

963,748.

J. T. DAVIS.
VENDING APPARATUS.
APPLICATION FILED JULY 20, 1908.

Patented July 12, 1910.
3 SHEETS—SHEET 1.

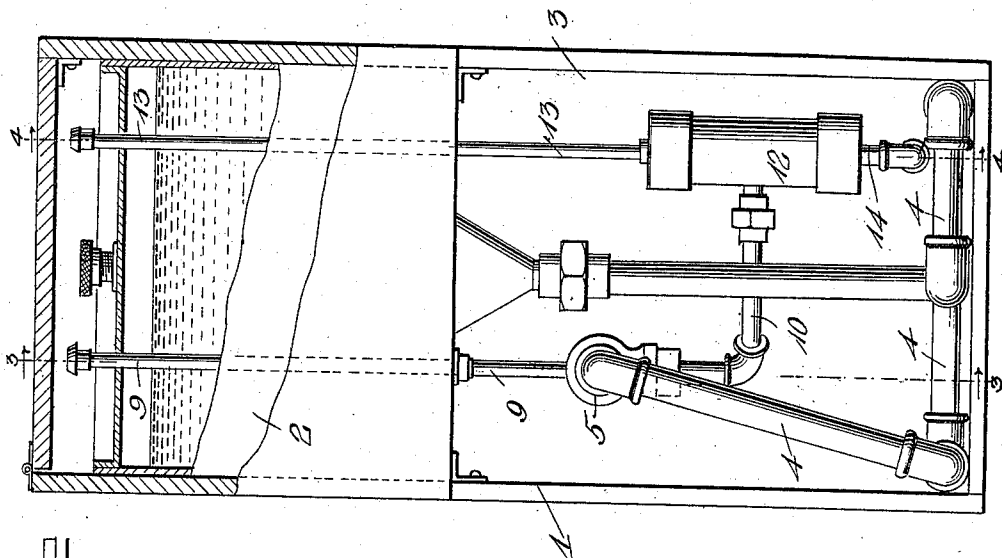


FIG. 1

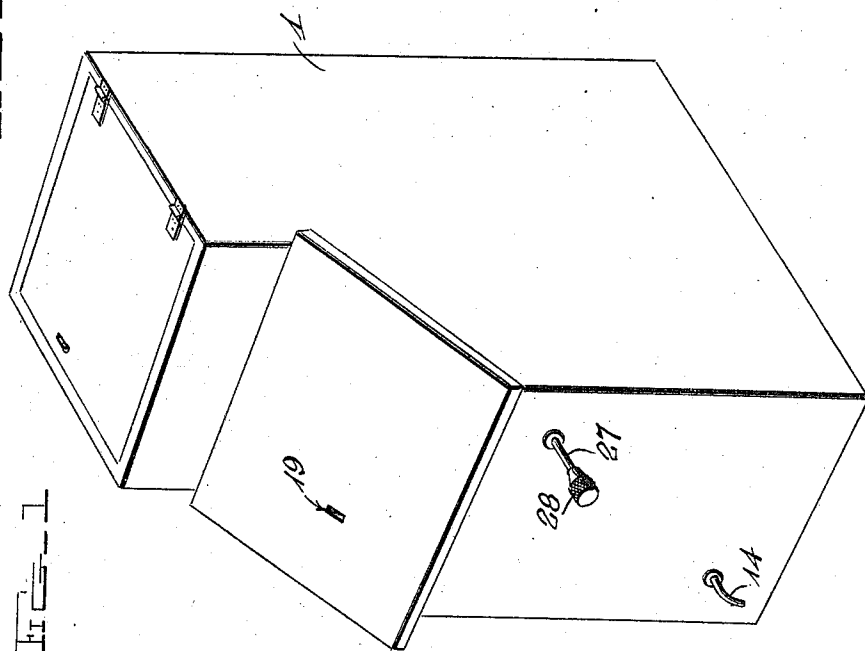


FIG. 2

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3 SHEETS—SHEET 2.

FIG. 6

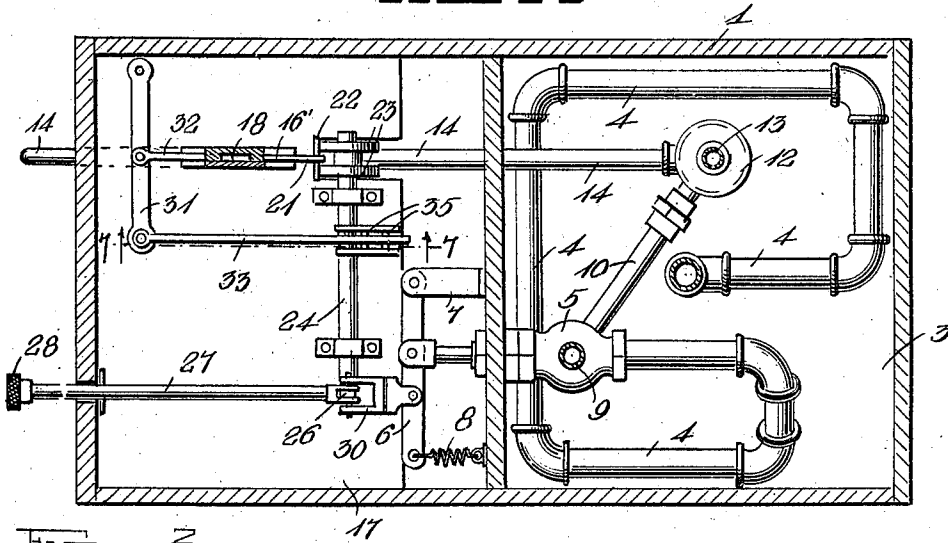
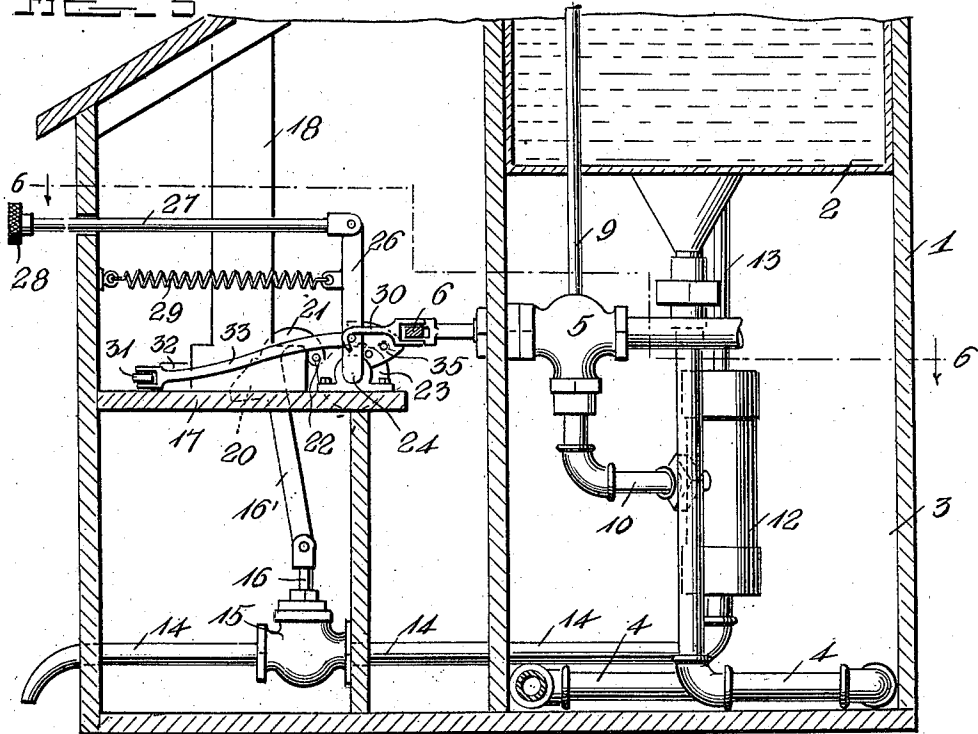


FIG. 3



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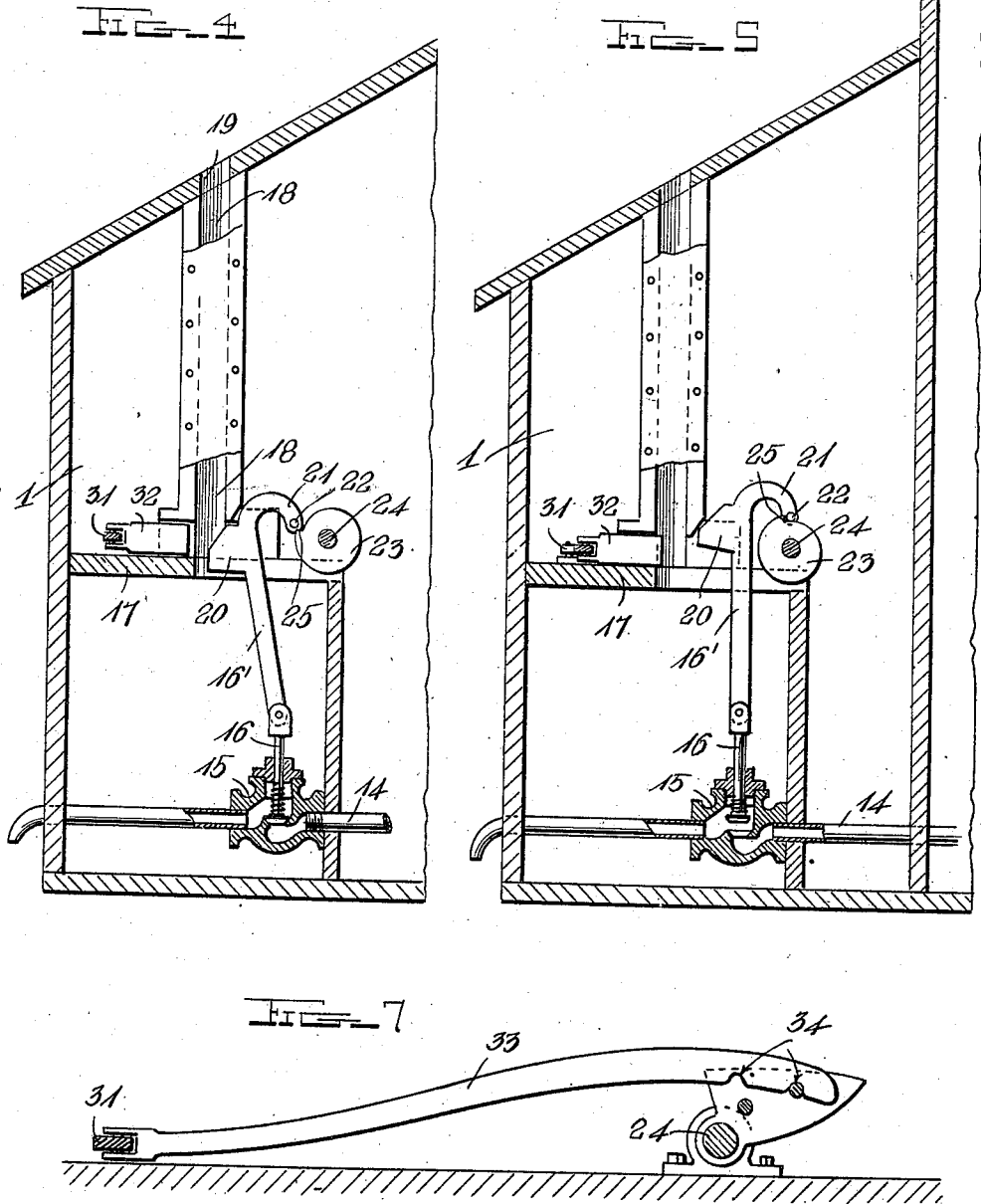
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Witnesses

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UNITED STATES PATENT OFFICE.

JOHN T. DAVIS, OF ARGENTA, ARKANSAS.

VENDING APPARATUS.

963,748.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed July 20, 1908. Serial No. 444,353.

To all whom it may concern:

Be it known that I, JOHN T. DAVIS, a citizen of the United States, residing at Argenta, in the county of Pulaski and State of Arkansas, have invented certain new and useful Improvements in 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.

This invention relates to improvements in vending apparatus for liquids.

The object of the invention is to provide an apparatus of this character by means of which mineral water and the like may be drawn in predetermined quantities upon the deposit of a proper coin in the apparatus.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a perspective view of the apparatus; Fig. 2 is partly a rear view and partly a transverse sectional view showing the arrangement of the cooling coil in the ice box of the apparatus; Fig. 3 is a vertical sectional view, taken on the line 3—3 of Fig. 2; Fig. 4 is a similar view through the coin operating mechanism taken on the line 4—4 of Fig. 2, showing the mechanism in an inoperative position; Fig. 5 is a similar view, showing the parts in an operative position such as they assume after a coin has been inserted and the plunger operated; Fig. 6 is a horizontal sectional view on the line 6—6 of Fig. 3; and Fig. 7 is a detail vertical sectional view on the line 7—7 of Fig. 6.

In the embodiment of my invention I provide a suitable casing, 1, in the upper rear portion of which is arranged a tank, 2, adapted to contain the liquid to be vended. Below the tank, 2, is arranged an ice compartment, or box, 3. In the front part of the casing is arranged the coin-controlled valve-operating mechanism, by means of which the water or other liquid may be discharged from the tank.

Connected to the tank, 2, and arranged in the ice box, 3, is a cooling coil, 4, the end of which is connected to a supply valve, 5, the stem of which projects into the front portion of the casing, and is pivoted to an operating lever, 6, said lever being pivotally

mounted on a suitable bracket, 7, secured to the casing, as shown. The lever, 6, is connected at its opposite end to a coiled spring, 8, the tendency of which is to operate the lever to cause the same to close the valve, 5.

With the casing of the valve, 5, is connected a vent pipe, 9, which extends through the tank, and projects above the upper end of the same. To the casing of the valve, 5, is also connected a measuring pipe, 10, and in which is arranged a measuring cylinder, 12. To the upper end of the measuring cylinder, 12, is connected a vent pipe, 13, which also extends upwardly through the tank and projects above the upper end of the same. To the cylinder, 12, is also connected a discharge pipe, 14, in which is arranged a coin-controlled valve, 15, the stem, 16, of which has hinged to its outer end an extension, 16' which projects upwardly through a slot formed in the transversely disposed partition, 17, arranged in the front part of the casing. Attached to the partition, 17, and communicating with the slot therein is a coin chute, 18, the upper end of which communicates with a coin slot, 19, formed in the top of the front portion of the casing, as shown.

The extension, 16' of the valve stem 16 is provided with a right-angularly projecting offset lug, 20, which projects into the lower end of the coin chute, and is adapted to be engaged by the coin when dropped into the slot and chute. The upper end of the extension, 16', is provided with a rearwardly and downwardly curved operating finger, 21, in the end of which is a transversely disposed pin, 22, which is adapted to be engaged with a valve operating cam, 23, fixedly mounted on the end of a rock shaft, 24, which is journaled in suitable bearings on the partition, 17. The cam, 23, is provided on one side with offset shoulders, 25, which are adapted to engage the transverse pin in the end of the finger, 21, on the extension, 16', whereby when the shaft, 24, is rocked, and if the finger, 21, is in engagement with the cam, the latter will lift the valve stem and open the valve, thus discharging the water contained in the measuring pipe section and cylinder.

The opposite end of the rock shaft, 24, is provided with a right-angularly formed crank arm, 26, to the upper end of which is connected a push rod, 27, which projects through the front side of the casing and is

provided with an operating knob or handle, 28. To the crank arm, 26, is also connected one end of a coiled retracting spring, 29, the opposite end of which is connected to the casing. The spring 29 is employed to restore the rock shaft to its normal position after being operated, and is also employed to aid in operating the supply valve, and to this end is connected by a link 30 to the valve operating lever 6, as shown. Pivottally connected to the partition 17, adjacent to one side of the casing, is a coin plunger lever 31 to which is secured a coin plunger 32, which is adapted to project in between the plates of the coin chute and to engage the coin dropped thereinto, and by said coin to force the extension 16' of the valve stem 16 backward into the path of movement of the cam 23, thus permitting the hooks formed by the offset shoulders of the cam to engage the transverse pin in the end of said finger, thus raising the extension and the stem a sufficient degree to open the valve and permit the discharge of the liquid from the cylinder and holding pipes to the receptacle arranged therefor in suitable position at the discharge end of the pipe which projects beyond the end of the casing. The stem 16 is provided with a suitable spring whereby the same is retracted to close the valve when the finger on the upper end of the stem is allowed to return to its original position.

The plunger operating lever has pivottally connected at one end an operating rod or bar 33, which projects forwardly over the partition 17 and has formed on its end a series of notches 34, which are adapted to engage a segmental rack 35 fixedly mounted on the rock shaft 24, whereby, when said rock shaft is actuated by the push rod 27, the coin plunger lever will be pulled rearwardly and the coin plunger connected thereto forced into the coin chute and into engagement with the coin therein and force said coin tightly against the lug 20 on the extension 16' of the valve stem 16, thus operating the valve in the manner hereinbefore described. The arrangement of the lower end of the coin chute is such that when the coin has served to force the extension 16' of the valve 15 to an operative position, the coin will drop through the slot in the partition 17 to a suitable receptacle provided therefor in the lower portion of the casing.

In the operation of the device, the valve 5 being held normally open by the engagement of the hook on link 30 with the pin on the arm 26 against the tension of the spring 8, the mineral water or other liquid in the tank will run into the cooling coil to the measuring section 10 of the pipe and cylinder 12 in which it is confined by the coin controlled valve 15, until such time as the valve is operated by the insertion of the proper coin, when the water will be dis-

charged into the receptacle provided for the same.

The parts of the valve operating mechanism are normally in the position shown in Fig. 4 with the hooks formed by the shoulders 25 projecting slightly below the pin 22 on the valve operating finger 21 whereby said finger will remain unmoved should the push rod 27 be moved inwardly without first inserting a coin in the chute 18.

When a coin of the proper size is inserted through the slot 19, it drops to the bottom of the chute 18 with its opposite edges engaging the free end of the plunger 32 and the inner end of the lug 20 on the finger 21. Pressure exerted on the button 28 moves the rod 27 inwardly and rocks the shaft 24 through the arm 26 toward the rear of the casing. This rocking of the shaft 24 causes the bar 33 engaged with the rack 35 on the shaft 24 to move inwardly and force the coin plunger 32 into engagement with the coin, thereby moving the finger 21 inward to bring the pin 22 slightly in advance of the shoulders 25. The cam 23 fixed on said shaft 24 is also turned inward by the rocking of the shaft 24 and the shoulders 25 thereof engage the pin 22 and lift the member 16' and the valve stem 16 connected therewith into the position shown in Fig. 5, whereby the valve 15 is unseated and held open thereby permitting the contents of the measuring section and cylinder to pass out through the pipe 14.

The inward movement of the rod 27 relieves the tension on the lever 6 and the spring 8 moves said lever rearward and thereby closes the valve 5 on the opening of the valve 15. When the contents of the measuring vessel have all passed out, the button 28 is released and the spring 29 moves the arm 26 forward and returns the shaft 24 and its connected parts into normal position. The spring on valve 16 closes the valve 15 and together with the weight of the lug 20 moves the finger 21 forward into the position shown in Fig. 4.

The measuring cylinder may be of any suitable size and adapted to contain more or less water to be delivered after the insertion of the proper coin in the manner hereinbefore described. In the cooling coil or compartment is adapted to be placed ice, whereby the water in said cooling coil and in the measuring section and cylinder will be kept cold without the water coming into contact with the ice.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the prin-

ciple or sacrificing any of the advantages of the invention as defined in the appended claims.

5 Having thus described my invention, what I claim as new and desire to secure by Letters-Patent, is:

10 1. In a vending machine, a liquid discharge pipe, a discharge valve in said pipe, a valve stem having an extension, a valve operating cam, a plunger operable to engage said extension with said valve operating cam, a push rod, and mechanism operable by said push rod to actuate said plunger.

15 2. In a vending apparatus, a liquid discharge pipe, a discharge valve in said pipe, a valve stem having an extension, a rock shaft,

a valve operating cam on said shaft, a plunger, a push rod operatively connected to said rock shaft, and means to connect said plunger with said rock shaft whereby said plunger is actuated by said rock shaft, means for forming connections between said plunger and extension on said valve stem with the operating cam on said rock shaft. 20

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 25

JOHN T. DAVIS.

Witnesses:

R. H. BOOKER,
GEO. G. WORTHEN.