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APPARATUS FOR DISPENSING GASOLENE, &c.

APPLICATION FILED AUG. 5, 1913.

1,109,832.

Patented Sept. 8, 1914.

3 SHEETS SHEET 1.

Fig. 1.

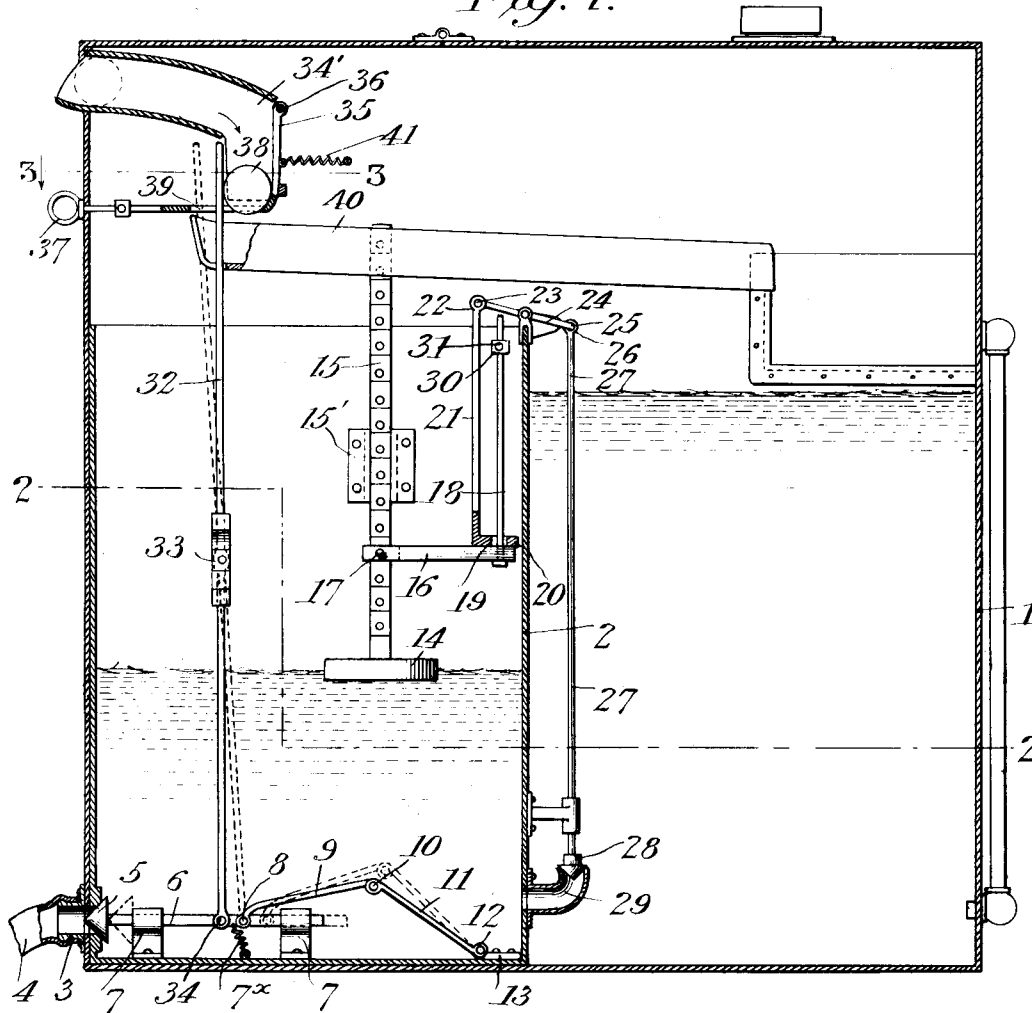
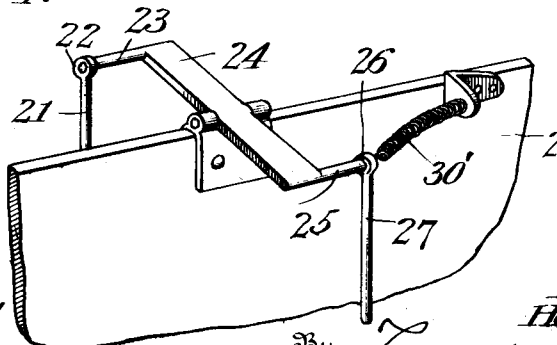


Fig. 4.



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3 SHEETS-SHEET 2.

Fig. 2.

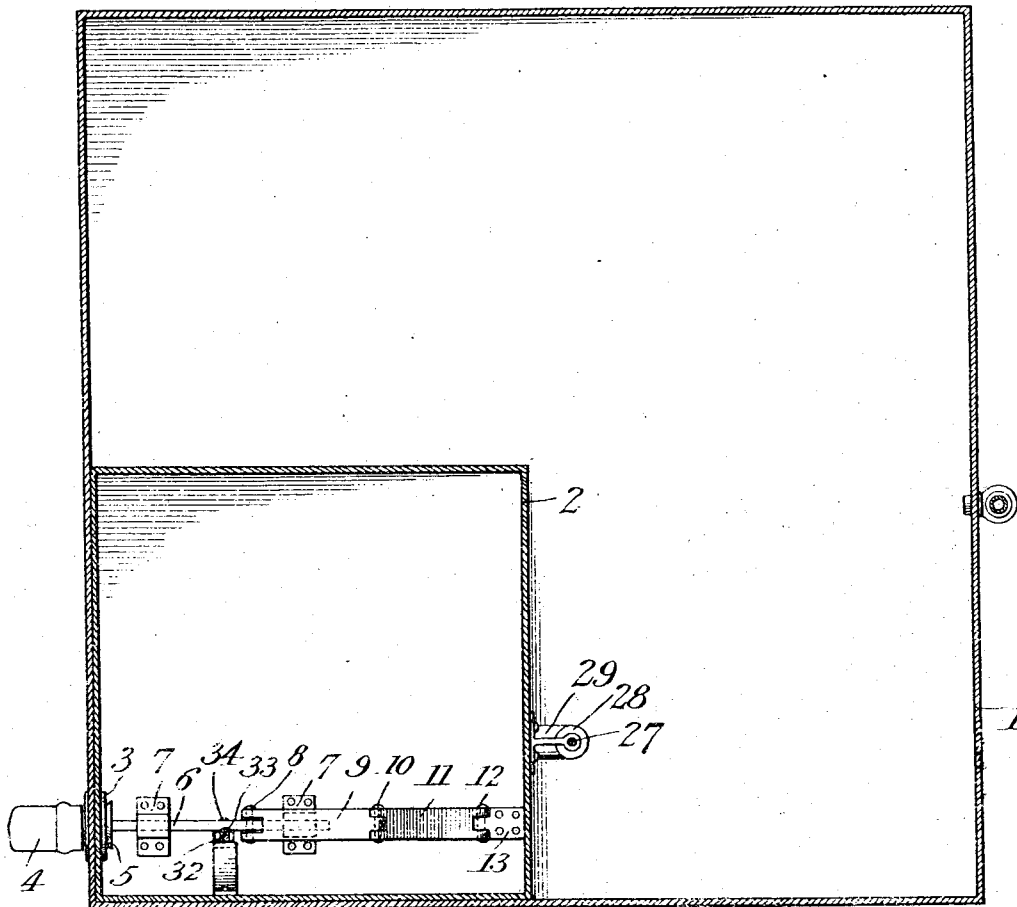
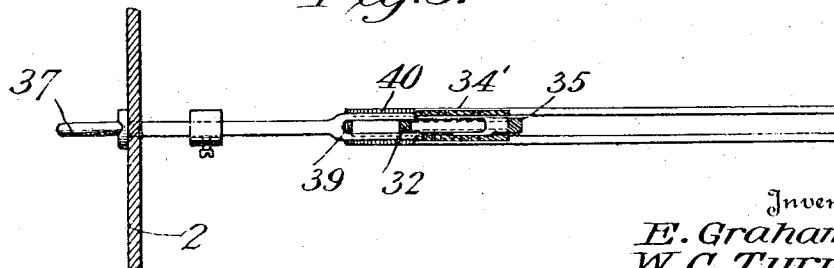


Fig. 3.



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3 SHEETS—SHEET 3.

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UNITED STATES PATENT OFFICE.

ELIAS GRAHAM, OF HAZEL DELL, AND WILLIAM C. TURNER, HOMER FOSTER, AND HARVEY M. GRANT, OF CASEY, ILLINOIS; SAID GRANT ASSIGNOR TO W. B. LINN, OF MARTINSVILLE, ILLINOIS.

APPARATUS FOR DISPENSING GASOLENE, &c.

1,109,832.

Specification of Letters Patent.

Patented Sept. 8, 1914.

Application filed August 5, 1913. Serial No. 783,172.

To all whom it may concern:

Be it known that we, ELIAS GRAHAM, a citizen of the United States, residing at Hazel Dell, in the county of Cumberland, State of Illinois, and WILLIAM C. TURNER, HOMER FOSTER, and HARVEY M. GRANT, citizens of the United States, residing at Casey, in the county of Clark and State of Illinois, have invented certain new and useful Improvements in Apparatus for Dispensing Gasolene, &c.; and we do hereby 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 applies, to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in automatically operated apparatus for dispensing gasolene, etc., and comprises a simple and efficient mechanism having various details of construction, combinations and arrangements of parts which will be hereinafter fully described, shown in the accompanying drawings and then specifically defined in the appended claims.

We illustrate our invention in the accompanying drawings, in which:—

Figure 1 is a vertical sectional view through the apparatus. Fig. 2 is a horizontal sectional view on line 2—2 of Fig. 1. Fig. 3 is an enlarged sectional detail of the coin-actuating mechanism taken on line 3—3 of Fig. 1. Fig. 4 is a detail view of a rock shaft with buckling spring attachment, and Fig. 5 is a sectional view through a slightly modified form of the apparatus.

Reference now being had to the details of the drawings by numeral, 1 designates the outer tank adapted to contain the liquid to be dispensed and 2 is an inner tank having an outlet 3 leading through the walls of the receptacles and to which a pipe 4 is connected. Said outlet is dished or concaved, and 5 designates a cone shaped valve adapted to close said exit opening and is provided with a stem 6 which is guided in its longitudinal movements in the bearings 7 upon the bottom of the inner tank. A coiled spring 7* is fastened at one end to the stem 6 and at its other end to the bottom of the

tank and is adapted to buckle as the stem 6 is moved in either direction to cause a quick seating or unseating of the valve. Said stem or shaft 6 is pivotally connected at 8 to a plate 9 which in turn is hinged at 10 to a plate 11, which latter is hinged at 12 to a plate 13 secured to the bottom of the tank.

A float, designated by numeral 14, is provided with a graduated trigger stem 15, movable through a guide 15' fastened to the wall of the tank and upon which trigger stem an adjustable trigger arm 16 is held by means of a set screw 17 in order to designate the quantity of gasolene or other liquid to be dispensed. A rod 18 is fastened to said trigger arm 16, which rod passes through an aperture 19 in the lower angled end 20 of the rod 21 which in turn is pivoted at 22 to an angle arm 23 of the rock shaft 24, the latter being journaled in suitable bearings upon the wall of the inner tank. Another arm 25 of said shaft is pivotally connected at 26 to a rod 27 which at its lower end is fastened to the valve 28 adapted to seat against the upper open end of the pipe 29 through which gasolene or other liquid is allowed to pass from the outer to the inner tank. A coiled spring 30' is fastened to said rock shaft and is adapted to buckle as the shaft rocks for the purpose of causing the valve to quickly seat or be withdrawn from its seat accordingly as the shaft is rocked in one direction or the other. A collar 30 is held upon the rod 18 by means of a set screw 31 and may be adjusted thereon relative to the adjustments of the trigger arm 16 in order that the apparatus may be operated automatically when the float is at a predetermined height.

A rod 32 is pivotally mounted upon a pin 33 and its lower end is connected at 34 to the stem or shaft 6 of the valve 5. The upper end of the rod 32 is positioned adjacent to one edge of the coin slot 34' and against which a coin is adapted to contact. A coin moving member 35 is mounted upon a pin 36 and extends transversely across the coin slot and has a handle 37 at its end, forming means whereby the operator may pull upon said member 35 when it is desired to cause the coin 38 to contact with the rod 32 and tilt the same. The member 35 is slotted as at 39 to allow the coin to fall therethrough

into a receptacle 40 after the coin has been utilized for operating the apparatus. A coiled spring 41 is fastened at one end to the tank and its other end to the member 35 and serves to return the latter to its normal position after having been pulled forward to operate the apparatus.

In Fig. 5 of the drawings a slight modification of the invention is illustrated in which the dispensing tank is mounted outside of the storage tank, the dispensing tank being connected by pipe with the storage reservoir located where desired, and in which drawing 41 designates a tank provided with a hinged top 42 and a float 43 is mounted within the tank and has a graduated stem 44 having a longitudinal movement through the guide 45 upon the side of the inner surface of the tank. A trigger arm 46 is mounted upon the rod 47 upon which a sleeve 48 is held by a set screw 49. A rod 50 has its lower end 51 angled and apertured for the reception of the rod 47 and its upper end pivotally connected to the lever 52 pivotally mounted upon a pin 53 supported by the cross-piece 54. A rod 55 is pivoted at its upper end to the lever 52 and moves freely through a guiding member 56 projecting from the bracket arm 57, which latter is fastened to the inner surface of the tank. A valve 58 is fastened to the lower end of the rod 55 and is adapted to seat against the inner end of the liquid inlet pipe 59 to regulate the flow of liquid from the tank 73 to the tank 41. Said tank 41 is provided with an exit opening 60 controlled by the valve 61 having a stem 62 movable through the guide members 63. A spring 64 is fastened to the stem 62 at one end and its other end to the bottom of the tank, while pivotal plates 65 are hinged at 66, one plate being fastened at 67 to the stem 62 and the other plate is secured by the pin 68 to the bottom of the tank and which plates are adapted to be actuated by the float 43 as the liquid is dispensed from the tank. A rod 69 is pivotally connected at 70 to the stem 62 and is pivotally mounted upon the pin 71 and is designed to be actuated by means of a coin dropped in the slot 72 and in the same manner as shown in Fig. 2 and as hereinbefore described.

In operation, assuming the gage to be set to dispense a certain quantity of oil or other liquid and the valves are closed, the operator by dropping a coin in the slot and pulling upon the handle 37 upon the member 35, the latter will cause the coin which frictionally engages the rod 32 to tilt the latter, the lower end of which is connected to the valve stem 6, causing the valve regulating the outlet to unseat. As the liquid lowers within the inner tank, the float falling with the liquid and coming into contact with the hinged connections between the

two plates 9 and 11 will cause the latter to be depressed and the valve 5 to seat. Simultaneously with the closing of the valve 5, the collar 31 upon the rod 18 will come into contact with the angled end 20 at the lower end of the rod 21, causing the shaft carrying the arms 23 and 25 to rock. As the said shaft rocks, the spring connected thereto will buckle, causing the valve 29 to quickly open to allow liquid to flow from the outer to the inner tank to replenish the latter. When the liquid rises within the tank so that the trigger arm 16 contacts with the angled end 20 of the rod 21, a reverse rocking movement will be imparted to the shaft 24 carrying the arms 23 and 25 and causing the valve to again quickly seat and the apparatus will be in readiness for repetition of the operation. It will be understood that the coin will be deposited in the receptacle 40 through the aperture in the member 35 after the latter is returned to its normal position through the medium of the spring 41.

What we claim to be new is:—

1. An apparatus for dispensing liquid comprising two tanks with passageway communicating between the same, an exit opening in one tank, a valve adapted to control said exit opening, a stem to said valve and means for actuating said valve, hinged plate connections with said valve stem and the tank, a movable float mounted within one of said tanks and adapted to contact with said plates to close the valve, said float having a graduated stem, an arm adjustable upon said stem, a rock shaft, a valve actuated thereby and designed to control the passageway between the tanks, and connections between the rock shaft and said arm, as set forth.

2. An apparatus for dispensing liquid comprising two tanks with passageway communicating between the same, an exit opening in one tank, a valve adapted to control said exit opening, a stem to said valve and means for actuating said valve, hinged plate connections with said valve stem and the tank, a movable float mounted within one of said tanks and adapted to contact with said plates to close the valve, said float having a graduated stem, an arm adjustable upon said stem, a rock shaft, a valve actuated thereby and designed to control the passageway between the tanks, a rod projecting from said arm, a collar thereon, and an angled rod pivoted to one end of the rock shaft and adapted to cooperate with said collar to cause the shaft to be rocked, as set forth.

3. An apparatus for dispensing liquid comprising two tanks with passageway communicating between the same, an exit opening in one tank, a valve adapted to control said exit opening, a stem to said valve and means

for actuating said valve, hinged plate connections with said valve stem and the tank, a movable float mounted within one of said tanks and adapted to contact with said plates to close the valve, said float having a graduated stem, an arm adjustable upon said stem, a rock shaft, a valve actuated thereby and designed to control the passageway between the tanks, a rod projecting from said arm, an adjustable collar thereon, a rod pivoted to one end of said rock shaft and having an angled portion which is apertured for the reception of the rod carrying said collar, as set forth.

15 4. An apparatus for dispensing liquid comprising two tanks with passageway communicating between the same, an exit opening in one tank, a valve adapted to control said exit opening, a stem to said valve and means for actuating said valve, hinged plate

20 connections with said valve stem and the

tank, a movable float mounted within one of said tanks and adapted to contact with said plates to close the valve, said float having a graduated stem, an arm adjustable upon said stem, a rock shaft, a valve actuated thereby and designed to control the passageway between the tanks, a rod projecting from said arm, a collar thereon, an angled rod pivoted to one end of the rock shaft and adapted to coöperate with said collar to cause the shaft to be rocked, and a spring, as set forth.

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

ELIAS GRAHAM.
WILLIAM TURNER.
HOMER FOSTER.
HARVEY M. GRANT.

Witnesses:

A. L. RUFFNER,
ADA BRUSSELL.