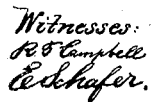


Tobacco Drier.

Patented Feb. 14, 1865.



Inventor:
J. H. Balsley
by his atty:
Mason Janincke Schuermann

UNITED STATES PATENT OFFICE.

JOHN H. BALSLEY, OF DAYTON, OHIO.

MACHINE FOR DRYING TOBACCO.

Specification forming part of Letters Patent No. 46,323, dated February 14, 1865.

To all whom it may concern:

Be it known that I, JOHN H. BALSLEY, of Dayton, Montgomery county, State of Ohio, have invented certain new and useful Improvements in Machinery for Drying Tobacco; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my machine arranged for operation. Fig. 2 is a longitudinal section taken in a vertical plane through the center of my machine. Fig. 3 is a vertical cross-section taken through Figs. 1 and 2 at the point indicated by red line *x x*.

Similar letters of reference indicate corresponding parts in the three figures.

This invention is an improvement in machinery for dressing and drying fine and common cut tobacco, whereby I subject the tobacco to an elevating, agitating, and separating action, and at the same time subject it to the action of currents of air, which is rarefied by natural or artificial means, and is free to absorb moisture, as will be hereinafter described.

Another object of my invention is to combine with a tobacco drying and dressing machine certain means by which I am enabled to separate the fine particles of tobacco or trash from the good stock during the operation of dressing or drying chewing-tobacco, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the main frame of the machine, which is constructed in such manner as to support within it a large revolving cylinder, B, which extends horizontally from one end of said frame to the other, as shown in Figs. 1 and 2. This cylinder is supported in its frame A by means of a central shaft, C, which is secured to the cylinder by the radial arms *a a*, to the ends of which latter slots *b b* are affixed, carrying on their inner edges a number of hooked fingers, *c c*, arranged as shown in Figs. 2 and 3, and curved in such manner that when the cylinder is rotated they will elevate the tobacco, open it, and thus expose it to the influence of currents of air which readily absorbs moisture, which

are forced through this cylinder, as will be hereinafter described. A secondary frame, D, is arranged at the front end of frame A, for supporting an endless apron, E, and also a fan-box, F, which is arranged beneath this apron. The apron E passes over two horizontal rollers, *d d'*, one of which, *d'*, carries a pulley on its end, and receives motion from the main driving-shaft A' at the opposite end of the machine. This apron is intended to conduct the tobacco which is to be dried into the forward end of the cylinder B and leave it therein, and for this purpose the rear end of the apron E projects through the partition *a'* and enters the cylinder B a short distance, as shown in Fig. 2.

The fan-box may be constructed in any suitable manner which may be found best adapted for forcing currents of air through the cylinder B.

The box F represented in the drawings has a fan, F', arranged within it, which is rotated by means of a belt or cord passing from a pulley on the main shaft A' over a pulley on the fan-shaft. The air is drawn into the fan-box through openings in its sides and forced from this box through a contracted mouth into and through the cylinder B. The partition *a'* at the forward end of the frame A closes the forward end of the cylinder B, and thus prevents any of the stock from escaping at this point; but the opposite end of this cylinder is left open, so that the stock, as well as the currents of air, will have a free escape therefrom.

In Figs. 1 and 2 I have represented a cylindrical screen, G, applied to the rear end of the cylinder B, so as to form a part of the latter. This cylindrical screen G may be applied to the cylinder B by forming large openings in its sides near its rear end, and covering these openings with screen-wire, as shown in the drawings; or, if desirable, a cylindrical screen may be applied to the cylinder, so as to form a continuation thereof. The object of this screen G is to allow the fine particles of tobacco to escape during the operation of drying chewing-tobacco, and when it is not desired to use this screen it is covered by a sliding cylinder, J, surrounding the cylinder B, as shown in Figs. 1 and 2.

The operation of my invention is as follows:

Motion is imparted to the main driving-shaft A', and from this shaft a rotary motion is communicated to the driving-roller of the apron E, and to the fan-shaft, and also to the cylinder B, all moving in the direction indicated by the arrows in Figs. 2 and 3. The tobacco is conducted from the cutting-machine and deposited upon the endless apron E, which latter conveys it into the cylinder B. Here the tobacco is tossed and shaken apart by means of the hooks or fingers *c c*, and at the same time subjected to strong currents of air, which deprives it of its moisture, and also impels it toward the rear end of the cylinder.

By my improved machine the operation of opening or disintegrating the tangled stock is effectually performed without the aid of manual labor, and while this operation proceeds the stock is in a suitable condition to be rapidly dried by the currents of air forced through it.

In some kinds of stock it is desired to separate the fine "trash" from it, and to this end the screen G, above described, is brought into operation by sliding back the cylindrical jacket J, and thus uncovering the screen.

I will state that I use hot air when the at-

mosphere is not expanded enough without such treatment.

I use any of the old means of expanding the air, such as inclosing a stove in a small room or iron case and drawing the air from it with the fan, which is connected to the machine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A machine, constructed as herein described, for subjecting fine and common cut tobacco to an agitating and separating action, and at the same time to a current or currents of air, said air being heated or rarefied in the common way, all substantially as described and set forth.

2. The rotating cylinder B J, in combination with a fan-box, F, and endless apron E, arranged and operating substantially as described, for the purpose set forth.

Witness my hand in matter of my application for a patent for improved tobacco-drier.

JOHN H. BALSLEY.

Witnesses:

JOHN H. STOPPELMANN,
C. A. J. CRAMER.