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SIRUP PUMP

Filed Aug. 15, 1928

Fig. 1

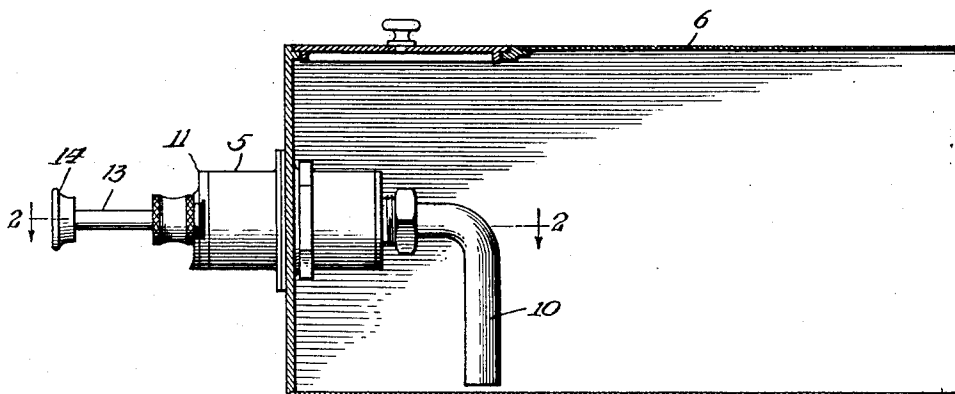


Fig. 2

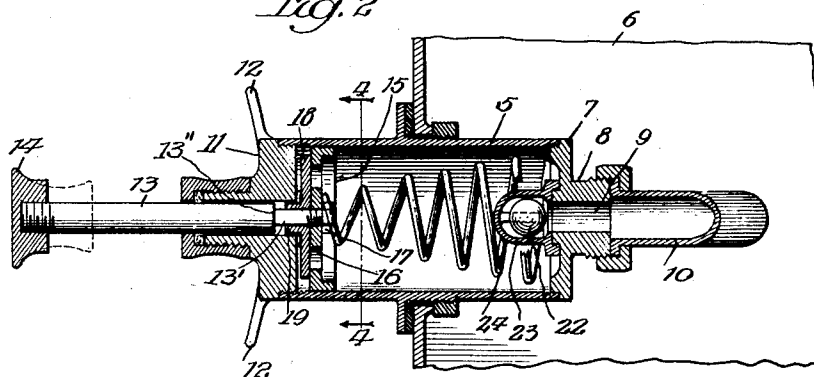


Fig. 3

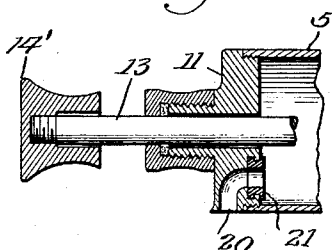
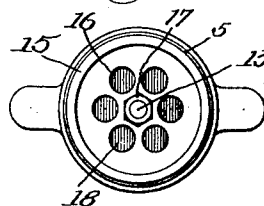


Fig. 4



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SIRUP PUMP

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This invention relates to sirup pumps for soda fountain, and its object is to provide a pump of simple and novel construction adapted to deliver a predetermined charge of sirup at each operation.

Another object is to provide a pump of simple and novel construction for use in horizontal position on a sirup jar and adapted to deliver a charge and recharge itself at each operation.

In the accompanying drawings illustrating a selected embodiment of the invention:

Figure 1 is a sectional view of a sirup jar with my improved pump therein.

Figure 2 is an enlarged sectional view of the pump on line 2—2 of Fig. 1.

Fig. 3 is a section, similar to Fig. 1, of the outer end portion of the structure to show the lengthened button for regulating the stroke of the valve; and

Figure 4 is a transverse sectional view on line 4—4 of Fig. 2.

Referring to the drawings, the casing or barrel 5 of the pump is secured horizontally in a wall of the sirup jar 6 in any suitable manner. A head 7 is secured in the inner end of the casing and it has a nipple 8 provided with a passage 9 which communicates with a bent inlet tube 10 secured at one end to the nipple and with its other end extending to the bottom of the jar. A head 11 is secured in the outer end of the casing and arms 12 project outwardly therefrom. A valve stem 13 operates through the head 11 and it carries a button handle 14 on its outer end and a valve head 15 on its reduced end 13'. The valve head has a plurality of openings 16 and it is made fast to the reduced inner end of the stem by a threaded connection and a lock nut 17. A valve disk 18 is mounted freely on the reduced portion of the stem and it is adapted to lie flat against the valve head to cover and close the openings 16. A collar 19 on the valve disk engages a shoulder 13'' on the stem which limits the movement of the valve disk away from the valve head. An outlet passage 20 is provided in head 11 at the lower part thereof and a washer 21 at the inner end of this passage is adapted to be engaged by the valve disk for sealing said open-

ing. A ball valve 22 is located at the inner end of passage 9 within a cage 23, and a helical spring 24 is arranged in the casing and is seated against the inner head 7 and the valve head 15. The jar contains a supply of sirup and a charge is drawn into the pump after every charge is delivered thereby. In normal position Fig. 2 the spring pushes valve head 15 against valve disk 18 and the latter to the limit of its movement against shoulder 13''. At this time the pump contains a charge of sirup and the ball valve is closed. When pressure is applied to the button 14 the valve head will be pushed in, carrying the valve disk, but the play of the valve disk on the reduced end of the stem permits the disk to be unseated by the sirup within the casing on the inward movement of the stem, and the sirup on the inlet side of the valve will flow through the perforations 16. During the inward movement of the valve stem, the ball valve is closed, and during this movement the spring is compressed and the charge of sirup previously drawn into the casing has passed through the perforations 16 to the discharge side of the valve. When pressure on the button handle is released, spring 24, which has been compressed, expands to quickly return the valve to its normal position at the discharge end of the casing, Fig. 2, with the head against the disk and the disk sealing the perforations 16. On the outward movement of the valve, under the influence of the spring, the sirup in front of the valve is discharged quickly through the passage 20 into a glass or other receptacle, and at the same time the ball valve is unseated and a fresh charge of sirup is drawn into the casing behind the valve. In practice, the operator will place his palm against the button and grasp the arms 12 with his fingers and give a quick pressure upon the button, like a grasp of the hand, moving the valve inward quickly; and then the operator will release his hand from the pump and the spring will return the valve and stem to initial position and at the same time discharge the charge of sirup as required. The pump is free from complicated or delicate parts, it operates easily and quickly, and it can be

readily cleaned and kept in a sanitary condition.

To vary the amount of the charge, different buttons may be used. In Fig. 3 I have shown
5 a button 14' which projects farther along the stem than button 14 and limits the inner travel of the valve head to that extent and correspondingly reduces the charge.

Changes in the form, construction and arrangement of parts may be made without departing from the spirit or sacrificing the advantages of the invention, and I reserve the right to make all such changes as fall within the scope of the following claims.

15 I claim:

1. The combination of a sirup jar, a pump mounted therein and comprising a casing having an inlet at one end and an outlet at the other end, a valve for said inlet, a
20 stem operating through the outlet end of the casing, a perforated valve head on the inner end of the stem within the casing, a valve disk loosely mounted on the stem between the outer end of the casing and the valve head and
25 adapted to close the perforations in the valve head and a spring within the casing between the inner end thereof and the valve head and operating to force the valve head against the valve disk in closed position against the outer
30 end of the casing.

2. In a pump of the class described, a casing, a head fixed at one end of said casing including a nipple having an inlet tube connected thereto and having a passage therein
35 extending from said tube to the interior of said casing, a cage fixed to said head at the inner end of said passage, a ball valve in said cage for controlling communication through said passage, another head at the
40 other end of said casing having an outlet passage and an axial bore therein, a plunger extended through said axial bore, a perforated valve head on the inner end of said plunger within said casing, a valve disc loosely mounted
45 on the plunger between the second head and the valve head for closing the perforations in said valve head, and a spring in said casing extended between said valve head and the first head and operating to force the
50 valve head against the valve disc to close passage through the perforations in said valve head and to close communication through said outlet passage.

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