Aug. 12, 1924. 1,504,638

J. H. MANN, JR

LOCK FOR VENDING MACHINES AND GLASS RETAINERS FOR SLIDE COVERS

Filed July 11, 1921 3 Sheets-Sheet 1

Fig. 1

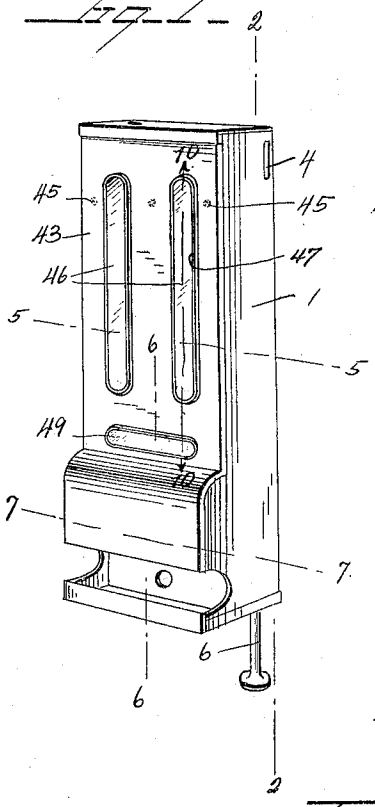


Fig. 5

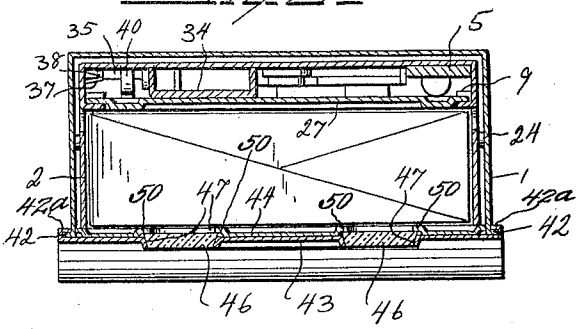


Fig. 7

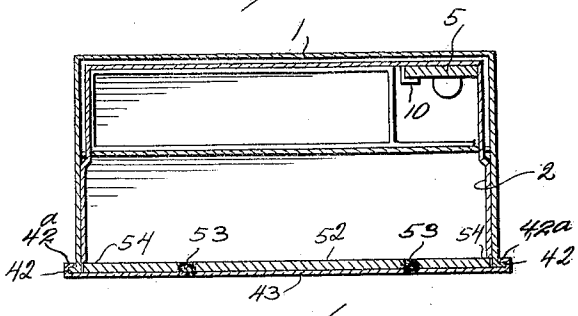


Fig. 10

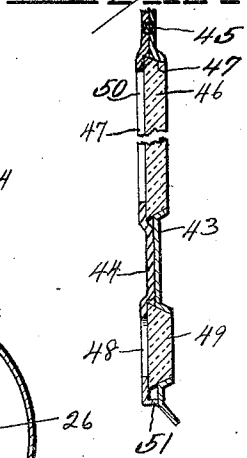


Fig. 9

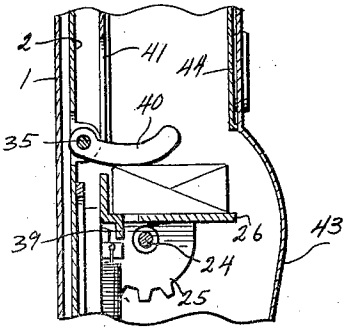
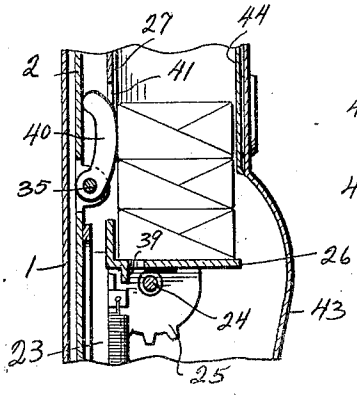


Fig. 8



Inventor

J. H. Mann, JR.

By Watson E. Coleman

Attorney

Aug. 12, 1924. 1,504,638

J. H. MANN, JR

LOCK FOR VENDING MACHINES AND GLASS RETAINERS FOR SLIDE COVERS

Filed July 11, 1921 3 Sheets-Sheet 2

Fig. 2.

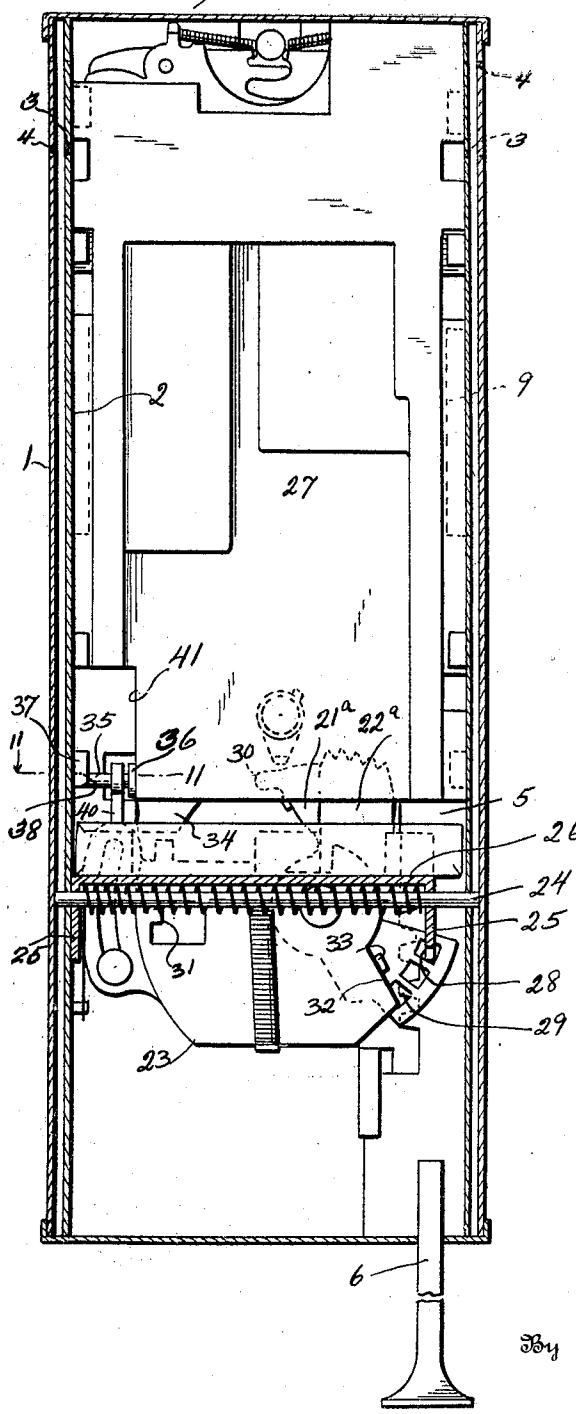


Fig. 11.

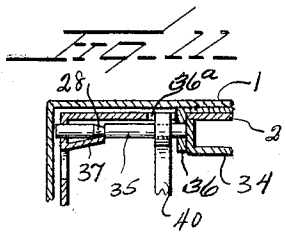
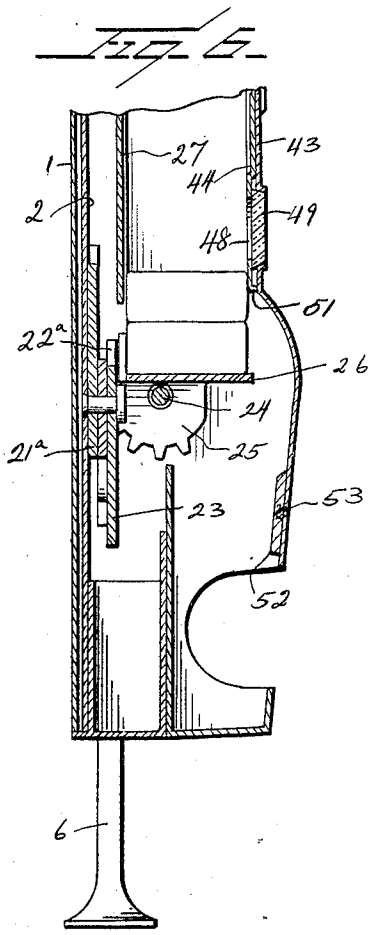


Fig. 6.



Inventor

J. H. Mann, Jr.

By Watson E. Coleman

Attorney

Aug. 12, 1924. **1,504,638**

J. H. MANN, JR

LOCK FOR VENDING MACHINES AND GLASS RETAINERS FOR SLIDE COVERS

Filed July 11, 1921 3 Sheets-Sheet 3

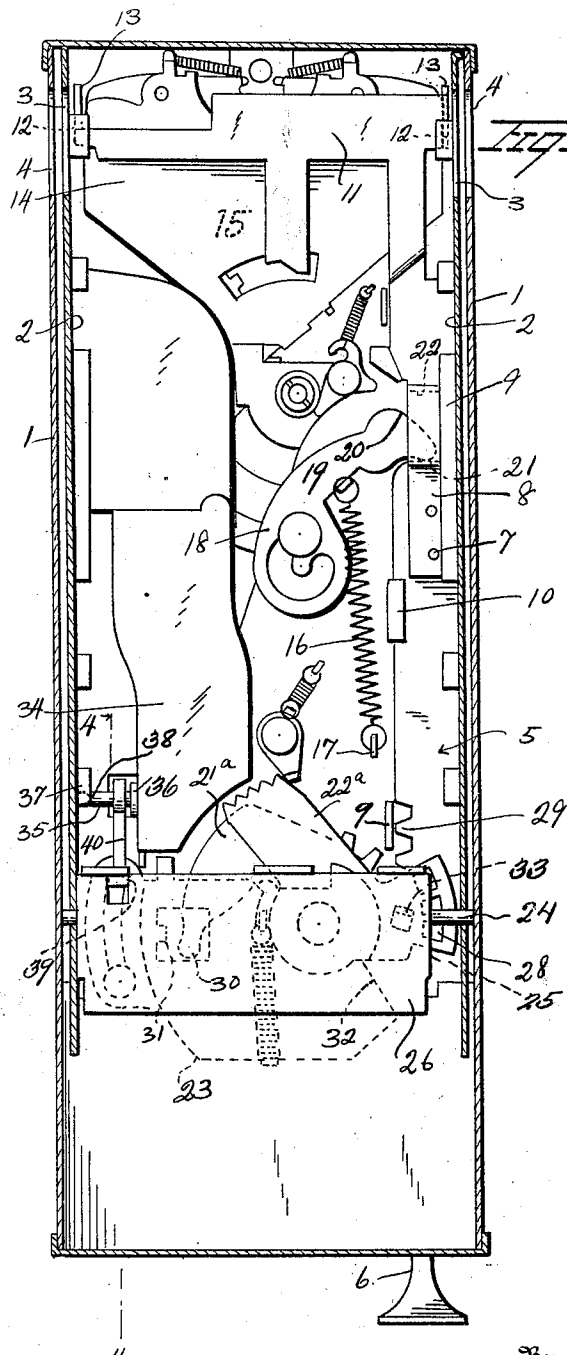


Fig. 3.

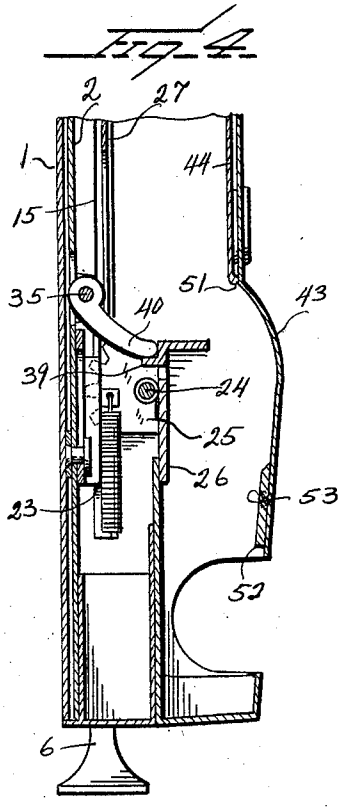


Fig. 4.

Inventor
J. H. Mann, Jr.

By Watson E. Coleman
Attorney.

Patented Aug. 12, 1924. 1,504,638

UNITED STATES PATENT OFFICE.

JAMES H. MANN, JR., OF PINE BLUFF, ARKANSAS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO EMPIRE TRUST COMPANY, TRUSTEE, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

LOCK FOR VENDING MACHINES AND GLASS RETAINERS FOR SLIDE COVERS.

Application filed July 11, 1921. Serial No. 483,850.

To all whom it may concern:

Be it known that I, JAMES H. MANN, Jr., a 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 Locks for Vending Machines and Glass Retainers for Slide Covers, of which the following is a specification, reference being had to the accompanying drawings.

It is the purpose of the present invention to provide an improved lock and glass retainer and cover for vending machines generally, such as for instance the machines set forth, illustrated and claimed in patents issued to James H. Mann, Jr., patented respectively February 27, 1917; September 10, 1918; and June 1, 1920, and more especially the type of machines set forth, illustrated and claimed in the copending applications filed September 4, 1919, Serial No. 321,617; and December 4, 1920, Serial No. 428,304.

The object of the present invention is to provide means for locking the vending tray in its operated position when the last article in the tray has been discharged, and in this connection to provide means locking the actuator in its actuated position and locking the shields in position over the coin receiving slots to thereby prevent the insertion of a coin and preventing the coin controlled mechanism from being needlessly actuated after the magazine has been emptied.

A further object is to provide a construction of this character embodying a tiltable tray, an actuator for tilting the tray to thereby discharge successive packages from the tray, and to provide a tray locking device which is normally held in a vertical position by the packages but which drops into a locking position when the last package has been vended and locks the tray in its tilted position and the actuator in its operated position.

Other objects will appear in the course of the following description.

The invention comprises further features and combination of parts, as will be hereinafter set forth, shown in the drawings and claimed.

In the drawings:—

Figure 1 is a view in perspective of the improved vending machine, which is substantially similar to or the same as the type of machine disclosed in said copending applications, and to which the improved lock and glass retainer for slide covers are applied;

Figure 2 is a vertical sectional view on line 2—2 of Figure 1, showing the interior of general construction of the type of machine disclosed in said copending applications, and also showing the gravity locking pawl in a position ready to tilt into engagement with the article delivering tray after the last package of gum or other article is delivered;

Figure 3 is a similar view showing the gravity tilting pawl or dog in engagement with the tray, holding the same in an actuated position, with the coin receiving slot covers over the slots;

Figure 4 is a sectional view on line 4—4 of Figure 3 showing the pawl in engagement with the article delivering tray;

Figure 5 is a sectional view on line 5—5 of Figure 1, showing the construction of the slide cover and the side walls of the outer casing, and illustrating the glass retainer in position;

Figure 6 is a vertical sectional viw on line 6—6 of Figure 1 showing the construction of the slide cover and the retainer for holding glass in a position on the slide cover;

Figure 7 is a transverse sectional view on line 7—7 of Figure 1 through the lower part of the slide cover, showing a metal piece fastened on the inner surface of the cover to prevent the sides of the outer casing from being bent inward;

Figure 8 is a detail sectional view similar to Figure 4, but showing the tray in position to support the packages of gum or other articles, which act to hold the dog 40 in a vertical position;

Figure 9 is a view similar to Figure 8 showing a package of gum supported on the tray, the dog 40 engaging therewith, so that when the last package is delivered the dog 40 will be ready to drop in place and engage the lug 39, as shown in Figure 4;

Figure 10 is an enlarged detail sectional view on line 10—10 of Figure 1, showing the construction of slide cover and the retainer for the glass pieces; and

Figure 11 is a sectional view on line

11—11 of Figure 2, showing the mounting of the shaft 35.

Referring to the drawings, 1 designates the outer casing of a vending machine, which may be any suitable shape or configuration or any suitable construction. Corresponding in shape to and mounted in the casing 1 is an inner casing 2. These inner and outer casings 1 and 2 are substantially as illustrated in the copending applications previously mentioned. The upper portions of the sides of the inner and outer casings are provided with coin receiving slots 3 and 4, which are in registration.

As previously stated the general construction of the present vending machine, substantially corresponds to that illustrated in the copending applications, therefore, the actuator 5 is similar in construction.

As disclosed in the copending application filed December 4, 1920, Serial No. 428,304, the handle portion 6 of the actuator extends through the lower part of the casing, and riveted to and carried by the actuator as at 7, is a bar 8, which is guided by the guide flanges 9 struck out from one of the side walls of the inner casing. The upper portion of the actuator 5 is engaged under the guide flange 10, which is struck up from the rear wall of the inner casing. Though the bar 8 may be otherwise constructed, it is shown as having an upper transverse portion 11, the ends of which have lateral ears 12 positioned to move adjacent the inner faces of the sides of the inner casing. The edges of these ears slide adjacent the rear wall of the inner casing, and have their upper end edges 13 substantially even with the lower ends of the slots 3 and 4 of the sides of the inner and outer casings, when the actuator is in its initial position. Owing to certain longitudinal edges of the ears moving adjacent to and in contact with the rear wall of the inner casing, the ears straddle the side ends of the forward plate 14 of the coin chute 15. When the actuator 5 is pushed or moved upwardly, the ears 12 will move over and cover the coin receiving slots 3 and 4, thereby preventing a coin from being inserted, until the actuator is returned to its normal position.

The bar 8 carried by the actuator also operates the fraud preventing mechanism herein shown but not described, owing to it being set forth, illustrated and claimed in the copending application Serial No. 428,304.

A spring 16 has one end attached to a lug 17 of the inner casing, and its other end to a lug of the pawl 18, the arm 19 of which terminates in an enlargement 20, which operatively engages between the shoulders 21 and 22 of bar 8, so that when the actuator 5 is pushed upwardly, the bar 8 moves therewith against the tension of the spring 16. The actuator 5 is thus retained in its normal position by the tension of the spring 16. It is deemed unnecessary to describe the construction of the pawl 18, or its functions, other than tensioning the actuator, for a detail description of the pawl is embodied in said copending application 428,304.

As previously stated the coin actuated or controlled mechanism, and the article delivering tray are substantially similar as those in the application No. 321,617, therefore a detail description of the same is omitted, with the exception that the starting pawls, the tray operating pawl and the rocking lever are designated by the characters 21^a, 22^a and 23.

As in the application Serial No. 321,617, a shaft 24 is mounted in bearings of the inner casing, and fulcrumed thereon are the ears 25 of the article delivering tray 26. This tray tilts in order to deliver a package of gum or the like from the magazine, which is separated from the fraud preventing mechanism and the coin actuated or controlled mechanism by means of the plate or wall 27. The tray is spring tensioned, and one of its ears is operatively geared to the tray operating pawl 22^a, as shown at 28. The actuator 5 is provided with gear teeth 29, which are in mesh with those of the starting pawl 21^a, which starts the coin through the coin controlled mechanism of the machine. A projection 30 of said starting pawl engages the coin, which in turn engages a lug 31 of the rocking lever 23, and when the actuator 5 is pushed upwardly, the starting pawl 21^a and the rocking lever 23, move the coin to advance it through the coin controlled mechanism. When the starting pawl 21^a is operated by the actuator 5, its arm or projection 30 bears upon the coin, and the coin bears upon the lug 31, thus imparting a rocking movement to the rocking lever 23. The edge 32 of the lever 23 then engages a lug 33 of the tray operating pawl 22^a and imparts a rocking movement to the pawl 22^a. The two pawls 21^a and 22^a are adapted to be moved together, and the movement of the pawl 22^a is transmitted to the pawl through the medium of the gear connections, thereby tilting the tray in order to deliver an article.

The lower part 34 of the coin chute is slightly modified from that disclosed in the two copending applications, to the extent that it is disposed substantially straight and more to the center of the casing, thereby providing sufficient space between one wall of the lower part 34 of the coin chute and one of the sides of the inner casing, for the reception of a short shaft 35. This shaft is journaled in bearings of one of the side walls on the inner casing and a lug 36 which is carried in any suitable manner by

the rear wall of the inner casing. While it is obvious that any suitable means may be employed for preventing axial movement of the short shaft 35, the present construction embodies the idea of having one end of the shaft 35 bear against one of the side walls of the lower part 34 of the coin chute, in combination with a lug 37 projecting from one of the side walls of the inner casing and deflected laterally to engage an annular groove 38 of the short shaft, to hold one end of the shaft 35 against the side wall of the lower part 34 of the coin chute. A supporting lug 39 is struck up from the article delivering tray, and with which a gravity actuated dog 40 engages, when the tray is tilted. The opening 36^a from which the lug 36 is cut, receives an edge portion of the dog 40, preventing excessive movement of the dog axially on the shaft. The wall which separates the fraud preventing mechanism from the magazine is cut away as shown at 41, to permit the dog 40 to engage the rear wall of the inner casing. The short shaft and the dog are of such relative construction and disposition with relation to the rear wall of the inner casing that when the last article is discharged from the magazine the dog is dropped by gravity and engaged upon the lug 39 and holds the tray in its tilted position. As the vending machine is at all times in a vertical position, the dog will remain in engagement with said lug 39, hence holding the tray tilted. The tray will remain tilted until the dog is lifted and returned to its initial position.

As long as the tray remains tilted, the tray operating pawl will remain in its tilted or actuated position. The starting pawl 21^a will also remain in its actuated position, and since the actuator 5 is in gear with the starting pawl, the lateral ears of the bar 8 will remain in position overlying the coin receiving slots 3 and 4, thereby preventing the insertion of a coin, when the vending machine has been exhausted of its supply of articles to be vended.

The side walls of the outer casing have lateral flanges 42, which receive the overlying guide flanges 42^a of the slide cover 43, to retain the cover in position. The glass retainer 44 is secured upon the inner face of the slide cover as at 45 by any suitable means, preferably spot welding. It will be noted that the lower part of this retainer may be sprung from the inner face of the slide cover, to permit the insertion of glasses 46. The slide cover and the retainer 44 are provided with elongated registering openings 47 and 48, to be covered by the glasses 46 and 49. The openings 47 are arranged vertically preferably, while the openings 48 are formed transversely of the slide cover. The margins of the openings of the cover proper are embossed or deflected outwardly cooperating with the glass pieces, to retain them in position. The embossing of these openings extend completely around the margins thereof, while the retainer plate 44 is impressed or embossed inwardly adjacent where the vertical openings are formed, so as to provide tracks 50, against which the articles, such as packages of chewing gum may ride. The windows are of pressed glass, with their edges bevelled or rounded off.

In order that the glass may be inserted, the lower part of the retainer may be sprung, and the glass shoved in place, until they engage the embossing around the edges of the cover. The margin of the transverse slot or opening is also embossed, to permit of the reception of a glass, to fill the openings 48. The lower part of the retainer plate 44 has an outwardly bent flange 51 (see Fig. 11) to assist in supporting the lower glass in position. The opposite longitudinal edges of the retainer plate serve to engage the inner surfaces of the side walls of the outer casing, thereby preventing the side walls from being bent inwardly, for the purpose of tearing off the outer casing. The glass retaining plate also bears upon the edges of the sides of the inner casing, to press the inner casing toward the rear wall of the outer casing, thereby holding the two casings relatively rigid. A metal strip 52 is secured to the lower portion of the inner face of the cover preferably by spot welding as at 53, and its end edges 54 serve to prevent the lower parts of the side walls of the outer casing from being bent inward. By this means for retaining the glasses in place, parts of glass are prevented from falling in the magazine and preventing the discharge of articles, as will occur in the copending application, Serial No. 312,617.

The invention having been set forth, what is claimed as being new and useful is:

1. In a vending machine, a casing having a magazine for articles to be delivered, an article delivering tray pivotally mounted below the lower end of the magazine and supporting the articles therein, an actuator operatively connected to the tray to tilt the same and thereby cause the successive discharge of the articles to be vended, a pawl normally held in an operative position by the articles supported upon the tray, said pawl being operatively pivoted on the casing and being adapted to be supported in a vertical position by the articles in the magazine and rest upon the last article on the tray when all but said last article has been discharged and when said article is discharged swinging downward into operative position, the tray having a portion thereof adapted to be engaged by the pawl to lock the tray in a tilted position when the last article has been discharged therefrom.

2. In a vending machine, a casing having a magazine for articles to be delivered, an article delivering tray pivotally mounted in said casing to support the articles in the magazine, an actuator operatively connected to the tray for tilting the same to thereby deliver an article from the magazine, one wall of the magazine having an opening therein, a pawl pivotally disposed behind said wall and in register with said opening and normally resting against the articles in the magazine and supported in a vertical position thereby, said pawl falling through the opening and upon the top of the last article as it rests upon the tray and being adapted to swing downward into a depending position when the tray is tilted and the last article discharged therefrom, a portion of the tray being formed to be engaged by said pawl to thus lock the tray in its tilted position when the last article has been discharged.

In testimony whereof I hereunto affix my signature.

JAMES H. MANN, JR.