

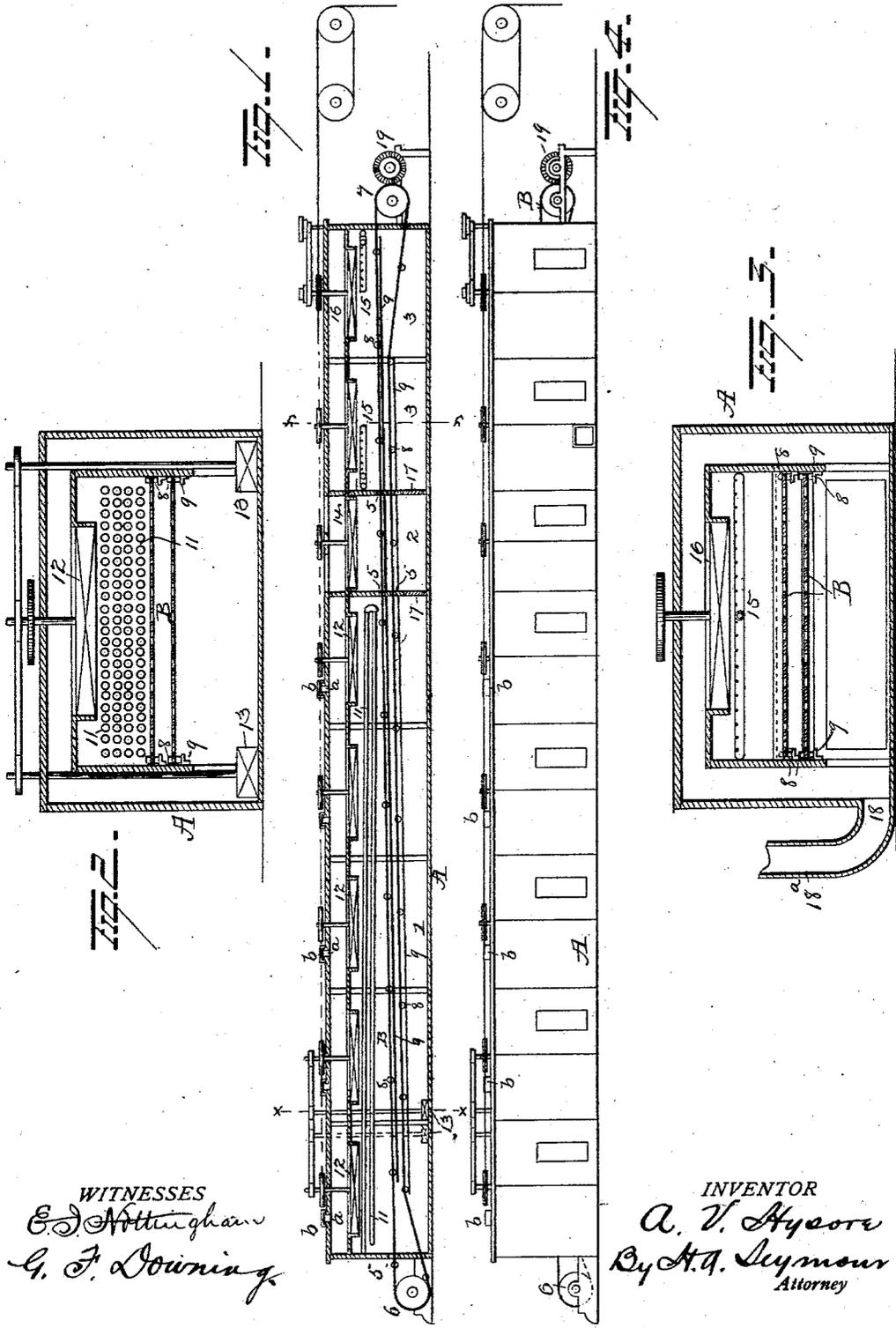
No. 629,368.

Patented July 25, 1899.

A. V. HYSORE.
APPARATUS FOR TREATING TOBACCO.

(Application filed July 23, 1898.)

(No Model.)



WITNESSES
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TO WILLIAM J. WHITEHURST AND SAMUEL P. MAYO, OF SAME PLACE.

APPARATUS FOR TREATING TOBACCO.

SPECIFICATION forming part of Letters Patent No. 629,368, dated July 25, 1899.

Application filed July 23, 1898. Serial No. 686,731. (No model.)

To all whom it may concern:

Be it known that I, ALPHENAS V. HYSORE, of Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Apparatus for Treating Tobacco; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in apparatus for treating tobacco, one object of the invention being to so construct the drying appliances that a current of constantly-circulating heated air will be caused to pass downwardly through the traveling tobacco and to also provide means whereby the air after it becomes laden with moisture can be withdrawn without the necessity for stopping the apparatus.

A further object is to provide simple and efficient means whereby to clean and dry the tobacco, then to cool it, and finally to moisten or "order" it so as to put it into proper condition to be worked and to so construct the apparatus that the various treatments can be effected successively and uninterruptedly while the tobacco is traveling through the apparatus.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of an apparatus embodying my improvements. Fig. 2 is a transverse sectional view on the line *xx* of Fig. 1. Fig. 3 is a transverse sectional view on the line *yy* of Fig. 1. Fig. 4 is a side elevation.

A represents an elongated housing divided transversely into three sections 1 2 3, the end walls of the housing and the partition-walls each having two openings 5 5 for the passage of an endless conveyer B, said openings 5 being of a height sufficient to permit the passage of tobacco carried by the conveyer from one room or section to the other.

The conveyer B passes over drums or rollers 6 7, mounted in suitable bearings outside

the respective ends of the housing, and said conveyer extends entirely through all the rooms or sections therein, whereby to carry tobacco through the apparatus successively from one room or section to the next. The conveyer is of a width to extend from one inner wall to the other of the various rooms or sections and is provided with numerous perforations to permit a free circulation of air through the tobacco under treatment. The conveyer may be made in any approved manner—such, for instance, as shown in my prior patent, No. 585,759, dated July 6, 1897—and in order to sustain said conveyer constantly in a horizontal position it is provided at intervals with rollers 8, adapted to run on tracks 9. These tracks may be conveniently formed of angle-irons suitably secured within the housing.

The first section 1 may be properly termed the "drying-room," in which the tobacco will be dried by the constant direct application of heated air. Heretofore heating-pipes have been placed at the side and bottom of the drying-room; but in the construction which constitutes the subject of this application I place a large radiator 11 (preferably divided in two sections) in the drying-room over the conveyer and extending from wall to wall and end to end of said room, so that the entire area of air-surface is covered by the pipes of the radiator, compelling the air to come in contact with the heated metal. The radiator will preferably be heated by means of steam, and it is disposed in a slightly diagonal or inclined position over the conveyer, so that the space between the conveyer and the bottom of the coil at the entrance of the compartment will be greater than at the exit end thereof. By thus disposing the radiator 11 water resulting from condensation of steam will flow to the lower part of the radiator at the exit end of the section, and thus to a greater or less extent cool that portion of the radiator, while that portion at the entrance end of the section, being higher, will be constantly subjected to the heating action of the dry steam. The tobacco will therefore be subjected to heat from the hottest part of the radiator or heating-coil on entering the section and when it contains the largest

amount of moisture, and as the tobacco leaves the drying-section (having been deprived of its moisture) it will be subjected to a more moderate heat, such as will not be liable to scorch it when it is dry.

In order to constantly and thoroughly subject the tobacco on the conveyer to a proper heat, it is desirable that heated air be forced directly through it, and for this reason a series of fans or blowers 12 is disposed immediately over the heating-coil, so that when a circulation of air is created by said fans the heated air will be forced through the tobacco immediately upon leaving the heating-coil. The radiator being located just above the stock to be dried, the air will have but a few inches to travel, and hence the stock gets the benefit of the warm dry air, whereas heretofore with machines having the radiators at the sides and bottom the air has had a long distance to travel and has become cooled and mixed with moist air in the room, thus destroying its efficiency very materially. The top of the section 1 is provided with a series of holes *a* for the admission of air, and each hole is provided with a removable cap *b*, so that the amount of outside air admitted to the section can be regulated.

The fans 12 serve to maintain a constant circulation of air downwardly through the tobacco. In the course of time during the drying of tobacco the air thus kept in circulation will become laden with moisture from the tobacco, and when this occurs it is desirable to remove the moisture-laden air. For the accomplishment of this purpose exhaust-fans 13 are located in the lower part of the first and second sections of the drying-room and serve to exhaust a certain percentage of moist air from said sections.

After leaving the drying room or section 1 the tobacco will be carried by the conveyer into the cooling room or section 2, where it will be subjected to a circulation of cool air created by a fan 14.

From the cooling room or section 2 the tobacco will be carried by the conveyer into the moistening or ordering room or section 3, where it will be subjected to the action of wet steam, conducted thereto by perforated pipes 15, and to a circulation of air (moistened by the steam) created by fans 16. I prefer to employ as many pipes 15 as there are fans 16 and to terminate each pipe under the center of a fan.

The perforated pipes 15 are located at the right and left center of the ordering-room and are so disposed that steam will be discharged in a downward direction under the apron, where it will be caught up by the circulating air and carried through the stock to be ordered.

In the bottom of the ordering-room there is a discharge-outlet 18 for the escape of surplus hot air, said discharge-outlet communicating with a flue 18^a.

In the division-walls between the cooling-

section and the drying and the ordering sections outlet-doors 17 are located, so that air from the cooling-room can be thrown into the drying room or section and ordering room or section. By this means I am enabled to drive the accumulation of moist air to the forward end of the first section, said air being taken up by the exhaust-fans and discharged into the open air. In this way I am enabled to relieve the drying-room from surplus of moist air and at the same time blow cool air into the ordering-room, whereby to lower the temperature and purify the air in the latter.

A roller 19 (preferably of wood) is located at the delivery end of the apparatus and provided with reed brushes arranged in spiral form. By this means all tobacco or stock remaining on the conveyer will be removed.

The shafts of the various fans are suitably mounted and are provided with pulleys which may be all driven from a common source of power.

My improvements are simple in construction and effectual in all respects in the performance of their functions.

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

1. In an apparatus for treating tobacco, the combination with a housing divided into three sections, of horizontally-disposed fans in the respective sections for forcing air downwardly therethrough, a conveyer passing successively through all the sections beneath said fans, a heater disposed between the fans and conveyer and over the latter in the first section and perforated steam-pipes disposed under the fans in the third room and between said fans and heater, substantially as set forth.

2. In an apparatus for drying tobacco, the combination with a room and a conveyer passing therethrough, of a heater disposed in an inclined position above said conveyer, whereby the space between said conveyer and heater at the entrance end of the room will be greater than the space between said parts at the exit end of the room, substantially as set forth.

3. In an apparatus for treating tobacco, a housing divided into three sections, drying devices in the first sections, ordering devices in the last section and cooling devices in the intermediate section, a conveyer adapted to pass successively through the three sections, means for exhausting moist air from the part of the drying-section under the conveyer and discharge the same from said section, and means below the conveyer for controlling communication between the cooling-section and the ordering and drying sections, whereby accumulated moist air can be driven to the drying-section and there removed by the above-mentioned exhausting means.

4. In an apparatus for treating tobacco, the combination with an ordering-room, and a conveyer adapted to pass therethrough, of a

fan disposed above the conveyer and perforated steam-pipes disposed between the fan and conveyer and adapted to discharge steam between the fan and conveyer, substantially
5 as set forth.

5. In an apparatus for treating tobacco, the combination with an ordering-room, of a perforated steam-pipe located within said room, means located over said perforated pipe for
10 forcing air and steam downwardly through said room, means for conveying tobacco

through said room and a discharge-outlet in the wall of said room at the bottom thereof for the escape of surplus hot air, substantially
as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. ¹⁵

ALPHENAS V. HYSORE.

Witnesses:

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