April 13, 1943. C. L. CASEY 2,316,315

VENDING MACHINE

Filed April 27, 1942 2 Sheets-Sheet 1

Fig. 1

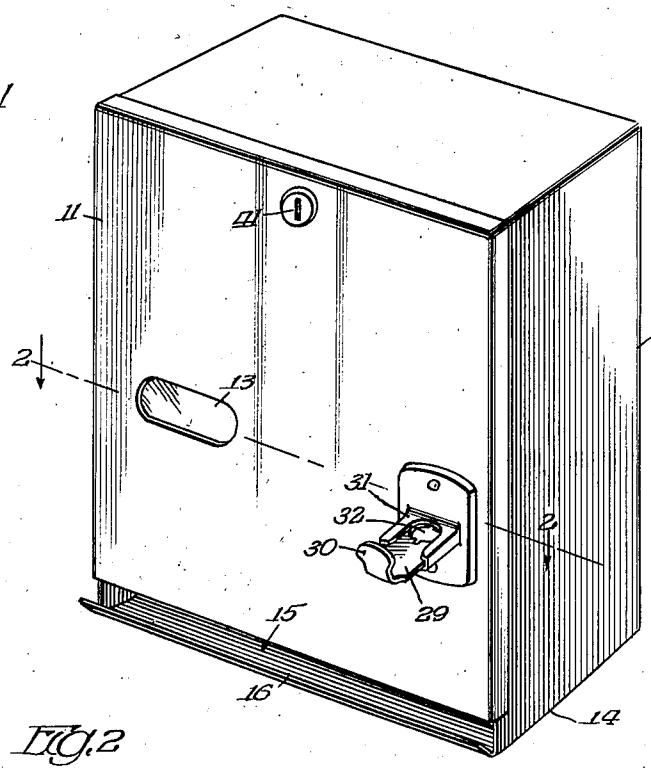
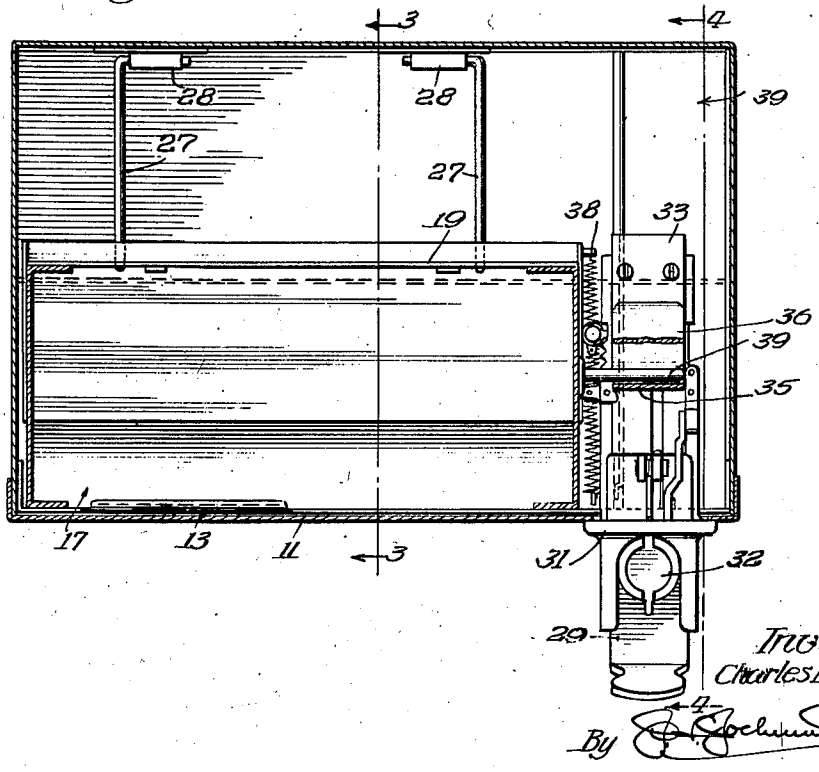


Fig. 2



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Filed April 27, 1942 2 Sheets-Sheet 2

Fig. 3

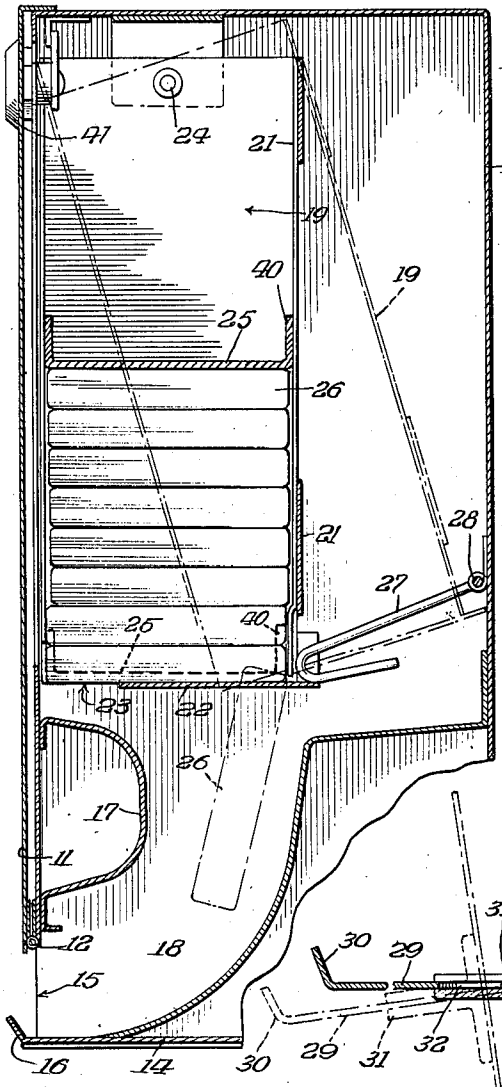
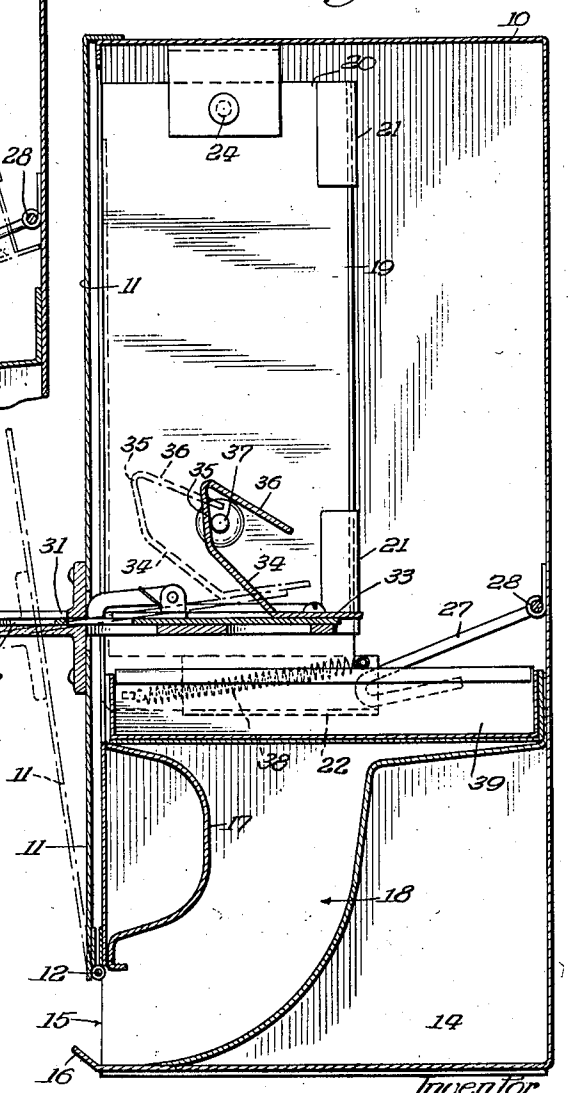


Fig. 4



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2,316,315

UNITED STATES PATENT OFFICE

2,316,315

VENDING MACHINE

Charles L. Casey, Chicago, Ill.

Application April 27, 1942, Serial No. 440,640

3 Claims. (Cl. 194—1)

This invention relates to improvements in vending machines of the type wherein there is provided a swingingly mounted article holder or container which co-operates with a fixed ejector, whereby, when the holder is moved about its pivot in one direction, an article will be ejected therefrom and delivered to the operator, and one of the objects is to provide in a machine of this character, improved means for swinging the article holder about its pivot.

A further object is to provide a slidable coin controlled actuator which is disconnected from the container, but which is provided with an arm or member that is adapted to engage over a projection or formation on the article holder, to positively move the latter in both directions of its movement, and which arm or member has a sliding operative movement.

A further object is to provide in a machine of this character, improved means whereby the ejector itself will cooperate with another portion of the mechanism, to maintain the article holder against movement and, at the same time, lock the coin controlled actuator slide against operation when the article holder is empty.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts, hereinafter more fully described and claimed and shown in the accompanying drawings illustrating this invention, and in which

Fig. 1 is a perspective view of a machine of this character, constructed in accordance with the principles of this invention.

Fig. 2 is a horizontal sectional view taken on line 2—2, Fig. 1, on an enlarged scale.

Fig. 3 is a vertical sectional view taken on line 3—3, Fig. 2.

Fig. 4 is a vertical sectional view taken on line 4—4, Fig. 2, also showing some of the parts in dotted position.

Referring more particularly to the drawings, the numeral 10 designates, generally, a casing which may be of any desired size and configuration, and constructed of any suitable material. The casing is provided with an open front having a closure 11 which is pivotally mounted at its base, as at 12, and is provided with a sight opening 13, by means of which the articles therein may be viewed.

The bottom of the closure 11 terminates short of the bottom 14 of the casing, to provide a delivery or discharge opening 15 having a ledge 16 at the bottom of the opening.

Supported in any suitable manner at the front of the casing is an inwardly extending projection 17, to form a delivery chute 18 for the article.

Within the casing is arranged an article holder 19 which may be of any configuration and construction; suffice it to say that it is provided with end walls 20 and members 21, which latter form the back of the holder. The front of the holder is open, and the bottom 22 preferably terminates short of the front of the holder, to provide a delivery opening 23.

The article holder is supported for pivotal or swinging movement within the casing 10 in any suitable manner, preferably by means of pivots 24 adjacent the top thereof. A follower 25 is arranged within the holder and rests upon the articles 26.

An ejector 27 is pivotally supported, as at 28, upon any fixed support, preferably the back of the casing, and this ejector may be of any desired size and configuration, and is so positioned that the forward end thereof will engage and move upon the bottom 22 of the article holder, when the latter is swung about its pivot, into the dotted line position shown in Fig. 3, the pivot 28 of the ejector 27 functioning to permit the ejector to be maintained in a proper position when the article holder is being swung about its pivot.

The article holder is actuated to have the articles ejected therefrom by a coin controlled mechanism, which latter may be of any desired or suitable construction such, for instance, as shown in Patent 1,908,380 May 9, 1933, or 1,908,752 May 16, 1933. Suffice it to say that the coin controlled mechanism embodies a slide 29 which projects through the closure 11, and the forward end thereof is shaped to form a handle or finger engaging portion 30.

This slide 29 moves through a suitable guide 31, and is provided with a coin receiving opening 32, which latter, when the slide 29 is moved forwardly to its fullest extent, will be exposed, as shown more clearly in Fig. 2, so as to receive a coin.

The slide 29 projects for any suitable distance into the casing 10 when the closure 11 is in a closing position, and secured to the slide is an arm or member 33 having an upwardly inclined portion 34, the extremity of which is formed into an open hook comprising the walls 35 and 36.

Secured to one of the walls of the article holder 19 is a pin or projection 37 which extends into the path of movement of the arm or member 33.

The hook-shaped portion is so designed that, when the closure 11 is swung about its pivot or hinge 12 into the dotted line position shown in Fig. 4, the hook-shaped portion of the arm will pass over or out of engagement with the pin or projection 37. When the closure 11 is then moved into a closing position, or back to the full-line position shown in Fig. 4, the hook-shaped extremity of the arm 33 will pass over the pin or projection 37, as shown in full lines in Fig. 4.

It will therefore be seen that the closure 11 may be swung to an open or closed position without in any way affecting the movement of the article holder about its pivot.

The parts in Fig. 4 in full lines are in the position they will assume after a coin has been deposited in the receiving opening 32 of the slide 29 and the slide pressed inwardly for a short distance.

It will be noted that, during this movement of the slide 29, the portion 35 of the arm 33 is in engagement with the pin 37 so that, upon a further movement of the slide 29 in the same direction, the portion 35 of the arm 33 will force the pin 37 backwardly, thereby swinging the holder 19 about its pivot 24 so that the end of the ejector 27, engaging the lowermost article 26 in the holder, will eject it through the opening 23 of the holder and deposit the same in the chute 18, to be delivered to the operator through the opening 15, as shown in dotted lines in Fig. 3.

When the slide 29 is then moved forwardly from the dotted line position shown in Fig. 4, the portion 36 of the arm 33 will engage the pin 37, and thereby the holder 19 will be swung forwardly from the dotted line position shown in Fig. 3, back to the full-line position.

With this improved construction, it will be manifest that the article holder is not only positively moved in both of its directions of movement about its pivot 24, but the closure 11 may be swung to an open or closed position, and during such movements of the closure, the hook-shaped portion of the arm 33 will move over the pin 37.

If desired, although it is not necessary, a spring 38 may be provided to assist in the movement of the article holder in one direction, such spring being anchored at one end to a fixed support, and connected at its other end to the holder.

A removable coin receiving tray 39 may also be provided, into which the coins from the opening 32 in the slide 29 will drop when the coin opening 32 is in alinement therewith. It is, of course, to be understood that the slide 29 is controlled by any suitable mechanism such as pawls, ratchets or dogs, well known in this art.

When all of the articles 26 have been ejected from the holder 19, the follower 25 will assume a position to rest upon the bottom 22 of the holder, with the result that the rear wall 40 of the follower will be in alinement with the end of the ejector 27, so as to lock the holder 19 and prevent it from being swung about its pivot 24 when the holder is empty of articles.

A suitable locking device 41 may also be provided for locking the closure 11 in a closing position.

While the preferred form of the invention has been herein shown and described, it is to be understood that various changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims, without departing from the spirit of this invention.

What is claimed as new is:

1. In a vending machine, a casing having a discharge outlet for the articles, an article holder swingingly mounted in the casing, a fixed ejector operable when the said holder is moved in one direction about its pivot, to eject an article from the holder, a closure for the casing, an actuator slide, a formation on said holder, and an arm carried by said slide, separate from but engaging over said formation, whereby to positively move the article holder about its pivot in both directions of movement of said slide, said slide being mounted upon said closure, whereby when said closure is opened the arm will move into an inoperative position with respect to said formation, and into an operative position with respect thereto when the closure is closed.

2. In a vending machine, a casing having a discharge outlet for the articles, an article holder swingingly mounted in the casing, a fixed ejector operable when the said holder is moved in one direction about its pivot, to eject an article from the holder, an actuator slide, a formation on said holder, an arm carried by said slide, separate from but engaging over said formation, whereby to positively move the article holder about its pivot in both directions of movement of said slide, and a closure for the casing, said slide and arm being supported by said closure, said arm therefore being movable out of and into operative positions with respect to the said formation when said closure is respectively opened and closed.

3. In a vending machine, a casing having a discharge outlet for the articles, an article holder swingingly mounted in the casing, a fixed ejector operable when the said holder is moved in one direction about its pivot, to eject an article from the holder, an actuator slide, a formation on said holder, an arm carried by said slide, separate from but engaging over said formation, whereby to positively move the article holder about its pivot in both directions of movement of said slide, and a closure for the casing, said slide and arm being supported by said closure, said arm therefore being movable out of and into operative positions with respect to the said formation when said closure is respectively opened and closed, the said arm embodying inclined surfaces positioned on opposite sides of the said formation.

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