

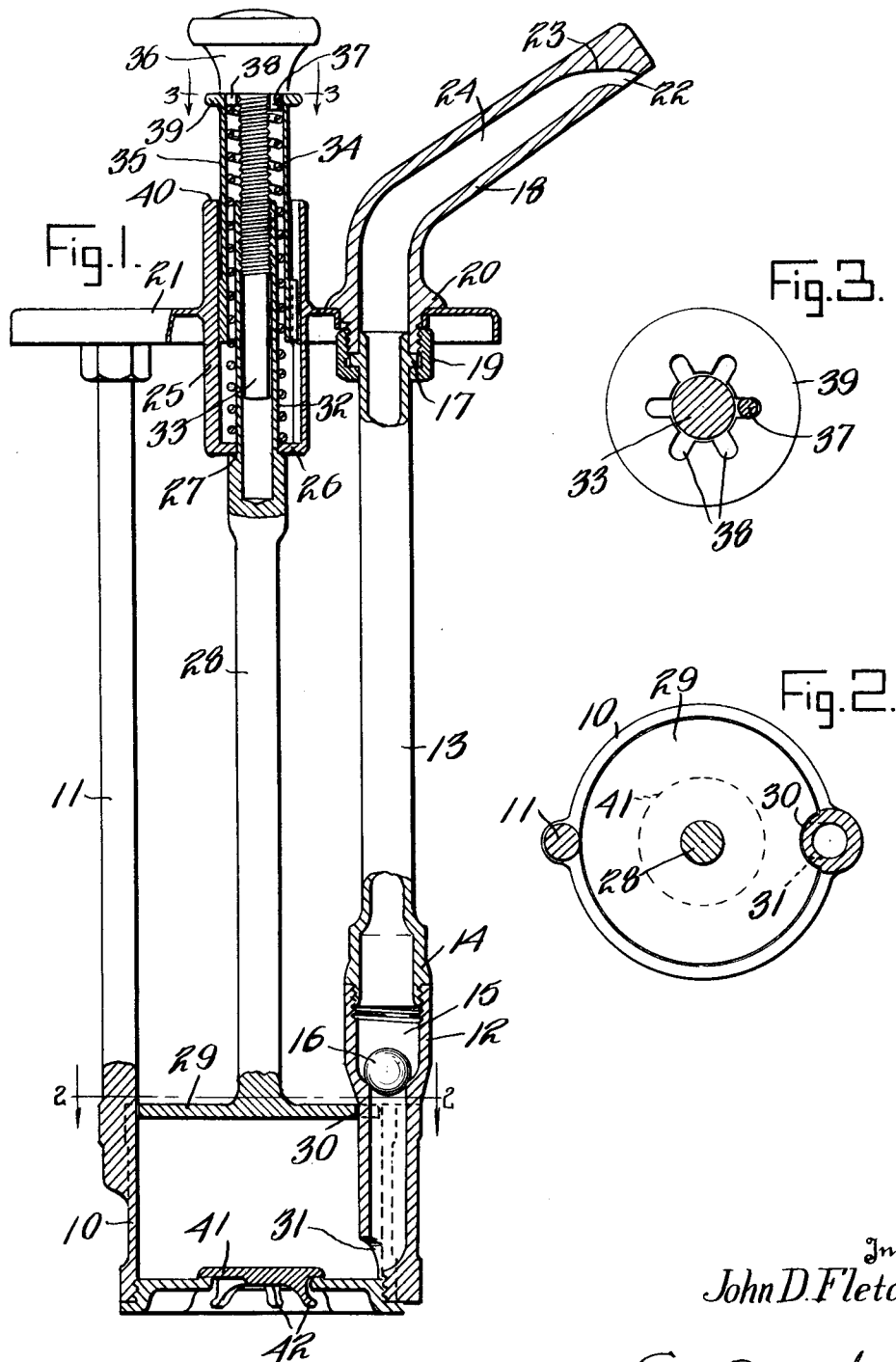
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SIRUP PUMP

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## UNITED STATES PATENT OFFICE

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## SIRUP PUMP

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This invention relates to sirup pumps.

An object of the invention is to provide an improved pump with particular attention to means for controlling the length of the stroke of the pump and an improved outlet conduit and one in which the quantity of sirup pumped out each stroke may be kept constant.

Further objects and advantages will become apparent as the description proceeds.

Referring to the accompanying drawing, which is made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is a view in elevation with certain parts shown in section,

Figure 2, a section on line 2—2 of Figure 1, and

Figure 3, a section on line 3—3 of Figure 1.

In the drawing numeral 10 indicates the pump cylinder to which is secured a support 11 and a post 12, the latter forming the outlet port from the pump chamber. A pipe 13 has an enlarged end 14 which latter is screw-threaded into the member 12. The enlarged end 14 together with the upper enlarged end of the member 12 provide a valve chamber 15 having a ball valve 16 held therein which is adapted to rest upon a valve seat. The ball valve 16 is preferably of some non-corrosive material such as Monel metal. The upper end of post 13 is provided with a flange 17 which is adapted to engage against the lower end of the spout 18, being held against the spout by screw threaded cap 19 which has a flange engaging the lower shoulder of the flange 17. The spout has the usual flange 20 for seating upon the cover 21. The post 11 and the pipe 13 serve as supports for the cover 21, or rather has supports for the pump since the cover 21 is adapted to fit over the top of a sirup jar. The spout 18 is provided with an outlet opening 22. This opening is positioned at such an angle as will allow the sirup uninterrupted passage there-through so that there is no splashing, dripping, or squirting of the sirup as it leaves the nozzle. In order to assist in this result the outlet opening lies at a slight angle as shown at 23, as distinguished from the usual sharp

angle normally, at right angles to the passage 24 in the spout. Secured to or made integral with the cover 21 is a cylindrical member 25, the lower end of which is provided with a flange 26 to receive a shoulder 27 on the piston rod 28. The piston rod 28 has an operating piston 29 on its lower end which moves in the pump cylinder 10. One side of the piston is cut out at 30 to engage around the circular portion of the post 12, the post 12 being provided with an outlet port at 31. The small end 32 of the piston rod extends up within the member 25 and is hollow to receive a threaded stem 33. A compression spring 34 surrounds the end 32, the lower end of the spring seating upon the flange 26 and the upper end being confined against the inner flange of a tube 35 which slides within the member 25. The purpose of the spring is to return the piston during the idle stroke. A knob 36 is secured upon the stem 33, this knob having a depending pin 37 adapted to engage in any one of a plurality of notches 38 on the inner flange of the sleeve 35. The purpose of the screw threads on the stem 33 is to adjust the length of the stroke. The limit of the stroke of the pump, of course, is reached when the flange 39 engages the top 40 of the casing 25.

In operation the knob 36 is pressed down during pumping stroke to force sirup in the pump chamber out through the port 31 past the ball check valve 16 into valve chamber 15 and into the tube 13 from which it travels out through the outlet spout. Upon the suction stroke the ball valve 16 drops on its seat and sirup is drawn in through the inlet valve 41. This latter valve is held in position by prongs 42 on its lower side which are bent out to engage the lower side of the valve opening. The valve 16 prevents any sirup from flowing back into the pump. Upon the pumping stroke therefore additional sirup is forced up through the spout. By adjusting the screw 33 to any desired vertical position the length of the stroke may be controlled and consequently the amount of sirup dispensed at each stroke may be accurately controlled.

In pumps as heretofore constructed the outlet pipe 13 was a single piece. This made

it difficult to clean and difficult to assemble the valve. In many such constructions a pin was provided for preventing the ball valve from being forced up into the outlet tube.  
 5 By my construction a valve chamber 15 is provided which is larger than the outlet tube. This prevents the ball valve from being forced up into the tube. It is not necessary therefore to provide a pin for retaining the  
 10 ball in position. As may be clearly seen the pipe 13 may be unscrewed from the enlarged end 12 and may be detached from the cover plate and so easily removed to assemble or disassemble the pump. The outlet passage is  
 15 smooth and contains no obstructions which will prevent free outflowing of the sirup and which will catch lint that is often shed from the sacks containing the sugar from which the sirup is made and soon cause the outlet  
 20 passage to become clogged and unsanitary.

It will be obvious to those skilled in the art that various changes may be made in my de-

vice without departing from the spirit of the invention and therefore I do not limit myself to what is shown in the drawing and described in the specification, but only as indicated by the appended claim.

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

A sirup pump having a pumping chamber, a piston operable in said chamber, an outlet  
 75 from said chamber, a spout detachably secured to said outlet, said spout having a bore therethrough, the outer end of said bore being slightly and gradually curved downwardly  
 80 so that the angle formed by the axis of said outer end of said bore and the axis of the bore of the spout is less than ninety degrees thereby providing an uninterrupted passage for  
 85 the sirup as it is discharged from the pump, substantially as set forth.

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