

May 23, 1933.

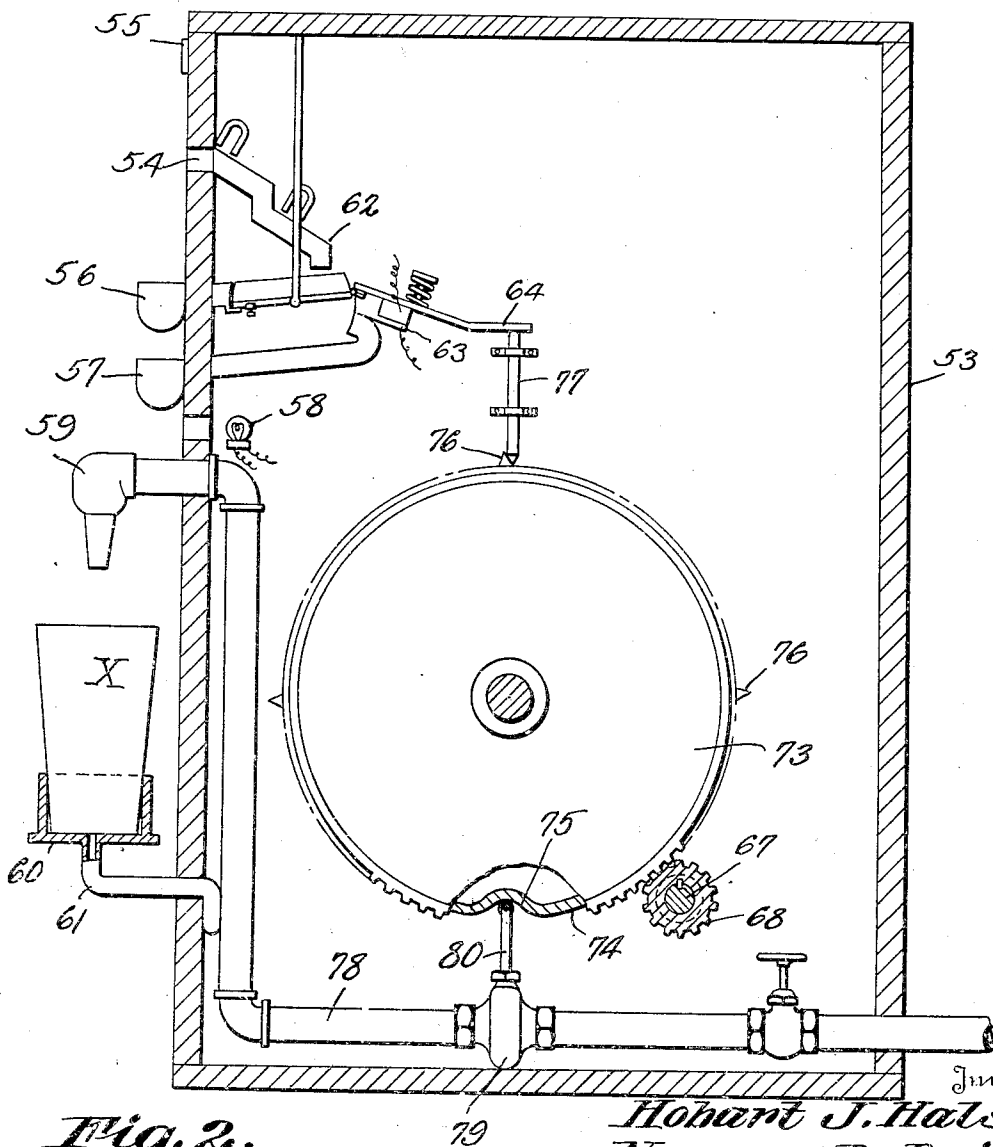
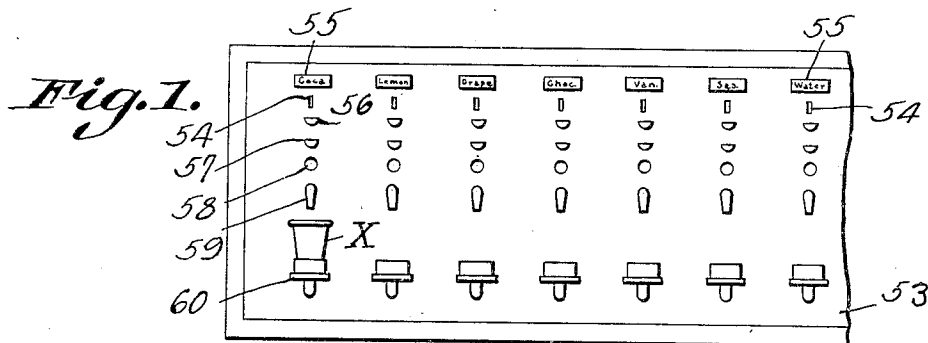
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1,911,151

VENDING MACHINE

Original Filed July 24, 1930

2 Sheets-Sheet 1



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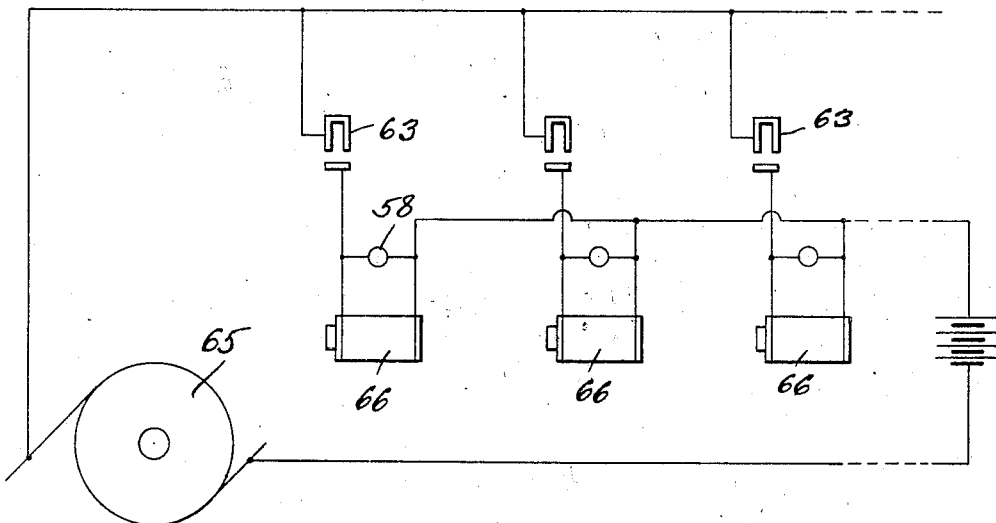
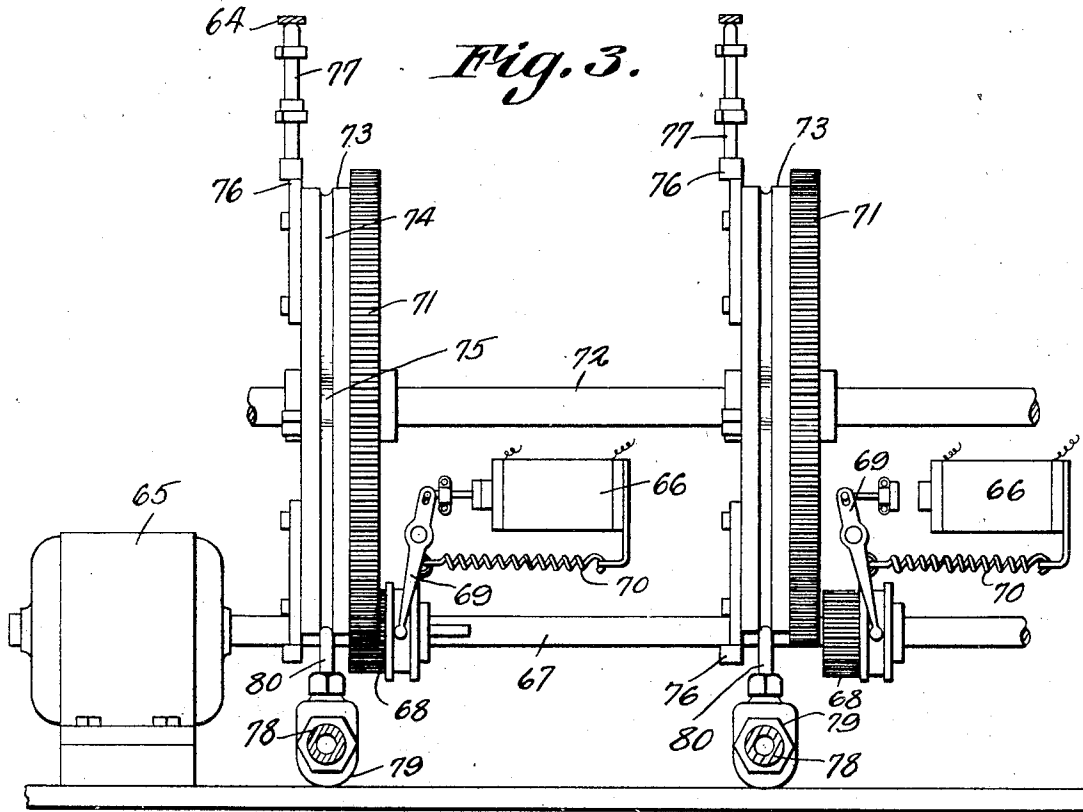


Fig. 4.

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UNITED STATES PATENT OFFICE

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VENDING MACHINE

Original application filed July 24, 1930, Serial No. 470,517. Divided and this application filed November 2, 1931. Serial No. 572,648.

This invention relates to vending machines and is a division of our application filed July 24, 1930, Serial Number 470,517.

One of the objects of the invention is to provide new and novel means whereby liquids can be dispensed from one or more outlets.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown. In said drawings:

Figure 1 is a front elevation of a portion of the structure utilizing the present invention as a means for dispensing any one of several different kinds of liquids.

Figure 2 is an enlarged section through the casing showing one of the liquid dispensing units.

Figure 3 is a front elevation of a portion of mechanism contained in the casing.

Figure 4 is a view showing in diagram the circuit for controlling the operation of the dispensing mechanism.

In the drawings there has been shown an apparatus whereby beverages of different kinds can be dispensed in predetermined amounts. In this structure the casing 53 can be provided with a series of coin slots 54 and above each of these slots can be arranged a card 55 or the like indicating the kind of beverage which will be dispensed when a coin is placed in the adjacent slot. Below each slot can be arranged pockets or cups 56 and 57 similar to those shown at 20 and 30 for receiving discarded coins. A pilot light 58 can also be arranged beneath each coin slot 54 and adjacent thereto is an outlet nozzle 59 located above the cup holder 60. This cup holder has a drain 61 extending from the bottom thereof back into the casing 53.

Coin discarding mechanism indicated generally at 62 is provided adjacent to each of

the slots 54 and cooperating with each of these mechanisms is a coin controlled switch 63 such as heretofore described and illustrated in detail in my application herein identified. This mechanism includes a hinged top strip 64 which, when lifted, will release a coin and break an electric circuit which includes an electric motor 65 and a solenoid 66. One motor only is used, this being adapted to drive shaft 67. Feathered on the shaft are small gears 68, one gear being provided for each dispensing unit.

Under normal conditions the stem 80 is seated in one of the cam depressions 75. At that time valve 80 is closed and rod 77 is located directly back of one of the cams 76 as shown in Figure 2.

When a coin of the proper denomination is placed in the coin slot indicated by the name of the beverage desired, it will travel to the switch 63 where it will be held and establish a circuit to the motor 65 and to the solenoid 66 associated with said switch. The pilot light 58 will also be placed in circuit and will indicate the nozzle 59 under which a cup X or other container is to be placed. As soon as the circuit is closed the energized motor will drive shaft 67 and all of the gears 68 but as only one solenoid was energized, only the gear 68 controlled by said solenoid will be shifted into mesh with its gear 71. Consequently only one gear 71 and one disc 73 will be rotated, these being the ones associated with the valve controlling the flow of liquid to the selected nozzle 59. As soon as this disc 73 begins to rotate, the stem 80 will be pushed out of the cam depression 75 and will be guided in groove 74 until the next cam depression 75 is left.

Each gear 68 is adapted to be shifted by a lever 69 connected to and operated by one of the solenoids 66. Springs 70 act to hold the several gears 68 normally out of mesh with large gears 71 which are mounted for independent rotation on a shaft 72.

Each of the gears 71 has a disc 73 rotatable therewith and each disc has a circumferential groove 74 in which cam depressions 75 are located at regularly spaced intervals.

Disc 73 corresponds with the disc 42 heretofore described and has lifting cams 76 projecting beyond its periphery at regular intervals, these cams corresponding with the
 5 cams 46. The cams 76 equal in number the cam depressions 75 and each of them is adapted to come against and elevate a push rod 77 which, like rod 48, is adapted to lift the strip 64 and release a deposited coin so
 10 as to break the electric circuit established by the coin.

A pipe 78 leads to the nozzle 59 from a suitable container, not shown, in which is held a supply of the beverage to be dispensed.
 15 This pipe has a valve 79 the stem 80 of which normally projects into groove 74.

While the valve stem is in the groove fluid can flow freely to the nozzle and this flow will continue until the valve stem enters
 20 another depression 75. Immediately prior to the movement of the stem into the cam depression, one of the cams 76 will push rod 77 and lift strip 64. This will release the coin and break the circuit as has heretofore
 25 been explained so that the apparatus will stop and will be reset to receive another coin.

The mechanism is so timed that the portion delivered from the nozzle can all be contained in the receptacle X.
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Obviously the apparatus can be used for dispensing any number of beverages simply by increasing or reducing the number of depressing units.

35 Different fluids other than beverages can be dispensed by this modified form of apparatus.

What is claimed is:

1. The combination with a series of outlets, a supply element leading to each outlet, and a valve for each element, of separate rotatable means for operating the respective valves to open and close them, a motor, a shaft driven thereby, means associated with each outlet for closing a circuit to the motor, and means controlled by the closing of said circuit for coupling to the motor shaft the rotatable valve operating means associated with the selected circuit
 50 closing means.

2. The combination with a series of outlets, and valves for controlling the flow of fluid to the respective outlets, of rotatable valve actuating elements, one for each valve, a motor, a shaft driven thereby, means on the shaft for driving the respective actuating elements, means associated with each outlet for closing a circuit to the motor and for coupling to the motor the driving means
 60 for operating the valve of the selected outlet.

3. The combination with a series of outlets, a supply element leading to each outlet, and a valve for each element, of separate means
 65 for operating the respective valves to open

and close them, a motor, a shaft driven thereby, means associated with each outlet for closing a circuit to the motor, and means controlled by the closing of said circuit for coupling to the motor shaft the valve operating means associated with the selected circuit closing means.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures.

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