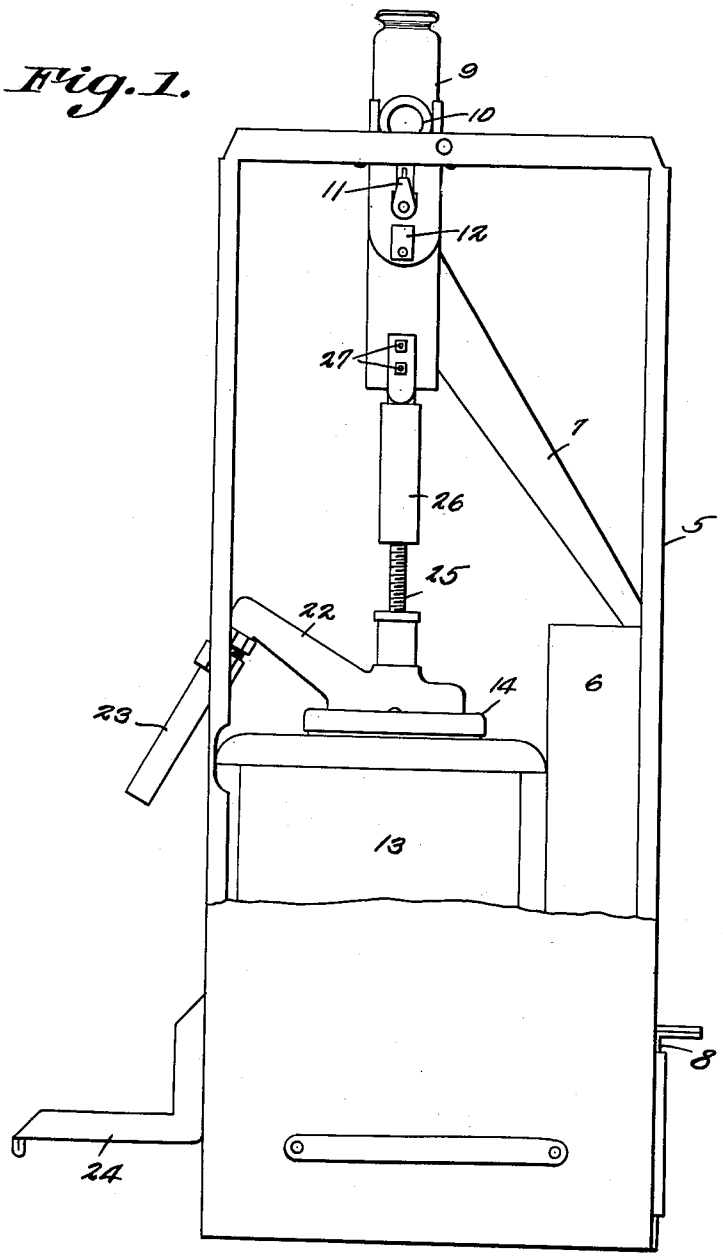
May 27, 1952 E. D. MINTON 2,598,188

ADJUSTABLE STROKE DISPENSING PUMP

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Fig. 1.



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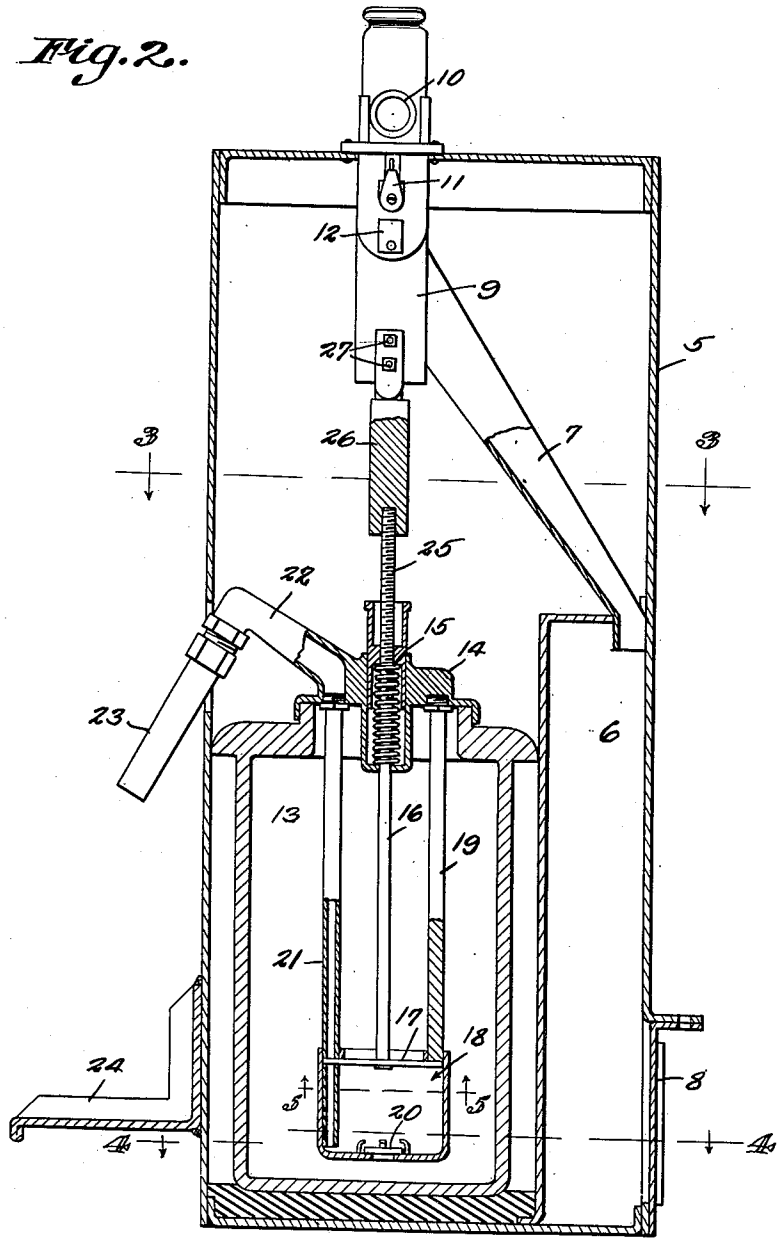
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ADJUSTABLE STROKE DISPENSING PUMP

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Fig. 2.



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ADJUSTABLE STROKE DISPENSING PUMP

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Fig. 3.

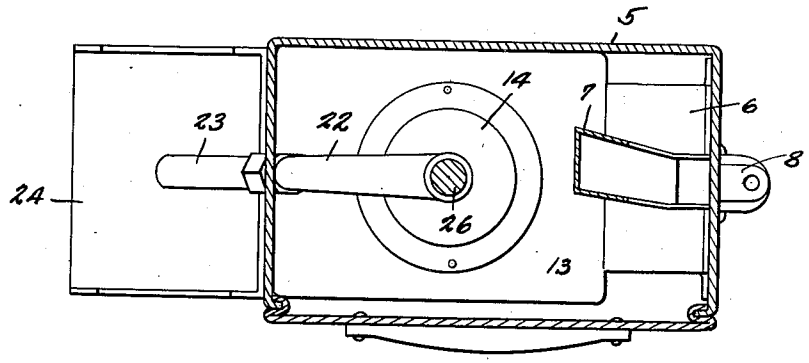


Fig. 4.

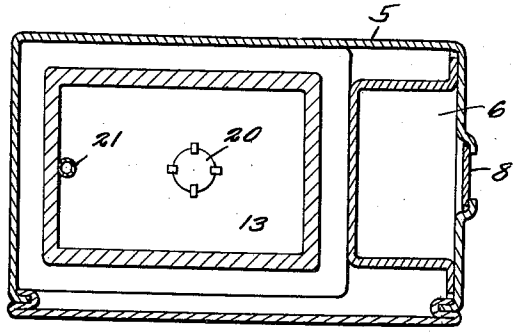
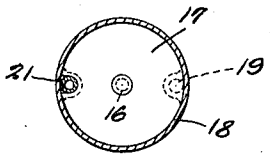


Fig. 5.



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Patented May 27, 1952

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UNITED STATES PATENT OFFICE

2,598,188

ADJUSTABLE STROKE DISPENSING PUMP

Ernest D. Minton, Ault, Colo.

Application July 1, 1947, Serial No. 758,270

1 Claim. (Cl. 222—173)

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This invention relates to vending machines, and more particularly to vending machines designed for vending a predetermined quantity of liquid with each operation of the machine.

An important object of the invention is to provide means including a check-controlled apparatus which is connected with a plunger in such a way that the liquid will be forced through the discharge spout of the apparatus, with each operation of the plunger.

A further object of the invention is to provide means whereby the quantity of liquid dispensed by the machine may be regulated, thereby adapting the device for use in vending various grades of liquor for a given cost.

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 drawings

Figure 1 is an elevational view of a liquid vending machine, constructed in accordance with the invention.

Figure 2 is a longitudinal sectional view through the machine.

Figure 3 is a sectional view taken on line 3—3 of Figure 2.

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

Figure 5 is a sectional view taken on line 5—5 of Figure 2.

Referring to the drawings in detail, the reference character 5 indicates generally the casing or housing, in which the apparatus is contained. As shown, the housing is provided with a compartment 6 that receives coins from the coin chute 7, the compartment 6 having an opening normally closed by means of the closure 8, whereby the coins may be removed therefrom.

The coin-control mechanism comprises a conventional slide member 9 formed with an opening 10 to accommodate the coin or check used in operating the device.

The reference character 11 indicates the spring finger which moves over the surface of the slide 9 and moves into the opening 10, as the slide 9 moves thereunder, restricting downward movement of the slide to operate the mechanism. When a coin is inserted in the opening 10, it is obvious that the spring finger 11 will ride

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over the coin and allow the slide 9 to make a full stroke to operate the plunger of the device in dispensing a predetermined quantity of liquid from the machine.

The reference character 12 indicates a spring finger which is adapted to extend into the opening 10, and force the coin from the opening, as the coin moves under the spring finger. The coin then passes through the chute 7 and falls into the compartment 6.

The reference character 13 indicates the tank in which the liquid dispensed is contained, and this tank is provided with an opening which is closed by the cap 14 which is formed with a central opening in which the coiled spring 15 is mounted, the coiled spring being also connected to the plunger rod 16 that moves through an opening in the cap, the lower end of the plunger rod, carrying the plunger 17 that moves into the chamber 18 supported within the tank 13. A rod 19 connects the chamber 18 with the cap 14 and supports the chamber 18 in spaced relation with the bottom of the tank 13. The chamber 18 is formed with an inlet opening which is normally closed by means of the valve 20 that opens inwardly. A discharge pipe 21 extends into the chamber 18 and terminates adjacent to the bottom thereof, so that when the plunger 17 moves downwardly within the chamber 18, the liquid in the chamber 18 will be forced upwardly through the discharge pipe 21 and into the nozzle 22 to be discharged through the spout 23 into a glass or other receptacle positioned on the shelf 24 directly under the spout 23.

The upper end of the plunger rod 16 is threaded as at 25 and is positioned in the threaded bore extending inwardly from one end of the coupling 26 that is secured to the lower end of the slide 9, by means of the bolts 27. Due to this construction, it is obvious that by rotating the plunger rod, an adjustment between the slide 9 and plunger rod may be made to vary the quantity of liquid dispensed with each operation of the plunger 17 and rod 16 connected therewith.

It will, of course, be understood that the coiled spring 15 operates to return the plunger and plunger rod to their normal positions, after they have been depressed to dispense a quantity of liquid therefrom.

It will further be seen that upon upward movement of the plunger 17, by the action of the spring 15, the quantity of liquid to be dispensed by the next operation of the plunger. will be drawn into the chamber 18.

In the operation of the device, a coin is inserted

in the coin opening 10, and the slide 9 is now forced downwardly which results in the plunger 17 moving to the bottom of the chamber 18. As the plunger moves downwardly, the liquid within the chamber 18 is forced upwardly through the pipe 21 and nozzle 22 where it discharges through the spout 23.

What is claimed is:

In a liquid vending machine, a housing, a liquid tank assembly mounted within the housing, a cap including a nozzle and spout closing the upper end thereof, a chamber within the tank into which liquid flows from the tank, a rod connected between the cap and chamber, the lower end of the rod providing a stop, a pipe connected with the nozzle, extending into the chamber through which liquid passes to the nozzle from the chamber, a plunger operating within the chamber forcing a quantity of liquid from the chamber, the lower end of said rod providing a stop limiting the upward movement of the plunger in said chamber, a plunger operating

mechanism comprising a rod secured to the center of said plunger, the latter rod having a threaded upper end, a vertically movable slide member, a coupling having a threaded bore into which the threaded end of the latter rod is positioned, whereby said plunger operating mechanism is adjusted regulating the movement of the plunger into said cylinder varying the quantity of liquid forced from the chamber.

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