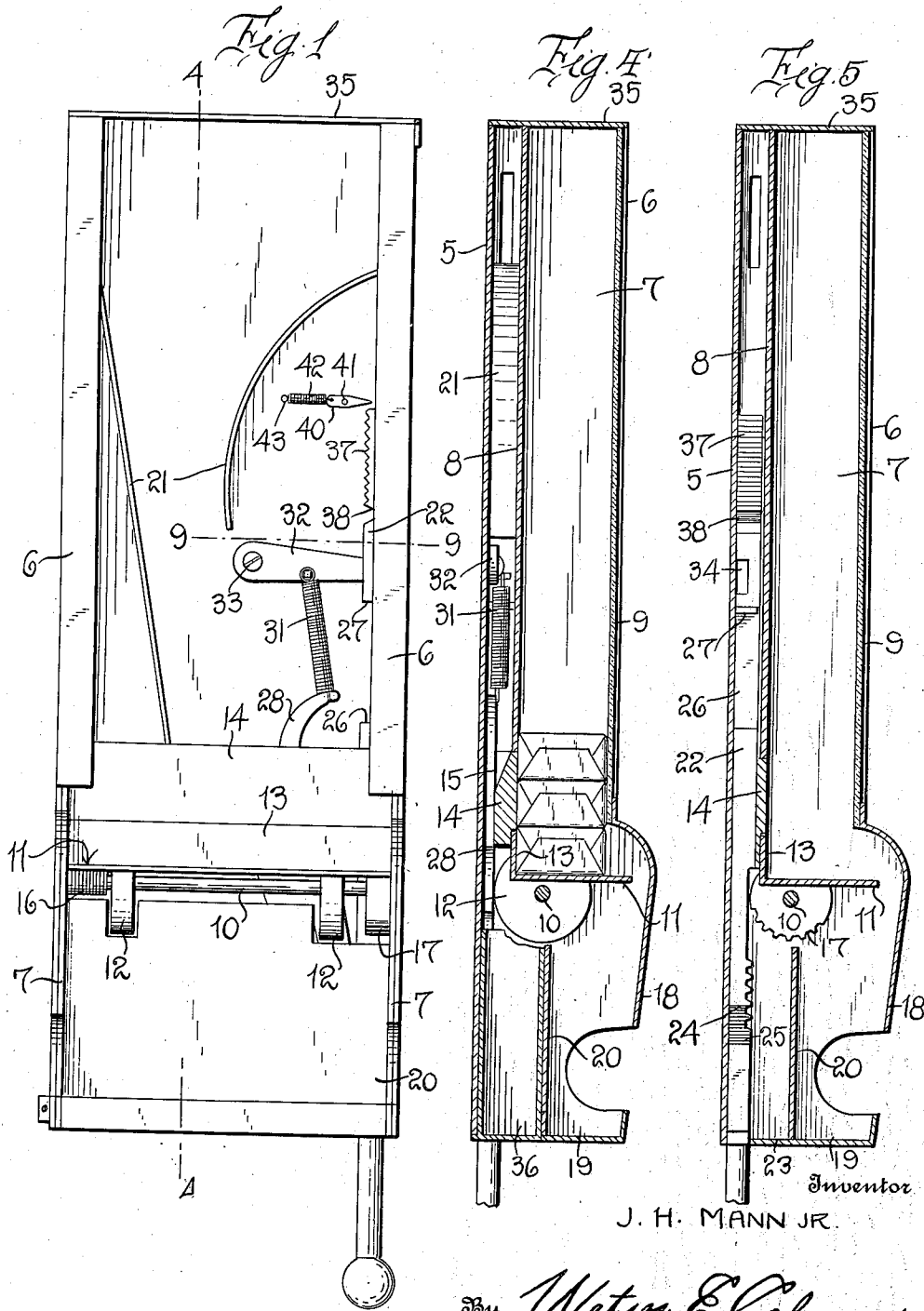


1,217,616.

Patented Feb. 27, 1917.
 3 SHEETS—SHEET 1.



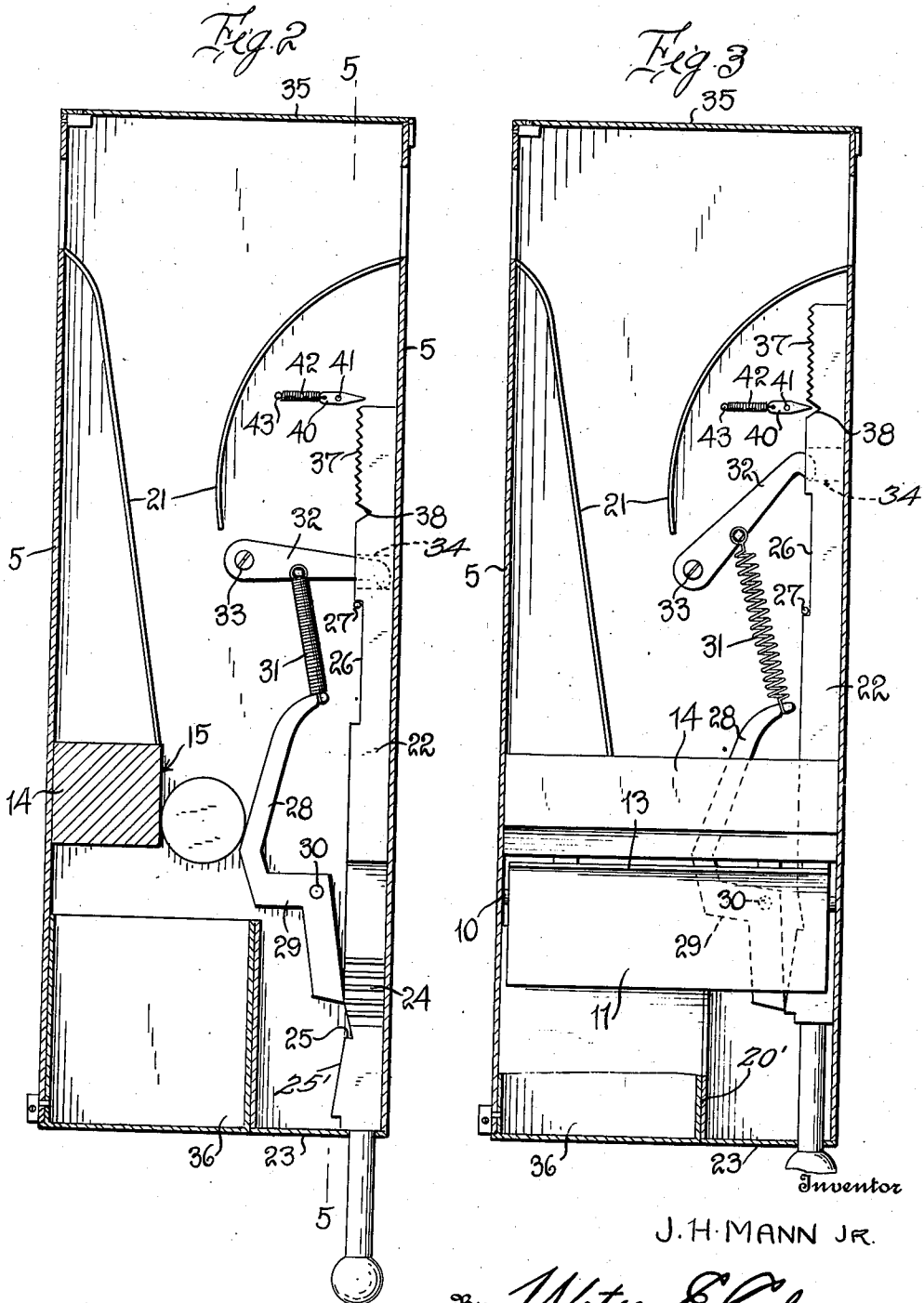
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Fig. 6

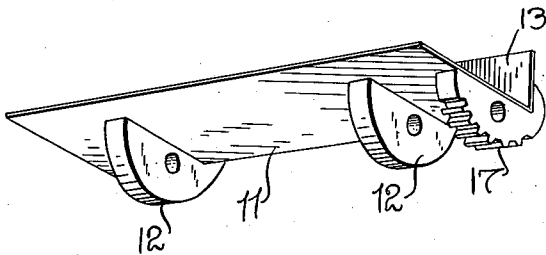


Fig. 7

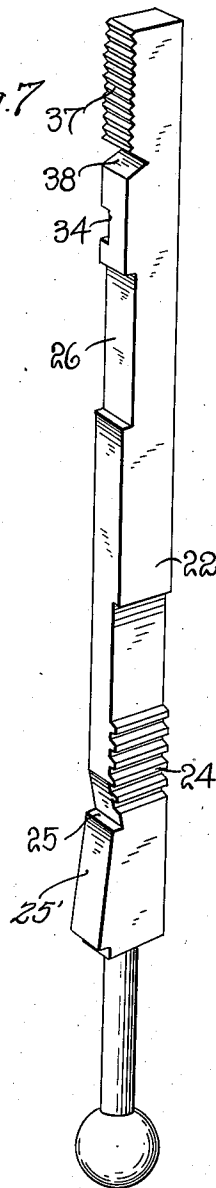


Fig. 8

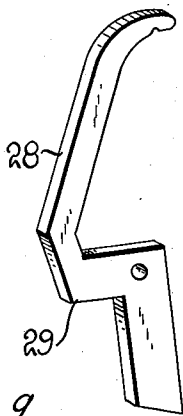
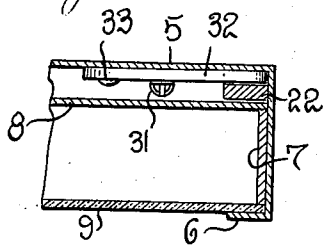


Fig. 9



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JAMES HERVEY MANN, JR., OF PINE BLUFF, ARKANSAS.

VENDING-MACHINE.

1,217,616.

Specification of Letters Patent.

Patented Feb. 27, 1917.

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To all whom it may concern:

Be it known that I, JAMES H. MANN, JR., citizen of the United States, residing at Pine Bluff, in the county of Jefferson and State of Arkansas, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to an improved vending machine and has for its primary object to provide a very simple and positively operating coin controlled mechanism for vending chewing gum and similar confection-
15 tions.

It is one of the more particular objects of the invention to provide improved means for insuring a complete operating movement of the actuator when the coin is inserted in
20 the machine, and the discharge of a single package of gum.

It is another object of my invention to provide simple and effective means for positively locking the actuator bar against operative movement unless a coin of the proper
25 denomination has first been deposited.

It is also an object of the invention to provide novel and simply constructed delivery means for the gum which is not liable to
30 get out of order and will positively discharge a single package of gum in each operating movement of the actuator bar.

And it is a general object of my invention to devise improved mechanism for vending
35 machines of the type above referred to, the several elements of which are very compactly arranged, the machine as a whole being capable of manufacture at relatively small cost.

40 With the above and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawings, in which,
45

Figure 1 is a front elevation of my improved vending machine with the rear wall of the magazine and the lower front wall of the case removed;

50 Fig. 2 is a detail elevation of the actuating mechanism for the delivery tray, showing the normal position of the parts;

Fig. 3 is a similar view showing the position of the tray with respect to the locking bar, and the actuator at the end of its operating stroke;

Fig. 4 is a vertical section taken on the line 4—4 of Fig. 1;

Fig. 5 is a detail section taken on the line 5—5 of Fig. 2;

Fig. 6 is an inverted perspective view of the delivery tray;

Fig. 7 is a similar view of the actuator bar;

Fig. 8 is a perspective view of the locking
65 bar; and

Fig. 9 is a detail horizontal section taken on the line 9—9 of Fig. 1.

Referring in detail to the drawings, 5 designates the body of the case or housing for the operating mechanism and the side walls of this casing have inwardly projecting, longitudinal flanges 6 formed upon their upper portions. Reinforcing plates 7 are riveted or otherwise fixed to the inner faces of these
75 side walls and are co-extensive in length therewith. A vertically extending plate 8 constituting the rear wall of a magazine, is disposed between the side walls of the case and in spaced relation to the rear wall there-
80 of. Between the forward edges of the reinforcing plates 7 and the flanges 6 on the side walls, the glass panel, indicated at 9, is disposed.

The ends of a horizontally disposed rod or
85 shaft 10 are mounted in the opposite side walls of the case 5 below the magazine. 11 designates the delivery tray normally disposed in a horizontal position and having spaced lugs 12 formed on its under side, said
90 lugs being provided with openings to loosely receive the rod or shaft 10. The tray 11 is provided upon its rear edge with an up-
standing flange 13 normally engaged against a horizontal bar 14 fixed to the rear wall
95 of the case 5. The rear face of this bar is recessed longitudinally, as at 15, for a purpose which will presently appear. A coil spring 16 surrounds one end of the rod 10 and has one of its ends fixed to the body
100 of the case 5 and its other end exerting an upward pressure against the under side of the delivery tray 11. A gear segment 17 is fixed to the under side of said tray at

its opposite end. A front plate 18 is suitably secured to the side walls of the case below the glass panel plate 9 and hides the delivery tray. A suitable trough or receptacle 19 to receive the gum is secured between the side walls of the case below the delivery tray and has a rear vertical wall 20 disposed in spaced relation to the rear wall of the case body. A transversely disposed, vertical plate 20' is located in this space and suitably secured to the rear wall of the case.

Between the rear wall of the case body and the vertical plate 8, downwardly converging, curved metal strips 21 are secured to the case wall and constitute coin guides. Between the bar 14 and the rear wall of the case, a vertically disposed actuator bar 22 is disposed, said bar operating in a groove or channel provided in one end of the bar and between the rear wall of the case and the vertical plate 8. This bar extends downwardly through a bottom plate 23 and is provided upon its front face and adjacent its lower end with a series of rack teeth 24. The inner longitudinal edge of said bar is inwardly inclined or recessed to provide a shoulder indicated at 25, at a point below the rack teeth 24. The edge of the bar 22 is also provided below the shoulder 25 with an inclined or beveled face 25'. The bar 22 is also provided with a longitudinal recess 26 in its inner edge adjacent to its upper end, and a pin 27 fixed in the rear wall of the case projects into said recess and limits the longitudinal movement of said bar. The rack teeth 24 on the bar are adapted to cooperate with the teeth of the gear segment 17 on the end of the delivery tray.

A locking bar 28 extends vertically through the recess 15 in the horizontal bar 14, the upper end of said bar being laterally curved toward the actuator bar 22. The locking bar 28 is provided intermediate of its ends with a laterally disposed portion 29 located below the bar 14 which is pivotally mounted at one end upon the stud or screw 30 fixed in the rear wall of the case 5. The lower end of the locking bar 28 extends downwardly from the pivot 30 and is yieldingly held in engagement against the inner edge of the actuator bar 22 by means of a coil spring 31 which is connected to the upper curved end of the locking bar 28 at one of its ends. The other end of this spring is attached to a stud on an arm 32 which is pivoted at one of its ends, as at 33, upon the rear wall of the case. The other or free end of this arm is engaged in a recess 34 provided in the rear face of the actuator bar 22.

The top of the case is closed by a hingedly mounted plate 35, said plate being securely fastened by means of a suitable lock. The bottom plate 23 carries a coin cup or recep-

tacle 36 and said bottom plate is also suitably locked to the case body.

Each of the side walls of the case 5 is provided at its upper end with a coin receiving slot, and a coin of the proper denomination, when inserted through one of these slots, is directed downwardly by the guide strips 21 between the rear wall of the case and the magazine wall 8, and into the recess of the bar 14. Normally, when an attempt is made to operate the machine by forcing the actuator bar 22 upwardly, the arm 32 will be moved and the spring 31 will exert a pull upon the upper end of the locking bar 28 and hold the lower end thereof in engagement against the edge of the actuator bar so that said locking bar, by contact with the shoulder 25, will prevent an operative movement of the actuator bar. When, however, the coin is deposited, it comes to a position of rest between the locking bar 28 and the end wall of the recess 15 in the bar 14. Thus, when the actuator bar is forced upwardly, the locking bar is held against movement, as the spring 31 is expanded so that the shoulder 25 will pass above the lower end of the locking bar. The beveled or inclined face 25' of the actuator bar bearing against the lower end of the locking bar 28, rocks the same upon its pivot 30, whereby the coin is released and falls into the coin cup 36, as will be clearly seen from reference to Fig. 2 of the drawing. The teeth on said locking bar engaging the teeth of the segmental gear 17, causes a rotation of the delivery tray 11 and the flange 13 thereof will throw the lower package of gum in the magazine forwardly so that it will drop downwardly into the receiving trough 19, from which it may be readily removed. The bearing lugs 12 prevent downward movement of the gum behind the tray.

It is desirable to provide means for preventing a return movement of the actuator bar to its normal position before the operating stroke of the bar is completed. To this end, I provide a series of teeth or notches 37 in the inner edge of said bar at its upper end and a relatively wide and deep notch or recess 38 at the lower end of said series of notches. A wedging dog 40 is pivoted, as at 41, upon the rear wall of the case 5, and a coil spring 42 is attached to one end of said dog and has its other end fixed to the case wall, as at 43, in line with the pivot 41. The other end of the dog 40 is attenuated or reduced for engagement between the teeth 37 on the actuator bar. As seen in Fig. 2, in the normal position of the parts the upper end of the bar 22 is disposed below the wedging dog 40. When the coin is deposited and the bar operated, the end of said bar striking the end of the dog 40 forces said end upwardly and places the spring 42 under tension, said dog snapping into engage-

ment with the several teeth 37 as the bar is forced upwardly. It will thus be apparent from reference to Fig. 3, that if the actuator bar 22 is released before completion of its operating movement, the wedging dog 40 will hold the bar in such position and prevent its return or downward movement. At the end of the upward or operative stroke of said bar, the end of the wedging dog moves into the wide notch or recess 38 so that the spring 42 will then contract and return the dog to its normal position so that the teeth 37 may freely pass the end of the dog in the downward movement of said bar. Such downward or return movement of the actuator bar occurs immediately upon the release thereof by the contractile action of the coil spring 31 exerting a downward pull upon the pivoted arm 32. The delivery tray is returned to its normal position immediately after the delivery of the gum and simultaneously with the return movement of the actuator bar by means of the coil spring 16.

From the foregoing description, taken in connection with the accompanying drawings, the construction, manner of operation, and several advantages of my improved vending machine will be clearly and fully understood. By means of a relatively simple mechanism, the proper delivery of the gum or other confection in each operation of the machine is assured. The gum magazine may, of course, be made of any desired capacity and, as the several operating elements are very compactly assembled, it will be appreciated that the entire machine may be mounted and arranged in a very small space. The mechanism is reliable and positive in its action and not liable to get out of order.

While I have shown and described the preferred construction and arrangement of the several parts of the machine, it is, of course, to be understood that the same are susceptible of considerable modification therein and I, therefore, reserve the privilege of adopting all such legitimate changes as may be fairly embodied within the spirit and scope of the invention as claimed.

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

1. In a coin controlled vending machine, a rectilinearly movable actuator bar, a pivoted arm actuated by said bar, and an operating connection between said arm and the locking element to move the latter to its effective position and lock the actuator bar against an operative movement, said element being held against such movement by a deposited coin, the connection between said element and the arm permitting of a continued operating movement of the actuator bar.

2. In a coin controlled vending machine, a rectilinearly movable actuator bar, a mov-

able locking element, and means connected to said element and at all times operatively engaged with the actuator bar, whereby the element is moved to its effective locking position to prevent the operative movement of the actuator bar, said element being engaged by a deposited coin and held against movement to its effective position and said connecting means permitting of the operative movement of the actuator bar.

3. In a coin controlled vending machine, a rectilinearly movable actuator bar, a pivoted locking bar, an arm pivotally mounted at one of its ends and operatively engaged at its other end with the actuator bar, and a coil spring connecting said arm to the locking bar to move said locking bar to its effective position and hold the actuator bar against an operating movement, said locking bar being engaged and held against movement to its locking position by a deposited coin.

4. In a coin controlled vending machine, a movable actuator bar, a locking bar pivoted intermediate of its ends, means operatively connecting one end of the locking bar to the actuator bar, whereby the locking bar is actuated in the initial movement of the actuator bar to engage the actuator bar and hold the latter against further movement, said locking bar being adapted for engagement by a deposited coin on one side of its pivot and held thereby in its normal position to permit of a complete operative movement of the actuator bar, said bar co-acting with the locking bar on the relatively opposite side of its pivot to move the locking bar and release the coin.

5. In a coin controlled vending machine, a movable actuator bar, a pivoted locking bar, yieldable means operatively connecting the locking bar to the actuator bar, whereby the locking bar is moved in the initial movement of the actuator bar into locking engagement with the latter bar to hold the same against a complete operating movement, said locking bar being engaged by a deposited coin and held against movement from its normal position to permit of a complete operative movement of the actuator bar, and means for moving the locking bar to release the coin.

6. In a coin controlled vending machine, a movable actuator bar, a pivoted locking bar, said bar at one of its ends being adapted to co-act with the actuator bar and lock the same against operative movement, means connected to one end of the locking bar and operated by the actuator bar to move the locking bar to its effective position and prevent a complete operating movement of the actuator bar, said locking bar being adapted for engagement by a deposited coin and held thereby against pivotal movement to its locking position to per-

mit of the complete operating movement of the actuator bar, said actuator bar having means to co-act with the locking bar and move the same in a relatively opposite direction to release the coin.

7. In a coin controlled vending machine, a movable actuator bar, a locking bar pivoted intermediate of its ends and having one of its end portions laterally offset from the pivot, a yieldable connection between said offset end of the locking bar and the actuator bar operating to move the other end of the locking bar into effective engagement with the actuator bar and prevent a complete operating movement of the latter, said offset end of the locking bar being adapted for engagement by a deposited coin and held thereby against pivotal movement in one direction to permit of a complete movement of the actuator bar, said actuator bar having means to co-act with the other end of the locking bar in the operating movement

of the actuator bar to move the locking bar and release the coin.

8. In a coin controlled vending machine, a rectilinearly movable actuator bar, a pivoted locking bar, means operatively connected to the locking bar and operated by said actuator bar upon an attempted operating movement thereof to move the locking bar to its effective position and hold the actuator bar against operative movement, said locking bar being engaged and held against movement to its locking position by a deposited coin, and means co-acting with the locking bar in the operating movement of the actuator bar to move the locking bar and release the coin.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

JAMES HERVEY MANN, JR.

Witnesses:

P. F. CRUTCHER,

A. Z. ORT.