

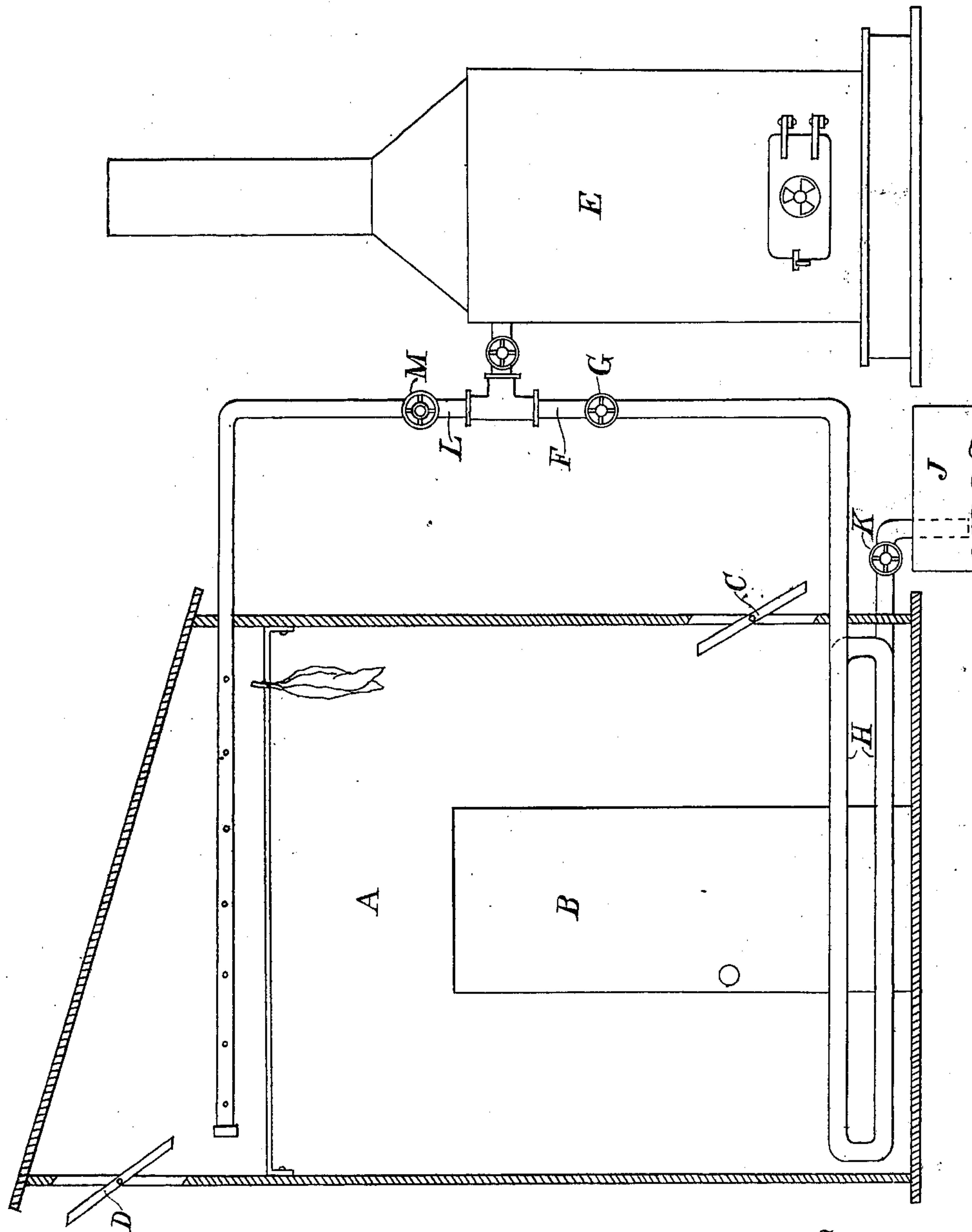
No. 658,047.

Patented Sept. 18, 1900.

C. F. SMITH.
TOBACCO CURING PROCESS.

(Application filed Nov. 16, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

CLINTON F. SMITH, OF NORTHAMPTON, MASSACHUSETTS.

TOBACCO-CURING PROCESS.

SPECIFICATION forming part of Letters Patent No. 658,047, dated September 18, 1900.

Application filed November 16, 1899. Serial No. 737,237. (No specimens.)

To all whom it may concern:

Be it known that I, CLINTON F. SMITH, a citizen of the United States, residing at Northampton, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Tobacco-Curing Processes; 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 of reference marked thereon, which form a part of this specification.

My invention relates to those processes for curing tobacco by the use of the heat and moisture of steam in which time and the manner of applying the heat and moisture are essential elements.

Many processes of the character stated and numerous forms of apparatus for carrying them out have been devised. In all the judgment of the attendant is the only safe guide in determining the point at which the operations of "sweating" or "resweating" shall be terminated to produce in the leaves the shade of color desired and the texture required for any special use, such as cigar or cigarette wrapping, and to insure the equal distribution throughout each leaf of such proportion of the natural soluble or volatile constituents as is thought best should be retained in order that the product may possess qualities most attractive to the consumers. As in the others, the experience and skill of the operative in charge must control the result in my process hereinafter detailed.

The object of my invention is the formulation of a process belonging to the class stated and best adapted to bring about favorable results at minimum cost for apparatus and labor, taking the crude material in its average condition of more or less fermentation as it comes from the planter or jobber.

In the single figure of the drawing making a part of this application is shown, partly in vertical section, one form of apparatus for carrying out my process.

Considering the drawing, letter A designates a barn, although any equivalent chamber may be employed. It should be a closed chamber, with the walls or sides suitably con-

structed to retain heat. In addition to an ordinary door B, affording entrance and exit, it is convenient to have adjustable ventilators, one, C, near the floor, and one, D, near the roof. These are common devices, and any ordinary form thereof may be introduced.

At some point in the vicinity of the barn A, I erect a steam-boiler and furnace E, and from the boiler a pipe F, including a cut-off valve G, leads to a heating-coil H and returns to a hot well or tank J. Near the end of the return-pipe a second cut-off valve K is provided. Coil H may be arranged as shown, it being desirable that the heat should reach the tobacco from below. Obviously a greater or less temperature may be created and maintained within the barn A, the degree at any time being readily learned thermometrically. A second steam-pipe L, quite independent of pipe F, leads from the boiler by way of cut-off valve M through the upper wall of the barn, and it is often useful to have one or more branch pipes entering the barn at about the same level through the remaining side walls. The office of pipe L and branches is to admit steam above the tobacco. It will be observed that the heating-steam and the vaporizing-steam are distinct currents separately piped and controlled.

In the barn A, I hang the bundles of leaves, stems up usually, as drawn; but it is occasionally convenient or expedient to introduce the tobacco in boxes or "cases," which is the common mode. Whatever method is employed the tobacco must be so placed that all the leaves shall be subjected to substantially the same heating and spraying operation and not merely those upon the outside of the bundles or cases. The arrangement should be so planned that the attendant may inspect and remove during the operation or toward its termination such portions of the tobacco as, owing to peculiar circumstances of growth, &c., may soonest reach the desired stage of color or condition.

The tobacco being satisfactorily placed, steam is turned in the coil and the mass kept for the first forty-eight hours at a temperature near but not more than 75° in order that the beginning of fermentation may be natural and easy. Next the temperature is raised to 85° or 90° and constantly maintained for

four weeks. Fahrenheit degrees are meant. At the end of the four weeks the mass is gradually cooled or the temperature reduced to 50°. This reducing action is an important
5 element of my invention and must extend over two weeks' time—that is to say, the temperature should fall by a definite but small measure each day of the two weeks until the
10 fifty degree point is arrived at. During the entire time up to this stage of the process vapor must be introduced sufficient to keep the tobacco slowly but positively advancing in the different stages of curing. At the end of the
15 two weeks' temperature-reducing step and before taking any of the tobacco out for drying it must be very heavily vaporized for twelve hours.

Should there be any portion of the whole charge of the barn not up to the standard at
20 the completion of the process, such portion must be again treated. As a rule, however, by intelligent selection and careful arrangement it is possible to bring the whole charge up to nearly the desired condition at the same
25 time.

The tobacco is received in hands, generally in the case. It can be sweated in bundles when very dry. The first step of my process consists in bringing the whole charge of the
30 barn up to 75° during the first forty-eight hours to start the sweating process naturally and gradually. As the next step in my process I have found it advantageous and necessary to maintain the tobacco at the temperature of 85° or 90° for at least four weeks. It
35 requires this time to get the color and grade best suited for wrappers, and the degree of heat gives me practically summer heat and has a natural and even effect upon the leaves.
40 With a lower degree of heat the tobacco has been found to spoil, white veins and spots appearing throughout the leaves. At the

termination of the four weeks, or thereabout, it is required to bring the tobacco back to the normal or outside temperature without danger of spoiling any of it. This two-weeks'-
45 cooling step gives ample time for the entire charge of the barn to be similarly affected. My process thus gives me June and July temperature during the cold weather and pre-
50 pares the tobacco for the market without waiting for the hot summer months, and all in a natural, steady manner. There is no endeavor to hasten the changes by considerably increasing the heat, as is sometimes
55 done, whereby more or less of the charge of the barn is sure to suffer from overheating. Heavily vaporizing the tobacco finally prevents the leaves from flying about and breaking
60 when the bundles are handled.

Having thus described my invention, what I claim, and desire to protect by Letters Patent of the United States, is—

A tobacco-curing process consisting in first
65 subjecting the tobacco for forty-eight hours to heat near but not more than 75° Fahrenheit, then in raising that temperature slowly to 85° or 90° and maintaining this temperature for four weeks, then, during a period of
70 two weeks, gradually reducing the temperature to 50° at the end of the two weeks, and during the time consumed as stated, from the beginning of the process, in introducing
75 vapor sufficient to keep the tobacco positively advancing to the different stages, and, finally, during twelve hours next before taking the tobacco out vaporizing it very heavily, substantially as described.

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

CLINTON F. SMITH.

Witnesses:

CHARLES A. STEWART,
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