May 22, 1928. 1,670,797

W. C. CARLSON

DISPENSING DISPLAY DEVICE

Filed Dec. 9, 1926 2 Sheets-Sheet 1

FIG. 1.

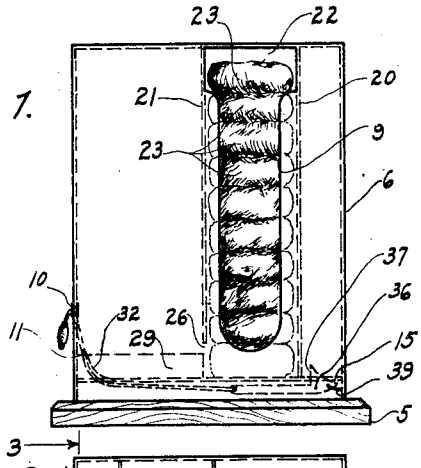


FIG. 2.

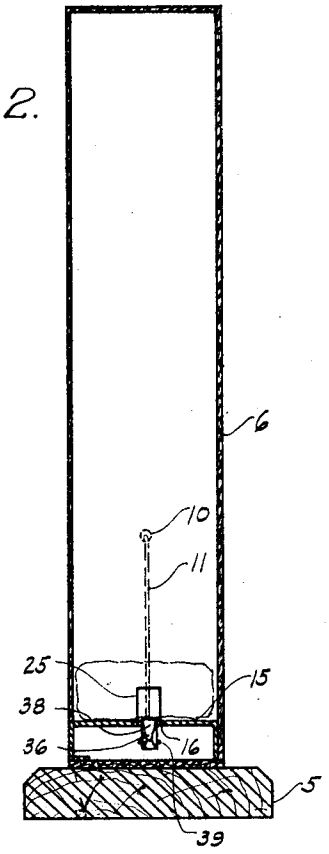


FIG. 3.

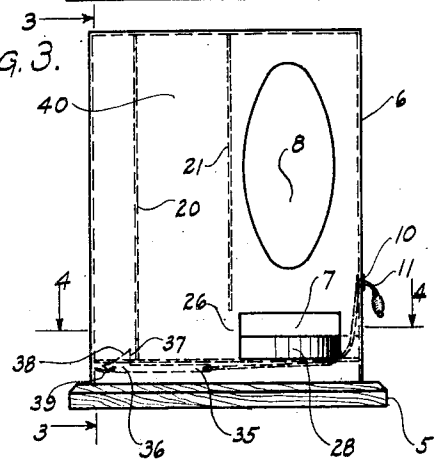
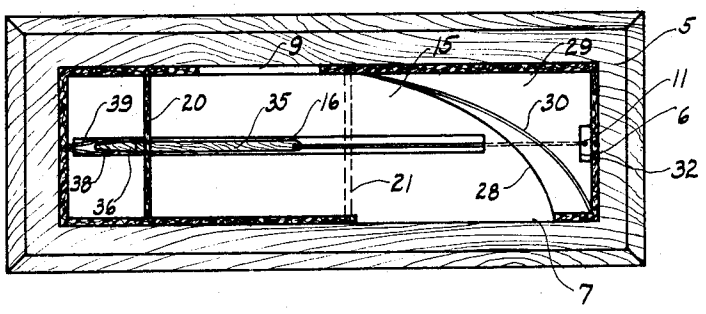


FIG. 4.



INVENTOR.
Walter C. Carlson
BY
Erwin, Wheeler & Woolard
ATTORNEY.

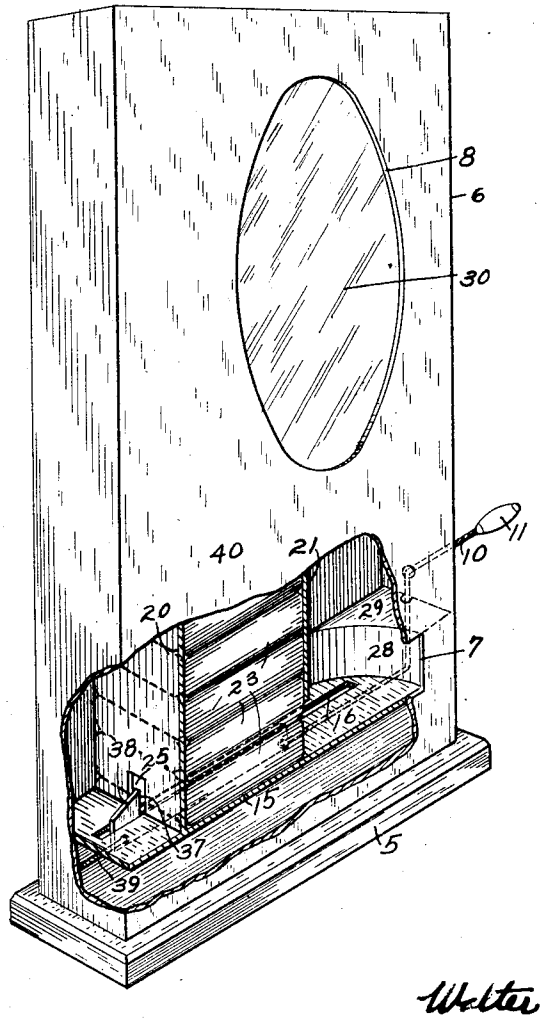
May 22, 1928. 1,670,797

W. C. CARLSON

DISPENSING DISPLAY DEVICE

Filed Dec. 9, 1926 2 Sheets-Sheet 2

FIG. 5.



Walter C. Carlson
INVENTOR.

BY Erwin, Wheeler & Woolard

ATTORNEYS.

Patented May 22, 1928. 1,670,797

UNITED STATES PATENT OFFICE.

WALTER C. CARLSON, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO MILWAUKEE PAPER BOX COMPANY, OF MILWAUKEE, WISCONSIN, A CORPORATION OF WISCONSIN.

DISPENSING DISPLAY DEVICE.

Application filed December 9, 1926. Serial No. 153,551.

This invention relates to improvements in dispensing display devices.

It is the object of the invention to provide a novel counter display device from which may be dispensed the goods on display. More particularly, it is the purpose of the invention to provide a dispensing device which will be extremely inexpensive so that it may be supplied to retail dealers in place of the cardboard display devices so frequently used for small articles. The device embodying the present invention not only serves the purpose of displaying the goods, but is intended and adapted to interest the customer mechanically and thereby to afford greater attraction than an ordinary easel. It requires no coin for its operation but will nevertheless expedite retail business by enabling patrons to serve themselves if they have the correct change to place upon the counter.

Specifically, it is my purpose to provide a novel and improved dispensing display stand which is adapted for economical manufacture, largely of cardboard or like materials; to provide an article which is attractive artistically and mechanically, which is extremely simple to operate, has few moving parts, is stable and will not readily tip, and is readily filled with a new supply of articles to be dispensed.

The particular device herein disclosed is peculiarly adapted for dispensing cigarette packages, soap, or the like.

In the drawings:

Figure 1 is a rear elevation of a device embodying this invention.

Figure 2 is a front elevation thereof.

Figure 3 is a sectional view on an enlarged scale taken on line 3—3 of Figure 2 showing the ejector returning to the position in which it is illustrated in Figure 2.

Figure 4 is a sectional view on an enlarged scale taken in the plane indicated at 4—4 of Figure 2.

Figure 5 is a perspective view of the device, a portion being broken away to show the interior construction.

Like parts are identified by the same reference characters throughout the several views.

The base 5 supports a box-like case 6 which is provided with a dispensing opening at 7 in its front wall, a picture display opening at 8 in its front wall, and a filling opening at 9 in its rear wall. An eyelet at 10 provides a hole through which the operating cord 11 for the ejector passes.

The interior of the case is provided with a horizontal partition at 15, slotted at 16 to provide a guide for the ejector. Above the false bottom 15 extend parallel vertical partitions 20 and 21 adapted to receive and confine the articles to be dispensed. The opening 9 is enlarged at 22 to permit the articles 23 to be inserted between the partitions 20 and 21 but extends below the point of insertion in a contracted form which is sufficiently narrow to retain the articles while permitting the fingers of an operator to lower the articles to their ultimate position. Figure 1 shows the stack complete, and it will be noted that only the uppermost article 23 is fully exposed.

Partition 20 extends to the false bottom 15 but is notched at 25 to permit the passage of the ejector. The notch is in registry with slot 16 in the false bottom. Partition 21 terminates a sufficient distance above the false bottom to provide an opening through which the lowermost article in the stack may be ejected. Such opening is shown at 26 in Figures 1 and 2.

Registering with opening 26 and dispensing opening 8 is a curved guide wall 28 whereby an article ejected from the stack will be caused to turn outwardly and pass through the dispensing opening 7 to the exterior of the device. The guide wall 28 may conveniently be made by forming a curved surface on a wooden block 29 fitted into the end of the container upon the false bottom 15.

I have found that it adds interest to a picture advertising the goods to be displayed if such picture is set inwardly from the opening 8 through which it is visible and whereby it is framed. Such a picture may be printed or painted upon the card shown at 30, and the curvature of the card makes a most attractive display when the picture is viewed through the oval opening at 8.

The operating cord 11 extends through eyelet 10 to the interior of the box and thence downwardly about a curved surface formed at 32 upon the wooden block 29. Thence the cord passes beneath the false bottom 15 and is connected with the shank portion 35 of the ejector 36. The ejector has a shoulder at 37 which is adapted to engage

only the lowermost article in the stack. Beyond the shoulder the ejector is provided with a cam surface 38 which tapers downwardly to enable the ejector to pass beneath the stack in its return movement. A light spring or rubber band is used at 39 to direct the ejector to the retracted position in which it is illustrated in Figures 1, 2, and 4. This resilient tension member is secured to the base at approximately the level of the false bottom so that the line of tension between such point of connection with the case and the lower surface of block 29 will ordinarily maintain the shoulder 37 elevated above the false bottom in a position to engage the lowermost article of the stack. When the card 11 is pulled the ejector moves through notch 25 into engagement with such article and pushes the article through the space 26 below partition 21 into engagement with the curved guide surface 29 which directs it outwardly through the dispensing opening 7. When cord 11 is released the rubber band or other tension means at 39 will retract the ejector. During this retracting movement the cam surface 38 of the ejector will encounter the article which is now lowermost in the stack and will thereby cause the ejector to be depressed in its further retractive movement so that it will pass beneath the stack and will only rise to its original position after it clears the article which is next to be ejected.

It will be noted that the cord and the ejector itself are the only moving parts of the device, which is therefore extremely simple and may be made wholly or in principal part from cardboard. Not only does the picture mounted on card 30 and displayed through opening 8 constitute an attractive display, but the blank front wall 40 of the device is also available for advertising matter, and curiosity as to the operation of the device is productive of interest in the article advertised and dispensed thereby. It will be noted furthermore that the device is very stable, due to the fact that the weight of the article to be dispensed always opposes any tendency of the device to tip when cord 11 is being pulled. With the eyelet 10 located comparatively low in the side of the case there is no tendency whatever for the device to tip.

I claim:

1. A device of the character described, including a guide for a stack of articles to be dispensed and provided with a lateral opening in registry with the lowermost of said articles, a slotted support for said stack or articles below said guide, an ejector movable in said slot and including a shouldered portion normally projecting through said slot to a position for engagement with the lowermost of said articles, spring means drawing said ejector to a normally retracted position, and a tension means connected to said ejector opposite to said spring means and adapted to direct it against the tension of said spring means in a transverse path, whereby to force through said opening the lowermost article in said stack, said ejector being yieldably supported by said tension means and said spring means and having a cam surface adapted in the retractive movement of said ejector to force said ejector downwardly below its normal path of movement whereby to pass beneath said stack.

2. In a device of the character described, the combination with a vertical guideway for a stack of articles to be dispensed and provided with a lateral opening in registry with the lowermost article in the stack, of a slotted support for said stack, an ejector movable in the slot and provided with a shoulder adapted to engage said lowermost article in an advancing movement of the ejector, and a cam surface for engaging said article in the retractive movement of the ejector, and resilient and non-resilient tension means secured to said ejector for the support and actuation thereof in normal alignment with each other at a level such as to maintain said shoulder yieldably in a position for engagement with said article.

3. In a device of the character described, the combination with a guide for a stack of articles to be dispensed provided with a lateral opening in registry with the lowermost article of the stack, of a support for said stack provided with a transverse slot passing beneath said opening, an ejector movable in said slot and including a shouldered surface for engaging the lowermost article of the stack in one direction of movement of the ejector and a cam surface for engaging said article in the opposite movement of the ejector, a spring connected with the ejector and anchored at a level approximately that of the support, and a cord connected with the other end of the ejector and provided with a guide at approximately the level of the support, whereby said cord and said spring normally tend to maintain said ejector at a level such that its shouldered portion and cam portion will alternatively engage the lowermost article in the stack during the reciprocative movement of the ejector under the control of said cord and spring.

4. A device of the character described, comprising a case having a guideway for a stack of articles to be dispensed and a lateral opening in registry with the lowermost of said articles, the front wall of said case having a dispensing opening adjacent the opening of said guideway, a curved guiding wall for directing an article from said lateral opening in said guideway to said dispensing opening, a false bottom in said case provided with a transverse slot, an ejector

reciprocable in said slot and presenting a shoulder to the lowermost article of said stack in its forward movement and a cam surface to the lowermost article in said stack during its retractive movement, a cord connected with said ejector and passing about said guiding wall and through said case, and a spring connected with said ejector opposite to said cord, the tension of said cord and said spring on said ejector being adapted yieldably to maintain said ejector at an elevation for engagement with the lowermost article in said stack.

5. A device of the character described comprising a case having a laterally offset dispensing opening in the lower portion of its front wall, a filler opening in the upper portion of its rear wall, a false bottom in said casing provided with a transverse slot, vertical partitions upon either side of said filler opening, one of which terminates above said bottom to provide a passage opening laterally in the direction of said slot, a block fitted within said case behind said dispensing opening and providing a curved guiding surface leading from said passage to said dispensing opening, and an ejector movable in said slot and adapted to propel the lowermost article from said stack outwardly through said dispensing opening as guided by said surface.

6. A device of the character described comprising a case having a laterally offset dispensing opening in the lower portion of its front wall, a filler opening in the upper portion of its rear wall, a false bottom in said casing provided with a transverse slot, vertical partitions upon either side of said filler opening, one of which terminates above said bottom to provide a passage opening laterally in the direction of said slot, a block fitted within said case behind said dispensing opening and providing a curved guiding surface leading from said passage to said dispensing opening, and an ejector movable in said slot and adapted to propel the lowermost article from said stack outwardly through said dispensing opening as guided by said surface, said ejector being downwardly yieldable in said slot and provided with a shoulder adapted to engage said article in the forward movement of the ejector and a cam surface adapted to engage the lowermost article in said stack during the retractive movement of the ejector, whereby said ejector is forced downwardly in said slot to pass beneath said stack.

7. A device of the character described comprising a case having a laterally offset dispensing opening in the lower portion of its front wall, a filler opening in the upper portion of its rear wall, a false bottom in said casing provided with a transverse slot, vertical partitions upon either side of said filler opening, one of which terminates above said bottom to provide a passage opening laterally in the direction of the slot, a block fitted within said case behind said dispensing opening and providing a curved guiding surface leading from said passage to said dispensing opening, and an ejector movable in said slot and adapted to propel the lowermost article from said stack outwardly through said dispensing opening as guided by said surface, said ejector being downwardly yieldable in said slot and provided with a shoulder adapted to engage said article in the forward movement of the ejector and a cam surface adapted to engage the lowermost article in said stack during the retractive movement of the ejector, whereby said ejector is forced downwardly in said slot to pass beneath said stack, together with means for actuating the ejector in said slot and for yieldably maintaining its level therein.

8. A device of the character described comprising a case having a laterally offset dispensing opening in the lower portion of its front wall, a filler opening in the upper portion of its rear wall, a false bottom in said casing provided with a transverse slot, vertical partitions upon either side of said filler opening, one of which terminates above said bottom to provide a passage opening laterally in the direction of the slot, a block fitted within said case behind said dispensing opening and providing a curved guiding surface leading from said passage to said dispensing opening, and an ejector movable in said slot and adapted to propel the lowermost article from said stack outwardly through said dispensing opening as guided by said surface, said ejector being downwardly yieldable in said slot and provided with a shoulder adapted to engage said article in the forward movement of the ejector and a cam surface adapted to engage the lowermost article in said stack during the retractive movement of the ejector, whereby said ejector is forced downwardly in said slot to pass beneath said stack, together with means for actuating the ejector in said slot and for yieldably maintaining its level therein, said means comprising an opposed spring and cord connected to said ejector and so anchored and guided that their direction of pull is normally aligned at a level such as to maintain said ejector in a position for operative interaction with an article in said stack.

9. In a device of the character described, including a case having a guideway upon one side and a recess on the other, the back wall of said case being provided with an upper filler opening in registry with the top of said guideway and the front wall of said case having a lower dispensing opening in the lower part of said recess, a curvilinear guide wall arranged to direct an article

from the bottom of said guideway to said dispensing opening, and a transversely movable ejector adapted to act upon the lowermost article in said guideway to propel it toward said dispensing opening under the guidance of said wall.

10. In a device of the character described, including a case having a guideway upon one side and a recess on the other, the back wall of said case being provided with an upper filler opening in registry with the top of said guideway and the front wall of said case having a lower dispensing opening in the lower part of said recess, a curvilinear guide wall arranged to direct an article from the bottom of said guideway to said dispensing opening, and a transversely movable ejector adapted to act upon the lowermost article in said guideway to propel it toward said dispensing opening under the guidance of said wall, together with actuating means for said ejector, including a cord guided in the side wall of said case on the side remote from said guideway, whereby tension on the cord tending to tip said case is opposed by the weight of articles in the guideway.

WALTER C. CARLSON.