May 20, 1924. 1,494,381

J. A. SEBRING

DISPENSING APPARATUS

Filed March 10, 1922

Fig. 1.

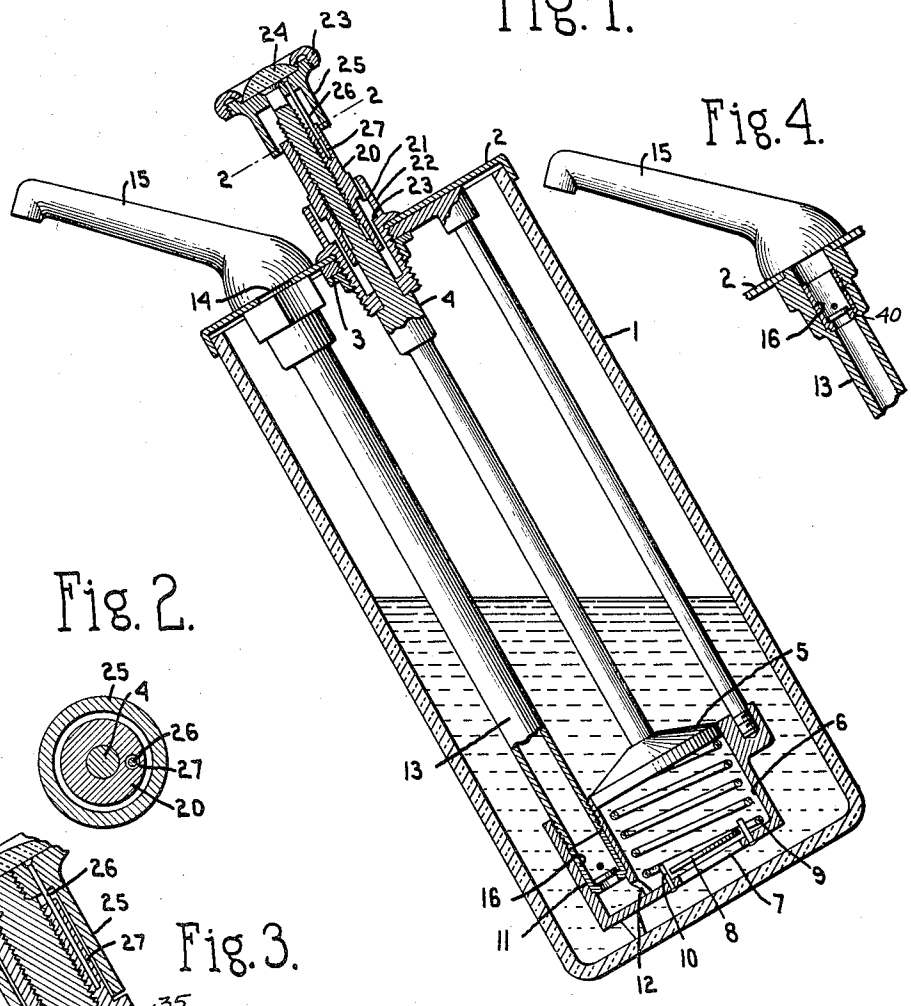
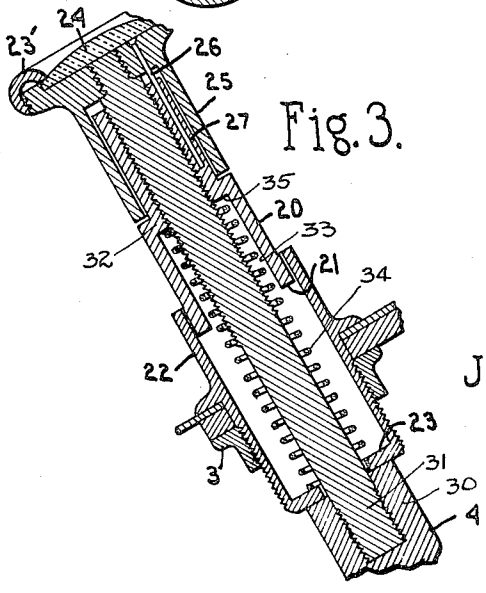


Fig. 4.

Fig. 2.

Fig. 3.



James A. Sebring

INVENTOR.

BY

Fay, Oberlin & Fay

ATTORNEYS

Patented May 20, 1924. 1,494,381

UNITED STATES PATENT OFFICE.

JAMES A. SEBRING, OF CLEVELAND, OHIO, ASSIGNOR TO THE BISHOP & BABCOCK COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

DISPENSING APPARATUS.

Application filed March 10, 1922. Serial No. 542,598.

To all whom it may concern:

Be it known that I, JAMES A. SEBRING, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new and useful Improvement in Dispensing Apparatus, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The present invention, relating, as indicated, to dispensing pumps, is more particularly directed to an improved pump in use for measuring and discharging syrup flavors and the like for mixed drink. The principal object of the invention is the provision of such a device for accurately measuring any desired amount of syrup and for quickly and conveniently discharging the same. To the accomplishment of the foregoing and related ends, said invention, then, consists of the means hereinafter fully described and particularly pointed out in the claim.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing:—

Fig. 1 is a longitudinally vertical section through my improved device showing the same in place in a liquid container; Fig. 2 is a section on the line 2—2 in Fig. 1; Fig. 3 is a section through the preferred form of pump operating handle; and Fig. 4 is a section through the upper end of the discharge conduit showing a modified mounting for the non-return valve.

In Fig. 1 I have shown a liquid container 1 which is usually placed in a tilted position shown in soda cabinets or the like. In this container is mounted the pump device, all parts of which are supported or mounted upon a plate 2, which is adapted to act as a cover for the open upper end of the syrup chamber, and which removably fits over the same.

The cover plate 2 is provided with openings in the central one of which is mounted an externally threaded tubular member 3, within which is slidably mounted a pump rod 4. This pump rod 4 extends downwardly to a point adjacent the pump of the container 1, where it is attached to a piston 5 operating in a pump cylinder 6. The pump cylinder 6 is provided with an inlet opening 7 in its bottom covering which has a gravity check valve 8 in the form of a light metal disk. This disk is mounted within a circular flange 10. A spring 9 is mounted about this flange 10 and between the bottom of the pump cylinder and the piston 5, and acts to normally maintain the piston at the top of its stroke, as shown in Fig. 1.

On the side of the cylinder 6 is formed an extension 11 which is hollow and which communicates by means of a passage 12 with the interior of the pump cylinder. A discharge conduit 13 is attached to the upper end of the hollow chamber in the extension 11 and extends through the container and through an opening 14 in the plate 1, where it is connected to a discharge nozzle 15. In the extension 11 is mounted a small cylindrical check valve 16 adapted to prevent backflow of the liquid through the discharge conduit 13, and nozzle 15, and in this way it serves to maintain liquid in the discharge conduit and nozzle at all times so that upon operation of the pump, liquid will at once be discharged from the nozzle 15 making it possible to use a small pump and to more quickly discharge syrup from the device. If upon every operation of the pump cylinder, the liquid flows back through the nozzle and discharge conduit into the container, a greater amount of syrup will have to be lifted by each stroke of the pump, and the pump will not accurately measure out a given amount of syrup as the amount of syrup which must first be pumped into the discharge conduit to fill it, will vary, depending upon the level in the liquid of the cylinder. In the past, that has caused inefficient operation of the device and an unsatisfactory character of the drinks formed, due to the varied amount of syrup discharged by the pump.

The pump rod 4 is threaded exteriorly of the cylinder 1 and adjustably mounted on this threaded portion is a sleeve 20. This sleeve 20 has a stop shoulder portion sliding in a hollowed-out sleeve 22 and engaging against a shoulder 23 to limit the downward travel of the piston rod 4 and piston 5. By adjusting this sleeve along the piston rod 4, any desired amount of travel can be allowed the piston, and consequently any

amount of syrup can be discharged at each stroke. This adjustment may be readily made by removing a cap 23 and disk 24 from the top of a member 25 mounted on the top of the piston rod. This allows a pin 26 to be pulled out, this pin 26 being engaged in a hole 27 in the sleeve 20. As soon as the pin is removed, the sleeve 20 may be rotated on the piston rod to vary the position of the stop shoulder 21.

In Fig. 3 there is shown a slightly different and preferred form of the pump operating handle and associated mechanism. In this form the piston rod 30 is provided with a portion 31 of reduced diameter, which is slidably mounted in the cylindrical member or sleeve 22 corresponding to the sleeve used in the form of Fig. 1. Adjustably mounted on the upper end of the rod 31 is a sleeve 32 formed with a skirt 33 which is spaced from the rod 31 to permit of the mounting of a spring 34 between the bottom of the fixed sleeve 23 and the surface 35 of the movable sleeve 33. This spring 34 acts to return the piston rod and piston to the upper or normal position after it has been operated to discharge liquid through the conduit 13. By adjusting the sleeve 32 on the rod 31 any desired length of stroke can be given to the piston, the shoulder 21 on the sleeve 20 acting as a stop against the surface 23 on the fixed sleeve.

In Fig. 4 I have shown the discharge conduit 13 hollowed out at its upper end and provided with a shoulder, upon which is mounted a check valve 16 identical in construction and function with the check valve shown in Fig 1 at the base of the discharge conduit.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

In a pump device of the character described, the combination of a fixed tubular guide having a stop thereon, a pump piston rod reciprocably mounted in said guide, said piston having a threaded portion, a sleeve adjustably engaged on said threaded portion of said rod, said sleeve being adapted to engage said stop to limit travel of said piston rod to a predetermined distance and said sleeve having a hole disposed eccentrically in one end, a shoulder on the adjacent end of said piston rod, said shoulder having an opening therethrough adapted to register with such hole in said sleeve in one position of the latter during each revolution, a pin mounted in said opening in said shoulder and extending into such hole in said sleeve, and means adapted to maintain said pin in such engagement.

Signed by me, this 3rd day of March, 1922.

JAMES A. SEBRING.