

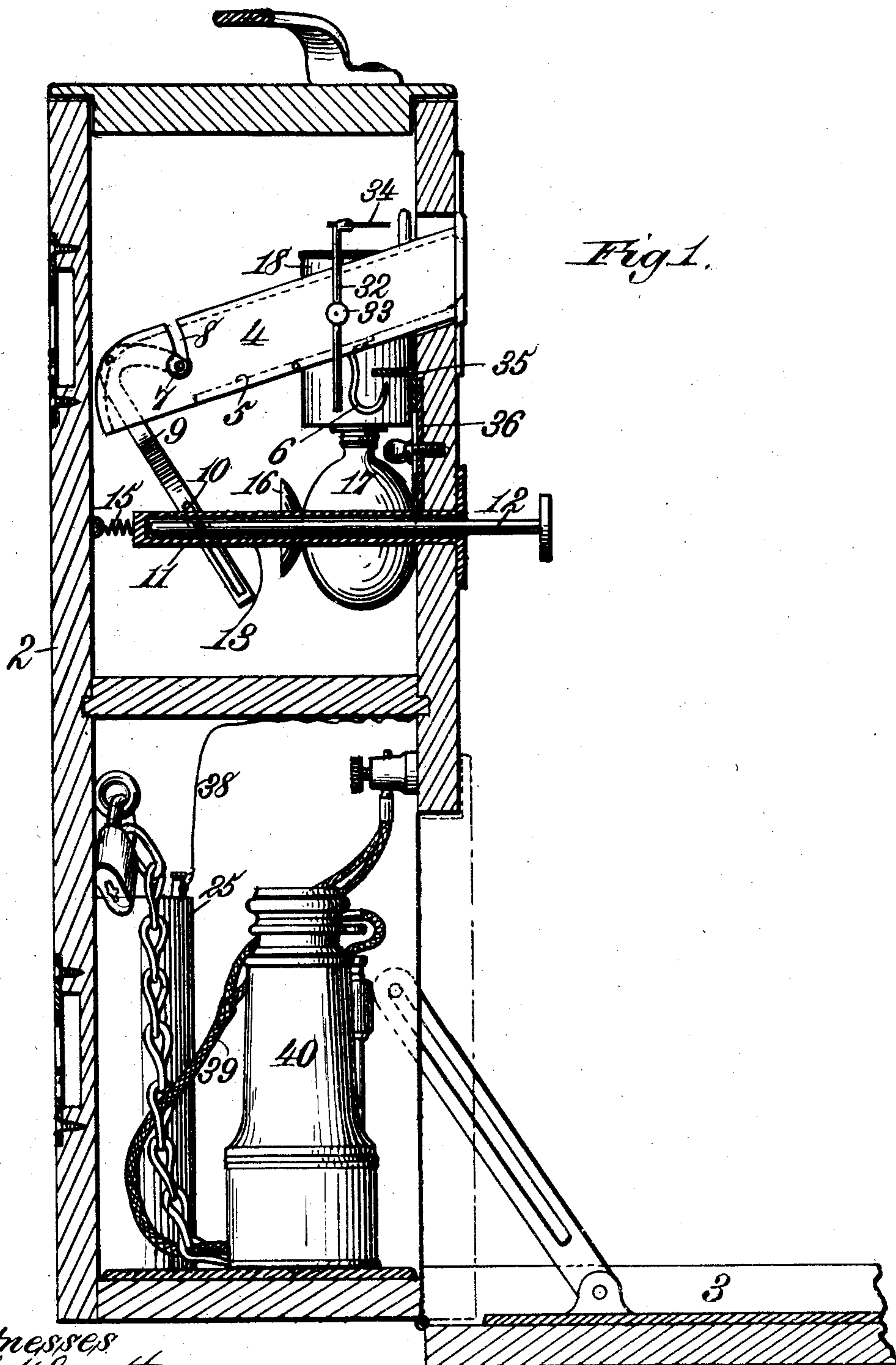
No. 786,866.

PATENTED APR. 11, 1905.

W. B. WHEELER.
CHECK CONTROLLED APPARATUS.

APPLICATION FILED JULY 26, 1904.

3 SHEETS—SHEET 1.



Witnesses

Robert Everett

James L. Morris, Jr.

Inventor

Webster B. Wheeler

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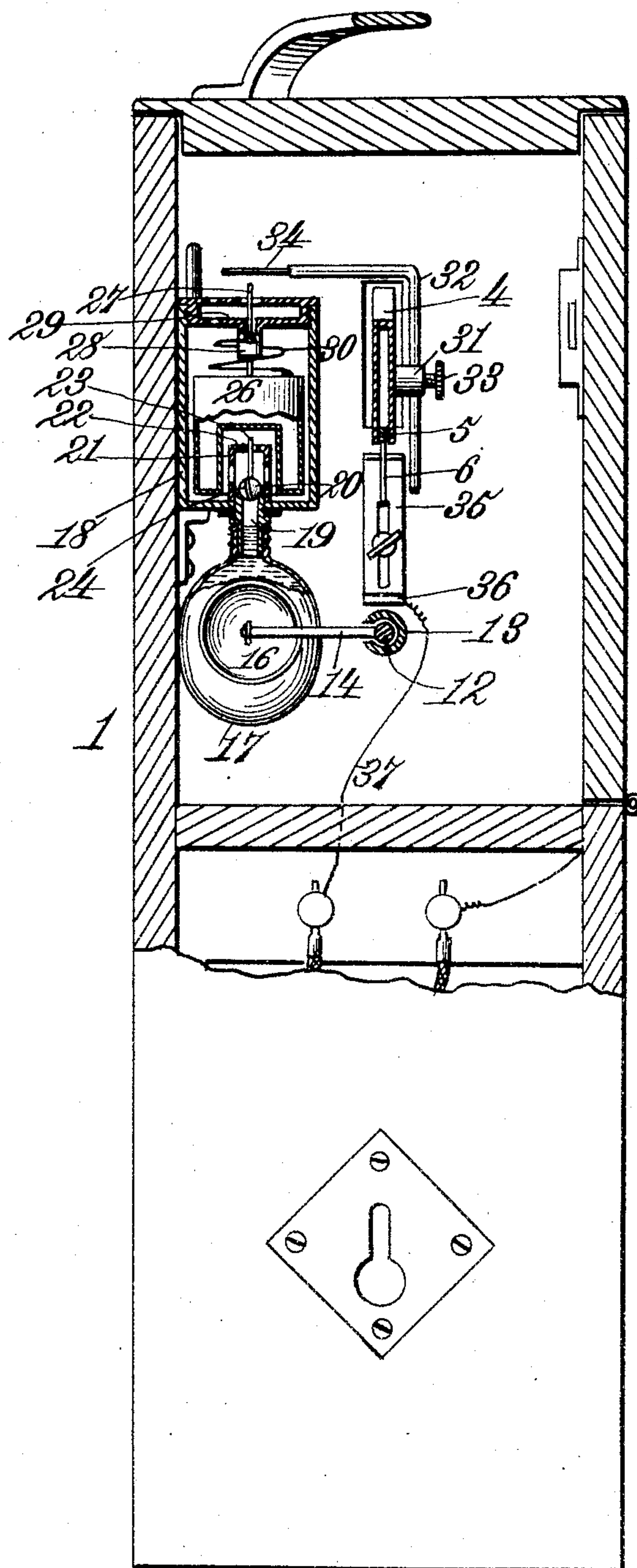


Fig. 2.

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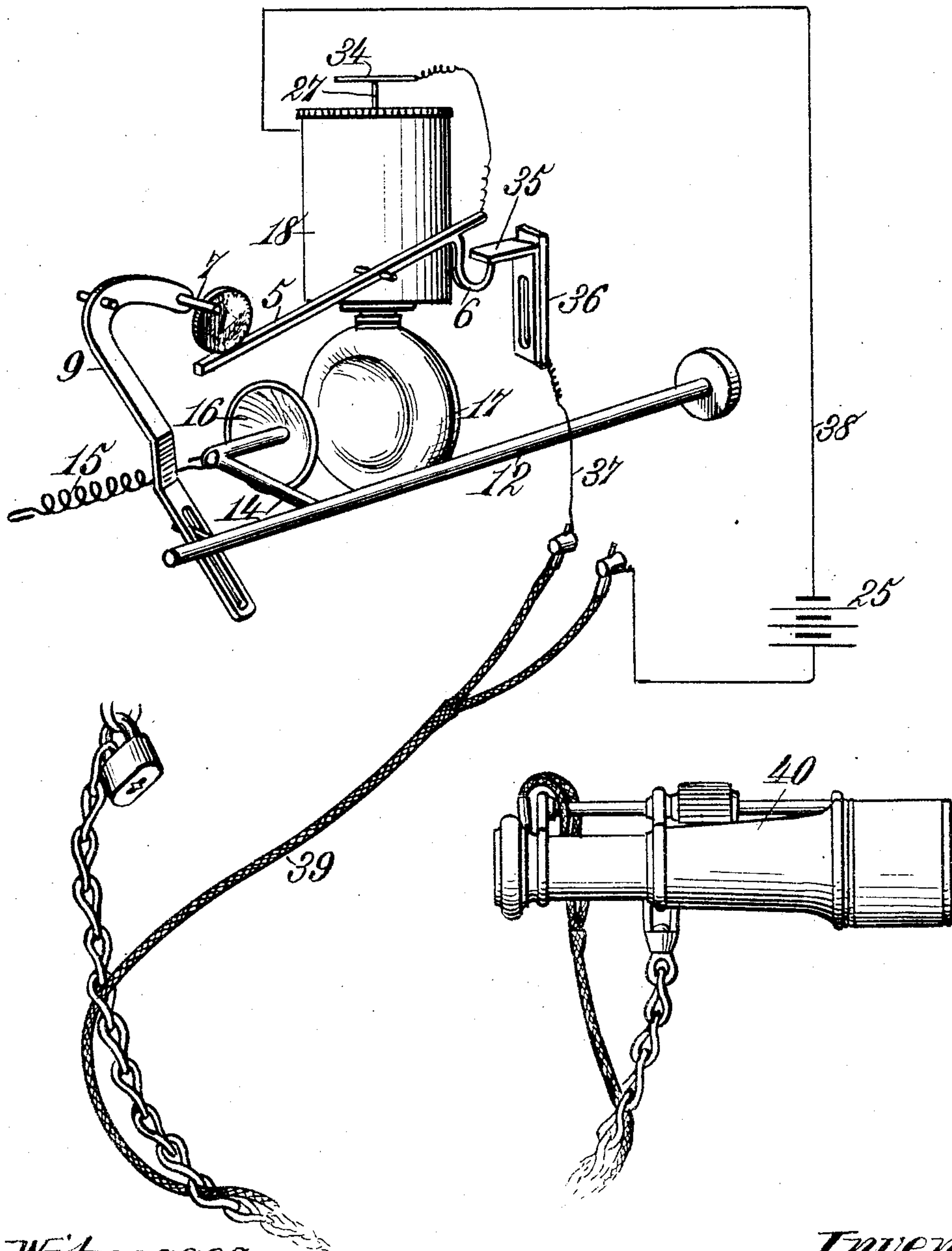
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3 SHEETS—SHEET 3.

Fig. 3.



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UNITED STATES PATENT OFFICE.

WEBSTER B. WHEELER, OF FULLERTON, NEBRASKA.

CHECK-CONTROLLED APPARATUS.

SPECIFICATION forming part of Letters Patent No. 786,866, dated April 11, 1905.

Application filed July 26, 1904. Serial No. 218,296.

To all whom it may concern:

Be it known that I, WEBSTER B. WHEELER, a citizen of the United States, residing at Fullerton, in the county of Nance and State of Nebraska, have invented new and useful Improvements in Check-Controlled Apparatus, of which the following is a specification.

This invention relates to a check-controlled apparatus, and it may operate in conjunction with different kinds of devices, it having been found advantageous in connection with an electrically-controlled optical appliance such as that disclosed by Letters Patent No. 709,837, granted to me on September 23, 1902, and to which reference may be had. The invention, however, is not limited in this respect.

The apparatus is simple in construction and effective in operation.

The electrically-controlled optical appliance disclosed by the patent mentioned involves two shutters controlling the sighting of the instrument and which shutters are operated by the closing of a circuit. The present apparatus involves a circuit which may include the solenoids mentioned by said patent and which is normally broken at two points, one of which is closed by means under the control of the user of the apparatus, while the other of which is controlled by a coin or check of a predetermined character.

In the drawings accompanying and forming a part of this specification I illustrate one simple and convenient adaptation of the apparatus; but I do not limit myself to the disclosure thus made, for certain variations may be adopted within the scope of my claims succeeding the following description of said showing.

Referring to said drawings, Figure 1 is a vertical sectional elevation of an apparatus involving my invention. Fig. 2 is a transverse sectional view of the upper portion of the apparatus. Fig. 3 is a diagrammatic view of certain of the working parts, hereinafter more particularly referred to.

Like characters refer to like parts throughout the several views.

The apparatus represented has a casing 2, which may be of any desirable shape or material. Ordinarily the casing consists of up-

per and lower chambers, into the upper of which checks or coins to bring about the action of the apparatus are delivered, such upper chamber being closed by a door under lock and key. The optical appliance, which in the present instance is a pair of marine glasses, is adapted to be housed within the lower chamber of the casing and when the apparatus is in use is adapted to be supported upon a drop-down door, as 3, adapted when closed and locked to prevent access to the glasses within said lower chamber. The working parts of the apparatus are contained within the upper chamber of the casing 2. In said upper chamber of the casing is an inclined chute or runway, as 4, the entering end of which coincides with a slot in a face-plate mounted on the front upper side of the casing 2 in order to permit the introduction of a coin into such chute or runway and its gravitation therealong. The inclined chute or runway is represented as having a longitudinal slot in its bottom, in which is disposed the long arm of an angle-lever 5, said long arm being pivotally supported intermediate its ends between the vertical sides of said chute. It will therefore be apparent that the long arm of the said lever presents front and rear branches, and the reason of this will hereinafter appear.

The short arm of the angle-lever, which is approximately vertically disposed, terminates at its lower end in a hook 6, the bill of which constitutes a circuit-controller, as will hereinafter appear, being adapted when thrown by the action of a coin against a contact to close an electric circuit involving the operating means for the shutters hereinbefore mentioned. Upon the introduction of a coin into the chute or runway 4 said coin rolls along the same and on top of the long arm of the lever 5 in order to depress the rear branch of said long arm and move the hook 6 against the contact hereinafter described. When the coin is on the rear portion of the rocking lever 5, it is adapted to rest against the stop 7, extending across the chute 4 at a convenient point above the rear end of the lever. This stop has an upward-and-downward movement in an arcuate slot 8, formed in the rear portion of the chute and intersecting the channel

thereof. Normally the stop 7, which is in the nature of a pin extending laterally from the upper curved end of the lever 9, bottoms against the said slot 8 in order to be interposed in the path of the coin and to arrest the same momentarily while it is upon what might be considered the "tail" of the circuit-controlling lever 5.

The lever 9 is represented as being pivotally supported by the chute 4, near the rear end thereof, it presenting arms of unequal length, to the shorter arm of which the stop or pin 7 is connected in any desirable manner. The arcuate slot 8, through which the stop plays, is concentric with the center of motion of the lever 9. The longer arm of the lever 9 has a longitudinal slot 10 to receive a projection or pin 11, extending laterally from the actuator or pull-rod 12. The said actuator or pull-rod 12 is inclosed within a tube 13, suitably connected to the front wall of the casing 2, and is inclosed within the upper chamber of said casing. The forward end of the rod 12 extends beyond the forward wall or front of the casing and is provided with a knob or pull-piece by which it may be drawn forward by a user. The pin 11, which works in the slot 10 of the lever 9, extends through a longitudinal slot in the tube 13, while an angular arm 14, extending laterally from the said rod 12, also works through said slot. The slotted tube 13 serves as a suitable guide for the rod 12 in its forward and rearward movements and also prevents turning of said rod. The rear closed end of the tube constitutes an effective stop for positioning the rod in its rearward position, to which position said rod is drawn by the action of a coiled pull-spring, as 15, connected to the casing interiorly thereof and also to the angular arm 14. It will be understood that when the rod 12 is pulled forward by a user the lower portion of the lever 9 is correspondingly moved in order to elevate the stop 7 and release a coin that may be resting upon the rear or tail portion of the lever 5. When the said rod is pulled forward, the spring 15 is stretched in order when the rod is released by the user to promptly return said rod, and hence the other parts connected immediately therewith, to their original positions.

The free portion of the angular arm is provided with a circular head 16, constituting a compressing device for the liquid-containing bulb 17, the liquid in which may be of any desirable character, such as water, while the bulb may be made of any compressible material, such as rubber. The bulb is filled with water, and when the rod 12 is pulled to its extreme forward position the head 16 will be moved therewith in order to press the bulb against the inner face of the forward wall of the casing, thereby to flatten said bulb and naturally cause the expulsion of the water therefrom, the water flowing from the bulb

into a reservoir, shown as a cylinder 18. The working face of the head 16 is convexed, so as not to cause injury to the bulb. The stem of the bulb is fitted around the sleeve 19, extending through the bottom of the cylinder 18. Just a short portion of the sleeve 19 extends into the cylinder, its upper edge constituting a seat for the valve 20, illustrated as being of the ball type and which is adapted to normally close by its weight against the upper open side of said sleeve 19. Within the cylinder is a second sleeve, 21, which constitutes practically a continuation of the first sleeve, the two presenting, in effect, a continuous tube.

In the top of the sleeve 21 is fitted a disk 22, centrally perforated to receive the vertical stem 23 of the valve 20, by which construction the valve is guided in its opening and closing movements. The valve 20 is shown as having a port or passage, made in the present case by a circumferential kerf 24 in said valve. The upper sleeve 21 has a series of perforations in its wall, constituting ports for the passage of water into the reservoir from the bulb, or vice versa.

As previously stated, the bulb 17 is normally filled with water, the valve 20 being seated upon the upper edge of the lower sleeve 19. When, however, the said bulb is collapsed or pressed, as previously indicated, the water is forced therefrom upward, causing by its pressure the elevation of the valve 20 from its seat and the consequent flow of such water into the reservoir or cylinder 18. The said reservoir is mounted in any desirable manner within the casing and is in electrical connection with a battery or equivalent generator, as 25. Within the reservoir or cylinder 18 is a float, as 26, which may be of any desirable construction and from the top of which the vertical rod 27 extends, said rod constituting a circuit-controller. This rod extends upward through a short tube 28, depending from the centrally-perforated cap 29, represented as threaded into the upper open side of the cylinder 18. By removing the cap the cylinder can be filled with water, which is adapted to be sucked within the bulb or equivalent compressible water-containing element 17. It will be gathered at this stage that the term "bulb" is used in its broad sense, and the same statement applies to the use of terms for other parts. The tube 28 constitutes a guide for the rod 27, the latter serving as a circuit-controller and being adapted when it engages a contact to close a break in the circuit normally situated at the upper end of said rod.

It will be understood that the upper end of the circuit-controller or rod 27 has a rising-and-falling movement through a perforation or opening in the top of the removable cap 29. When the bulb 17 is compressed, the float 26 is elevated to abut against the lower end of the guide-tube 28, the rod 27 of course being given a corresponding elevation. When

the pressure against the bulb 17 is removed, said bulb can expand in order to suck or draw the water from the reservoir or cylinder thereinto. The suction of the water from the
 5 reservoir into the bulb is a very slow one, due to the fact that the passage or port 24 is of very small size. In this way I maintain the float 26 and rod 27 elevated for a predetermined length of time, dependent upon the size
 10 of said passage or port. The cylinder or reservoir 18 constitutes a part of the electric circuit. To insure the proper passage of the current, I connect the cap 29 with the float 26 by a flexible conductor, as 30, so that not-
 15 withstanding the fact that the float 26, which is of metal, may not strike the lower end of the depending tube 28 the circuit will not be interrupted at the reservoir, for the current can flow through the said conductor 30.

20 Through a perforation in the horizontal stud 31 on one side of the chute 4 adjustably extends the rod 32, the rod being maintained in an adjusted position by means of a set-screw 33. The upper end of the rod has an
 25 angular extension provided with an enlargement 34, constituting a contact and adapted to be engaged by the upper pointed end of the rod or circuit-controller 27 when the same is elevated in the manner hereinbefore described.
 30 Normally the rod 27 and enlargement 34 are out of contact, whereby the circuit will be broken at such point.

It will be remembered that the forward portion of the coin-operated lever 5 has been set
 35 forth as having a hook adapted to cooperate with a contact. The contact is shown as the angular projection at the upper end of the plate 35, slidable against a plate 36, secured to the inner side of the upper chamber of the
 40 casing. The contact-plate 35 is vertically adjustable in order to provide for the operation of the lever 5 by coins of different denominations or checks of different sizes, as may be determined on beforehand.

45 From the plate 36 a wire 37 leads to the battery 25, while from the cylinder 18 a wire, as 38, also leads to said battery in any desirable way. The flexible conductors 39 are also connected to said battery and to solenoids
 50 (not shown) in the optical device 40, shown as marine glasses. The internal construction of the glasses illustrated is the same as that of the patent mentioned hereinbefore and includes two shutters and solenoids controlling
 55 same. By the closing of said circuit the solenoids in question are energized, so as to cause, in the manner set forth in said patent, the opening of the shutters. Upon the breaking of the circuit the solenoids are deenergized, so as to permit the shutters to return
 60 to their primary or closed positions.

From the foregoing description it will be apparent that there are two breaks in the circuit including the solenoids mentioned, which
 65 breaks are successively closed, one by the en-

gagement of the rod 27 with the contact 34 and the other by the engagement of the lever 5 with the contact-plate 35. When the breaks are closed, the current can flow from the reservoir or cylinder 18 to the rod 27, rod 32, 70 chute 4, lever 5, contact-plates 35 and 36, to wire 37, and from thence to battery. The current flows to the reservoir from the battery 25 through the wire 38. When the circuit is fully closed, it will be apparent that 75 said circuit involves several of the operating parts of the device, although this is not essential.

To operate the apparatus, the following procedure is adopted: Initially the rod 12 is pulled 80 to its extreme forward position, thereby causing the head 16 to compress the bulb 17 and the ejection of the water in said bulb therefrom and into the reservoir 18 in order to cause the elevation of the float 26 in the man- 85 ner hereinbefore described. When the float rises, the upper end of the rod 27 will engage the contact 34 in order to close one break in the circuit. As soon as the pull-rod 12 is released it is returned to its primary position 90 by the action of the spring 15. The engagement of the rod 27 with the contact 34 will be maintained for a short space of time by reason of the slow flow of the water from the reservoir to the bulb 17 in the manner here- 95 inbefore described, the return-flow of the water being produced by the suction of the bulb as it expands. In the present case the check for effecting the operation of the apparatus is a nickel. Upon the insertion of a nickel 100 into the entering end of the chute 4 said nickel rolls along said chute and onto the rear branch of the long arm of the controlling-lever 5, depressing said rear branch and causing the hook 6, which normally by its own 105 weight is kept out of engagement with the contact-plate 35, to engage said plate, thereby closing the circuit involving the shutter-actuating solenoids at a second point, so that the solenoids become instantly effective to 110 cause the opening of the shutters within the glasses 40. The circuit will be maintained as long as the two breaks mentioned are closed. When a certain amount of water has passed into the bulb 17, the float 26 will have de- 115 scended a sufficient distance to cause the rod or circuit-controller 27 to move out of engagement with the contact 34, so as to break the solenoid-circuit at such point and cause naturally the deenergization of the solenoids 120 and the instant closure of the shutters. The coin which operated the lever 5 abutted against the stop 7, and the coin will be held upon the lever until the stop is elevated on the subsequent advance of the pull-rod 12. 125 When said pull-rod is advanced, the stop 7 is lifted in the manner hereinbefore described, so as to permit the coin to fall off the rear end of the lever and onto the bottom of the upper chamber of the casing. 130

The cap of the reservoir or cylinder has one or more air-vents in order to provide for the proper operation of the bulb 17.

Having thus described my invention, what I claim is—

1. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, a check-operated circuit-controller, and means arranged for operation by the user to compress the bulb and to cause the ejection of the liquid contained therein into said reservoir, whereby the float will be caused to rise and to carry the circuit-controller therewith.
2. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, a check-operated circuit-controller, and means arranged for operation by the user to compress the bulb and to cause the ejection of the liquid contained therein into said reservoir, whereby the float will be caused to rise and to carry the circuit-controller therewith, and means for causing the slow return of the liquid from said reservoir to said bulb.
3. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, a check-operated circuit-controller, means arranged for operation by the user to compress the bulb and to cause the ejection of the liquid contained therein into said reservoir, whereby the float will be caused to rise and to carry the circuit-controller therewith, and a valve adapted to control the flow of water from the bulb to the reservoir, said valve having a port which, when the valve is closed, is adapted to permit of the slow return of the liquid from the reservoir to the bulb.
4. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, a check-operated circuit-controller, means arranged for operation by the user to compress the bulb and to cause the ejection of the liquid contained therein into said reservoir, whereby the float will be caused to rise and to carry the circuit-controller therewith, and a gravity ball-valve for controlling the flow of liquid from the bulb to the reservoir and having a peripheral port adapted, when the valve is closed, to permit of the slow return of the liquid from the reservoir to the bulb.
5. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, and a valve controlling the flow of water from the bulb to the reservoir, said valve having a passage which, when the valve

is closed, is adapted to permit of the slow return of the liquid from the reservoir to the bulb.

6. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, a chute or runway, a coin-operated lever supported in operative relation with the chute and constituting a circuit-controller, a stop arranged to hold the coin on said lever, and means adapted to be operated by the user for operating the stop in a direction to release the coin.

7. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, a check-operated circuit-controller, a stop in position to hold the check on said last-mentioned circuit-controller, and means adapted to be operated by the user to actuate the stop in a direction to release the coin and to also effect the compression of said bulb.

8. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, a check-operated lever constituting a circuit-controller, a second lever having a stop for the check while the latter is on the first lever, a rod adapted to be operated by the user and connected with the second lever, said rod, when advanced, being adapted to operate said second lever in a direction to effect the release by said stop of the coin, and means connected with said rod for effecting the compression of said bulb.

9. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-controller, a check-operated lever constituting a circuit-controller, a second lever having a stop for the check while the latter is on the first lever, a rod adapted to be operated by the user and connected with the second lever, said rod, when advanced, being adapted to operate said second lever in a direction to effect the release by said stop of the coin, means connected with said rod for effecting the compression of said bulb, and means for returning said rod to its initial position when released by the user.

10. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir having a circuit-controller, a check-operated circuit-controller, a pull-rod having means connected therewith for compressing said bulb, and a lever connected with said rod and provided with a stop to be engaged by the check, and a coin-chute having an arcuate slot concentric with the axis of motion of the lever to receive said stop.

11. A check-controlled apparatus involving

an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir having a circuit-controller, a check-operated circuit-controller, means
5 arranged for operation by the user to compress the bulb, and an adjustable contact cooperative with said check-operated circuit-controller.

10 12. A check-controlled apparatus involving an electric circuit, a liquid-containing bulb, a reservoir communicating with said bulb, a float in the reservoir, having a circuit-control-

ler, a check-operated circuit-controller, means arranged for operation by the user to compress the bulb, and adjustable contacts cooperative with the two circuit-controllers. 15

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WEBSTER B. WHEELER.

Witnesses:

HEATH SUTHERLAND,
GEO. W. REA.