Oct. 20, 1931. G. MORRISON 1,827,900

MACHINE FOR VENDING ARTICLES

Filed March 19, 1930 2 Sheets-Sheet 1

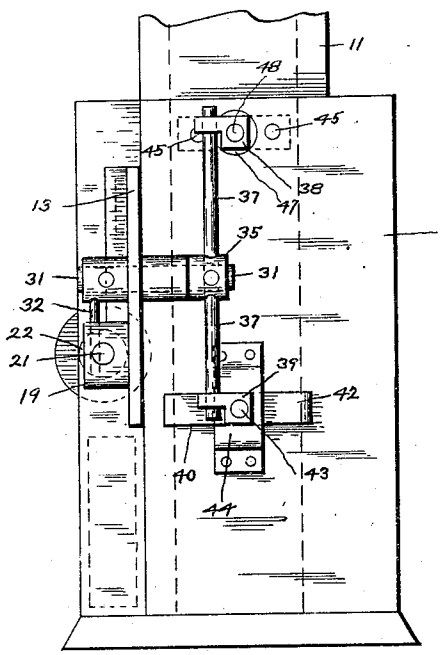


Fig 1

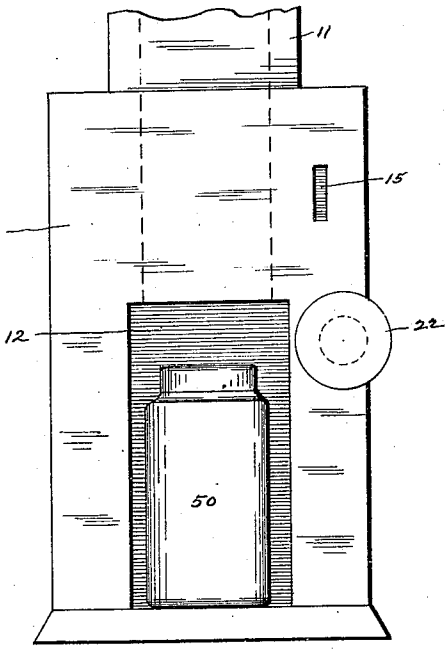


Fig 2

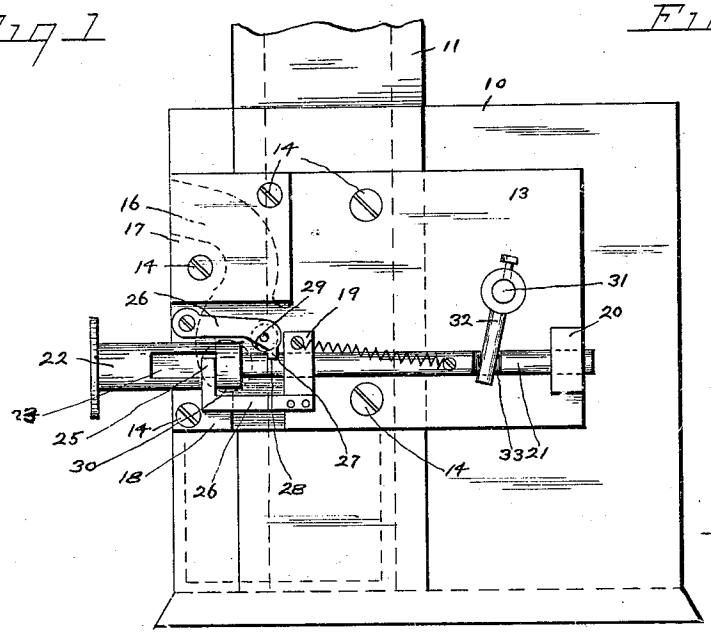


Fig 3

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MACHINE FOR VENDING ARTICLES

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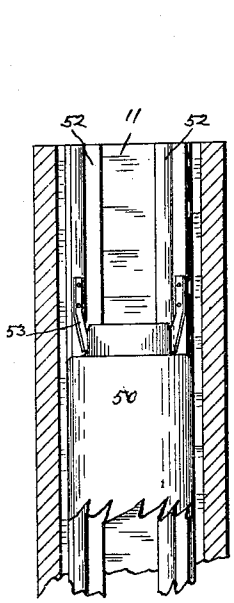
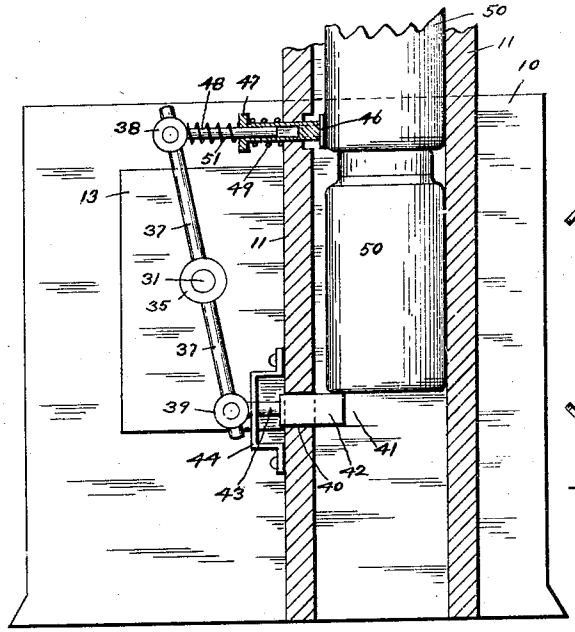


Fig 8



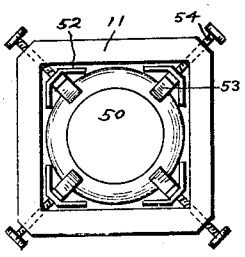


Fig 9

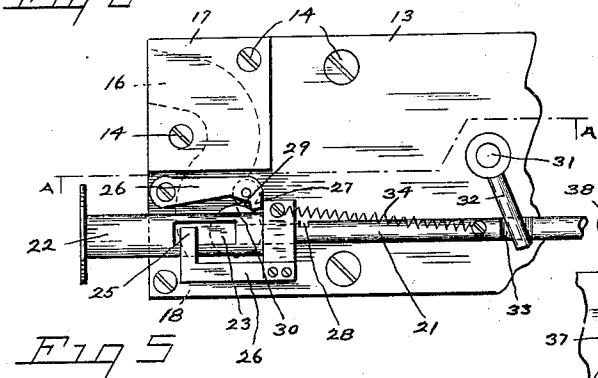


Fig 5

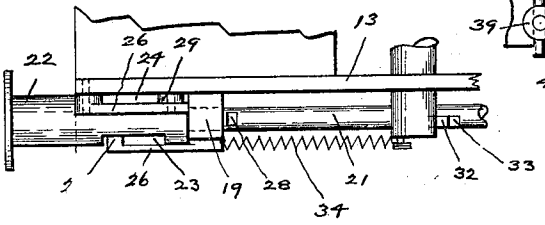


Fig 7

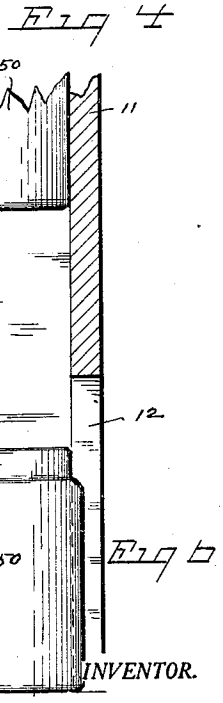


Fig 4

Fig 6

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Patented Oct. 20, 1931 1,827,900

UNITED STATES PATENT OFFICE

GEORGE MORRISON, OF POUGHKEEPSIE, NEW YORK

MACHINE FOR VENDING ARTICLES

Application filed March 19, 1930. Serial No. 437,002.

This invention relates to a vending machine in which the articles to be vended are stored one upon another in a suitable holder or magazine placed above the operating mechanism, and from which they are discharged one at a time through the mechanism which is controlled by the insertion of a suitable coin and the manipulation of a push rod.

The object of the invention is to provide a simple, durable and efficient machine for this purpose which shall be compact, contain few parts, and positive in its action.

While a suitable casing for the articles and the operating mechanism is here shown, it is understood that this may be varied as desired and also that other material may be employed, such as glass for the container or magazine, and that a series of the machines may be joined together.

With these and other objects in view, my invention comprises the novel construction and combination of parts as will hereinafter be fully described and claimed and further illustrated in the accompanying drawings in which like figures of reference refer to corresponding parts in all of the views, but it is understood that slight changes may be made without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a partial rear view of the lower parts of a vending machine embodying my invention.

Figure 2 is a front view of the same.

Figure 3 shows a partial side view, with part of the casing removed to expose the working parts.

Figure 4 is a similar view, showing the opposite side.

Figure 5 shows a partial view of the operating mechanism in its delivery position.

Figure 6 shows a partial side view in section of the device in a delivery position.

Figure 7 shows a partial top view of the same as shown in Figure 5.

Figure 8 shows a vertical sectional view of the upper part of the magazine to illustrate the adjusting device.

Figure 9 shows a top plan view of the top of the magazine, showing the adjusting means and the means to prevent withdrawal of the articles.

Referring to the drawings:—

The device comprises a casing 10 upon the upper part of which is mounted the container or magazine 11 which may be of any desired length, and the lower part thereof communicates with the delivery chamber and opening 12.

The operating mechanism is mounted upon a plate 13 which is secured to the side of the lower part of the magazine 11 by the screws 14, and this plate 13 is formed with a coin slot 15 and a coin chute 16 provided with a cover plate 17 and a stop 18 adjacent to the lower end thereof.

Said plate 15 is provided with the two bearing blocks 19 and 20, within which is slidably mounted a push rod 21, provided with a finger member 22 secured thereon and formed with a cut away portion on its front and rear sides 23 and 24, the cut out portions 23 on the front adapted to receive the hooked end 25 of the stop member 26 which is secured to the bearing 19, for the purpose of limiting the action of said finger member 22.

Above said finger member 22 is pivoted a latch 26 which is formed with a hook 27 adapted to engage with a slot 28 formed in the push rod 21 to lock the same against movement.

Said latch 26 is also provided with a roller 29 adjacent its rear face and in the same plane as the coin 30 and adapted to be engaged by the coin 30 which is in the cut out portion 24 of the finger member 22, as said member 22 is pushed inward, said coin 30 contacting with and raising said roller 29 and the latch 26 free of the slot 28 in the push rod 21.

Near the rear of the plate 15 is mounted a shaft 31 carrying on one end an arm 32 which engages a slot 33 formed in the side of the push rod 21; and said push rod 21 is also provided with a spring 34 for retaining the same in a normal locked position.

To the rear end of said shaft 31 is secured a block 35 which carries a rod 37, and upon each end of said rod 37 is secured a block 38 and 39.

The magazine 11 near the lower end thereof is formed with an opening 40 in its rear wall and adjacent grooves 41 in its side walls, and within this opening 40 is slidably mounted a stop 42 which has secured to the rear thereof a rod 43 which is slidably mounted in a bracket 44 attached to the rear wall of the magazine 11; the end of said rod 43 being pivoted to the block 39.

At a suitable distance above the stop 42 and in the rear wall of the magazine 11 is mounted on a pair of pins 45 a presser plate 46 which extends slightly within the passage of the magazine 11, and to this plate 46 is secured a tube 47 which has its outer end slidably mounted upon a rod 48 which is pivoted to the block 38, a coil spring 49 being placed on said tube 47 between its head and the wall of magazine 11, and also a spiral spring being placed on the rod 48 between the head of the tube 47 and the block 38, so that the rod 48 may be slightly pushed into the tube 47 before the tube 47 will move the presser plate 46 inward.

Referring to Figure 4, it will be seen that the magazine 11 may be filled with the articles to be vended such as the jars 50 stacked one upon the other and the lower one being held up by the stop 42, while the presser plate 46 lightly rests against the lower part of the next article 50 above.

The operation of the device is as follows:— A coin 30 being inserted into the slot will drop through the chute 16 past the back of the latch 26, the finger member 22 and rest upon the stop 18.

Now by pushing inward on the finger member 22 the coin 30 is carried forward in the cut out portion 24 of said member 22 and will contact with the roller 29 lifting the latch 26 to raise the hook 26 clear of the notch 28 releasing the push rod 21 and by a further movement of the member 22 the rod 21 will be moved against the action of the spring 34 and the arm 32 will be forced backward thus moving the shaft 31 and swing the arm 37 to carry outward the stop 42 allowing the lower article 50 to drop into the delivery opening 12, while at the same time the upper end of the rod 37 will force inward on the rod 48 and as the spring 51 is compressed, the tube 47 will carry the presser plate 46 against the article 50 and hold it and the ones above it from downward movement until the member 22 is released, when the stop 42 will fly in and the presser plate 46 will release the article 50 allowing the stack to descend until the lower article rests upon the stop 42. After the coin 30 has raised the roller 29 it will drop through the opening 52 into a coin box 53 in the bottom of the machine.

The above operation is repeated for the vending of each article in turn.

It may be found desirable to provide an adjusting means whereby the magazine may be adapted to articles of smaller diameter, and this may be accomplished as follows.

Referring to Figures 8 and 9, the magazine 11 may be provided with the liners 52 of angle shape in cross section, and these liners 52 may be mounted on the ends of screws 54 threaded into the walls of the magazine 11 and swiveled in said liners, so that by moving said screws 54 the liners may be adjusted with respect to the walls of magazine 11.

Also for preventing the removal of the articles and allowing the top of the magazine to be open for ready loading, there may be provided a series of flat spring catches 53 secured to the liners 52 and with their lower ends projecting inwardly to engage the top of the article 50 to prevent its upward passage, but allow of its downward movement.

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

1. In a vending machine, the combination with a push rod adapted to be reciprocated and formed with a cut out and a locking notch, a finger piece formed with a cut out and slidably mounted on said push rod, a detent pivoted above said push rod and adapted to engage the notch in said push rod, a coin chute above said push rod and adapted to guide a coin to the cut out of said push rod, a coin support below said push rod adjacent its cut out, a stop engaging with the cut out of the finger piece to limit its movement, and a return spring for normally retaining said push rod in a locked position.

2. In a vending machine, the combination with a push rod adapted to be reciprocated, said push rod formed with a cut out portion on one side thereof adapted to receive a coin, and a notch on its upper side, a coin chute adjacent the cut out portion and adapted to guide a coin to said cut out, a coin support arranged below said push rod and in line with said coin chute, a finger piece mounted on said push rod and having a cut out portion on one side thereof, a stop engaging the cut out portion of the finger piece to limit its movement, a detent pivoted adjacent said push rod and adapted to engage the notch in said push rod, and a spring secured to said push rod for normally retaining the same in a locked position.

In testimony whereof I affix my signature.

GEORGE MORRISON.