

(No Model.)

F. A. ROBBINS.
MULTIPLE SYRUPING MACHINE.

No. 574,075.

Patented Dec. 29, 1896.

Fig. 1.

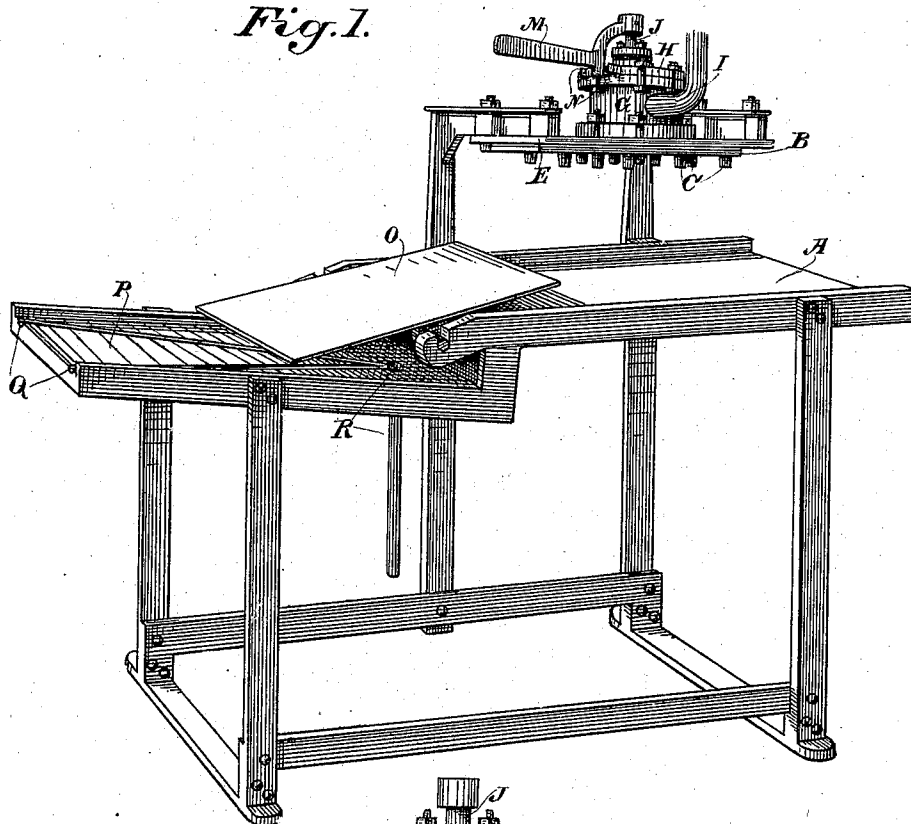


Fig. 2.

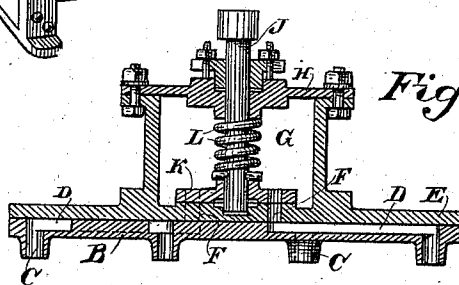
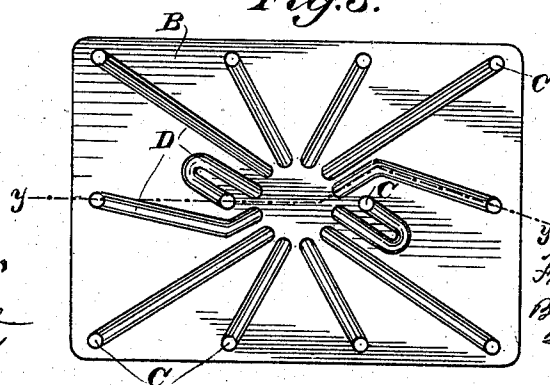


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK A. ROBBINS, OF SAN FRANCISCO, CALIFORNIA.

MULTIPLE SYRUPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 574,075, dated December 29, 1896.

Application filed August 31, 1896. Serial No. 604,453. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. ROBBINS, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Multiple Syruping-Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an apparatus for supplying liquid simultaneously to a number of cans which are to be filled, this apparatus being known as a "syruping-machine."

It consists in certain details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a general view of my machine. Fig. 2 is an enlarged sectional view of the valve mechanism. Fig. 3 is a top view of the nozzle-plate.

The object of my invention is to provide an apparatus by which liquid can be supplied to fill fruit and other containing cans, so that a large number of the cans may be filled simultaneously and when filled the supply cut off, so as to approximately prevent any drip or loss of the liquid.

The apparatus may be variously arranged to suit the requirements.

In the present case I have shown a table A with suitable arms or supports to which the plate B is secured and supported sufficiently above the table A to allow any suitable or desired number of cans to be placed upon the table A and beneath the plate B. The plate B has a series of nozzles C upon the lower side corresponding with the number and position of the cans. I prefer to construct the plate with some certain number of these nozzles, such as one dozen, and each of the openings extends up through the plate and connects with a channel D, which is made in the horizontal upper surface of the plate. These channels extend from their connection with the nozzles inwardly and terminate in a circle around the common center of the plate. As the nozzles are at different distances from the center, I have made the grooves or channels curved and in various forms, so that those nozzles which are nearest the center are connected with passages so curved as to provide nearly an equal distance for the syrup to flow

in all of the passages. The channels or passages in the plate are normally open from above, so that they are easily reached for cleaning or for other purposes. They are closed so as to form tubes by the application of a top plate E, which is bolted down upon the lowermost plate. This top plate has a series of holes F, made in a circle around the center, these holes corresponding with the inner ends of the channels or passages. Upon the top of the plate E is bolted a cylindrical chamber G, of considerable depth, having a cap or cover H, which is bolted upon it. Through one side of this chamber is an inlet-passage I, through which syrup is supplied to the chamber from a containing vessel or tank sufficiently high to cause the syrup to flow freely by gravitation.

Through the top or cover H extends a stem or shaft J, which passes down within the chamber, the lower end turning in a central step in the top plate E. Upon this stem is fitted a valve K, having a number of perforations made through it equal in number to and coinciding with the perforations F in the plate E. This valve is pressed down by a coiled spring L, acting between the valve and the top plate with sufficient compression to keep the valve properly seated. The stem passes through a stuffing-box upon the outside of the cap H and has fixed to it a handle M, by which it may be turned a short distance.

N N are lugs formed upon the cover H, between which the handle M is movable, the distance being such that when the handle occupies one position the valve stands so as to close all the openings F, but when turned to the other position these passages are all opened for a free flow of the syrup.

The operation then consists in placing as many cans as there are nozzles beneath the latter standing upon the table A, and by the slight movement of the handle M the valve K is opened, so as to allow syrup to flow simultaneously through the holes F and the distributing-passages D, flowing thence to the nozzles C into the cans until the latter are filled. A short movement of the handle in the opposite direction cuts off the supply of syrup, and by reason of the construction and arrangement of the passages the flow is instantly cut off from each one, so that little

or no drip takes place after the valve is closed. When the cans have been thus filled, they are pushed forward upon a tilting table O, which is pivoted near one end of the table A and has sufficient area to receive the cans. Beyond the table A upon this side is a second inclined table P, having converging grooves or channels Q made in its surface and leading to a common center and discharge-pipe, as shown at R. When the cans have been pushed upon the tilting table, the latter is tilted upon its pivots, the outer edge striking the lower table, and the cans are thus all tilted sufficiently to discharge a small portion of the surplus of the syrup, leaving all the cans equally full and ready for sealing. This surplus overflowing upon the incline of the lower table is discharged through the channels Q of the latter and the central pipe to a receiver, from which it may again be pumped up to the main supply-tank. By this construction I avoid the use of a great number of cocks, any one of which is liable to be out of order, and I also avoid the drip and waste which take place when such cocks are used.

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

1. A syruping-machine consisting of a plate the upper surface of which is provided with horizontal passages, the outer ends of which connect with discharge-nozzles, and the inner ends with a circle of holes or openings extending through a superposed plate, a spring-pressed valve turnable within a chamber upon said plate having openings coinciding with those in the plate, a lever fixed to the valve-stem exterior to the case, and stops fixed on the cover between which stops the movement of the valve-lever is limited to open and close the valve.

2. In a syruping-machine, a plate having

grooves or channels made in its surface, the outer ends of said channels connecting with a series of discharge-nozzles leading downwardly therefrom the inner ends of the passages connecting with a series of vertical holes arranged in a circle about a common center, said passages being curved so that the distance to the nearest nozzle by way of the passage shall be approximately as great as that of the most distant, a valve-chamber situated above and surrounding the vertically-disposed holes or passages, a spring-pressed valve having corresponding perforations adapted to seat upon the plate or floor so as to cover the holes made therethrough, a valve-stem extending through the cover of the valve-chamber having a lever fixed to its outer end and stops fixed upon the cover to limit the movement of the valve-stem so as to open or close the passages for the flow of syrup.

3. In a syruping-machine, a chamber containing an oscillatory valve, passages which are opened or closed by the movement of said valve, nozzles connecting with the outer ends of said passages, a table situated beneath the valve and passage-plate, upon which the cans are placed beneath the nozzles to receive syrup therefrom, a tilting plate fulcrumed to the end of the first-named table so that when the cans have been filled, they may be slipped thereon and all tilted to the same angle to discharge a portion of the syrup contained therein, and a second table situated beyond one end and slightly below the first-named table to receive the discharged syrup, having converging grooves or passages leading to a common discharge-opening.

In witness whereof I have hereunto set my hand.

FREDERICK A. ROBBINS.

Witnesses:

S. H. NOURSE,

JESSIE C. BRODIE.