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SIRUP DISPENSING PUMP

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Fig. 1.

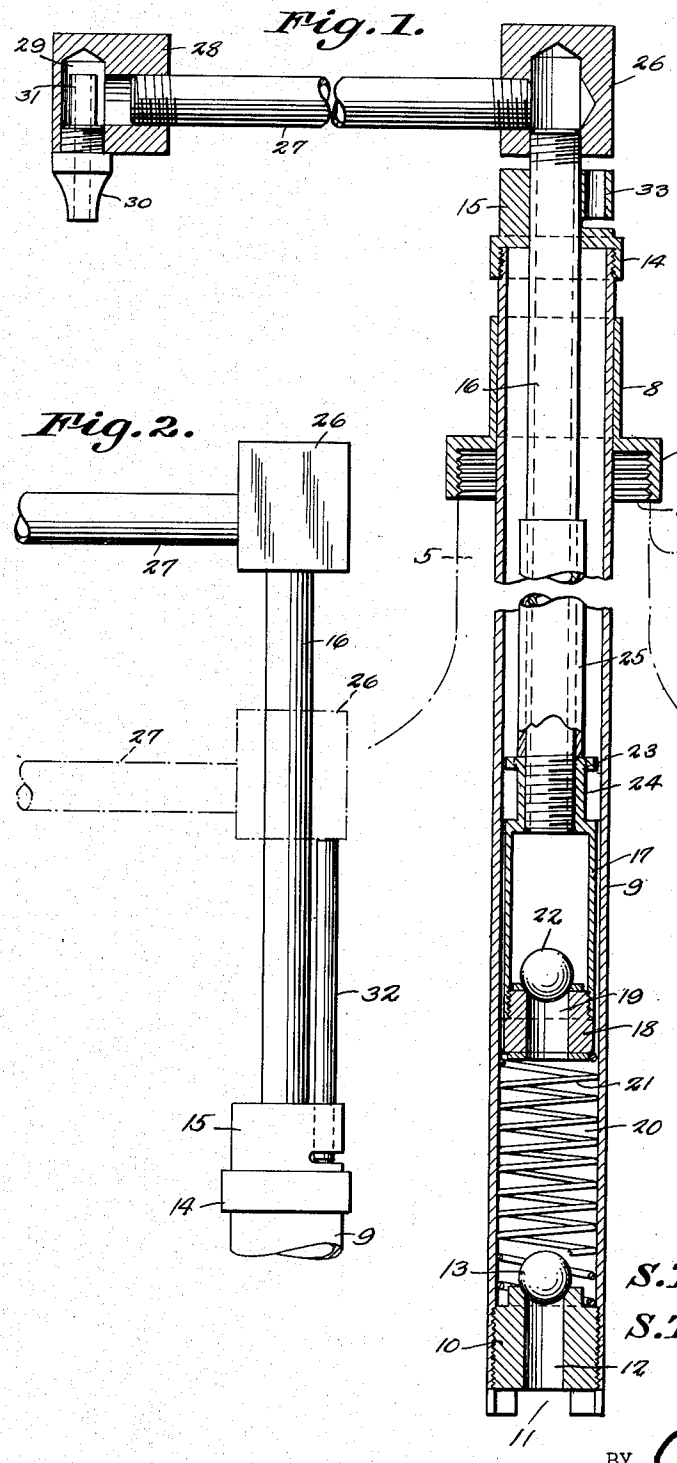


Fig. 2.

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SIRUP DISPENSING PUMP

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1 Claim. (Cl. 222—385)

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This invention relates to syrup dispensing pumps, and particularly that type of syrup dispensing pump adapted for positioning in jugs or containers in which syrups are contained.

An important object of the invention is to provide a syrup pump or dispenser having means whereby the length of the stroke of the piston of the pump may be regulated so that various quantities of syrup may be dispensed with each operation of the piston of the pump.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing:

Figure 1 is a longitudinal sectional view through a syrup pump constructed in accordance with the invention, illustrating the syrup pump as positioned in the mouth of a syrup containing jug.

Fig. 2 is a fragmental elevational view illustrating the upper end of the dispensing pump equipped with a piston stroke regulating pin and illustrating a modified form of the invention.

Referring to the drawing in detail, the reference character 5 indicates a syrup containing jug which is formed with the usual threaded mouth 6 on which the screw-threaded cap 7 is secured, the cap being provided with an upstanding tubular extension 8 which provides a bearing and support for the main pump tube 9, which pump tube is provided with internal threads adjacent to the lower end thereof in which the valve plug 10 is positioned, the lower end of the tube 9 being cut away, providing entrance openings 11 through which the syrup may pass into the bore 12 of the valve plug 10. The upper end of the bore 12 provides a seat for the ball valve 13 which prevents material from passing downwardly through the bore 12, but permits upward movement of the material through the bore 12 and into the chamber thereabove. On the upper end of the main pump tube 9 is the threaded cap 14, which has an enlarged upper portion 15 formed with a bore to accommodate the tube 16, which provides the piston tube of the pump. This tube 16 has its lower end threaded into the upper end of the hollow tube 17, the tube 16 communicating with the hollow piston so that syrup or material passing into the hollow piston 17 may pass upwardly through the tube 16.

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Secured in the lower end of the hollow piston 17 is the valve plug 18, which is formed with a central bore 19 establishing communication between the chamber 20 above the valve plug 10, and interior of the hollow piston.

Mounted within the chamber 20 is the coiled spring 21, the lower end of which rests on the upper end of the valve plug 10, while the upper end of the spring bears against the lower end of the hollow plug 18, normally urging the piston and its tube 16 upwardly. Mounted with the hollow piston 17, is the ball valve 22 that rests on the upper end of the plug 18 normally closing the central bore 19 to prevent liquid from passing through the bore 19 from the hollow piston 17, on the upstroke of the piston.

The hollow piston 17 is formed with flat surfaces at 24 for engagement by an end wrench to hold the piston 17 or plunger while the tube 16 is being screwed into position, or when the plug 18 is being screwed into the lower end of the piston 17.

Mounted on the tube 16 with its lower end resting against the upper end of the extension 23, is the regulating tube 25, which moves with the tube 16 and engages the cap 14, limiting the upward movement of the piston and piston tube to adjust the length of the stroke and consequently regulate the quantity of syrup dispensed with each pump operation.

The reference character 26 indicates the head which is formed with a flat upper surface to be engaged by the thumb of the person operating the pump, to press the pump cylinder downwardly within the main pump tube. This head 26 is threaded on the upper end of the tube 16 and is hollow so that syrup may pass upwardly into the head. Connected with the head 26 is a laterally extended pipe 27, which also passes into the fitting 28 which is hollow and provided with a bore 29 into which the nozzle 30 extends, the nozzle 30 having a tubular extension 31 that extends to a point above the upper edge of the pipe 27, so that syrup in passing into the fitting 28 must pass upwardly to overflow onto the upper end of the extension 31 in order to pass from the nozzle. Due to this construction, it will be seen that after the pump has been operated and has been returned to its normal position by the action of the spring 21, any material which may have drained into the fitting 28 from pipe 27 will be trapped within the space around the extension 31 and will be prevented from dripping.

In Fig. 2 of the drawing has been shown the mechanism as described and illustrated in Fig. 1 of the drawing, with the exception that in this

showing, a regulating pin indicated at 32 is provided and is positioned within the opening 33 of the enlarged upper portion 15 of the cap 14, the pin resting on the bottom of the opening 33, there being a slot adjacent to the bottom of the opening whereby foreign matter may be readily removed from the opening. With this pin extended upwardly within the path of downward travel of the head 26, the head 26 will contact the upper end of the pin limiting downward movement of the tube 16 and restricting downward movement of the hollow piston 17, reducing the stroke of the piston to limit the quantity of syrup disposed with each pumping operation.

The pin 32 may be removed and replaced by a collar or shorter pin at the will of the operator, thereby regulating the amount of syrup pumped.

Having thus described the invention what is claimed is:

A pump of the class described, comprising a main stationary pump tube providing a cylinder, a cap closing the upper end of the stationary pump tube, means for securing the pump in a liquid container, a movable pump tube operating through the cap and being disposed within the stationary pump tube, said movable pump tube having a threaded end, a hollow piston secured to the threaded end of the movable pump tube, said piston having a central bore through which liquid enters the hollow cylinder, said hollow cylinder providing a ball chamber, a ball valve operating within the ball chamber and being movable into engagement with the threaded end of the movable pump tube, closing the pump tube on the down stroke of the movable pump tube, and a valve controlling the passage of fluid into the stationary pump tube.

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