May 17, 1938. F. J. WILLIS 2,117,530

VENDING MACHINE

Filed Feb. 8, 1937 2 Sheets-Sheet 1

Fig. 1

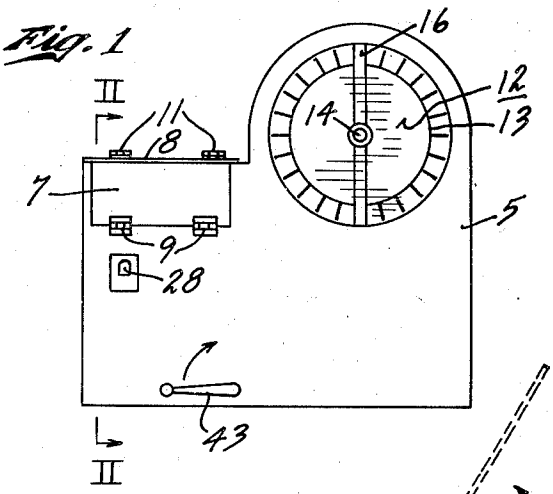


Fig. 4

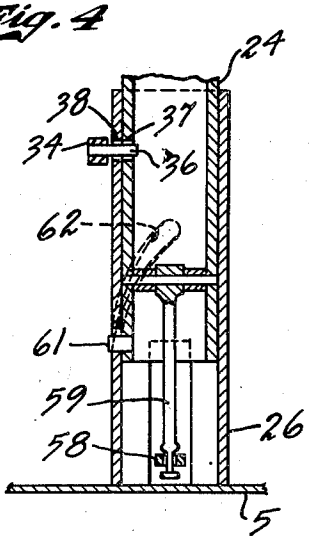
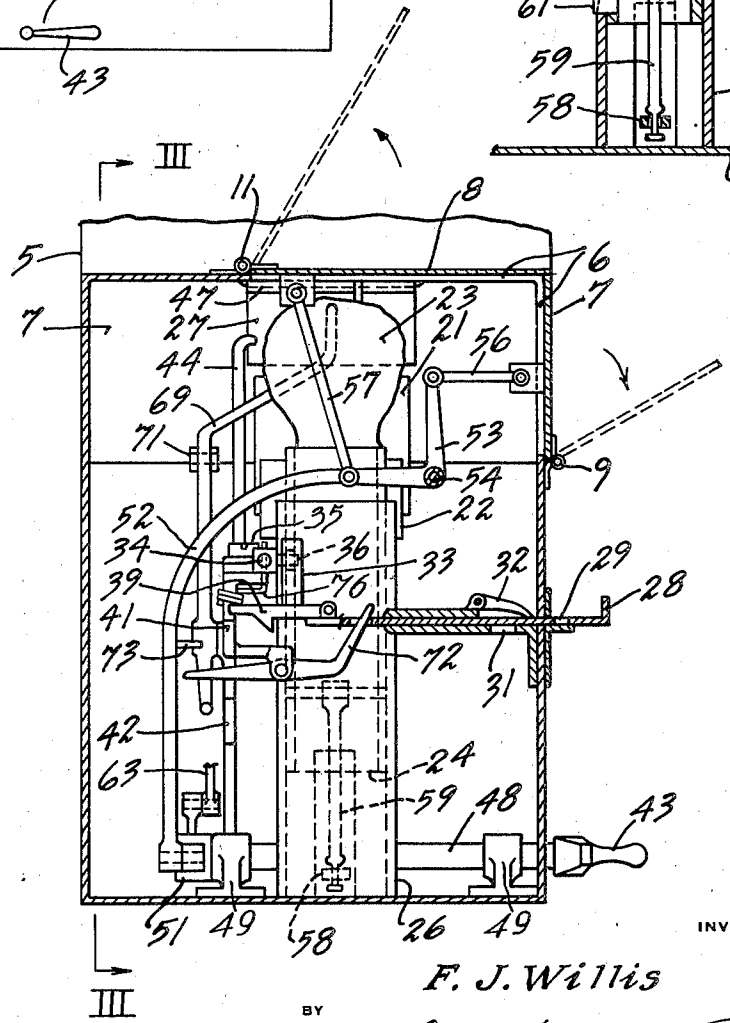


Fig. 2



INVENTOR

F. J. Willis

BY

Charles H. Bassett

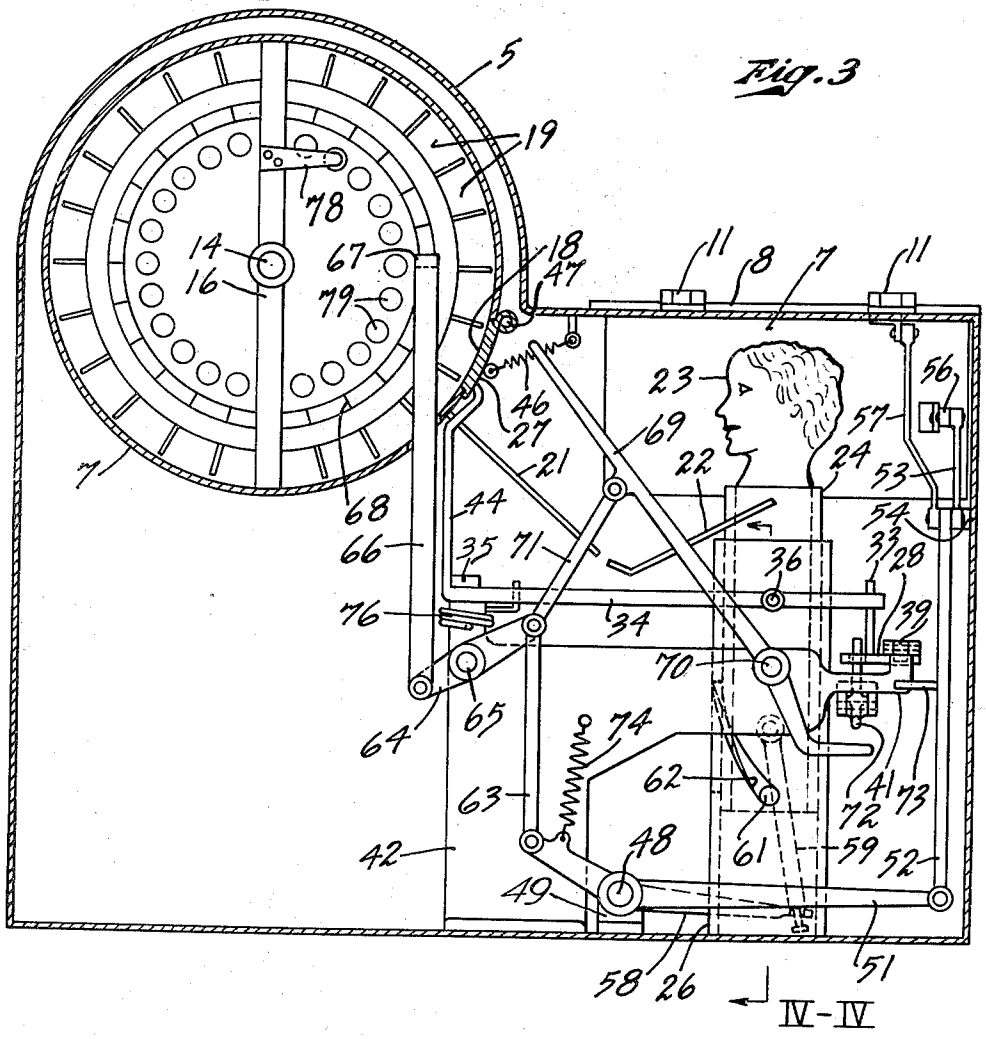
ATTORNEY

May 17, 1938. F. J. WILLIS 2,117,530

VENDING MACHINE

Filed Feb. 8, 1937 2 Sheets-Sheet 2

Fig. 3



INVENTOR

F. J. Willis

BY

Charles H. Bassett 2

ATTORNEY

Patented May 17, 1938 2,117,530

UNITED STATES PATENT OFFICE

2,117,530

VENDING MACHINE

Floyd J. Willis, Troy, Ala.

Application February 8, 1937, Serial No. 124,684

4 Claims. (Cl. 312—35)

My invention relates to vending machines and more particularly contemplates the provision of a device of this kind in which an image of a living figure is adapted to receive articles of merchandise, one at a time, from a suitable reservoir and convey same to a purchaser.

My invention further contemplates the provision of a vending machine in which the merchandise reservoir and the image of a living figure are completely enclosed when the machine is not in operation.

Briefly, my invention comprises a reservoir formed with a plurality of compartments about its periphery adapted to receive the merchandise to be vended. The reservoir is mounted for rotational movement to present compartments in alignment with an opening leading to a delivery chute which, in turn, leads to a tray carried by an image of a living figure. This image is normally enclosed within a housing, but is adapted to be revolved and moved upwardly and outwardly through a closure member provided on the housing.

A vending machine embodying other features of my invention is illustrated in the accompanying drawings, forming part of this application, wherein:

Fig. 1 is a front elevational view of my improved device;

Fig. 2 is a sectional view taken along the line II—II of Fig. 1;

Fig. 3 is a sectional view taken along the line III—III of Fig. 2; and

Fig. 4 is a sectional view taken along the line IV—IV of Fig. 3.

Referring now to the drawings for a better understanding of my invention, I show a vending machine comprising a housing 5 formed with an opening 6 adapted to be closed by means of a front door 7 and top door 8 which are hinged at 9 and 11, respectively. The front of the housing is formed with an opening covered by a sheet of glass 12 through which the reservoir 13 and any merchandise contained therein may be seen. The reservoir is secured to a shaft 14 which is journaled in bearing brackets 16 secured to a cylindrical reservoir enclosure 17. The enclosure 17 is secured to the housing and formed with an opening 18 through which merchandise is adapted to pass from the compartments 19 provided in the reservoir to a delivery chute 21 and thence onto a tray 22 carried by an image of a living figure 23.

The image 23 is mounted on the top of a movable cylinder 24 which is received in a cylindrically shaped base 26. The image normally rests in the position shown in Fig. 3 to receive an article of merchandise from the reservoir when the reservoir door 27 is opened by the action of the coin slide 28 which will now be described. The purchaser places a coin in the opening 29 and pushes inwardly on the slide 28 until the coin falls through the opening 31 into the coin box (not shown). The pawl 32 acts to prevent an inward movement of the slide when a coin has not been placed in the opening 29, by engaging the back side of the opening. The slide is provided with an arm 33 for engagement with the locking lever 34 which is pivotally mounted at 35 and carries a locking pin 36 for insertion in apertures 37 and 38 formed in the cylinder 24 and base 26, respectively. A hook-shaped latch 39 is pivotally mounted on the end of the slide for engagement with a projection 41 formed on the bearing plate 42 to prevent a return movement of the slide before the purchaser turns the crank 43.

The reservoir door 27 is normally held in its closed position by means of the upright arm 44 provided on the locking lever 34, and is adapted to be moved out of engagement with the door to permit the tension spring 46 to act to open same. The door 27 is pivotally mounted on the enclosure 17 at 47.

The crank 43 is secured on the end of the shaft 48 which is journaled for rotation in bearings 49. A door opening lever 51 is secured to the shaft 48 and acts through a connecting link 52 and a bell crank lever 53, pivotally mounted on the housing at 54, and links 56 and 57 to engage the doors 7 and 8. A figure operating lever 58 is secured to the shaft 48 and acts through a connecting rod 59 to raise and lower the movable cylinder 24. A cam pin 61 is mounted in the wall of the movable cylinder 24 for engagement with the cam slot 62 formed in the base 26 to cause the movable cylinder to rotate through an arc of forty five degrees when same is raised or lowered. The lever 51 also acts through a connecting link 63, rocker arm 64 and pull rod 66 to move the compartments 19 formed in the reservoir into alignment with the opening 18. The end of the pull rod 66 is hook shaped at 67 to engage the teeth 68 provided on the side of the reservoir. A rocker arm 69 is pivotally mounted on the bearing plate 42 at 70 and is actuated by the rocker arm 64, pivotally mounted at 65, through a connecting link 71 to close the reservoir door 27 and also to engage one end of the bell crank lever 72 to return the coin slide to its first position immediately after the pin 73 on the link 52 lifts the latch 39 out of engagement with the projection

41. The bell crank lever 72 is pivotally mounted on the bearing plate 42 and has one of its arms engaged in a slot formed in the slide 28. A tension spring 74 acts through the lever 51 to return the parts operated from the shaft 48 to their first position.

The locking lever 34 is returned to its first position by means of a coil spring 76 having its one end engaged in a hole in the locking lever and its other end secured to the plate 42. The reservoir is held against accidental movement by means of a spring member 78 which engages in recesses 79 formed in the side of the reservoir.

In the operation of my vending machine, the operator first places a coin in the opening 29 in the coin slide 28 and then moves the slide inwardly until the locking lever 34 is moved out of locking position and the latch 39 is engaged with the projection 41. This movement of the locking lever permits the spring 46 to open the reservoir door 27 and also withdraws the locking pin 36 from the apertures 37 and 38 to permit the image 23 carried by the movable cylinder 24 to be moved. After the merchandise has thus been passed from the reservoir compartment to the tray 22, the operator turns the crank 43 which acts through the lever 51, connecting link 52, lever 53 and links 56 and 57 to open the doors 7 and 8, and also to lift the latch 39 to release the coin slide; which acts through the lever 58 and connecting rod 59 to raise the image 23 through the opening 6 in the housing; and which also acts through the lever 51, link 63, rocker arm 64, link 71 and rocker arm 69 to close the reservoir door 27. The rocker arm 69 also engages the bell crank lever 72 to return the slide 28 to its outer position. After the door 27 has been closed, the locking lever 34 is returned towards its first position until the locking pin 36 engages the side of the movable cylinder 24, in which position the upright arm 44 is in front of the door 27 to hold it closed.

When the operator has removed the merchandise from the tray 22 and released the crank 43, the spring 74 acts to return the image to its lower position and to close the doors 7 and 8. While the parts are being returned to their first position, the pull arm 66 turns the reservoir to bring another compartment into alignment with the opening 18. When the image reaches its lower position, it is held against movement by the locking pin 36.

While I have shown my invention in but one form, it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit thereof; and I desire, therefore, that only such limitations shall be placed thereupon as are imposed by the prior art.

I claim:

1. In a vending machine, a housing provided with an opening therein, a closure covering said opening, an image adapted to receive and hold an article and mounted for rotational and vertical movement through said opening, means for delivering an article to said image, common means for actuating said closure to open same and for thereafter rotating and raising said image through said opening to deliver the article without the housing, and means for restoring said common means to initial position.

2. In a vending machine, a housing provided with an opening therein, a closure covering said opening, said closure embodying a front cover and a top cover, an image adapted to receive and hold an article and mounted for rotational and vertical movement through said opening, means for delivering an article to said image, common means for actuating said closure to open same and for thereafter rotating and raising said image through said opening to deliver the article without the housing, and means for restoring said common means to initial position.

3. In a vending machine, a housing provided with an opening therein, a closure covering said opening, said closure comprising a front cover and a top cover, an image adapted to receive and hold an article and mounted for rotational and vertical movement through said opening, means for delivering an article to said image, common means for actuating said closure to open same and for thereafter rotating and raising said image through said opening to deliver the article without the housing, means for locking said common means against movement, means for releasing said locking means, and means for restoring said common means to initial position.

4. In a vending machine, a housing provided with an opening therein, a closure covering said opening, said closure comprising a front cover and a top cover, an image to receive and hold an article and mounted for rotational and vertical movement through said opening, a crank shaft journaled within said housing, means provided on said crank shaft for moving said image vertically, means provided on the crank shaft for actuating said closure covers, means for delivering an article to the image, means for locking the crank shaft against movement, and means for unlocking said locking means.

FLOYD J. WILLIS.