(No Model.)

J. C. MILLNER.

TOBACCO CURER.

No. 268,707. Patented Dec. 5, 1882.

Fig. 1.

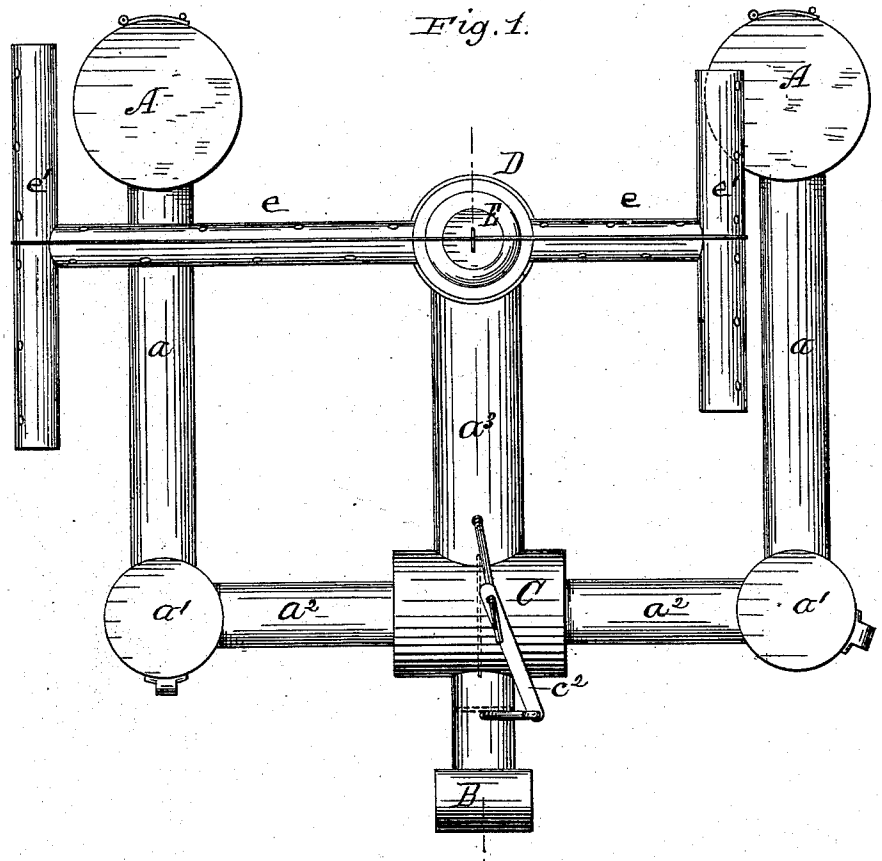
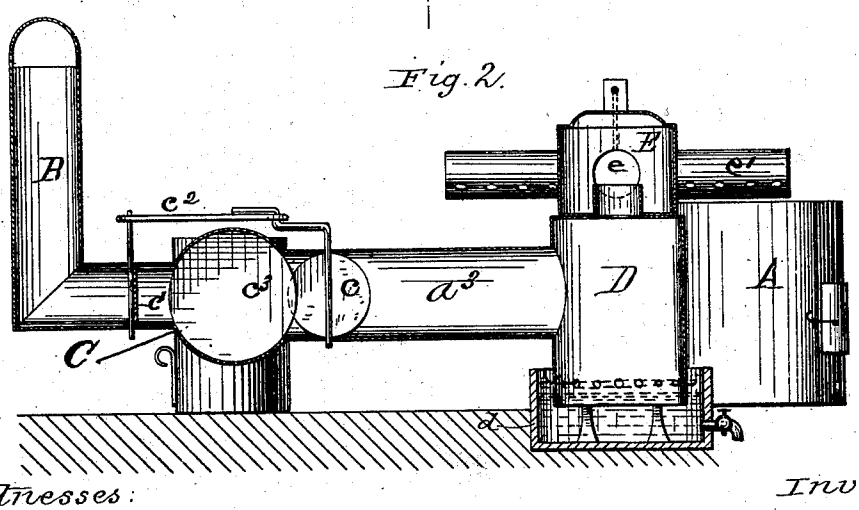


Fig. 2.



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UNITED STATES PATENT OFFICE.

JACKSON C. MILLNER, OF DANVILLE, VIRGINIA.

TOBACCO-CURER.

SPECIFICATION forming part of Letters Patent No. 268,707, dated December 5, 1882.

Application filed August 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, JACKSON C. MILLNER, a citizen of the United States, residing at Danville, in the county of Pittsylvania and State of Virginia, have invented certain new and useful Improvements in Tobacco-Curers; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide means for curing tobacco; and it consists in the means hereinafter described, and specifically set forth in the claims.

The desired points to be obtained in the art of curing tobacco are uniformity in the degree to which a quantity of tobacco is cured and uniformity in the color—that is, in any lot, crop, or quantity of tobacco, taken as a whole it is desirable that all the separate portions of the same, even to the single leaves, shall be uniformly seasoned or cured, and said portions shall be of a uniform color, and the latter quality (the shade) is a matter that should, as far as practicable, be under the control of the curer.

I have found by experience that by obtaining and securing entire control of the degree of heat and moisture to which a crop of tobacco is subjected during the process of curing, and by the proper admixture of heat, steam, and the direct products of the combustion of fuel—principally smoke—and with proper means for thoroughly impregnating the tobacco with these in proper succession, I am enabled to attain in the resulting product that uniformity of texture or seasoning and that uniformity and shade of color which render the product desirable and valuable, and this without injury to the tobacco.

In practicing my method I first subject the tobacco to the action of dry and moist heat separately but simultaneously applied; and if the tobacco ripens with a green color, I then add a third agent—the direct product of combustion in the form of smoke. This treatment is continued until the entire mass of tobacco is of the desired shade of yellow, which will require from ten to twelve hours of said treatment, when I then subject it to the action of dry heat alone to dry the stem and stalk.

In the accompanying drawings I have illustrated means for practicing my invention.

Figure 1 is a plan view, and Fig. 2 is a central vertical section of said means.

Like letters refer to like parts in all the figures.

A A represent fire-boxes, stoves, or furnaces adapted to burn fuel, and they may be constructed of sheet-iron, masonry, or any other desirable material, and they may be placed in or permanently built as a part of a house or tobacco shed wherein tobacco is stored in the usual well-known manner for curing. The fire-boxes are arranged in this instance in the front of the store-room or shed, and are connected to a smoke-stack or chimney, B, by a series of communicating heating-flues and drums, as follows:

The side flues, *a a*—one from each fire-box—are connected to or with two heating-drums, *a'*, located at the rear of the room, and these are connected by the rear cross-flues, a^2 a^2, to a central cut-off, C, to which is connected, by a central flue, a^3, of double the capacity of each of the side flues, a central collector and steam-generator, D *d*, surmounted by a revoluble distributer, E *e e'*. Each of the drums *a'* are provided with doors, which may be opened to permit the escape of heat therefrom, if desired. In the front and rear collars of the cut-off are dampers *c c'*, with crank-arms disposed in a common plane with the damper, to which each is secured, and said arms are connected by a link, c^2, so that by operating the arm of the front damper to close the same the rear damper is opened, and by a reversal in the movement of the said arm the front damper is opened and the rear damper is closed. The cut-off is provided with a central transverse partition, c^3.

The steam-generator consists of a tank, *d*, and reservoir D; or, if preferred, in a temporary use of the portable portions of the apparatus a pit may be dug in the floor or ground of the house or shed and water placed therein.

The reservoir is perforated at or near its lower open end, and consists otherwise of a cylinder of metal surmounted by a perforated cap having a collar projecting upwardly therefrom. The distributer consists of a cylinder, the bottom of which is perforated to loosely fit the collar of the reservoir and rest upon the top of the same, so as to be capable of revolving about said collar, and the top of which is closed, as shown. Hollow arms or flues *e e*, of which there may be two or more, communicate with and connect the distributer to cross arms or flues *e' e'*, which are perforated, as shown, like perforations being made in the flues *e e*.

This being the construction, the operation is as follows: Sufficient water being in the tank to cover the perforations in the reservoir, the fires are started in the furnaces or fire-boxes, and the front damper being closed, the products of combustion are guided through and by the side and rear flues and cut off into the smoke-stack until the smoke has ceased to flow therefrom in more than the usual quantity from a live or bright fire, when the dampers are reversed in position, and a portion of the heat, now substantially free from smoke, is thrown off from the drums and flues by radiation, and the remainder or main portion thereof is conducted to the reservoir, and that which comes in contact with the water therein produces steam, which rises from the tank, while the heat, which flows directly to the arms *e e'* rises therefrom in the air above and permeates the leaves of the tobacco stored above, and the steam accompanies the heat and moistens the tobacco. Now, if it should appear, as is usually the case, that the tobacco is during this process of curing retaining its natural green color, or that parts thereof are of varying colors, the fires are fed with fresh fuel, and an increased quantity of smoke is produced and conducted directly to the reservoir, and thence through the distributer, and, mingled with the dry heat and steam, rises to the tobacco and effectually reduces the color of the same to a uniform shade. When this is accomplished the reservoir is removed from the tank or pit. Smokeless dry heat is distributed until the entire stock is thoroughly dried, and in this stage and all others the arms and body of the distributer are or may be at times revolved to conduct the heat to any particular portion of the stock, as circumstances may require.

The entire apparatus is simple, portable, and cheap, so that every grower is enabled to properly and profitably cure his own crop, and the same can be used in curing or seasoning fruit, lumber, and other substances, as is readily apparent.

If desired, the arms of the distributer may be of unequal length, as shown, or of equal length, and each arm may be mounted independently upon the reservoir, and thus each may be revolved independently of the other.

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

1. The combination, as and for the purpose set forth, of two separate furnaces, a cut-off provided with a central transverse partition, a front valve and a rear valve, a smoke-stack, and a central distributer, substantially as shown and described.

2. In a tobacco-drier, the combination of a steam-generator connecting with the furnaces by means of heaters, substantially such as herein described, with a horizontally-revoluble distributer, whereby dry heat, smoke, or steam, separately or together, can be conducted to different portions of the drier.

3. In a tobacco-drier, a revoluble perforated distributer of dry heat, steam, and smoke, in combination with a steam-generator, two or more furnaces and heaters which connect said generator with the furnaces, substantially as and for the purpose set forth.

4. The combination of the rear flues, a^2 a^2, and the cut-off C, provided with central transverse partition, c^3, and with collars having dampers *c c'*, with the link c^2, substantially as shown and described.

5. The combination of the perforated steam-reservoir D, the tank *d'*, the revoluble distributer E, and arms *e e'*, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JACKSON C. MILLNER.

Witnesses:
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