

Oct. 26, 1926.

1,604,804

D. J. BUTTERFIELD

VENDING MACHINE

Filed Feb. 9, 1923

3 Sheets-Sheet 1

Fig. 1.

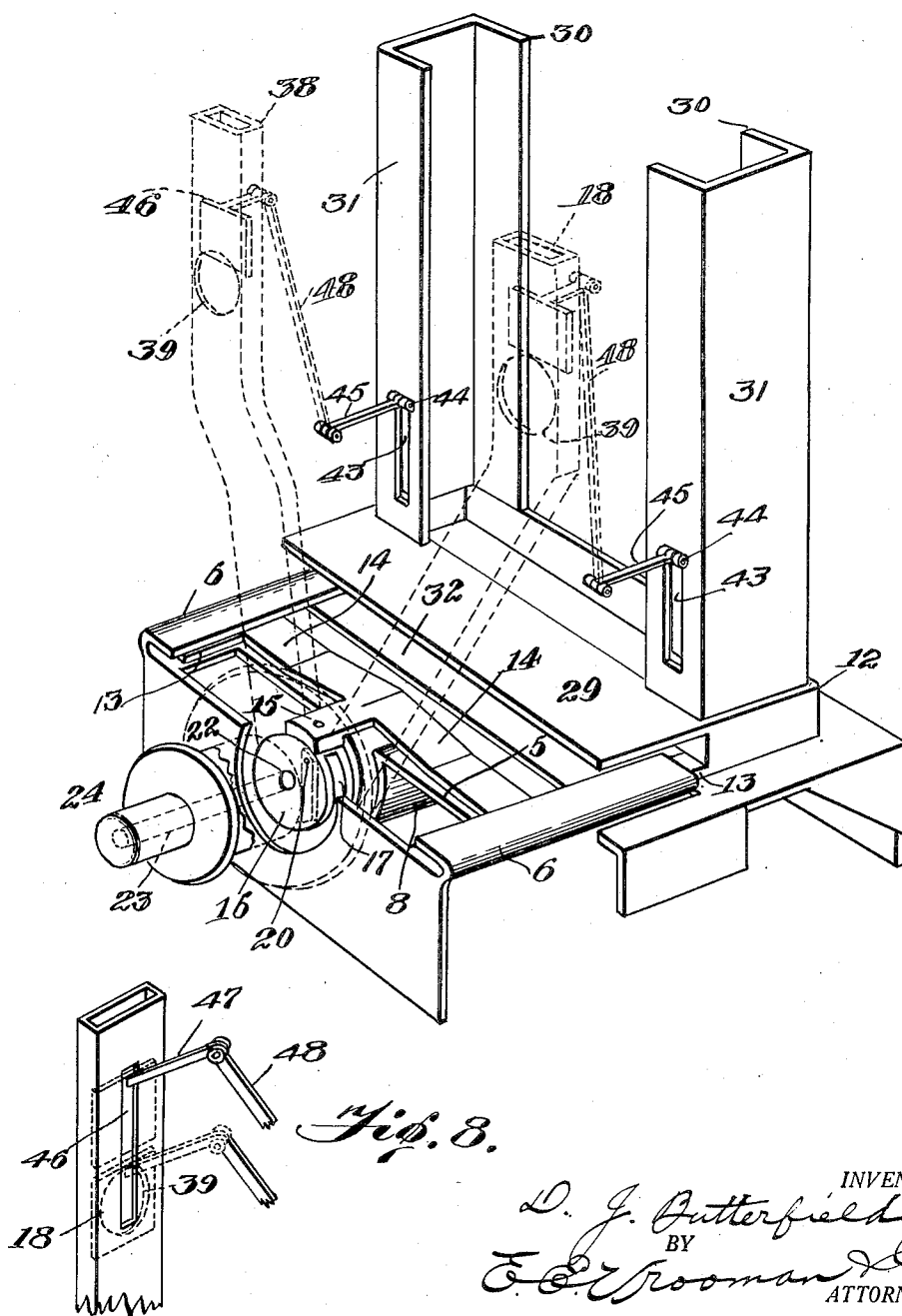


Fig. 8.

INVENTOR.

D. J. Butterfield,
BY
E. C. Prooman & Co.,
ATTORNEYS.

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D. J. BUTTERFIELD

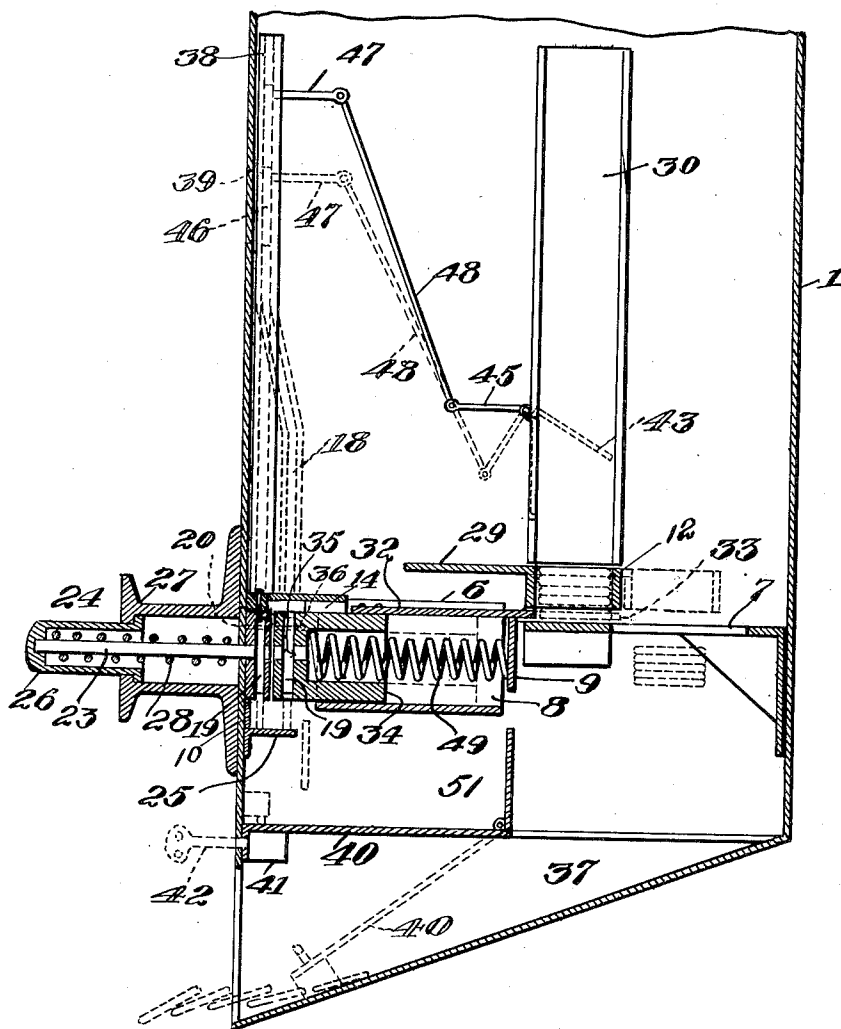
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Fig. 2.



D. J. Butterfield, INVENTOR.
BY E. C. Frooman & Co., ATTORNEYS.

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D. J. BUTTERFIELD

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Fig. 3.

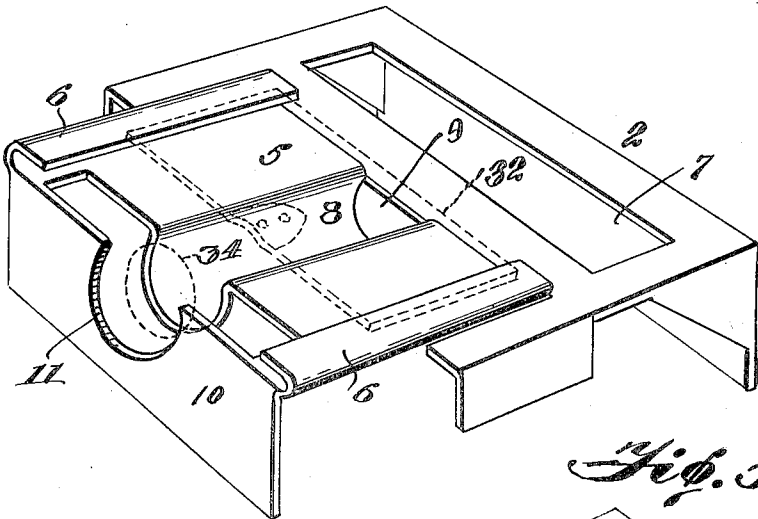


Fig. 5.

Fig. 4.

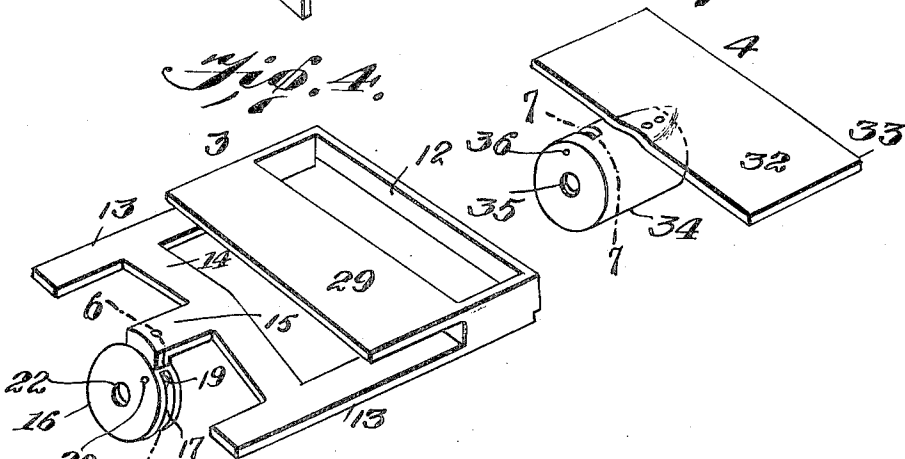


Fig. 6.

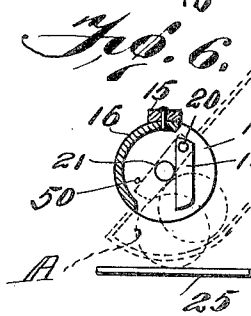
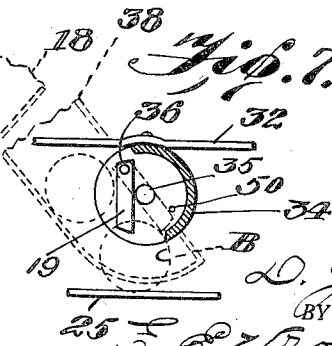


Fig. 7.



INVENTOR.

D. J. Butterfield,

BY

F. C. Frooman & Co.,
ATTORNEYS.

Patented Oct. 26, 1926.

1,604,804

UNITED STATES PATENT OFFICE.

DANIEL J. BUTTERFIELD, OF LOS ANGELES, CALIFORNIA.

VENDING MACHINE.

Application filed February 9, 1926. Serial No. 87,113.

This invention relates to vending machines.

The object of my invention is the production of a simple and efficient mechanism for the vending of goods or merchandise such as chewing gum.

Another object of the invention is the construction of a simple and efficient coin controlled vending mechanism, whereby a single stick or a plurality of sticks of gum may be vended or discharged at the same time.

With the foregoing and other objects in view, my invention comprises certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described, illustrated in the accompanying drawing and more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a perspective view of a mechanism constructed in accordance with the present invention.

Figure 2 is a longitudinal, vertical sectional view of a vending container or casing and my mechanism therein.

Figure 3 is a perspective view of the main frame of my vending mechanism.

Figure 4 is a perspective view of the primary sliding device.

Figure 5 is a perspective view of the auxiliary sliding device.

Figure 6 is a transverse sectional view taken on line 6—6, Figure 4.

Figure 7 is a transverse sectional view taken on line 7—7, Figure 5.

Figure 8 is a fragmentary perspective view of one of the coin chutes and the means for closing the coin slot and the chute.

Referring to the drawings by numerals, 1 designates the vending machine container or casing, in which is positioned my gum vending machine mechanism.

This gum vending machine mechanism comprises a main frame 2 (Fig. 3), a primary sliding device 3 (Fig. 4) and an auxiliary sliding device 4 (Fig. 5).

The main frame 2 includes a bed plate 5 which has at its sides guide flanges 6—6. In the frame 2 is an elongated discharge opening 7. The bed plate 5 is depressed at its center to form a holding and guiding channel 8 for the purpose hereinafter described. The channel 8 has a closed end 9. The front 10 of the frame 2 has a cut away portion 11.

The primary sliding device 3 includes a

gum holder 12, at one end, and extending from the gum holder are runner sides 13, 13, which sides are normally under the guide flanges 6. Connecting the sides 13 is a bridging cross bar 14, and extending from the center of cross bar 14 is neck 15. Secured to the outer end of neck 15 is a depending coin receiver 16; this receiver 16 is slotted, at 17, to receive a nickel that is directed into the same through coin chute 18. In the coin receiver 16 is a guard latch 19, which is pivotally mounted, at 20. An aperture 21 (Fig. 6) is formed in the inner portion of coin receiver 16, and an aperture 22 is formed in the outer portion of said receiver; these apertures 21 and 22 register, so as to receive the plunger rod 23 of the plunger device 24 (Fig. 2). When a coin A (Fig. 6) is in the slot 17 of coin receiver 16, it rests upon the bracket shelf 25, holding the latch 19 in front of the aperture 21, thus permitting the inner end of plunger rod 23 to engage the latch and cause inward bodily movement of the primary sliding device, when pressure is exerted upon head 26 of said plunger device 24.

The plunger device 24 comprises a casing 27 suitably fastened to the front of casing 1, and slidably mounted on the outer end of casing 27 is head 26. The outer end of plunger rod 24 is fastened to the outer end of head 26 and around this rod is coil spring 28. When the head 26 is pressed inwardly and released by the operator, spring 28 will return it to its normal extended position, as shown in Figure 2. The plunger device, through the medium of the rod 23 operates the primary and auxiliary sliding devices 3 and 4, as will be fully described.

Extending from the gum holder 12 is a cut-off apron 29, which apron is adapted to pass under the lower end of the stick gum holder 30, closing said end while a certain portion of gum is being discharged. This gum holder 30 includes chute sections 31 that are fastened in any ordinary manner to the casing 1.

The auxiliary sliding device 4 comprises a pusher plate 32 that has a pusher end 33. This plate 32 is secured to the top of coin and spring receiver 34. The receiver 34 is closed at its outer end and open at its inner end (Figs. 2 and 5). In the outer end of receiver 34 is an aperture 35, which aperture registers with apertures 21 and 22, in all of which apertures the

plunger rod 23 may be positioned. Pivoted at 36, on receiver 34, is a guard latch 19 that is adapted to be held by coin B (dotted lines Fig. 7) over aperture 35, so that when a penny, as at B, is deposited, the auxiliary sliding device can be operated by the plunger device for discharging a single stick of gum through discharge opening 7 into the delivery chute 37 of the casing 1 (Fig. 2). The chute 38 is the "penny" chute, and each chute 18 and 38 is provided with a coin slot 39, through which a coin is passed when the purchaser desires to receive the gum or other article that is being vended by my apparatus.

Under the bracket shelf 25 is a hinged bottom 40, which is held in a closed position by lock 41, which lock is controlled by a key 42.

I have provided coin chute closing means for preventing coins being placed in the chute when the machine is empty. This means includes the placing in the chute sections 31 of triggers 43, which are pivotally mounted at 44, and extending outwardly from these triggers 43 are arms 45. In each coin chute 18 and 38, is a slidable plate 46, which is adapted to move over the coin slot 39 to close the same when the gum has been exhausted from the gum holder. This is accomplished by connecting the fixed arms 47 of plates 46 with the lever arms 45 by means of links 48, so that when the gum is out, or exhausted from, the chute sections 31, constituting the gum holder 30, the weight of the closing devices will be such as to cause triggers 43 to extend into the gum chutes 31, as shown by dotted lines in Figure 2, with the closing plates 46 down in line with coin slots 39, closing the same until a new supply of the gum is placed in the gum holder 30, whereupon the triggers 43 will be pressed back out of the path of downward movement of the sticks of gum, whereupon the plates 46 will be held up out of the way so that coins can be passed into the coin chutes through the coin slots 39.

The operation of the mechanism is as follows: If a single stick of gum or other article is desired, this is purchased or secured by placing a penny in slot 39 whereupon it falls in the position B (Fig. 7), causing the guard latch 19 of the auxiliary sliding device to move in front of opening 35 whereupon the purchaser can cause the inner end of rod 23 to hit against said latch 19 and thereby slide inwardly plate 32 and receiver 34, pushing, at end 33 of plate 32, a single stick of gum over the discharge opening 7, whereupon said stick will drop into the delivery chute 37 and be secured by the purchaser. During this operation, coil spring 49 will be compressed, so that as soon as pressure is removed from head 26 of the plunger device 24, this spring 49 will cause the auxiliary

sliding device to move outward towards the front of casing 1 into its non-discharging position; it will be noted that the outer end of spring 49 bears against the outer end of receiver 34, whereas its inner end bears against the closed end 9 of channel 8.

Upon a nickel being placed in the coin slot 39 of chute 18, it will pass downward therein and take the position of A (Fig. 6), in the coin receiver 16, causing latch 19 thereof to move in front of aperture 21, whereupon rod 23 can engage the latch 19 and cause an inward sliding movement, not only of the primary sliding device 3 but also the auxiliary sliding device 4, since the coin receiver 16 will abut against the outer end of coin receiving device 34. Therefore, as four sticks of gum (Fig. 2) are in the gum holder 12, and one stick of gum is being operated upon by end 33 of plate 32, it will be seen that five sticks of gum will be pushed from under the gum holder 30 and over discharge opening 7 and thence dropped into the delivery chute 37 where the person placing the nickel in the machine can secure the five sticks of gum. Immediately upon the discharge of the five sticks and the releasing of head 26 by the operator or purchaser, spring 49 will return both of the sliding devices 3 and 4 to their normal position, as shown in Figures 1 and 2, ready for another operation, whether it be for the discharge of a single stick or article or a plurality of sticks or articles. The apron 29 slides under the gum holder, during the discharge of five sticks and prevents any additional sticks from moving out of the gum holder until the gum holder 12 is under the stick gum holder 30.

It will, therefore, be seen that I have provided simple and efficient gum vending machine mechanism, which comprises a casing, a frame in said casing, a primary and an auxiliary sliding device mounted on said casing, and a plunger device for operating one of said sliding devices or both together for vending articles.

In both of the coin receivers 16 and 34 is a stop pin 50 against which the latches 19 strike, when pivoted by the coins; these pins 50 hold the latch in proper position to cover the plunger rod receiving apertures, so that the inner end of the plunger rod strikes against the latches to permit pushing or shoving of the discharging sections 3 and 4. As soon as either discharge section has moved inwardly far enough to allow the coin to clear the bracket shelf 25, the coin will then drop into the coin receptacle 51, falling upon the hinged bottom 40, and will be retained in the coin receptacle until key 42 is inserted in the lock 41 by the owner or licensee of the vending machine.

While I have described the preferred embodiment of my invention and illustrated the

same in the accompanying drawings, certain minor changes or alternations may appear to one skilled in the art to which this invention relates during the extensive manufacture of the same, and I, therefore, reserve the right to make such changes or alterations as shall fairly fall within the scope of the appended claims.

What I claim is:

10 1. In a mechanism of the class described, the combination with a casing, of a main frame in said casing, said main frame including guide flanges and a guiding channel and a discharge opening, a set of sliding devices
15 on said main frame and movably mounted within said guide flanges, each sliding device provided with a coin receiver within said channel, said sliding devices adapted to discharge goods through said discharge
20 opening of the main frame, and a plunger device operating upon coins in said coin receivers of the sliding devices for sliding the sliding devices upon the main frame for discharging goods or articles.

25 2. In a mechanism of the class described, the combination with a casing, of a main frame in said casing, said main frame including a bed plate provided with a longitudinally extending guiding channel, said
30 bed plate provided at its sides with overhanging flanges, said main frame provided contiguous to the bed plate and flanges with an elongated discharge opening, and means slidably mounted under the flanges and in
35 said guiding channel for discharging articles through said discharge opening of the main frame.

3. In a mechanism of the class described, the combination with a casing, of a main
40 frame in said casing, a primary sliding device on said main frame, an auxiliary sliding device within said primary sliding de-

vice and mounted on said main frame, said primary sliding device including an article holder, a cut-off apron, a cross bar and run- 45 ner sides, a neck extending from said cross bar, a depending coin receiver secured to said neck, said auxiliary sliding device comprising a pusher plate and a coin receiver, said coin receivers of said silding devices in 50 alignment, a spring within said main frame, and pressing against said auxiliary sliding device for holding both of said sliding devices in their normal inoperative position, and a plunger device adapted to extend into 55 both of said coin receivers and operate said sliding devices when a coin is in the coin receiver of one of the devices.

4. In a mechanism of the class described, the combination with a casing, of a primary 60 and an auxiliary sliding device in said casing, said primary sliding device including article holding means and a cut-off apron, said primary device provided with a bridging cross bar and with an outwardly extend- 65 ing neck, a slotted and apertured coin receiver suspended from said neck, and manually operated means for actuating separately said auxiliary sliding device when a coin is therein, or actuating both said auxiliary and 70 primary sliding devices when a coin is in said slotted and apertured coin receiver of the primary sliding device.

5. In a mechanism of the class described, the combination with a casing, of a main 75 frame in said casing, said main frame provided with parallel flanges, a plurality of discharge devices slidably mounted between said flanges, and means on said casing for operating said discharge devices when a coin 80 is in one of said discharge devices.

In testimony whereof I hereunto affix my signature.

DANIEL J. BUTTERFIELD.