

Nov. 11, 1924.

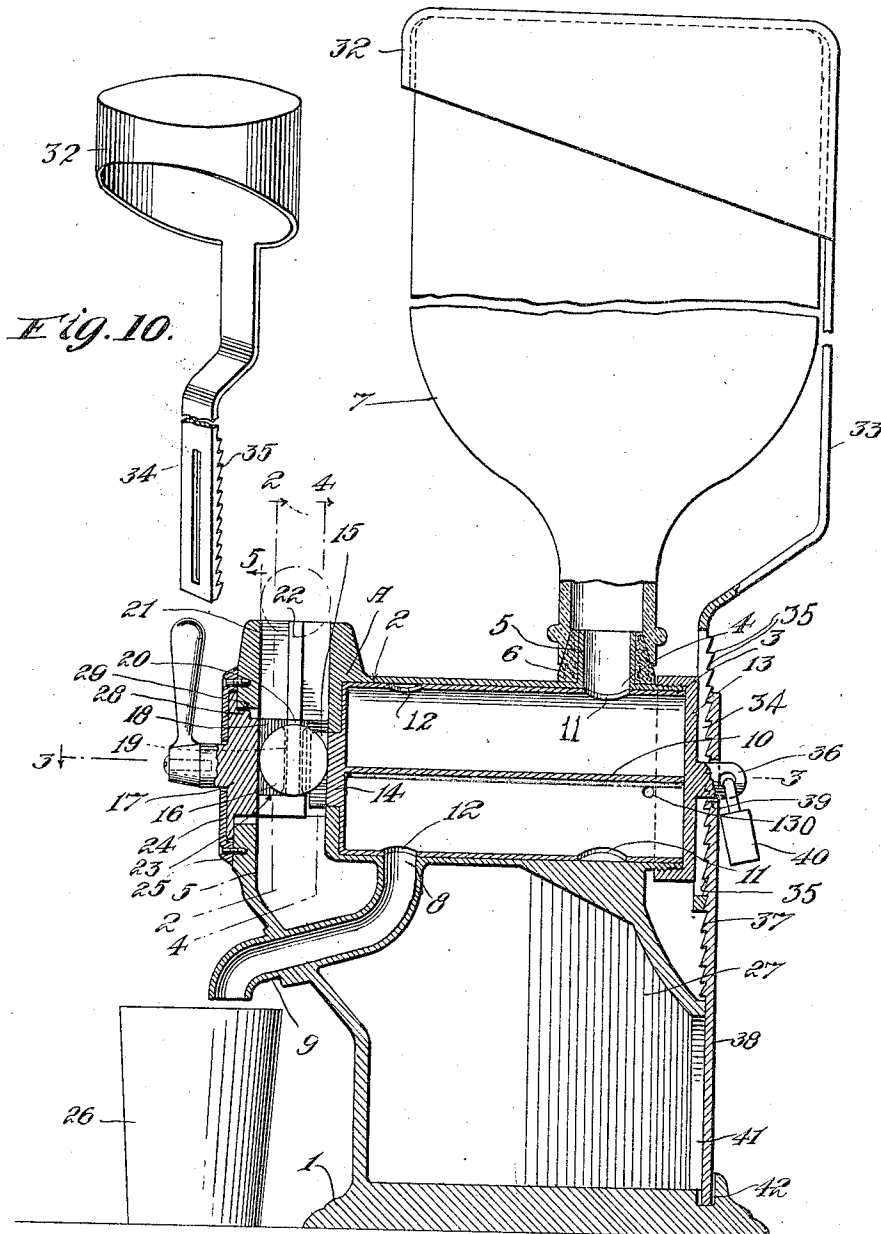
E. U. DANENHOWER
LIQUID DISPENSING DEVICE

1,514,834

Filed Oct. 17, 1922

3 Sheets-Sheet 1

Fig. 1.



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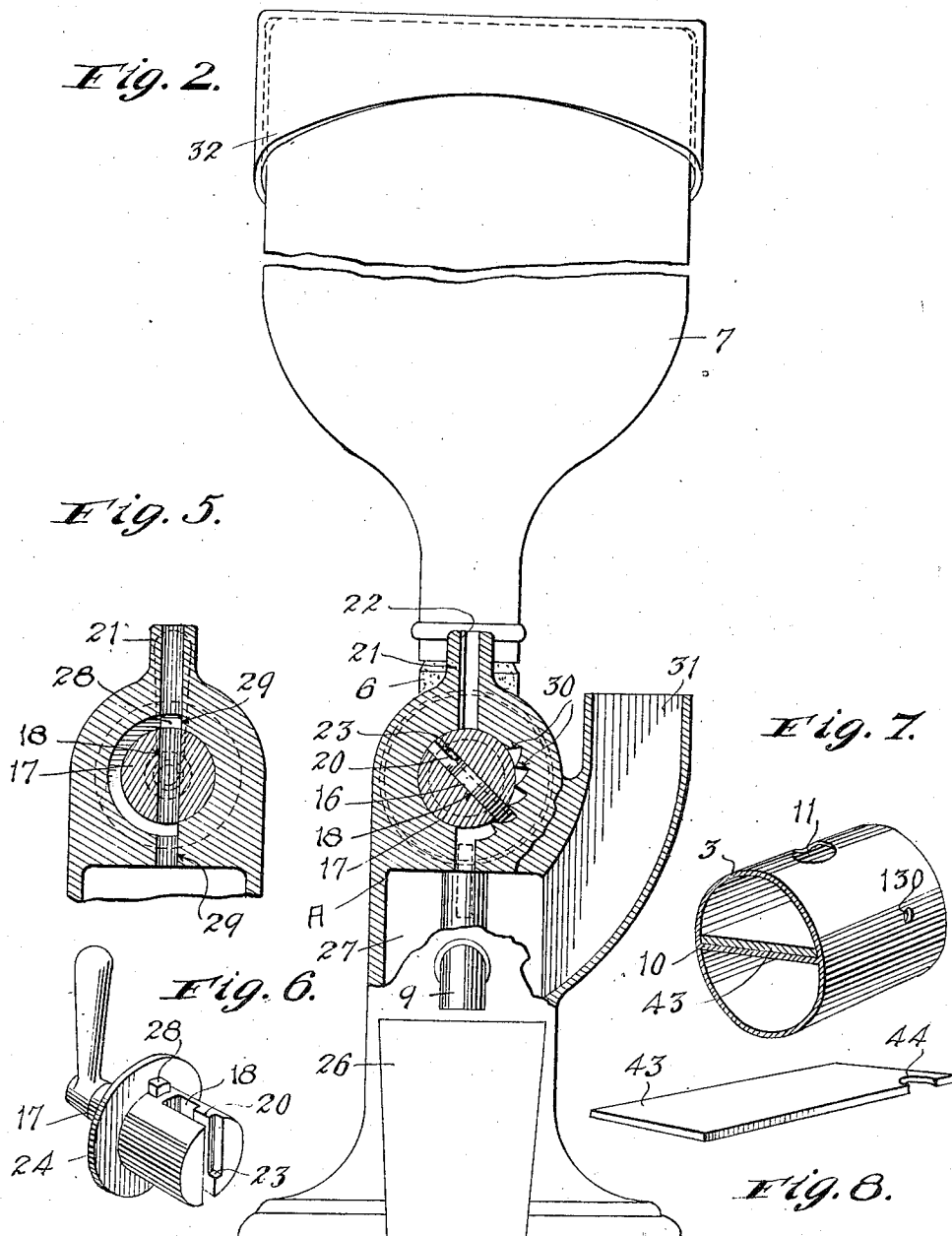
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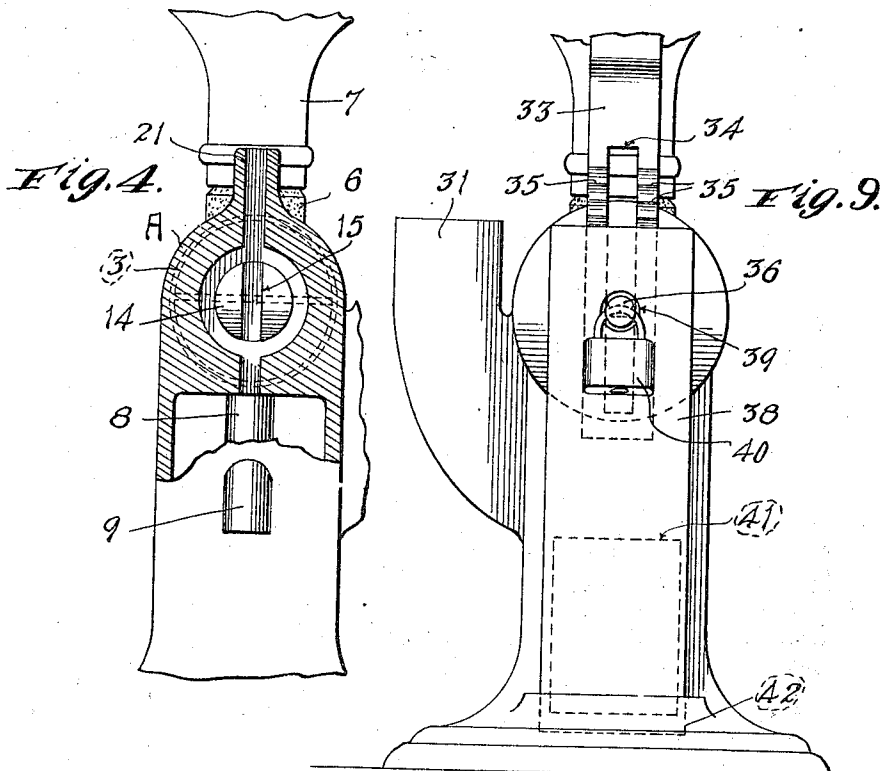
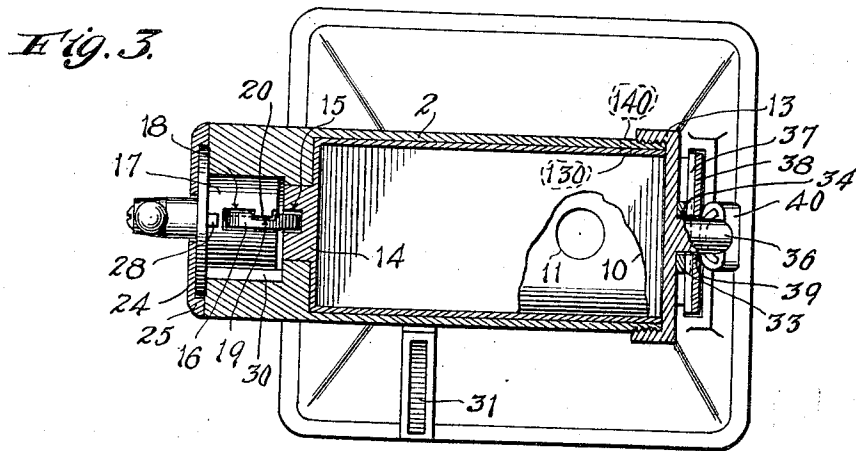
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE.

ELMER U. DANENHOWER, OF ATLANTIC CITY, NEW JERSEY.

LIQUID-DISPENSING DEVICE.

Application filed October 17, 1922. Serial No. 595,054.

To all whom it may concern:

Be it known that I, ELMER U. DANENHOWER, a citizen of the United States, and a resident of Atlantic City, in the county of Atlantic and State of New Jersey, have invented new and useful Improvements in Liquid-Dispensing Devices, of which the following is a specification.

This invention relates in general to a device for dispensing liquids, and more particularly to a check controlled device of the predetermined bulk type for dispensing beverages.

One object is to provide a device of this character embodying novel and improved features of construction including a small number of simple and inexpensive parts capable of easy assembly and disassembly for cleaning or adjusting purposes.

Further objects are to provide a device of the character described including a casing having a measuring compartment revoluble therein, said casing having an inlet and an outlet and said compartment being provided with an inlet and outlet adapted to register with the inlet and outlet of said casing, an operating handle for revolving said compartment, and improved means for varying the capacity of said measuring compartment; to provide such a device embodying a novel and improved construction to permit the insertion of filler plates into said compartment to vary the capacity thereof, and to obtain other results and advantages as may be brought out by the following description.

Referring to the accompanying drawings, in which like numerals of reference indicate the same parts throughout the several views,

Figure 1 is a vertical longitudinal sectional view through a liquid dispensing device embodying my invention;

Figure 2 is a transverse vertical sectional view through the same taken on the line 2—2 of Fig. 1;

Figure 3 is a horizontal sectional view taken on the line 3—3 of Fig. 1, the handle mechanism being shown in plan;

Figure 4 is a transverse vertical sectional view taken on the line 4—4 of Fig. 1;

Figure 5 is a fragmentary transverse vertical sectional view taken on the line 5—5 of Fig. 1;

Figure 6 is a detached perspective view of the operating handle;

Figure 7 is a detached sectional perspective view of the measuring cylinder;

Figure 8 is a detached perspective view of one of the plates for varying the capacity of the compartments of the measuring cylinder;

Figure 9 is a rear end elevation of the device, and

Figure 10 is a detached perspective view of the locking cap.

In the embodiment of the invention shown on the drawings the reference character A designates a casing provided with a base 1 adapted to rest upon any suitable support. The casing is provided at its upper end with a substantially horizontal cylindrical chamber 2 in which is revolubly mounted a cylinder 3 for measuring the liquid to be dispensed. The upper side of the casing is provided with an inlet opening 4 having a nipple 5 projecting therefrom and provided with suitable packing 6, such as cork, for receiving the mouth of a bottle or other suitable container 7. With this construction the liquid to be dispensed flows by gravity from the bottle or other container 7 through the inlet opening 4 of the casing into the measuring cylinder 3. The underside of the chamber 2 is provided with an outlet opening 8 having a spout 9 through which the liquid is discharged.

The measuring cylinder 3 is longitudinally divided by a partition 10 into two measuring compartments of equal capacity, each of said compartments being provided with an inlet opening 11 at one end adapted to register with the inlet opening 4 of the casing and an outlet opening 12 at the other end adapted to register with the outlet opening 8 of the chamber 2. The measuring cylinder 3 is removably mounted in the chamber 2 and in the present instance the casing A is provided with a cap 13 threaded upon one end of the chamber 2 for applying and removing the measuring cylinder to and from the compartment. With this construction it will be observed that when the measuring cylinder is in position to place the inlet opening 11 of one of the compartments in registry with the inlet opening 4 of the casing, the liquid will flow from the bottle 7 into said compartment. When the measuring cylinder is rotated to bring the outlet opening 12 of the said compartment into registry with the outlet opening 8 of the chamber 2 the liquid will flow by gravity from the said compartment through the outlet spout 9. The compartments of the

measuring cylinder 3 are preferably provided with vents 130 to register with a corresponding vent 140 in the casing to admit air to the compartments when they are emptying. It will be observed that the open-ended chamber 2 with the removable cap 13 and the open-ended compartments of the measuring cylinder 3 enable the measuring cylinder 3 to be easily and quickly removed from the chamber 2 for cleaning or other desired purposes, and the cap 13 serves as a closure for both the open ends of the measuring compartments and the open end of the chamber 2.

In accordance with the invention operation of the measuring cylinder 3 is controlled by a special check or disk. Thus the inner end of the cylinder 3 is provided with a projection 14 formed with a transverse groove 15 of a width sufficient to receive a special disk or check 16. An operating handle 17 is revolvably mounted in the casing A in substantially axial alinement with the measuring cylinder 3, said handle being provided at its inner end with a transverse groove 18 adapted to receive the check or disk 16. In the present instance the said check or disk is shown as substantially circular and provided on one side with a groove 19, and the groove 18 in the handle 17 is provided with a rib 20 corresponding in size to the groove 19 in the check, as clearly shown in Figures 1 and 3. It will thus be seen that when the check 16 is arranged in the grooves 18 and 15 of the handle and measuring cylinder, rotation of the handle will cause rotation of the measuring cylinder. The casing A is provided with a chute 21 for guiding the check to the grooves 18 and 15, said chute being formed with a rib 22 corresponding to and in substantial alinement with the rib 20 of the handle when the handle is in its normal position. The handle is formed at one end of the groove 18 with a shoulder 23 to support the check within the groove during the operation of the device, the said shoulder being of a width substantially equal to the depth of the rib 20. The handle 17 is provided with a flange 24 over which is arranged a plate 25 for securing the handle to the casing.

In the operation of the device the uppermost measuring compartment of the cylinder 3 will always be filled with liquid from the bottle 7 and the handle 17 is so positioned that the rib 20 is in alinement with the rib 22 of the coin chute and the shoulder 23 is disposed at the bottom end of the groove 18. When a purchaser desires to purchase a certain amount of the liquid, for instance a drink, he purchases a check 16. This check is then deposited into the coin chute 21. The descent of the check is stopped by the shoulder 23, and the handle 17 is then rotated in a clockwise direction, whereby the measuring cylinder 3 is revolved to bring the outlet

opening 12 of the uppermost measuring compartment into registry with the outlet opening 8 of the chamber 2. The liquid is thus discharged through the spout 9 into any suitable receptacle 26. It will thus be seen that the handle 17 must be rotated a half revolution in order to completely empty the measuring compartment, and when the handle is in this position the check 16 falls by action of gravity from the groove 18 into a check receiving chamber 27 in the base of the casing A. The handle is thus disconnected from the measuring cylinder and is rotated backwardly to its initial position. For limiting the rotation of the handle in both directions, the same may be provided with a lug 28 adapted to engage shoulders 29 on the casing.

To prevent backward rotation of the handle and the measuring cylinder 3 after the same has been partially rotated to discharge one of the measuring compartments, I provide a plurality of teeth or lugs 30 in the casing concentrically arranged with the handle 18. As the handle is rotated to empty one of the measuring compartments, the check 16 slides by action of gravity beneath the shoulders or teeth 30, as clearly shown in Figure 2, so that it is impossible to revolve the measuring chamber backwardly after the same has been partially emptied. This prevents cheating by the purchaser by refilling of the compartment after it has been partially emptied.

The particular form of check and the corresponding formation of the chute 21 and groove 18 prevent operation of the device with any other check or coin than the check 16. It will be observed that any check other than the check 16 must be of a thickness to enter between the rib 22 and the opposite side of the chute, and when of such thickness will pass directly through the groove 18 past the shoulder 23 and into the coin receiving chamber. For the purpose of varying the capacity of the measuring compartments of the cylinder 3, I may provide a plurality of plates 43 adapted to lie on the partition 10 of the cylinder, said plates being provided with notches 44 in one edge thereof to clear the vent openings 130. It will be obvious that by placing one or more of said plates in the measuring compartments, the capacity of the said compartments may be reduced as desired. To place the plates 43 in the compartments, it is merely necessary to remove the cap 13 from the end of the chamber 2.

If desired an auxiliary coin receiving chute 31 may be provided through which the money received for the checks 16 may be deposited into the check receiving chamber 27. In this way the owner of the device may accurately determine whether every quantity of liquid dispensed from the bottle has been paid for, since the total amount of

money should equal the value indicated by the checks.

It is a feature of my invention to provide means for locking the bottle 7 against unauthorized removal from the casing A. For this purpose I may provide a cap 32 formed to slip over the bottom of the bottle and formed with an arm 33 having a slot 34 to slip over the end of a lug 36 formed integral with or otherwise suitably secured to the cap 13 of the chamber 2. The slot 34 permits of longitudinal adjustment of the cap 32 so as to accommodate bottles of various sizes. The outer side of the arm 33 is provided with teeth or serrations 35 adapted to cooperate with corresponding teeth 37 on a plate 38 formed with an opening 39 to slip over the lug 36. The said lug is provided with an opening to receive the shackle of a padlock or the like 40, and it will be observed that when a padlock is arranged in the said opening movement of the cap 32 from the bottle is prevented. The plate 38 may be of a size to overlie the opening 41 of the check receiving chamber 27, so that the said plate serves to lock the bottle holding device 32 to the casing and also as a closure for the check receiving chamber. The lower end of the plate 38 is adapted to fit within a slot 42 in the casing to hold the same against being swung outwardly on the lug 36.

While I have shown and described the device as embodying certain details of construction, it will be understood that this is only for the purpose of illustrating the principles of the invention, and that many modifications and changes can be made in the detail construction of the device without departing from the spirit or scope of the invention. Therefore, I do not wish to be understood as restricting myself except

as required by the following claims when construed in the light of the prior art.

Having thus described the invention, what I claim is:

1. In a dispensing device, the combination with a casing including a container for substance to be dispensed, said casing having a substantially cylindrical chamber formed with an inlet and a diametrically opposite outlet for said material and open at one end, a measuring cylinder revolvably mounted in said chamber and longitudinally divided into two measuring compartments having diametrically opposite openings to successively register with said inlet and said outlet as the cylinder is revolved, said compartments also having open ends corresponding to the open end of the casing, and a removable cap mounted on the said open end of the casing to simultaneously close the same and said open ends of said compartments.

2. In a dispensing device, the combination with a casing including a container for substance to be dispensed, said casing having a chamber formed with an inlet and outlet for said material and open at one end, a measuring cylinder revolvably mounted in said chamber and formed with openings to register with said inlet and said outlet as the cylinder is revolved, said cylinder also having an opening in the end corresponding to the open end of the casing, a plate adapted to be removably inserted through said end openings in the casing and the cylinder to vary the capacity of the cylinder, and a cap to close the open end of said casing.

ELMER U. DANENHOWER.

Witness:

H. J. CUTHBERT.