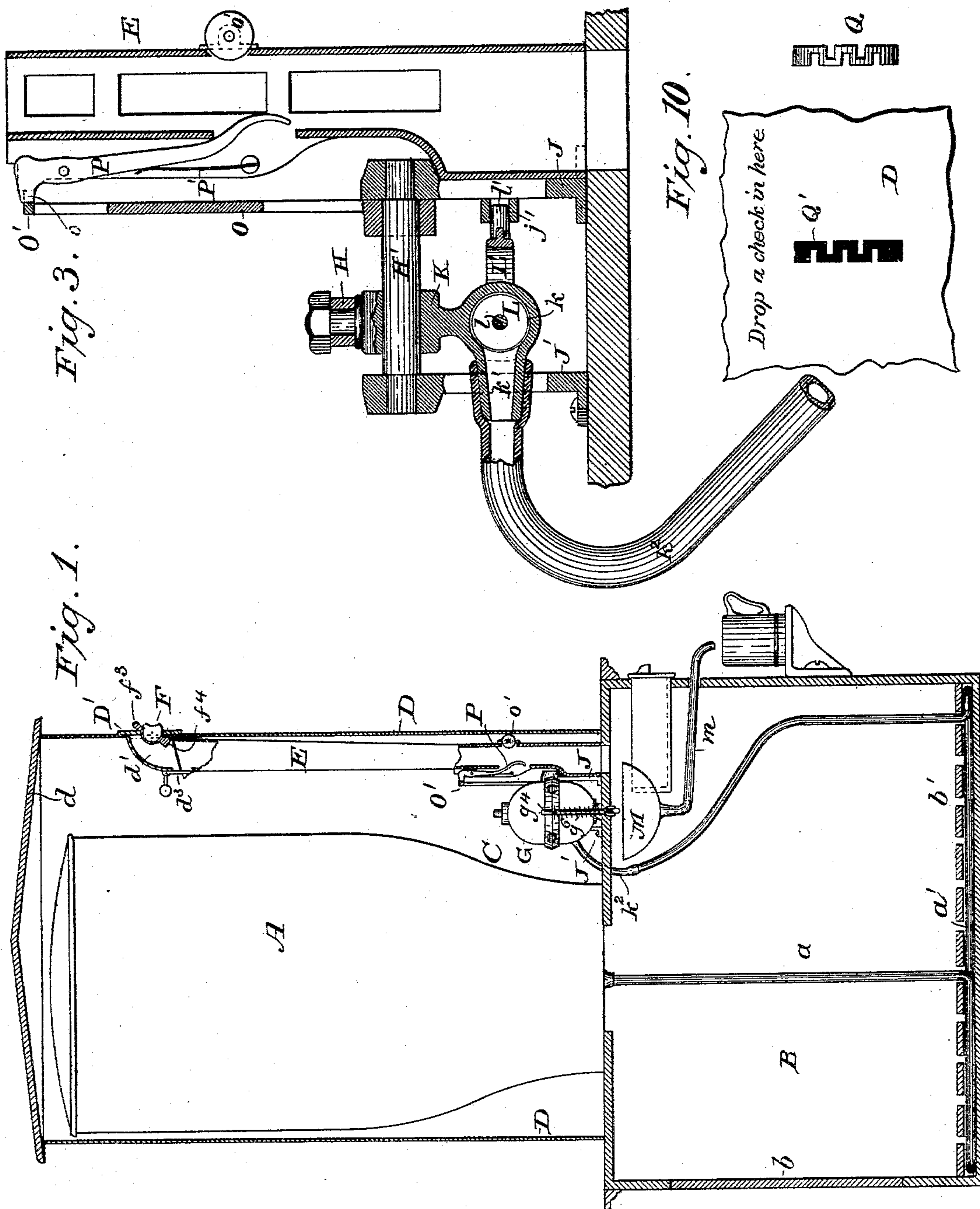


3 Sheets—Sheet 1.

No. 401,250.

Patented Apr. 9, 1889.



Witnesses.

Chas. E. Gorton.
C. A. Skinkle.

Inventor,
Albert M Butz
Ole Pederson
By their Attorney,
Wm a. Skrinkle

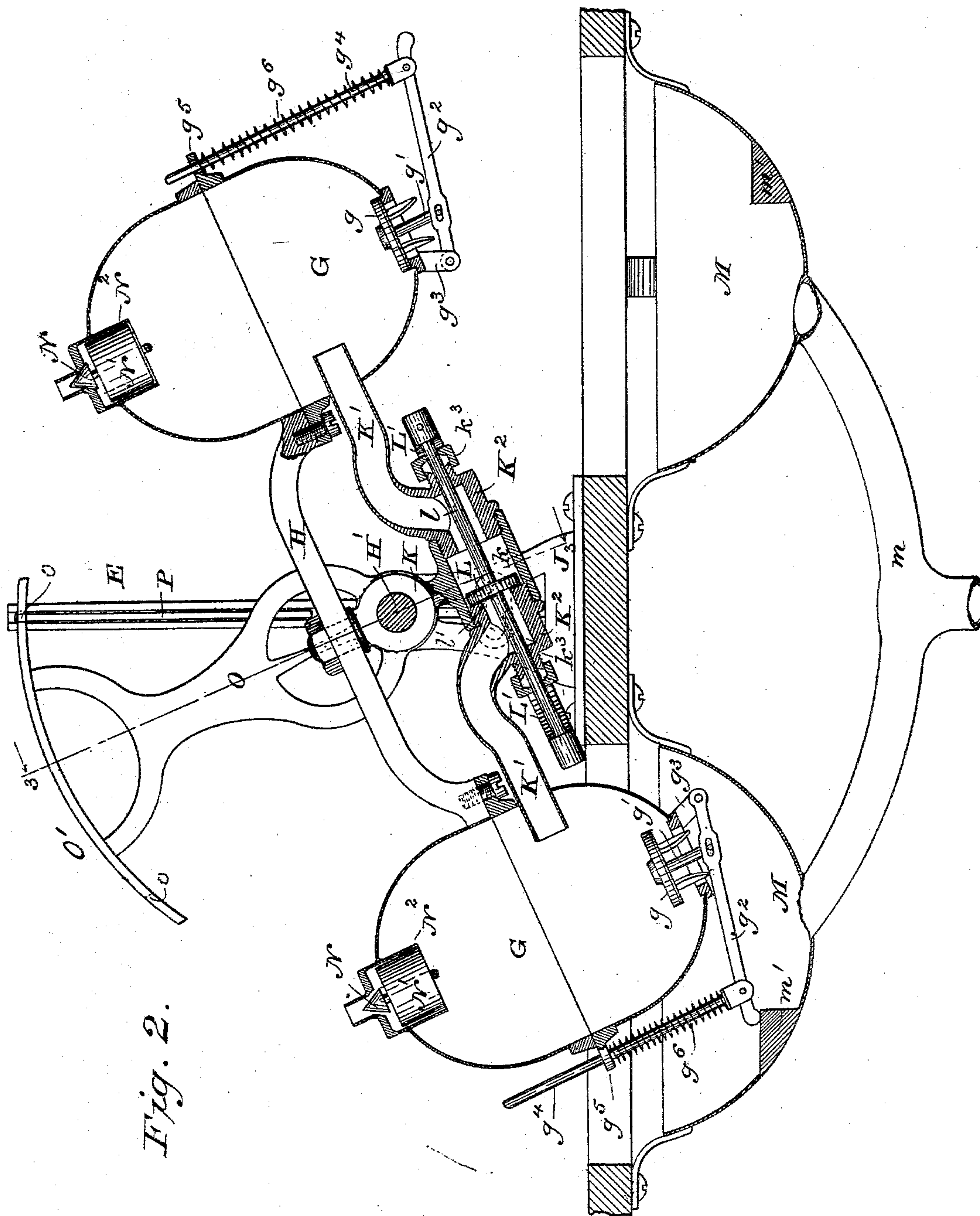
(No Model.)

3 Sheets—Sheet 2.

A. M. BUTZ & O. PEDERSON.
LIQUID VENDING APPARATUS.

No. 401,250.

Patented Apr. 9, 1889.



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3 Sheets—Sheet 3.

No. 401,250.

Patented Apr. 9, 1889.



Chas. E. Gorton.
C. A. Skinkle.



Wm a. Skinkle

UNITED STATES PATENT OFFICE.

ALBERT M. BUTZ AND OLE PEDERSON, OF CHICAGO, ILLINOIS, ASSIGNORS
TO THE BUTZ DRINKING FOUNTAIN COMPANY, OF SAME PLACE.

LIQUID-VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 401,250, dated April 9, 1889.

Application filed December 26, 1888. Serial No. 294,614. (No model.)

To all whom it may concern:

Be it known that we, ALBERT M. BUTZ and OLE PEDERSON, citizens of the United States, residing at Chicago, Cook county, State of Illinois, have invented certain new and useful Improvements in Liquid-Vending Apparatus, of which the following is a specification.

Our invention relates to a measuring or service device which may be tripped into action by the insertion of a coin of given size, or any other article of like nature which possesses the requisite size, shape, and weight.

It consists of a liquid-vending device composed of a series of cups supported at the ends of rocking arms, which radiate from a horizontal axis, a liquid-supply pipe, a valve which directs the flow of liquid from the pipe into one of the cups and cuts it off from the others, a quadrant supported from the horizontal shaft and notched for engagement by a detent lever or dog pivoted in a coin-chute, a basin to receive the liquid discharged from the cups, a pipe leading therefrom to the exterior of a casing which incloses the entire mechanism, and is slotted for the admission of the coin at the top of the chute, a device for guarding the entrance of the chute against the admission of improper articles, and of various details of construction and operation, as will be hereinafter more fully set forth. Its main objects are to dispense a certain quantity of liquid at each actuation of the device, which is released by the insertion of a coin or similar article, to prevent the insertion of improper articles in the coin-chute, and to so thoroughly incase the entire mechanism that it cannot be tampered with, the entrance to the coin-chute and the liquid-discharge spout being the only portions visible or accessible from the outside of the casing.

The accompanying drawings show our invention in the best form now known to us; but many obvious changes within the skill of a good mechanic might be made, and some of the parts used without the others and in machines differing in construction from ours, without departing from the spirit of our invention, as set forth in the claims at the end of this specification.

Figure 1 is a view, partly in vertical section,

of a water-serving apparatus with our invention applied thereto. Fig. 2 is an enlarged detail view, in vertical section, of the measuring mechanism, &c. Fig. 3 is a vertical transverse section of the same on the line 3 3 of Figs. 2, 4, and 5. Fig. 4 is a top plan of the same. Fig. 5 is a longitudinal section through the valve-chamber, &c. Fig. 6 is a front view of the entrance slot and gate at the upper end of the coin-chute. Fig. 7 is a vertical section. Fig. 8 is a rear view, and Fig. 9 is a horizontal section, of the same. Fig. 10 is a view of a modified form of coin-slot and a suitable check therefor.

We have illustrated our invention as applied to a water-serving apparatus, especially adapted for use in public and office buildings and on the streets, &c.

The reservoir A is preferably a stoneware jar, and may be supplied in any suitable manner. It stands upon or above an ice-box, B, which may be supplied with ice through the door b, which is provided with a lock. A pipe, a, leads from the bottom of the jar down to the bottom of the box, where it is formed into a coil, a', and thence leads up to the measuring device C. The coil is covered with a rack, b', to protect it from injury by the ice which is piled upon said rack.

The jar and mechanism above the ice-box is surrounded by a casing, D, having a removable cover, d, which we securely fasten in any proper manner with a lock. At a suitable height above the measuring mechanism the casing is perforated to admit the coins into the upper end of the chute E. This entrance is guarded by a gate, F, consisting of two circular disks, f, connected at their edges by a shell, f', which extends slightly more than half-way around their circumference, thus making a half-cylinder inclosed at its ends and open at its outer edge. The receptacle thus formed is of just the proper size and shape to receive through its front open edge the coin by which the machine is to be tripped into action. This receptacle or gate is snugly fitted into a slot in a plate, D', secured to the outer face of the casing D, and is carried by central pivot-pins, f², upon which it revolves. It has a projecting finger-piece, f³, on its outer

side at the top, and a counter-weight, f^4 , on its inner side, to return it to and hold it in its receiving position after it has been turned to discharge a coin into the chute. The mouth
 5 or upper end of the chute is formed by side lugs, $d' d'$, which project from the plate D' into the casing, and are inclosed at their outer edges by the web d^2 and a pivoted gate, d^3 . The chute proper terminates just below the
 10 lugs $d' d'$, and has inclined flaring upper edges, between which hangs the lower end of the gate, as shown. This gate is held closed by a counter-weight, d^4 , with sufficient force to resist the impact of a coin, but will yield
 15 to permit the passage of wads of paper, nails, or any other improper matter too large to pass through the chute, that might be forced through the outer slot by mischievously-disposed persons. Any attempt to push such
 20 matter down into the chute with a stick inserted through the slot would crowd it down the inclined top of the chute against the gate d^3 , which would yield and permit it to pass out, thus avoiding the clogging of the chute.
 25 The measuring device preferably consists of two vessels, G , supported by a lever, H , mounted on a rock-shaft, H' , which is journaled in bearings in two standards, $J J'$. The lever is attached at its center to a casting, K ,
 30 which projects below the shaft and forms a valve-chamber, k , having a projecting nipple, k' , which is connected to the supply-pipe a by a short section of rubber or other flexible tubing, k^2 , which permits the chamber
 35 to swing when the shaft is rocked. Pipes K' , leading from the ends of this chamber into the vessels G , are connected to the chamber by screw-plugs K^2 , the adjacent faces of which form seats for a cut-off valve, L , which
 40 moves from one seat to the other as the chamber is rocked. This valve is mounted on a shaft, l , which passes out through stuffing-boxes k^3 in the plugs, and has mounted upon its ends a yoked casting, L' , which spans
 45 around the valve-chamber and carries at its center a projecting pin, l' , which takes into a curved guide-slot, j' , on the standard J . This slot will permit the yoke and valve to move a limited distance with the valve-chamber
 50 when the latter swings, but the pin l' reaches the end of the slot before the chamber has accomplished its full movement, and consequently the valve is checked, while the chamber continues to move until the position of
 55 the valve is changed from one end of the chamber to the other.

The vessels G rock up and down around the axis H' , being filled when at their highest elevation and discharging at their lowest, so that
 60 the greater weight of the filled vessel will raise the empty one. The mechanism is locked after each movement and then tripped into action in a manner that will hereinafter be explained. Immediately beneath the ves-
 65 sels are receiving-basins M , into which they discharge their contents. These basins are connected to an off-take pipe, m , which leads

to the exterior of the casing, as shown. One basin large enough to extend beneath both vessels might be used instead of the two we 70 show.

In the bottom of each vessel G is an opening closed by a valve, g . This valve has a stem, g' , connected to a lever, g^2 , pivoted to a lug, g^3 , depending from the vessel, and con- 75 nected at its free end to a rod, g^4 , which passes through a guide-lug, g^5 , on the vessel. A spring, g^6 , which surrounds the rod, presses down on the end of the lever and forces the valve firmly onto its seat. 80

When the mechanism is tripped, the filled vessel falls rapidly to its lowest position, bringing the end of the lever g^2 in contact with a projection, m' , in the basin, which stops the lever before the vessel completes 85 its movement. This compresses the spring and forces open the valve, permitting the liquid to flow out of the vessel and into the basin. When the mechanism is again tripped, the now emptied vessel will rise to be refilled, 90 and the force of the spring g^6 , put under compression on the downward movement, will expedite the starting of the vessels. An air-vent or check-valve, N , mounted on a float, N' , which is supported in a cage, N^2 , at the 95 top of each vessel, permits the air to escape while the vessel is being filled and to re-enter when it is being emptied. Upon the shaft H' is mounted an arm, O , at the top of which is a segment, O' , which stands in the path of 100 a catch-lever, P , pivoted in the walls of the chute. The lever is forced out against the segment by a spring, P' , and falls into notches o at its ends to lock the measuring mechanism at the end of its movement. The lower 105 end of the lever is curved and projects into the chute, standing in the path of a descending coin, as shown. Immediately opposite this end of the lever a wheel or roller, o' , is pivoted between the walls of the chute, and 110 also projects slightly into it, so that the coin in forcing its way down between the end of the lever and the wheel meets with less frictional resistance against the rolling surface of the wheel than if contacting with the wall. 115 The coin falls against the lower end of the lever, forcing it out and withdrawing the upper end from engagement with the segment, thus freeing the mechanism and allowing it to vibrate. 120

Instead of using coins or similar articles of the common flat-disk pattern to trip the mechanism, and using the gate device heretofore described to guard the entrance to the chute, we may employ disks of metal, Q , (see Fig. 10,) 125 grooved or corrugated on one or both sides, and corrugate the edges of the slot Q' to correspond, so that it shall not present a straight opening, but an irregular one, filled with wards, like a common key-slot. This would 130 make it very difficult to insert any foreign substance into the slot. With this last arrangement each customer or patron of the fountain would have to be supplied with a

quantity of the disks or "checks" beforehand.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the vibrating vessels, 5 and the rock-shaft by which they are supported, with means by which the vessels are alternately filled at their highest and discharged at their lowest elevations, the notched segment, also supported by the rock-shaft, the 10 coin-chute, and the latch pivoted between its walls and engaging the notches in the segment, substantially as and for the purpose hereinbefore set forth.

2. The combination of the liquid-carrying 15 mechanism, the coin-chute, the latch pivoted between the walls of the coin-chute and engaging the liquid-carrying mechanism with one of its ends, while the other projects into the chute, with a roller, also pivoted between 20 the walls of the chute and projecting slightly into it, substantially as and for the purpose hereinbefore set forth.

3. The combination of the casing having a

coin-slot, the gate pivoted in the slot, closed at its inner but open at its outer edge, and 25 adapted to receive and contain but a single coin, means for holding the gate in a position to normally close the slot, the coin-chute within the casing, and the yielding gate d^3 , all arranged substantially as hereinbefore set 30 forth.

4. The combination of the casing having a slot therein, the coin-chute terminating below the slot and having its upper end inclined and formed with flaring edges, the projecting 35 lugs d' d' , and the weighted gate d^3 , pivoted between them, substantially as and for the purpose hereinbefore set forth.

In testimony whereof we hereto affix our signatures in presence of two witnesses.

ALBERT M. BUTZ.
OLE PEDERSON.

Witnesses:

CHAS. E. GORTON,
WM. A. SKINKLE.