactured must be packed away in cases or boxes for from six to eight months to undergo a "sweating" or "curing" process. In this time the whole mass of tobacco in the case should be thoroughly and evenly impregnated with the nicotine, so that the entire mass will be uniform in quality.

A frequent cause of great loss to tobacco-growers and warehousemen is the damaging of the tobacco by black rot, mildew, dry rot, and the like while it is being cured. Black rot, especially, is a source of great loss, hundreds of thousands of pounds being rendered worthless every year from this cause alone. The evil is the more difficult to overcome because its precise nature and cause are not understood. Sometimes the tobacco in a part of the boxes in a given warehouse will be found perfectly cured at the end of the season, while the remainder, which apparently has been subjected to identical conditions, will be found to contain a large proportion of infected, damaged, or rotten tobacco. Each box containing an indication that its contents have been thus damaged must be opened and the tobacco thoroughly picked over and assorted, the expense of the labor required being added to the actual loss of the tobacco which has been damaged. Various expedients have been resorted to for preventing such damage as that described; but none has been entirely successful, so far as I am aware.

The boxes or cases in which the tobacco is packed for curing and in which it is afterward shipped to the factories are usually about three feet square at the ends and from thirty-six to forty-five inches in length. It has been observed that a box of tobacco of this size will decrease in weight as much as fifty pounds during the curing process, this loss being due to the evaporation of water from the raw leaves.

Whatever the cause of the black rot may be, I have come to believe that the collection of moisture upon the tobacco caused by condensation of the watery vapor which has been evaporated or sweated out of the raw leaves, if not an active cause, at least produces a condition which is very favorable to the formation of the rot. I have therefore invented an improved packing-case in which tobacco may go through the curing process without rotting. Generally speaking, the case of my invention may be described as comprising an inclosing box having air-passages leading from the outside of the box to the interior thereof, so that while the entire contents of the box will be an essentially undivided mass for curing purposes, yet access of air to the interior of the mass is permitted, whereby the vapors sweated from the raw leaves during the curing process are carried off instead of remaining to condense upon and rot the tobacco.

In the preferred form of my invention I provide a number of foraminated ventilating-tubes, open at each end, which are disposed at intervals throughout the mass of tobacco as it is being packed, the open ends of the tubes registering with openings in the ends of the boxes, through which air may find passage. Then when the box is completely filled and laid away for the tobacco to cure the watery vapors are carried away by the tubes and not allowed to condense and collect on the outside of the tobacco, as before. Dry air is also admitted to take up the whole excess of moisture. After the tobacco is cured it may be sampled in the usual way, and when ready for shipment the tubes may be withdrawn and used in other boxes.

I have found in actual practice that when tobacco is packed as above described it will cure sweeter and in considerably less time than when packed in the old way without means of ventilation, and the formation of black rot, mildew, or the like is entirely prevented.

I will describe my invention more particu-

larly by reference to the accompanying drawings, which illustrate the preferred embodiment thereof.

Figure 1 is an end view of a box of tobacco packed in accordance with my invention. Fig. 2 is a sectional elevation of the box on line 2 2 of Fig. 1.

Similar reference-letters are used to designate the same parts in both figures.

The box or case *a* in which the tobacco goes through the curing process has openings *b b'* in the ends thereof. The ventilating-tubes *c* are substantially cylindrical in shape and are perforated or foraminated at intervals throughout their entire length, as shown in Fig. 2. I have found it desirable to use four of these tubes in a curing-case of ordinary size.

In packing the tobacco preparatory to curing the box is first filled up to the level of the first opening *b*. Two of the ventilating-tubes *c c* are laid in so that their open ends will register with the openings *b b'* in the ends of the case. More tobacco is then packed in until it reaches the level of the second opening *b'*, where two more tubes are laid in, which in turn are covered with more tobacco until the box is filled. The case of tobacco is now ready to be stored in the warehouse, where it may remain from six to eight months. During this time the tobacco is allowed to sweat, and the whole mass becomes thoroughly and uniformly cured. The foraminated ventilating-tubes *c c* allow a thorough circulation of air through the mass of tobacco while it is undergoing the curing process, the air serving to take up the moisture which is sweated out of the raw leaves and which would otherwise condense upon the tobacco and cause it to rot or become moldy.

While I have said that the ventilating-tubes are substantially cylindrical in shape, it would be more proper to describe them as sections of a very long hollow truncated cone, because one end of each tube is preferably smaller in diameter than the other end. I have found that this construction of the tubes is advantageous for two reasons—first, because it permits them to be more readily drawn out of the box when the curing process is finished, and, secondly, because with this construction the air tends to circulate through them in one direction only—that is, from the small end of the tube to the large end, as shown by the arrows in Fig. 2. This construction, in other words, tends to produce a more perfect circulation of the air than would be the case if the tubes were truly cylindrical.

While I have described a particular means for ventilating the mass of tobacco while it is undergoing the curing process and have shown in the drawings a curing-case comprising four ventilating-tubes of a particular shape, I do not wish to be understood as limiting myself to the precise construction shown, since it will be evident that the ideas herein set forth may be taken advantage of in various ways without departing from the spirit of my invention.

I therefore claim as new, and desire to secure by Letters Patent, the following:

1. A combined curing and shipping case for leaf-tobacco, having a number of air-passages extending through the case and communicating with the external air at both ends, whereby free circulation of air throughout the interior of the mass of tobacco within the box is produced and egress afforded for the vapors sweated from the interior of the mass of tobacco while it is being cured, substantially as set forth.

2. A tobacco-curing case having openings *b b'* in the ends thereof, and a number of ventilating-tubes disposed in the interior thereof, said tubes being open at both ends and registering with the openings in the case, whereby free circulation of air through said tubes is permitted, said tubes being foraminated, whereby they serve to conduct away the vapors produced in the interior of the mass of tobacco, substantially as set forth.

3. The combination with a combined tobacco curing and shipping case having openings in the ends thereof, of a number of foraminated ventilating-tubes adapted to be temporarily disposed at intervals throughout the mass of tobacco within the case while the tobacco is being cured, said tubes having open ends registering with the openings in the ends of the case and being adapted to be readily removed from the case when the curing process is finished, whereby the tobacco may be shipped in the same case in which it is cured, without being removed therefrom, and the tubes may be used again in other cases, substantially as set forth.

4. A tobacco-curing case having openings in the ends thereof, and a ventilating-tube open at both ends, disposed horizontally within the case, the open ends of the tube registering with the openings in the ends of the case, said tube being foraminated and being larger at one end than at the other, substantially as set forth.

In witness whereof I hereunto subscribe my name this 25th day of August, A. D. 1900.

ABEL L. FISHER.

Witnesses:

C. W. REEDER,

CLARENCE P. BEERS.