

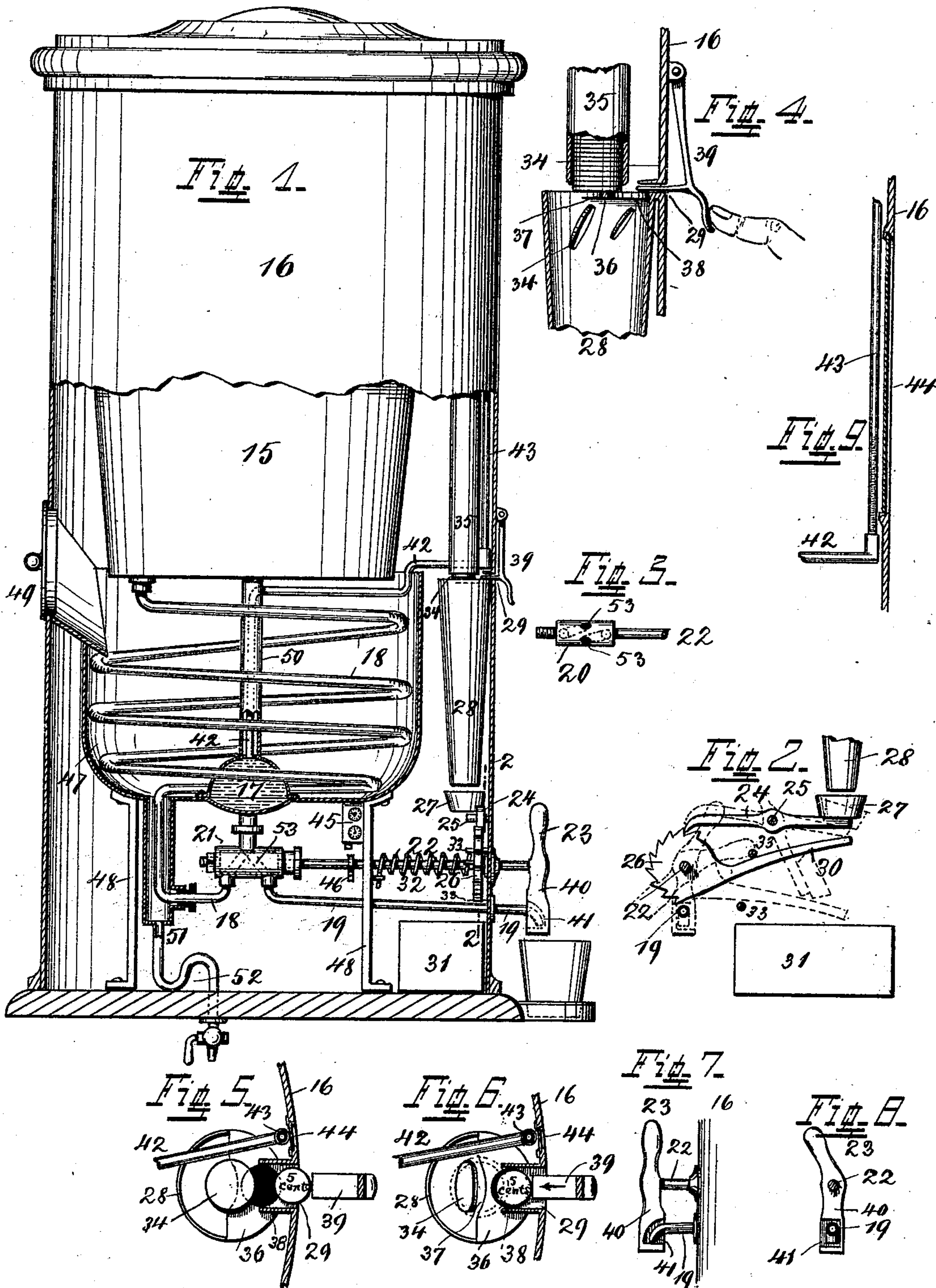
(No Model.)

A. LE G. PEIRCE.

COIN CONTROLLED LIQUID VENDING APPARATUS.

No. 516,611.

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# UNITED STATES PATENT OFFICE.

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## COIN-CONTROLLED LIQUID-VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 516,611, dated March 13, 1894.

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*To all whom it may concern:*

Be it known that I, ALMY LE GRAND PEIRCE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Coin-Controlled Liquid Vending Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in liquid vending apparatus where a reservoir containing the beverage to be sold, is provided with a mechanism which controls the discharge of a certain pre-determined quantity of said beverage and which mechanism cannot be operated until released or set free by other mechanism, and only when this latter is actuated by the weight of a certain coin which has to be inserted at a designated place.

My improvements comprise several features. One is to construct the locking mechanism in a way which prevents the drawing of more than one drink at one release without additional payment by operating the discharge valve repeatedly without closing it sufficiently each time to enable the locking mechanism to re-lock it. Another feature is the addition of auxiliary weights which are added automatically to each coin when deposited and must go with it in order to unlock the device, which is only responsive to this augmented weight. These auxiliary weights being excluded from view and inaccessible, make it very difficult to calculate the proper weight for spurious substitutes in case their use is attempted, to operate the machine. Other features are the protection of the exterior openings, that is the slot through which the coin is introduced, and the faucet opening, a gage to show the stage of the contents, a counting attachment which registers the drinks sold and means to cool the liquid.

In the following specification and particularly pointed out in the claims, is found a full

description of my invention, its operation, parts and construction, the latter being also illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation, partly in section of my device. Fig. 2 shows parts of the former view looking at right angles at it, and taken on a sectional line 2—2, inside of the housing. Fig. 3 shows a view of the valve detached. Fig. 4 is an enlarged sectional view of the upper part of the coin-chute, slot for introducing the coins and other adjacent parts. Figs. 5 and 6 are horizontal sections taken above the mouth of the coin-chute, and at a level with the coin slot showing an introduced coin in different positions. Figs. 7 and 8 are a side and rear-view, respectively of the handle whereby the valve, discharging the liquid, is operated. Fig. 9 shows in a vertical sectional elevation the gage which indicates the stage of the liquid.

15 is the reservoir containing the liquid to be dispensed, and inclosed in an outer housing 16.

17 is the measuring cup which holds the quantity to be sold at a time, and is supplied from the reservoir by a pipe 18. From the measuring cup the liquid discharges through a pipe 19, when a sale is effected. The supply and discharge of cup 17, are controlled by a valve 20, with two ports 53 contained in a housing 21, and connected to a rod 22, passing out through the outer housing, where it is provided with an operating handle 23. The operation of this handle, respecting valve 20, is controlled by a locking mechanism which responds to the weight of the proper coin, when the same is augmented with one of the auxiliary weights to be presently described. The locking mechanism consists substantially of a lever 24, pivoted at 25, and so balanced as to have one of its ends normally engaged with the teeth of a ratchet wheel 26, affixed to rod 22, which carries valve 20. The other end of this lever carries a receiver or basket 27, situated immediately below the lower end of coin chute 28, so that when a coin is introduced through slot 29, it will drop onto this basket. If the proper weight is received by this latter, the lever will be only sufficiently



depressed to disengage from and unlock the ratchet-wheel without however permitting the basket to unload at once, whereby the purchaser is given sufficient time to operate the valve-handle and obtain his drink before the mechanism relocks again. This feature is accomplished by an arm 30, which is so connected as to form a part of rod 22, so as to participate in its movements, and upon the end of which arm the basket drops when receiving the coin, as shown most plainly in Fig. 2. This limited movement of lever 24, merely unlocks rod 22, and renders the valve accessible for operation, in which position it remains until handle 23 is turned. When such is done, arm 30, moves with it by reason of its connection, closely followed by basket 27 which when sufficiently inclined unloads its contents into a suitable money receiver 31. The liberated lever 24, drops back again onto the ratchet wheel, and when the released handle 23, is returned by a spring 32, it will lock this ratchet wheel at any point wherever it comes to a stop. This arrangement prevents the partial return of handle 23, for the purpose of filling cup 17, and obtaining the illegitimately and additional drink before lever 24, has relocked the device, and before it is again released by the deposit of an additional coin. In case such an attempt is made, valve 20, and handle 23, cannot be operated, that is opened, from such partial return only, by reason of the teeth of ratchet wheel 26, one of which rests always against the end of lever 24, and which engagement cannot be broken except by the introduction of a new coin.

33 are stops which limit the movement of arm 30, and the valve and its operating handle.

To prevent any lighter coin from being used to unlock the device, I provide auxiliary weights 34, stored in a receiver 35, and located above the coin chute. They are partly supported by a platform 36, on top of the coin chute, and which is cut out, as shown at 37, and provided with a hole 38, through which the inserted coin drops. The receiver 35, terminates a sufficient distance above platform 36, so that the lowermost of the weights 34, is free on all sides and capable of being pushed out from underneath. This mechanism operates as follows:—Coin slot 29, is normally closed and protected by a swinging pusher 39, which must be pulled out before a coin can be introduced. After such is done and a coin is placed, the latter is moved in by pusher 39, when on its passage it encounters the lowest one of weights 34, pushing the same off from its support on platform 36, and causes it to drop down through the cutout 37, concurrently with which the coin drops through opening 38. The two in due time reach the basket 27, and by their combined weight, actuate lever 24. An object heavier than the designated coin, which is usually larger, is excluded by the proper size of the coin-slot, while a lighter object, which is gen-

erally smaller, may not reach weight 34 at all to move it from its position, but even if it does, their combined weight would be insufficient to affect the closely balanced lever.

Inasmuch as weights 34 cannot be seen, persons trying to tamper with this machine will be unable to find out the true cause which frustrates their attempts, and they therefore will soon desist. Nor can they determine the proper weight necessary, inasmuch as the auxiliary weights are beyond their control. Coin-chute 28, is of liberal dimensions so that the two objects or any other object mischievously stuffed in, will pass freely through without causing obstruction.

Children sometimes playfully stop up the open faucet end with paper or other matter. This is prevented by an extension 40, forming a part of handle 23. It is hollowed out on the side toward the faucet as shown at 41, and closes over the latter as long as the handle is in its normal position. This prevents access to the faucet, which becomes only free when the insertion of the proper coin liberates the mechanism of the handle.

For the purpose of permitting the air to escape from measuring-cup 17, while filling, a customary vent-tube 42, is provided which extends up above the highest level of the liquid in reservoir 15. Part of this tube, I bring forward toward the front of the housing, and make its upper part of glass tube 43, whereby it serves as a gage to show the stage of the contents of reservoir 15. To make it visible, that part of the housing in front of this glass tube is provided with an inspection opening 44, closed by glass.

The number of drinks sold is counted by a registering attachment 45, of customary construction, which is actuated by a projection 46, on rod 22, coming in contact with the former every time the valve, and handle 23 is operated.

The liquid is cooled by an ice-chamber 47, supported on legs 48, and located below reservoir 15. It receives its supply through an opening 49, in the outer housing. Pipe 18, before it reaches cup 17, assumes the shape of a coil, which traverses the ice-chamber so that all liquid before reaching cup 17, is subjected to a cooling process. This cooling is extended by the location of cup 17, the larger part of which reaches up into this ice-chamber as shown.

50 is a tube surrounding the lower part of the vent pipe to protect it when the ice is thrown in.

51 is an outlet pipe for the drip-water, produced by the melting ice. It is provided with a trap 52, to prevent the entrance of warm air when this pipe is open.

Auxiliary weights 34, may serve as a means to count the drinks in cases where it is not desirable to use the registering attachment 45 mentioned above.

Having described my invention, I claim as new—



1. In a coin-controlled liquid-vending apparatus, the combination of an outer housing 16, which incloses all the parts of the device, a storage reservoir 15, a measuring cup below the latter, a valve-chamber 21, in communication therewith, a supply-pipe 18, and a discharge-pipe 19, the latter passing out through housing 16, leading to and from this valve-chamber, a valve 20, having two ports 53, occupying the latter, a rotating handle-rod 22, connected to one end of this valve and extending out through housing 16, a spring, to return this handle-rod to its normal position after each operation and coin-controlled mechanism, adapted to lock or release the handle-rod.

2. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a measuring cup communicating therewith, a discharge pipe 19, for the measuring cup, a valve controlling the supply and discharge of the latter, a rotating valve rod 22, connected to this valve, a handle 23, and a ratchet wheel 26, connected to this valve rod, and a coin-controlled lever 24, capable of engagement with this ratchet-wheel.

3. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a measuring cup communicating therewith, a discharge pipe 19, for the measuring-cup, a valve controlling the supply and discharge of the latter, a rotating valve rod 22, connected to this valve, a handle 23, ratchet wheel 26, and an arm 30, connected to this valve rod, and a coin-controlled lever 24, capable of engagement with this ratchet wheel, and limited in its preliminary movement when disengaging from said ratchet wheel by this arm 30, for the reasons specified.

4. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a measuring cup communicating therewith, a discharge pipe 19, for the measuring cup, a valve controlling the supply and discharge of the latter, a rotating valve rod 22, connected to this valve, a handle 23, and a ratchet wheel 26, connected to this valve rod, a spring to return this latter to its normal position, after operation, stops 33, to limit its movements, and a coin-controlled lever 24, capable of engagement with this ratchet wheel.

5. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a measuring cup connected therewith, a discharge pipe for the measuring cup, means to control the supply and discharge of this latter, coin-actuated mechanism controlling the operation of the means before mentioned, a coin-chute accessible from the outside, and communicating with the mechanism last mentioned, and auxiliary weights 34, capable of being released with each insertion of a coin, to augment the latter's weight for the purpose of actuating the coin-controlled mechanism.

6. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a

measuring cup connected therewith, a discharge pipe for the measuring cup, means to control the supply and discharge of this latter, coin-actuated mechanism controlling the operation of the means before mentioned, a coin-chute accessible from the outside, and communicating with the mechanism last mentioned, auxiliary weights 34, capable of being released with each insertion of a coin, to augment the latter's weight for the purpose of actuating the coin-controlled mechanism, means to support these weights in a manner to cause them to enter readily the coin-chute, when they move from their support, and a pusher 39, capable of entering the coin slot 29, to enable the inserted coin to release one of the auxiliary weights.

7. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a measuring cup connected therewith, a discharge pipe for the measuring cup, means to control the supply and discharge of this latter, coin-actuated mechanism controlling the operation of the means before mentioned, a coin-chute accessible from the outside, and communicating with the mechanism last mentioned, auxiliary weights 34, capable of being released with each insertion of a coin, to augment the latter's weight for the purpose of actuating the coin-controlled mechanism, a receiver for these weights, a platform 36 on top of the coin-chute serving as a support for these weights, and cut out in the manner shown, and a pusher 39, capable of entering the coin slot 29, to enable the inserted coin to push one of the auxiliary weights off of platform 36.

8. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a measuring cup connected therewith, a discharge pipe for the measuring cup, means to control the supply and discharge of this latter, coin-actuated mechanism controlling the operation of the means before mentioned, a coin-chute accessible from the outside, and communicating with the mechanism last mentioned, and a coin-controlled handle 23, having an extension 40, cut out and shaped in a manner to normally close the exterior opening of the discharge pipe from the measuring cup.

9. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a measuring cup connected therewith, a vent-tube 42, and a discharge pipe for the measuring cup, means to control the supply and discharge of this latter, coin-actuated mechanism controlling the operation of the means before mentioned, a coin-chute accessible from the outside, and communicating with the mechanism last mentioned, a gage 43, to show the stage of the contents of reservoir 15, and consisting substantially of the upper part of the vent-tube aforesaid mentioned, which is bent in the manner shown, and an inspection opening 44, in the outer housing.

10. In a coin-controlled liquid-vending apparatus, the combination of a reservoir 15, a



measuring cup connected therewith, a discharge pipe for the measuring cup, a valve actuated by a rod 22, to control the supply and discharge of this measuring cup, coin-actuated  
5 mechanism controlling the operation of the valve and valve-rod before mentioned, a coin-chute accessible from the outside, and communicating with the mechanism last mentioned, a registering attachment 45, secured  
10 within suitable proximity of rod 22, and a projection 46, on this latter, capable of actuating the registering attachment with each operation of rod 22.

11. In a coin-controlled liquid vending apparatus, the combination of a reservoir 15, an  
15 ice-chamber below it, a measuring cup 17, in the lowest part of the latter, a supply-pipe and

cooling coil 18, traversing the ice-chamber and connecting the measuring cup with the reservoir, a discharge pipe from the measuring cup, 20 located below the latter and the cooling coil, means to control supply and discharge of the measuring-cup, coin-actuated mechanism controlling the operation of the means before mentioned and a coin chute accessible 25 from the outside and communicating with the mechanism last mentioned.

In testimony whereof I affix my signature in presence of two witnesses.

ALMY LE GRAND PEIRCE.

Witnesses:

CHAS. SPENGEL,

CHAS. MCCARTHY.