No. 768,509. PATENTED AUG. 23, 1904.

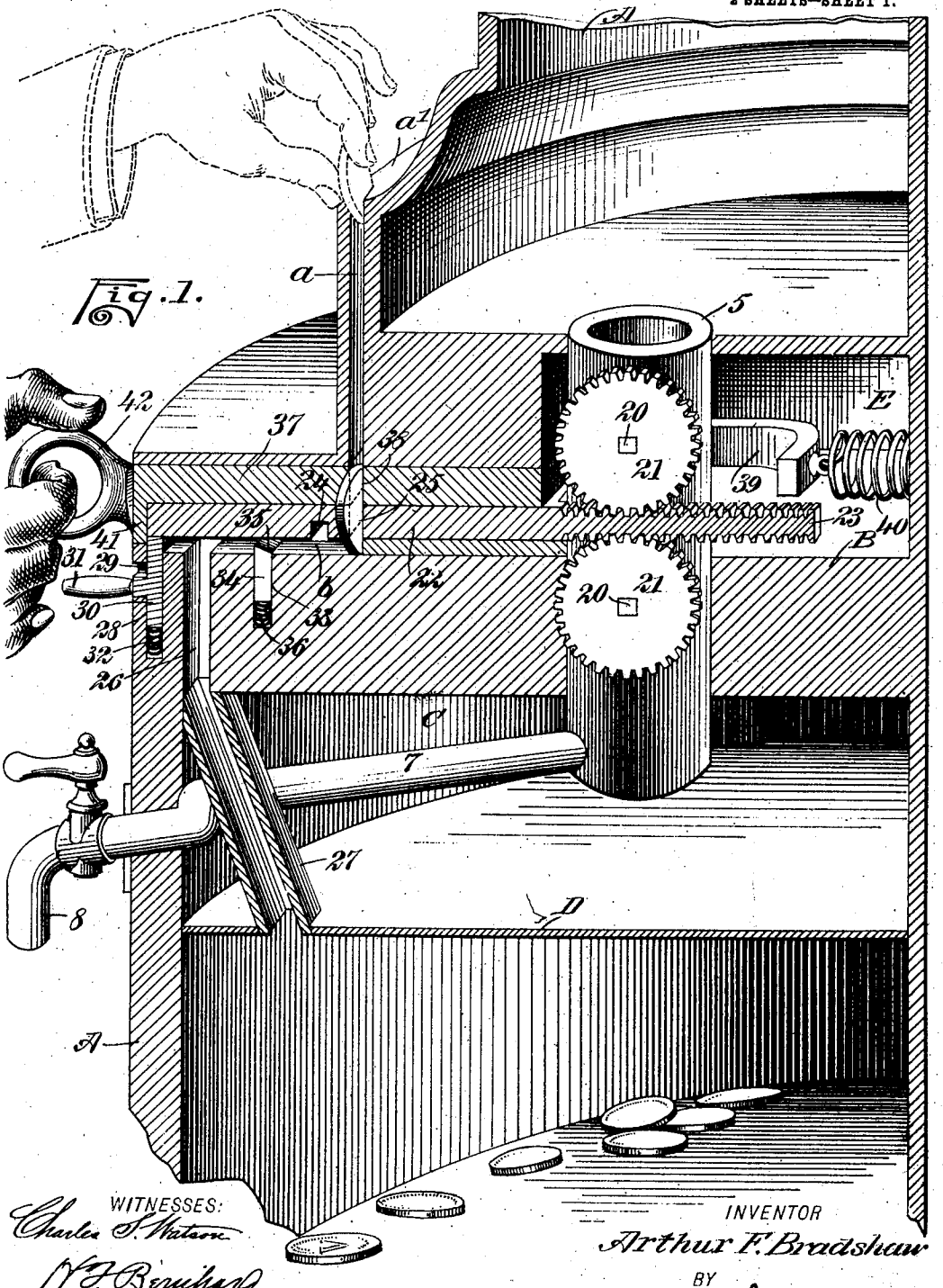
A. F. BRADSHAW.

COIN CONTROLLED LIQUID DISPENSING APPARATUS.

APPLICATION FILED APR. 20, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

Charles S. Watson

W. J. Brunhaup

INVENTOR

Arthur F. Bradshaw

BY

Munn & Co

ATTORNEYS.

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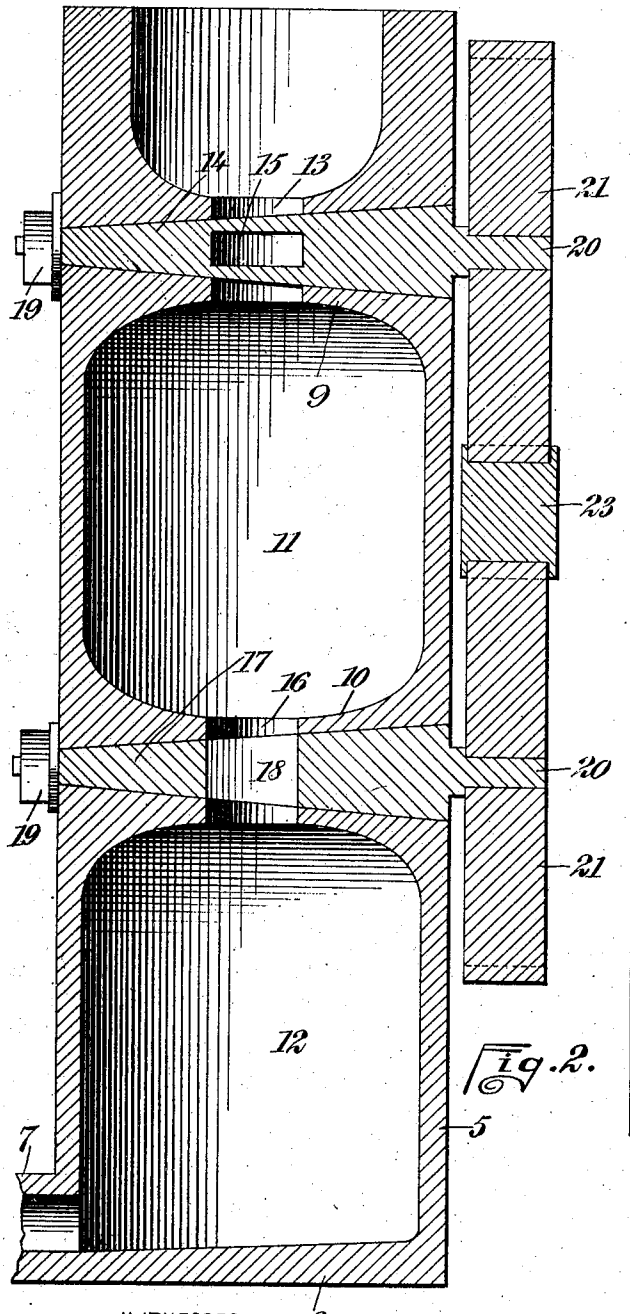


Fig. 2.

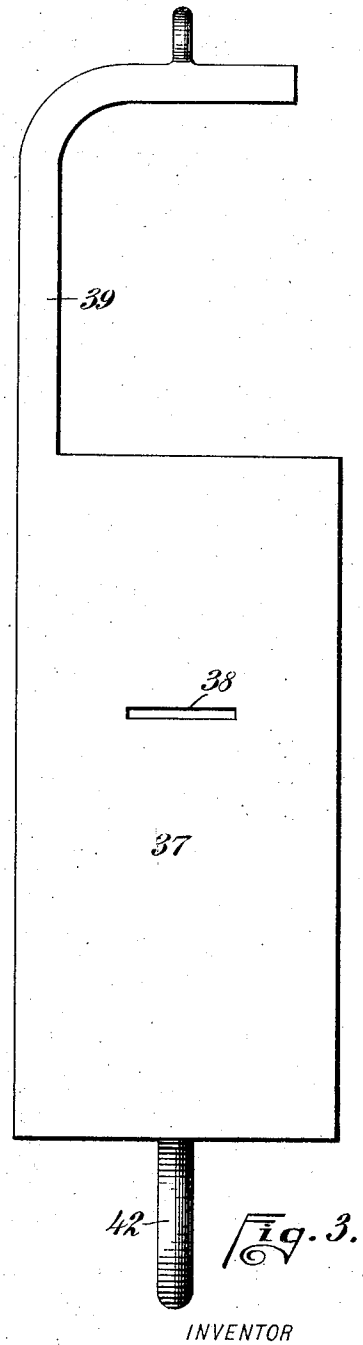


Fig. 3.

WITNESSES:

Charles S. Watson.

W. J. Bernhard

INVENTOR

Arthur F. Bradshaw

BY Munn & Co

ATTORNEYS.

No. 768,509. Patented August 23, 1904.

UNITED STATES PATENT OFFICE.

ARTHUR FRANKLIN BRADSHAW, OF BIEBER, CALIFORNIA.

COIN-CONTROLLED LIQUID-DISPENSING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 768,509, dated August 23, 1904.

Application filed April 20, 1903. Serial No. 153,426. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR FRANKLIN BRADSHAW, a citizen of the United States, and a resident of Bieber, in the county of Lassen and State of California, have invented new and useful Improvements in Coin-Controlled Liquid-Dispensing Apparatus, of which the following is a full, clear, and exact description.

This invention relates to a coin-controlled liquid-dispensing apparatus; and the object that I have in view is the provision of a simple mechanism wherein liquid may be drawn from a suitable container on the deposit of a suitable coin or slug, the volume of the escaping liquid being regulated automatically by the operation of a suitable knob and the coin or slug being discharged automatically into a suitable receptacle, so that the coin will not subsequently interfere with the proper service of the machine.

Further objects and advantages of the invention will appear in the course of the subjoined description, and the novelty will be defined by the annexed claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional perspective view through a portion of a liquid-dispensing apparatus embodying my invention. Fig. 2 is a longitudinal section through the valved liquid-conduit, on an enlarged scale; and Fig. 3 is a plan view of the hand-operated slide removed from the machine.

A designates a portion of a casing for inclosing the operating parts of the coin-controlled liquid-dispensing apparatus of my invention. The upper portion of this casing is provided with a coin chute or passage *a*, which opens vertically through a ledge or shoulder *a'* of said casing in order to present an opening for the introduction of a coin or slug. Within this casing is provided a horizontal plate or partition B, which is formed in its upper face with a channel or way *b*, having a smooth surface adapted to permit the coin or slug to travel freely thereon. In this partition B is secured a vertical conduit 5, which is closed at its lower end by a head 6, as shown by Fig. 2, and this conduit is adapted to be connected operatively with any suitable liquid-container by an intermediate pipe, tube, or hose, (not shown,) whereby the liquid may be transferred by gravity from the container into the conduit 5. From the lower part of this conduit leads an exit-pipe 7, which is preferably attached to the lower portion of the conduit at a point above the head 6 thereof, as shown by the drawings. This exit-pipe extends through the casing A, and it may be provided with a faucet or stop-cock 8. I do not desire to limit myself to the employment of this stop-cock, because in dispensing certain liquids the cock may be omitted; but when the apparatus is used for dispensing charged liquids I find it advisable to employ the stop-cock, the stem of which is arranged for convenient access by the operator, as shown by Fig. 1.

The interior of the conduit 5 is provided with transverse partitions 9 10, which form an intermediate chamber 11 between themselves and a lower chamber 12, having free communication with the exit-pipe 7. In the upper partition 9 of this conduit is a passage 13, adapted to be normally closed by means of a valve 14, the latter having a transverse liquid-way 15, which is adapted in one position of said valve 14 to aline with the passage 13 and allow the liquid to pass from the upper part of the conduit 5 into the chamber 11. The other partition, 10, of said conduit is similarly provided with a vertical passage 16, across which extends a valve 17, the latter having a liquid way or port 18. (See Fig. 2.) The valves 14 17 are of the variety known as "plug-valves," the same being tapered and seated in tapering passages which extend across the partitions 9 10, respectively. Each valve is held snugly to its seat by any suitable means, such as the nut 19, attached to one end of the valve, and from the other end of said valve extends a stem 20, on which is secured a spur gear-wheel 21. I would have it understood, however, that I do not limit

myself to any particular type of valve; but the form of valve herein shown is preferred because of its simplicity and efficiency.

The stems 20 of the two valves 14 17 extend from one side of the conduit 5, and the gears 21 on said stems are disposed in the same vertical plane in order to have intermeshing engagement with a double rack, which is formed on or attached to a coin-controlled slide 22. This slide 22 is disposed above the partition B in position to travel thereon, and said slide is provided at its rear portion with an extended bar 23, the latter being of less width than the slide. The bar 23 is formed with gear-teeth on its upper and lower edges, and the slide 22 is arranged in the machine for the rack-bar 23 to travel between the opposing edges of the gears 21, as shown by Figs. 1 and 2, whereby the slide 22 is geared to both of the valves 14 17 for the purpose of operating them simultaneously.

The slide 22 is provided in its under side with a notch 24, and in rear of this notch said slide is formed with a vertical transverse coin-slot 25, the latter extending entirely through the slide. The partition B is provided at its front portion with a vertical coin-passage 26, with which communicates an inclined coin-chute 27, that depends from the partition B and is disposed within a chamber C at the bottom of the casing A, said coin-chute 27 having communication with a coin-receptacle D. The casing A is provided in front of the coin-passage 26 with a socket 28 and with an exposed slot 29. In this socket is arranged a slidable latch 30, which is provided with a finger-knob 31, that projects through the slot 29 and lies outside of the machine in a position for convenient access by the operator. This latch is normally pressed in an upward direction by a coiled spring 32, which is housed in the socket 28 in position for engagement with the lower end of the latch, said latch being held in engagement with the under side of the coin-controlled slide 22 and adapted for engagement with the notch 24 of said slide for a purpose which will hereinafter appear.

The partition B is provided with a socket 33 in rear of the coin-passage 26, and in this socket is arranged a detent 34, having a beveled upper face 35, said beveled end of the detent projecting normally into the coinway *b* under the action of a spring 36, which is housed in the lower part of the socket 33 in a position for engagement with said detent. The latch 30 and the notch 24 in the coin-controlled slide 22 are of less width than the detent 34 in order that said detent may ride against the under face of the slide 22 without entering the notch 24; but when said slide reaches the limit of its forward movement the latch 30 is projected into the notch 24 by the spring 32, thus locking the slide 22 in a forwardly-drawn position and preventing a repetition of the operation.

37 indicates a manually-operated slide which is housed or contained within the casing above and in overlapping relation to the slide 22. Said slide 37 is provided at a point intermediate of its length with a coin-slot 38, adapted in the normal position of said slide 37 to aline vertically with the coin-chute *a* and with the coin-slot 25 of the slide 22. (See Fig. 1.) The slide 37 is provided at its rear portion with a curved shank 39, arranged to extend loosely around the vertical liquid-conduit 5, and to the rear extremity of this shank is attached a coiled retracting-spring 40, which is secured in a suitable way within the casing, said shank 39 of the slide 37 and the spring 40 being housed within a chamber E. The spring 40 normally draws the slide 37 in a rearward direction, and that part of said slide between the coin-slot 38 and the conduit 5 should be long enough so that when the slide is fully withdrawn the inner end thereof will not pass forwardly beyond the coin-chute *a*, thus preventing a coin or slug which may be introduced when the slide is in its forward position from dropping in rear of the slide and being pressed thereby into the chamber E or against the conduit 5. The front end of the slide 37 is provided with a depending lip or shoulder 41, adapted to overlap the front end of the coin-controlled slide 22, and to this slide 37 is attached a normally exposed finger-piece 42, the same being shown in the form of a ring, although this may be changed, if desired.

The operation of the invention may be described as follows: With the parts in the position shown by Fig. 1 the valve 17 of the conduit 5 is adjusted for its liquid-way 18 to lie across the passage 16 and prevent the liquid contents of the chamber 11 from passing into the chamber 12, while the valve 14 is adjusted for its liquid-way to have communication with the passage 13, thus placing the chamber 11 in communication with the liquid-container. The valves 14 17 therefore occupy positions wherein the ports thereof are at right angles to one another, one of said valves being in an open position and the other in a closed position. A coin or slug is now introduced into the chute *a*, and it drops into the coin-slots 25 38 of the slides 22 37, the edge of said coin resting on the way *b* and connecting the slides 22 37 operatively together. The operator may now manipulate the finger-piece 42 to pull the slide 37 outwardly, this motion of the slide 37 being communicated by the intermediate slug or coin to the other slide, 22. The slides move simultaneously under the pull on the finger-piece 42, thereby distending the spring 40 and making the rack 23 of the slide 22 operate the gears 21, and thereby simul-

taneously turn the valves 14 17 so that the valve 14 will cut off the further flow of liquid from the container into the chamber 11, while the valve 17 assumes a position wherein the liquid may flow from said chamber 11 into the chamber 12 and thence through the eduction-pipe 7 to a suitable receptacle adapted to be placed below the faucet 8. In the forward movement of the slides 22 37 the detent will not enter the notch 24; but when the slides reach the limit of their forward movement the coin or slug is brought into line with the coin-passage 26 and the notch 24 of the slide 22 takes a position immediately above the latch 30, the spring 32 of which impels said latch into the notch, thus locking the two slides against further forward movement. The latch 30 has positive engagement with the slide 22, so as to release the coin from the pull or energy of the spring 40 and allow said coin to easily drop into the passage 26, from whence it passes through the chute 27 into the receptacle D. The function of the detent 34 is to prevent a coin from being carried in a backward direction with the slides; but this detent is adapted to be depressed when the coin travels against the beveled face 35 thereof upon the forward movement of the slides. After the coin drops from the slides the latter may be returned to normal position by the energy of the spring 40; but before the slides can be returned the operator should press down on the finger-piece 31, thus withdrawing the latch 30 from the notch of the slide 22. The pull of the spring 40 on the slide 37 makes the lip or shoulder 41 act against the slide 22 in returning the latter to normal position simultaneously with the slide 37, and during this backward travel of the two slides the rack-bar 23 again reverses the valves 14 17, so as to cut off communication between the chambers 11 12 and permit the liquid to pass from the container into the chamber 11, thus placing the apparatus in condition for service again.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An apparatus of the class described, comprising a casing having a coin-chute and provided with a partition having an angular coin-passage, a liquid-conduit in the partition, oppositely-disposed valves in the conduit, a slide having a coin-slot, means for operating the valves from the said slide, a spring-pressed slide above the first slide and having a coin-slot registering with the coin-chute and the coin-slot of the first slide, a lip or shoulder at the outer end of the second slide for engaging the first slide to cause the slides to move inward together, and a latch for locking the first slide in an outermost position, as set forth.

2. An apparatus of the class described, comprising a casing having a coin-chute, a conduit in the casing, a liquid-dispensing mechanism for controlling the passage of the liquid through the conduit, a slide having a coin-slot, means for operating the dispensing mechanism from the said slide, a second slide above the first slide and having a coin-slot, said second slide having a curved shank extending around the conduit and provided at its forward end with a lip for engaging the first slide, a spring connected with the end of the shank of the said slide, and a locking device for locking the second slide in an outermost position, as set forth.

3. In an apparatus of the class described, a pair of slides having coincident coin-slots, the upper slide being spring-pressed and engaging the lower one to move it into an innermost position, the lower slide being notched on its under side, and a spring-pressed latch adapted to enter the notch of the lower slide when the slides are pulled out, in combination with a dispensing mechanism controlled by the movement of said slides, as set forth.

4. In an apparatus of the class described, a pair of coöperating slides having coincident coin-slots, a latch adapted for engagement automatically with one of said slides as it reaches the limit of its outward movement, and a retractor connected with said slides for moving them inward, in combination with a dispensing mechanism controllable by the movement of said slides.

5. In an apparatus of the class described, a casing having a partition provided with an angular coin-passage, a pair of coöperating slides having coincident coin-slots, and a detent in the partition of the casing and projecting into the horizontal portion of the said angular coin-passage, said detent being yieldable to the movement of the coin in one direction and adapted to check the movement of the slides in the opposite direction when the coin is present therein, in combination with a liquid-dispensing mechanism controllable by the movement of said slides, as set forth.

6. In an apparatus of the class described, the combination of a pair of coöperating slides having coincident coin-slots, one of said slides having a notch, a coin-chute below said slides and in which the coin which couples the slides together, travels, a latch adapted for engagement with said notched slide, and a detent projecting into the coin-chute and normally engaging with the notched slide.

7. In an apparatus of the class described, a casing having a coin-chute and provided with a partition having an angular coin-passage, a conduit in the partition, oppositely-disposed valves in the conduit, a slide having

a coin-slot and provided at its rear end with a curved shank extending around the conduit, and at its forward end with a lip, a spring connected with the inner end of the shank, a second slide arranged below the first slide and having a coin-slot registering with the coin-slot thereof, the front end of the second slide being engaged by the lip of the first slide, means for operating the valves from the second slide, and means for engaging the second slide to lock it in an outermost position, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR FRANKLIN BRADSHAW.

Witnesses:
T. J. DUNLAP,
H. E. WOOD.