No. 682,319. Patented Sept. 10, 1901.

L. L. CLARK.

TOBACCO MOISTENER.

(Application filed Dec. 31, 1900.)

(No Model.) 2 Sheets—Sheet 1.

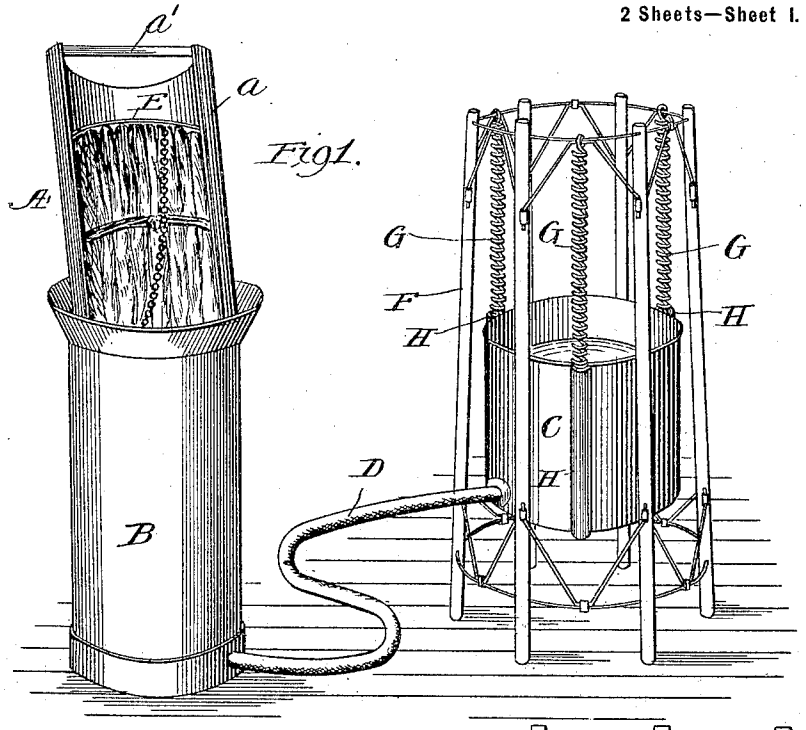


Fig. 1.

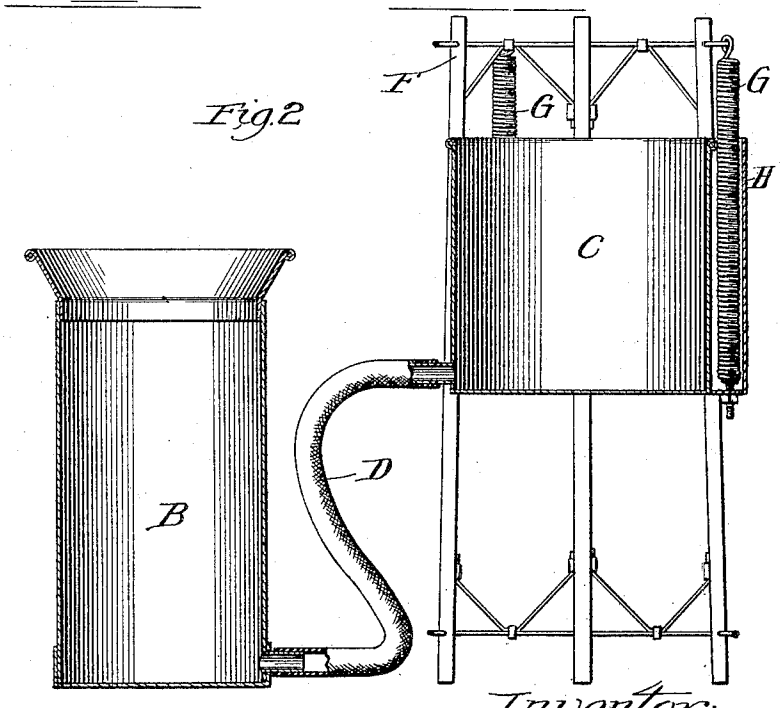


Fig. 2.

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Fig. 3.

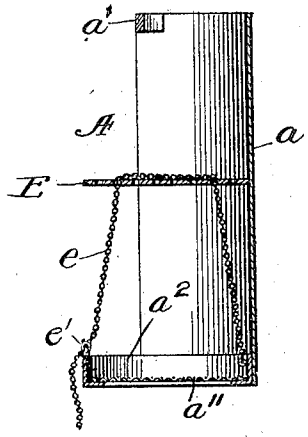
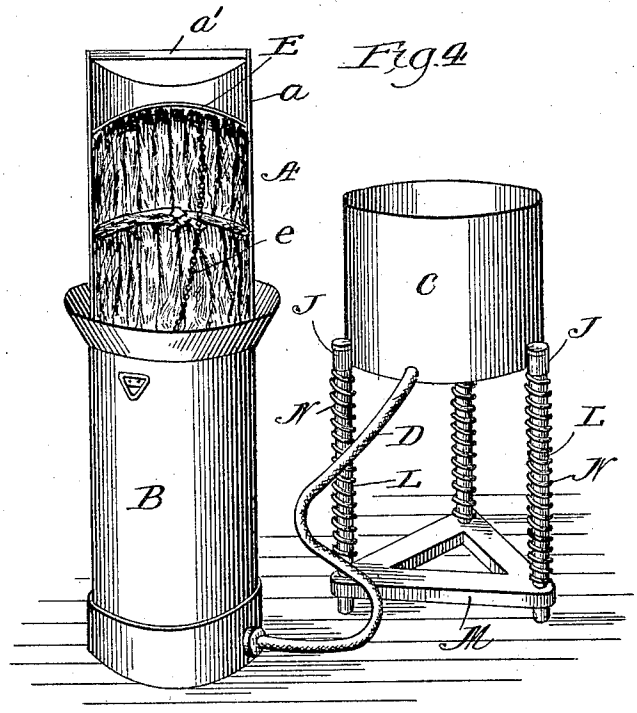


Fig. 4



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UNITED STATES PATENT OFFICE.

LAUREL L. CLARK, OF GALESBURG, ILLINOIS.

TOBACCO-MOISTENER.

SPECIFICATION forming part of Letters Patent No. 682,319, dated September 10, 1901.

Application filed December 31, 1900. Serial No. 41,699. (No model.)

To all whom it may concern:

Be it known that I, LAUREL L. CLARK, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Tobacco-Moisteners, of which the following is a specification.

The dry-cured tobacco-leaves of commerce that are used in the manufacture of cigars are usually tied together in small bundles, each called a "hand." A number of these hands are bound together in a larger bundle, and these bundles are done up in bales or other packages. In order to separate the individual leaves of each hand and put them in condition to be worked, it is necessary to thoroughly moisten them; and the object of the present invention is to provide an apparatus by which this can be done without the loss of time and damage to the leaves resulting from breakage, which are incident to methods heretofore employed. Heretofore it has been the most common practice for the operator to first separate the hands one from another, then dip or sprinkle each hand with water, and then cover with a damp cloth or put in a damp place until all of the leaves absorb sufficient moisture to make them pliable and allow them to be shaken apart; but by this process, even when carefully carried out, many valuable leaves are damaged and rendered almost worthless by being torn and broken, because when the tobacco is extremely dry in order to moisten the innermost leaves of the hand sufficiently to permit them to be separated it is necessary to repeat the dipping or sprinkling operation, and this repeated handling of the leaves is objectionable. Furthermore, even after the leaves have been separated by this process they are not sufficiently moist and flexible to be worked and the moistening process has to be continued by dipping or sprinkling the leaves.

In carrying out the invention I provide an apparatus by which the process of moistening the leaves not only sufficiently to enable the individual leaves of each hand to be separated without breaking them, but also sufficiently to put the individual leaves in condition to be worked, may be quickly and easily carried out in a single operation; and to this end the invention consists in the features of novelty that are hereinafter described.

In order that the invention may be fully understood, I will describe it with reference to the accompanying drawings, which are made part of this specification, and in which—

Figure 1 is a perspective view of a tobacco-moistener embodying the invention in its preferred form and showing the parts in readiness for use, a bundle of tobacco being shown in position in the holder and the latter in position to be inserted in the moistening-tank. Fig. 2 is a vertical section of the apparatus with the tobacco-holder removed and the parts in the positions which they occupy before the apparatus is supplied with water. Fig. 3 is a vertical section of the tobacco-holder. Fig. 4 is a perspective view of a tobacco-moistener embodying the invention under slight modification.

The improved apparatus comprises a tobacco-holder A, a dip-tank B, into which the tobacco-holder containing a quantity of tobacco may be inserted, a vertically-movable tank C, means for yieldingly supporting the vertically-movable tank C, so that it will rise and fall under conditions hereinafter described, and a flexible tube D, connecting the bottom of the tank C with the tank B.

The tanks B and C may be of any suitable or desired construction and contour, those shown in the drawings being cylindrical in horizontal cross-section and closed at bottom save for the openings through which they are in communication with each other through the tube D.

The tobacco-holder comprises a semicylindrical body a, a cross-bar a', connecting the two sides of the body and serving as a handle, a reticulated bottom a'', conforming approximately to the interior of the dip-tank, and a short flange a^2, rising from that portion of the bottom that projects laterally beyond the plane of the diametrically opposite edges of the body portion a. This holder is adapted to receive and to hold a bundle of hands and to be inserted in the dip-tank B, so that when the latter is filled to the proper depth with water the tobacco will be completely submerged. It is left so for a sufficient length of time to thoroughly moisten it, after which the holder is withdrawn and held substantially in

the position shown in Fig. 1 for a short time in order to allow the surplus water to drain back into the tank.

For the purpose of preventing the tobacco from floating, especially when it is very dry, or from being forced upward relatively to the holder by the pressure of the water against it a follower in the form of a disk E, which is preferably provided with perforations, is placed in the body of the holder, so that it rests on top of the bundle of tobacco, and a chain or other device *e* is provided for holding the disk in place and preventing it from being lifted by the buoyancy of the tobacco. Preferably one end of this chain is attached permanently to the holder, at or near the bottom thereof, whence the chain is passed upward through one of the perforations of the disk and then downward through an opposite perforation of the disk, a hook *e'* being provided for engaging its free end. The links of the chain are of such construction that it may be drawn freely through the perforations of the disk, so that the slack may be readily taken out of it after the bundle is in place by drawing it through the disk, after which its free end may be secured in the manner already described. This arrangement enables me to use one and the same holder for leaves of different lengths.

It is stated above that the reticulated bottom of the holder conforms approximately to the interior of the dip-tank. By this is meant that the said bottom fits the dip-tank after the manner of a loose piston, so that only a slight space is left between the margin of the bottom and the tank. With this arrangement if the holder be forcibly inserted in the dip-tank while the latter contains water the water will tend to pass upward around and through the bottom at the same pressure as is exerted in forcing the holder downward. As a result of this the water passing through the reticulated bottom will pass upward in numerous small jets or streams, and in this way it will be forced into the bundle of tobacco which the holder contains. The bundle itself, like the bottom of the holder, conforms approximately to the interior of the dip-tank, and in like manner will act as a piston, the downward movement of which is resisted by the water, so that in being forced down under pressure the water finding no adequate avenue of escape around it will course upward through it. These results would not be possible if the bundle of tobacco, even while contained in a holder such as above described, were immersed in a comparatively large body of water or in a body of water contained in a receptacle which the bundle did not approximately conform to in the manner above described.

It is desirable to at all times maintain the water in the dip-tank B at the same level, and as a quantity of water is absorbed by the tobacco and thereby taken from the dip-tank at each dipping operation I prefer to provide the apparatus with means for maintaining the water at a constant level in the dip-tank B. I desire to have it understood, however, that in its broadest aspect the invention is not limited to any particular means or device for accomplishing this result, and in the drawings I have shown the means for doing it under two modifications. Others will readily suggest themselves to those skilled in the art. In its preferred form the means for maintaining the water at a constant level in the tank B consists of the vertically-movable tank C and means for yieldingly supporting it. As shown in Figs. 1 and 2, the supporting means consists of a suitable stand or frame F and a number of coiled springs G, having their upper ends attached to or supported by the frame and their lower ends attached to the vertically-movable tank, so that they support the tank and its contents by their tensile strength. Preferably the springs are attached to the tank at or near the bottom thereof, and from their points of attachment to the upper margin of the tank they are inclosed and protected by tubular jackets H, that are secured to the sides of the tank. These springs are of such strength that when the tank C is empty they will support it with its bottom at substantially the level at which it is desired to maintain the water in the dip-tank, and their resistance to the depression of the tank C is such that their elongation under the influence of water contained in the tank is exactly proportional to the depth of said water, so that without regard to the depth of the water in the tank its surface level will remain constant. Let it be supposed that with the parts in the positions and conditions shown in Fig. 2 water is poured into the tank C. It will immediately flow from the tank C through the tube D and into the dip-tank B until its level in the dip-tank reaches the level of the bottom of the tank C. Thereafter as the pouring of the water into the tank C continues the weight of the water will force the tank C downward, and its downward movement will be equal in extent to the depth of the water—that is to say, when the water reaches a depth of two inches its weight, added to the weight of the tank itself, will have caused the springs to stretch two inches, so that the water in the two tanks will stand at the same level. In like manner when the water shall have reached a depth of six inches in the tank C it will have caused the springs to stretch six inches, still maintaining the water in the two tanks at the same level, and this will continue throughout the process of filling the tank C. The same results will of course follow if the water is poured into the tank B instead of the tank C. In this event it will first rise up in the tank B to the level of the opening in the tank C with which the tube D communicates, and thereafter it will flow into the tank C, depressing it in the manner already described. If the tank C will thus move downward under the influence of

water poured into it, it of necessity follows that it will move upward under the influence of the springs as water is withdrawn from it, and it further follows that since the two tanks are in open communication with each other the same result will follow as the water is withdrawn from the tank B by repeatedly immersing in it the bundles of dry tobacco.

The apparatus shown in Fig. 4 does not differ in principle or mode of operation from that shown in the preceding figures. Here the tank C has on its sides and preferably near the bottom thereof eyes or rings J, which surround loosely vertical rods or standards L, rising from a base-frame M, by which they are united and held in proper relative positions, coiled springs N, which surround the rods, being interposed between the eyes J and the base M for the purpose of yieldingly supporting the tank by their resistance to compression.

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

1. In an apparatus for moistening tobacco, the combination with a dip-tank adapted to contain water, of a tobacco-holder adapted to receive and hold a bundle of tobacco, the tank and holder conforming approximately so that the holder when inserted in the tank fits it after the manner of a loose piston, whereby when the holder with the contained tobacco is forcibly inserted in the dip-tank the water will be forced upward into and through the bundle of tobacco, substantially as described.

2. In an apparatus for moistening tobacco, the combination with a dip-tank, of a tobacco-holder adapted to receive and hold a bundle of tobacco and adapted to be inserted in said tank, said holder having a reticulated bottom conforming approximately to the interior of the dip-tank, after the manner of a loose piston, substantially as described.

3. In an apparatus for moistening tobacco, the combination with a dip-tank, of a vertically-movable tank, means for connecting the two tanks and conducting water from one to the other, and means for yieldingly supporting the movable tank and permitting it to rise and fall, substantially as described.

4. In an apparatus for moistening tobacco, the combination with a dip-tank, of a vertically-movable tank, a tube connecting them, and springs for yieldingly supporting the movable tank and permitting it to rise and fall, substantially as described.

5. In an apparatus for moistening tobacco, the combination with a dip-tank, of a vertically-movable tank in open communication therewith, tensile springs supporting the movable tank, and means for supporting said springs, substantially as described.

6. In an apparatus for moistening tobacco, the combination with a dip-tank, of a vertically-movable tank in open communication therewith, tensile springs secured at their lower ends to the movable tank near the bottom thereof, tubes secured to the movable tank and inclosing the springs, and means for supporting said springs, substantially as described.

7. In a tobacco-moistener, a tobacco-holder having a semicylindrical body, a reticulated bottom, a perforated follower adapted to rest upon the tobacco, and a chain connecting the follower and the bottom, substantially as described.

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