Sept. 12, 1950 J. LINDSTROM ET AL 2,522,386

BAG DISPENSING DEVICE

Filed Nov. 28, 1947 2 Sheets-Sheet 1

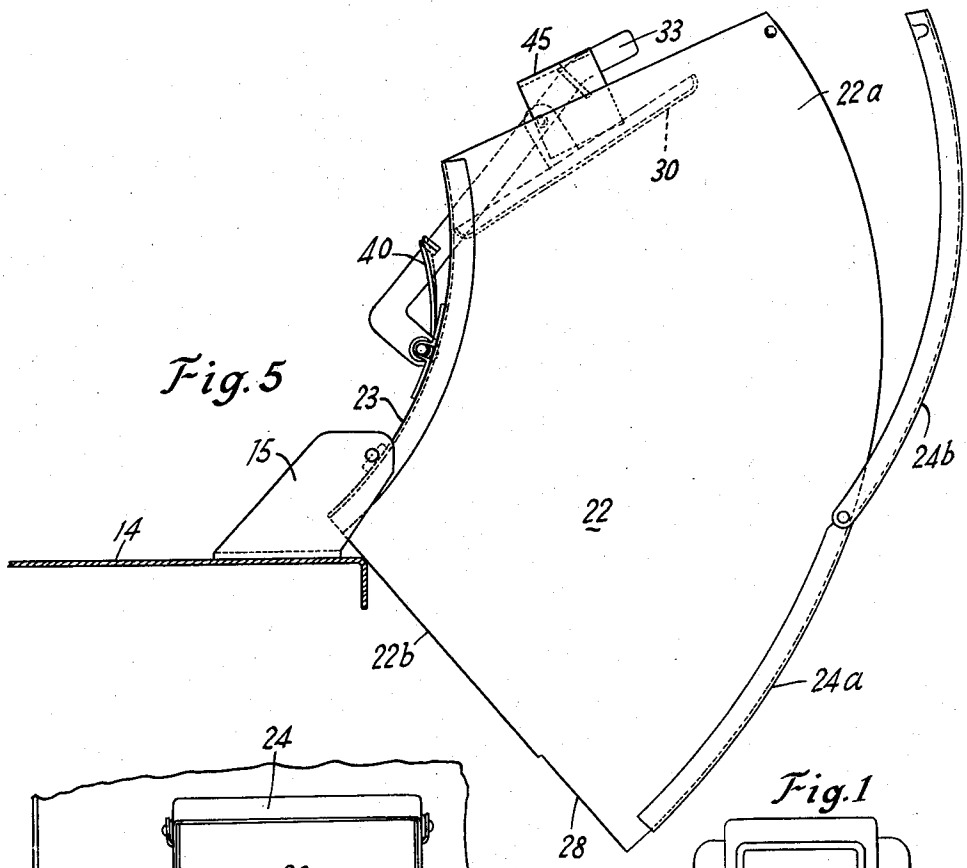


Fig. 5

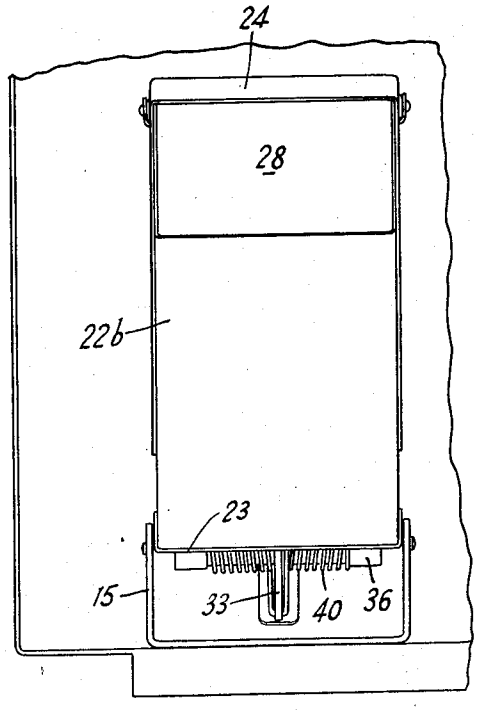


Fig. 4

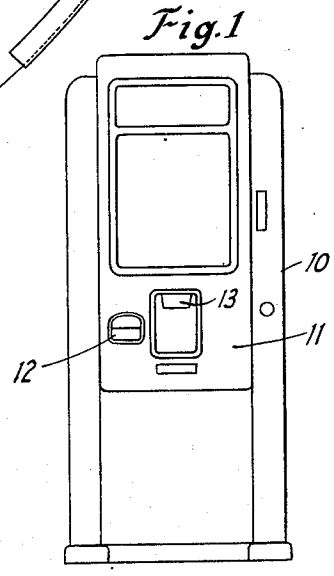


Fig. 1

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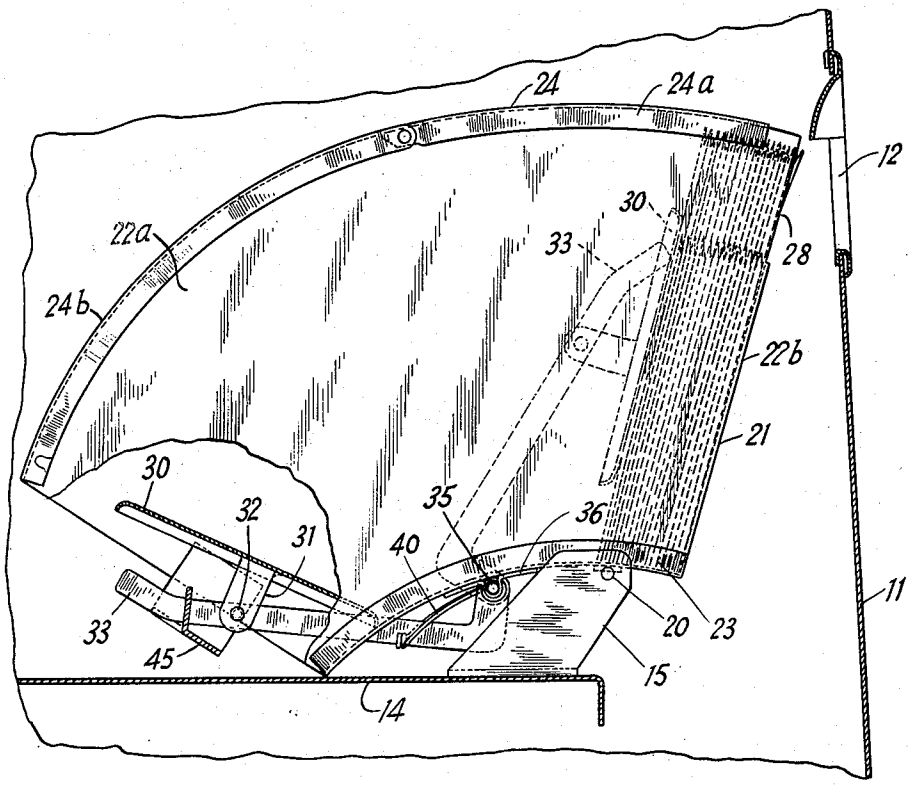


Fig. 2

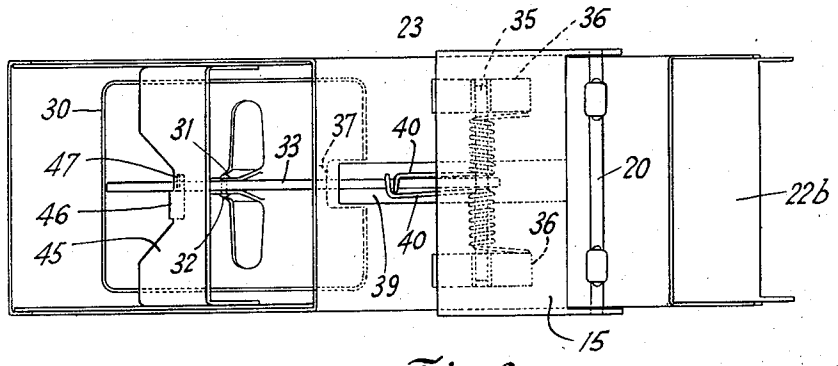


Fig. 3

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Patented Sept. 12, 1950 2,522,386

UNITED STATES PATENT OFFICE

2,522,386

BAG DISPENSING DEVICE

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Application November 28, 1947, Serial No. 788,762

6 Claims. (Cl. 312—62)

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This invention relates in general to improvements in the construction and mode of operation of bag dispensing devices, and, more particularly, to bag dispensers suitable for containing satchel bottom type bags and adapted for use in product vending machines.

The general object of the present invention is the provision of a bag dispensing device of the character described which is further characterized by its ease and relatively low cost of manufacture, simplicity of operation, and facility for bag loading and removal. A more specific object is the provision of a bag dispensing device in which the contained bags are continuously subjected to a substantially uniform spring pressure over a major part of their area regardless of the number of bags in the device. Another specific object is the provision of a device of the character described having a minimum number of parts and in which substantially all of the parts are made of sheet metal stampings.

The various features of novelty which characterize the invention are pointed out with particularity in the claims annexed to and forming a part of this specification. For a better understanding of the invention, its operating advantages and specific objects attained by its use, reference should be had to the accompanying drawings and descriptive matter in which is illustrated and described a preferred embodiment of the invention.

Of the drawings:

Fig. 1 is a front view of a vending machine of the type in which the improved bag dispenser is especially adapted for use;

Fig. 2 is an elevation, partly in section, of a bag dispensing device constructed in accordance with the invention, in position in a vending machine;

Fig. 3 is a bottom view of the device shown in Fig. 2;

Fig. 4 is a front view of the device; and

Fig. 5 is a view similar to Fig. 2 showing the device tilted for bag loading.

The bag dispenser of our invention is adapted for use in various locations where a supply of bags is required and intended to be depleted singly by customers, and where it is desired to avoid more than one bag being readily accessible to or displaced by the customer. Such conditions occur in various types of vending machines, for example, and, by way of illustration, a coin controlled automatic corn popping machine 10 is shown in Fig. 1 having a side-hinged front door 11 containing a bag slot 12, into which the customer's fingers are inserted to obtain a bag suitable for receiving the batch of popped corn discharged by the machine through the corn chute 13.

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As shown in Figs. 2–4, the bag dispenser is mounted on a horizontal shelf or chassis 14 within the machine by means of a U-shaped supporting bracket 15 secured to the shelf adjacent its forward end. The side members of the bracket are forwardly inclined, as shown in Fig. 2, and adjacent their upper and forward ends support a horizontally arranged pivot pin 20 on which the dispenser box 21 is mounted. The front and sides of the box 21 are defined by a three-sided sheet metal shell 22 of rectangular vertical cross-section including spaced side plates 22^a and a front plate 22^b. An upwardly curved plate 23 having side edge flanges spot welded to the correspondingly curved bottom edges of the side plates forms the bottom of the box, and a sectional top 24 partly concentric with the bottom plate closes the top of the box.

The side plates 22^a have curved upper edge portions, the forward section of the top edge being concentric with the curved bottom edge, while the rear portion tapers toward the rear edge. The front and rear edges of the side plates flare upwardly from the bottom plate 23. The forward section of the top is closed by a stationary flanged edged plate 24^a which terminates short of the forward edge of the side plates 22^a. The rear section of the top is closed by a flanged edged curved cover 24^b hinged at its forward end to the plate 24^a and fitting over the corresponding upper edge portions of the side plates. The front end of the box is closed for a major portion of its height by the front plate 22^b, terminating short of the upper end of the side plates to form an opening 28 thereabove. The opening 28 combines with the top opening forwardly of the top plate 24^a to define a space into which the foremost bags in the box project and from which they can be withdrawn by the customer through the door slot 12, when the dispenser is in its normal position in the machine and the front door 11 is closed.

The box is upwardly flared as described to accommodate satchel bottom type bags, with the bags positioned in the box with their satchel bottom ends upward and facing the front of the box, as indicated in broken lines in Fig. 2. A substantially uniform spring pressure is continuously exerted forwardly on the bags in the box by a rectangular metal follower plate 30 having intermediate cut out portions 31 bent rearwardly

towards one another and connected by a rivet 32 which forms a pivot for the follower plate on an L-shaped metal arm 33. The arm 33 extends through a rectangular slot 39 in the bottom plate with its lower and smaller leg extending forwardly and secured to a horizontal pivot pin 35, which is held below the underside of the bottom plate by end clamps 36. The arm 33 and follower plate 30 are so constructed and positioned that the lower edge of the plate will travel forwardly in a rising arc above the bottom plate. The lower edge of the follower plate has a rectangular notch 37 therein through which the follower arm extends when in its extreme rearward position.

A resilient pressure is continuously impressed on the follower plate 30 by a pair of tension springs 40, each of which is coiled about the pivot pin 35 with one end abutting the bottom plate 23 and its opposite end bent around the outer side of the longer leg of the arm 33. With this construction, the follower plate will be resiliently pressed against and normal to the rearmost of the bags in the box, the pressure being maintained substantially uniform as the bags are withdrawn one-by-one from the box, as the springs tend to uncoil about the pivot pin 35.

The bag dispenser is tiltable about the pivot pin 20 to the position illustrated in Fig. 5 for replenishing the bag supply, after the machine door 11 has been opened. In this position the front plate 22^b rests on the edge of the shelf 14. The follower plate is moved to its rearmost position and held therein by the locking provisions hereinafter described and the box cover 24^b opened to permit a new batch of bags, bottom up, to be inserted into contact with the front plate 22^b.

To facilitate the insertion of the bags, the follower arm 33 is locked in the position indicated in full lines in Fig. 2 by a U-shaped bracket 45 secured to the rear portions of the side plates 22^a. The base section of the bracket is positioned beyond the rear edges of the side plates with its upper edge cut away and a portion 46 bent forwardly with its forward end shaped as a laterally extending lug 47 positioned in the path of the arm 33. The flexibility of the arm 33 permits a slight lateral movement of the arm by the operator into position behind the lug 47, to hold the arm 33 in position against the pressure of the tension springs 40.

When the bag box is mounted in the machine, the rear edge of the bottom plate 23 rests on the shelf 14 with the opening 28 slightly spaced inwardly of the door slot 12. As each bag is withdrawn, the remaining bags are pushed forward by the pressure of the follower plate, the spring pressure being sufficient that the withdrawal of one bag will not displace any of the remaining bags vertically in the bag box. The foremost bag is thus positioned against the front plate 22^b in proper position to be withdrawn by the next customer. The door slot 12 is advantageously proportioned in width and depth to make only the foremost bag in the box readily accessible to the customer.

While in accordance with the provisions of the statutes we have illustrated and described herein the best form of the invention now known to us, those skilled in the art will understand that changes may be made in the form of the device disclosed without departing from the spirit of the invention covered by the claims, and that certain features of our invention may sometimes be used to advantage without a corresponding use of other features.

We claim:

1. A bag dispenser suitable for containing inverted satchel bottom type bags comprising a box having upwardly curved top and bottom plates and a bag withdrawal opening in the upper front end thereof, a hinged cover in said box top plate, an L-shaped arm pivotally mounted below said bottom plate and extending upwardly through a slot in said bottom plate, a follower plate in said box and pivotally mounted on said arm, said arm and follower plate being constructed and arranged so that said plate will travel in a rising arc when moved forwardly, a tension spring arranged to exert a forward pressure against said arm and follower plate, and means on the rear end of said box for holding said arm and follower plate locked in a rearward position.

2. A bag dispenser suitable for containing inverted satchel bottom type bags comprising a box having upwardly curved top and bottom plates and a bag withdrawal opening in the upper front end thereof, a cover in said box top plate, means for pivotally mounting said box adjacent the forward end of said bottom plate, an arm pivotally mounted below said bottom plate rearwardly of said box pivot and extending upwardly through a slot in said bottom plate, a follower plate in said box mounted on said arm, said arm and follower plate being constructed and arranged so that said plate will travel in a rising arc when moved forwardly, and a tension spring arranged to exert a forward pressure against said arm and follower plate.

3. A bag dispenser suitable for containing inverted satchel bottom type bags comprising a box having upwardly curved top and bottom plates and a bag withdrawal opening in the upper front end thereof, a hinged cover in said box top plate, means for pivotally mounting said box adjacent the forward end of said bottom plate, an arm pivotally mounted below said bottom plate rearwardly of said box pivot and extending upwardly through a slot in said bottom plate, a follower plate in said box mounted on said arm, a tension spring arranged to exert a forward pressure against said arm and follower plate, and means on the rear end of said box for holding said arm and follower plate locked in a rearward position.

4. A bag dispenser suitable for containing inverted satchel bottom type bags comprising a box having upwardly curved top and bottom plates defining an upwardly flared longitudinal cross-section and a bag withdrawal opening in the upper front end thereof, a hinged cover in said box top plate, means for pivotally mounting said box adjacent the forward end of said bottom plate, an L-shaped arm pivotally mounted below said bottom plate rearwardly of said box pivot and extending upwardly through a slot in said bottom plate, a follower plate in said box and pivotally mounted on said arm, said arm and follower plate being constructed and arranged so that said plate will travel in a rising arc when moved forwardly, a tension spring arranged to exert a forward pressure against said arm and follower plate, and a locking lug on the rear end of said box arranged to engage said arm directly to hold said arm and follower plate in a rearward position.

5. In a vending machine having a door with a bag slot therein, a shelf in said machine ter-

minating short of said door, a bag box pivotally mounted on said shelf with its rear end resting on said shelf and a front bag withdrawal opening adjacent said door bag slot, a bag replacement opening in the top of said box, and said bag box being tiltable to a position with its front end abutting said shelf when said machine door is opened for access to said bag replacement opening.

6. In a vending machine having a door with a bag slot therein, a shelf in said machine terminating short of said door, a bag box pivotally mounted on said shelf with its rear end resting on said shelf and a front bag withdrawal opening adjacent said door bag slot, a forwardly hinged cover in the top of said box, and said bag box being tiltable to a position with its front end abutting said shelf when said machine door is opened for access to said hinged cover.

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