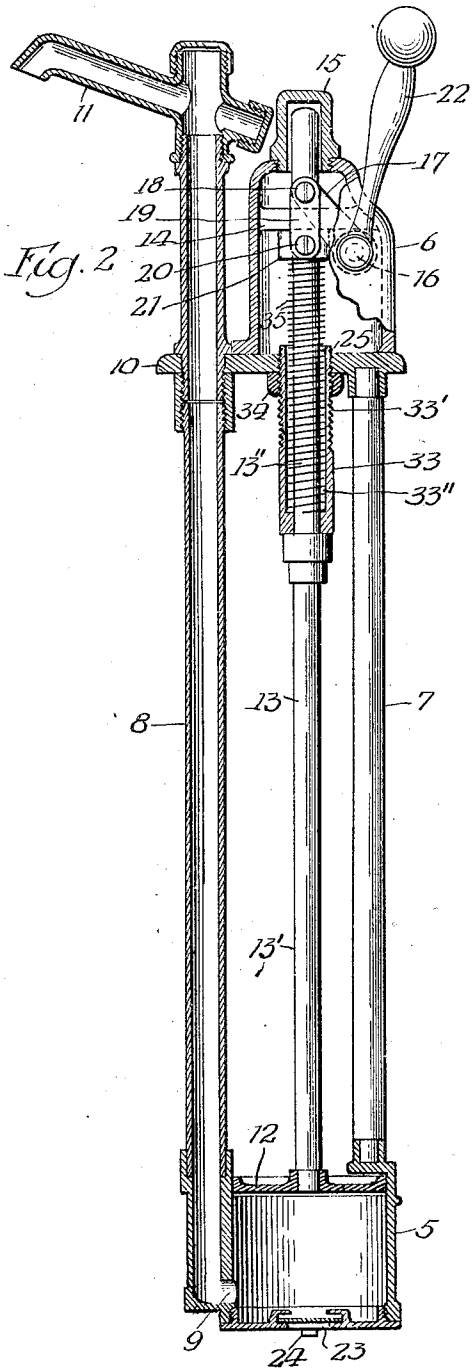
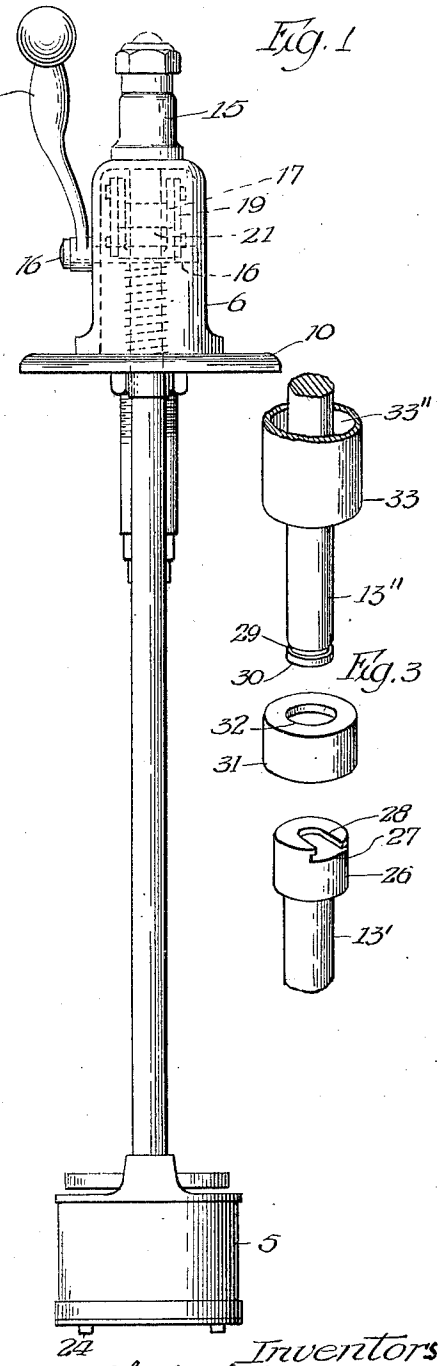
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DISPENSING PUMP

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DISPENSING PUMP.

Application filed June 14, 1926. Serial No. 115,322.

This invention relates to dispensing pumps of the kind which are used in soda fountain jars and other receptacles for dispensing a charge of syrup, milk or other liquids.

The object of the invention is to provide a dispensing pump of simple construction having a discharge plunger operating to a constant limit for its up or return stroke and means whereby the down stroke of the plunger may be adjusted to regulate the charge dispensed.

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

Fig. 1 is an elevation illustrating the invention.

Fig. 2 is a sectional elevation.

Fig. 3 is a detail view of parts separated in position for assembly.

Referring to the drawings the pump comprises a charge chamber 5 and a hollow head or housing 6 connected by a rod 7. A discharge tube 8 is connected at 9 to the bottom of the chamber 5 and it extends up through the plate 10 of the head and is provided with a spout 11. A plunger 12 operates in the chamber 5 and it is mounted on the rod 13 which extends through the plate 10 and into the head 6 and through the bridge 14 therein which forms a guide for the rod. A hollow cap 15 is screw threaded on the head to receive the upper end of the plunger rod 13. A rock shaft 16 is mounted in the head and it is provided with parallel crank arms 17 which are pivotally engaged at their outer ends 18 to links 19 which are pivotally engaged at 20 to a collar 21 rigid on the plunger rod. A handle 22 is mounted on the shaft 16 outside of the head 6 for operating the plunger rod through the crank arm 17 and links 19 to thrust the plunger in the chamber 5 to discharge the contents thereof. This chamber is provided with a valved opening 23 in its bottom and with lugs 24 on its bottom to space the valved opening from the bottom of the receptacle upon which the chamber may be rested.

The plunger rod projects through a threaded opening 25 in the plate 10 which is larger in diameter than the rod. This plunger rod is made in two sections, a lower section 13′ which carries the plunger, and an upper section 13″ which is connected with the operating mechanism. These two plunger rod sections are connected by a coupling of any suitable construction such as a boss 26 on the upper end of the section 13′ having a transverse slot 27 therein opening through one side of the boss and having an opening at the top of the boss to provide an inwardly projecting flange 28. The lower end of the upper section 13″ of the plunger rod has a peripheral groove 29 adjacent its end to provide a flanged end 30. This flanged end of the upper section is inserted in the slot 27 through the open end thereof, after which the two sections are centered. A collar 31 is arranged to fit on the boss 26 and over the coupling, and it has an opening 32 to receive the section 13″.

A sleeve 33 is arranged on the upper section of the plunger rod, and its upper portion 33′ is threaded to engage the threaded opening 25 in the plate 10. A lock nut 34 is arranged on this threaded portion of the sleeve to engage the plate 10 for holding the sleeve in adjusted position. A spring 35 is arranged on the plunger rod between the sleeve 33 and the collar 21 to hold the plunger and plunger rod normally in up position and to return them to up position after the plunger has been thrust downward. The sleeve is recessed interiorly at 33″ to receive the spring.

The invention provides a simple means whereby the down thrust of the plunger may be adjusted to regulate the charge of liquid discharged at each operation of the plunger. This is accomplished by adjusting the sleeve 33 and by securing the sleeve in adjusted position by the nut 34. The down thrust or stroke of the plunger is limited by engagement of the collar 21 rigid on the plunger rod with the upper end of the adjusting sleeve 33; the up or return stroke of the plunger is always to the same limit provided by engagement of the collar 21 with the bridge 14. Thus the charge is regulated by adjusting the down stroke of the plunger, the return stroke always being the same so far as the limit of its movement

is concerned. The construction is simple and substantial, the adjustment is easily effected, and it is constantly maintained. The parts are relatively few in number and are combined for efficient operation.

We are aware that changes in the form, construction and arrangement of parts of our invention may be made without departing from the spirit or sacrificing any of the advantages thereof and we reserve the right to make all such changes as fairly fall within the scope of the following claims.

We claim:

1. In a dispensing pump, the combination of a charge chamber, a discharge tube leading from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, a head enclosing the upper end of the plunger rod, a bridge in said head forming a guide for the plunger rod, and a collar on the plunger rod and providing a constant limit for the return stroke of the plunger and plunger rod.

2. In a dispensing pump, the combination of a charge chamber, a discharge tube leading from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, a head enclosing the upper end of the plunger rod, a plate, a sleeve forming a guide for the plunger rod and adjustable in said plate, a collar on the plunger rod to engage an end of the sleeve for limiting the down stroke of the plunger and plunger rod, and means adjustable on the sleeve to engage said plate for holding the sleeve in the adjusted position.

3. In a dispensing pump, the combination of a charge chamber, a discharge tube leading from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, a head enclosing the upper end of the plunger rod, a bridge in said head forming a guide for the plunger rod, a plate at the bottom of the head, a sleeve forming a guide for the plunger rod and adjustable in said plate, a collar on the plunger rod to engage an end of the sleeve for limiting the down stroke of the plunger and plunger rod and so engage the bridge for limiting the return stroke of the plunger rod, and a spring arranged on the plunger rod between the sleeve and the collar for returning the plunger and plunger rod to normal position.

4. In a dispensing pump, the combination of a charge chamber, a discharge tube leading from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, non-adjustable and adjustable stop means located adjacent the upper end of the plunger rod, and non-adjustable means fixed to the plunger rod between said non-adjustable and adjustable stop means and providing a constant limit for the return stroke thereof by engagement with said non-adjustable stop means and providing a diversified limit for the down stroke of the plunger and plunger rod by engagement with said adjustable stop means.

5. In a dispensing pump, the combination of a charge chamber, a discharge tube leading from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, stop means located adjacent the upper end of the plunger rod, a sleeve adjustable in position on the plunger rod, and non-adjustable means affixed to the rod and providing a constant limit for the return stroke thereof by engagement with said stop means and providing a diversified limit for the down stroke thereof by engagement with said sleeve, a handle arranged alongside of said plunger rod, and links connecting said handle and said plunger rod for operating the rod.

6. In a dispensing pump, the combination of a charge chamber, a discharge tube leading from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, a head, stop means located within the head, a sleeve adjustable in position on the plunger rod and in the head, and means carried by the plunger rod and providing a constant limit for the return stroke thereof by engagement with said stop means and providing a diversified limit for the down stroke thereof by engagement with said sleeve.

7. In a dispensing pump, the combination of a charge chamber, a discharge tube leading from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, a head comprising a plate having a threaded opening, a sleeve threadedly engaging the opening in said plate and forming a guide for the plunger rod, stop means located adjacent the upper end of the plunger rod and arranged above said plate and means carried by the plunger rod and providing a constant limit for the return stroke thereof by engagement with said stop means and providing a diversified limit for the down stroke thereof by engagement with said sleeve.

8. In a dispensing pump, the combination of a charge chamber, a discharge tube leading from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, a head enclosing the upper end of the plunger rod, non-adjustable and adjustable stop means within the head, and means carried by the plunger rod and providing a constant limit for the return stroke thereof by engagement with said non-adjustable stop means and providing a diversified limit for the down stroke thereof by engagement with said adjustable stop means.

9. In a dispensing pump, the combination of a charge chamber, a discharge tube lead-

ing from the chamber, a plunger operating in the chamber, a plunger rod connected to said plunger, a head enclosing the upper end of the plunger rod, an abutment carried by the plunger rod and located within the head, stop members located at opposite sides of the abutment and in the path thereof to limit the travel of the plunger rod in opposite directions, one of said stops being adjustable in the direction of movement of the plunger rod.

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