

June 11, 1957

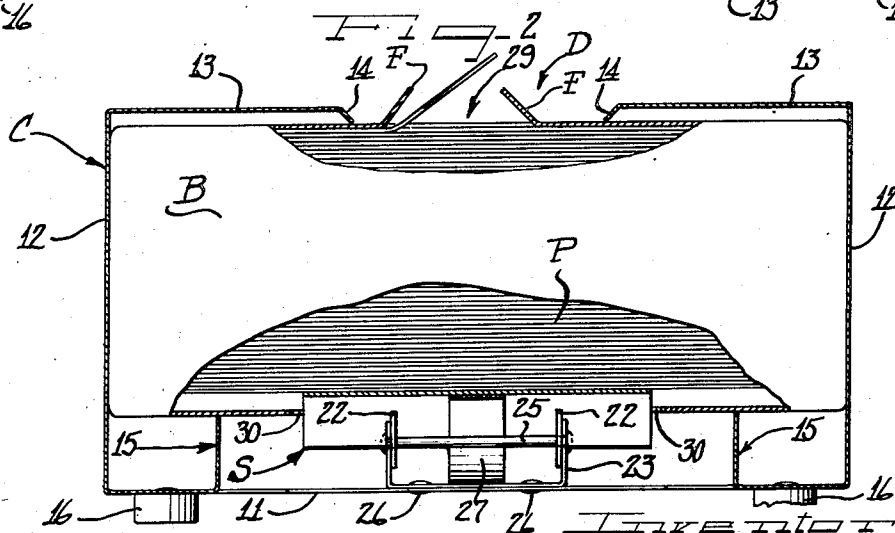
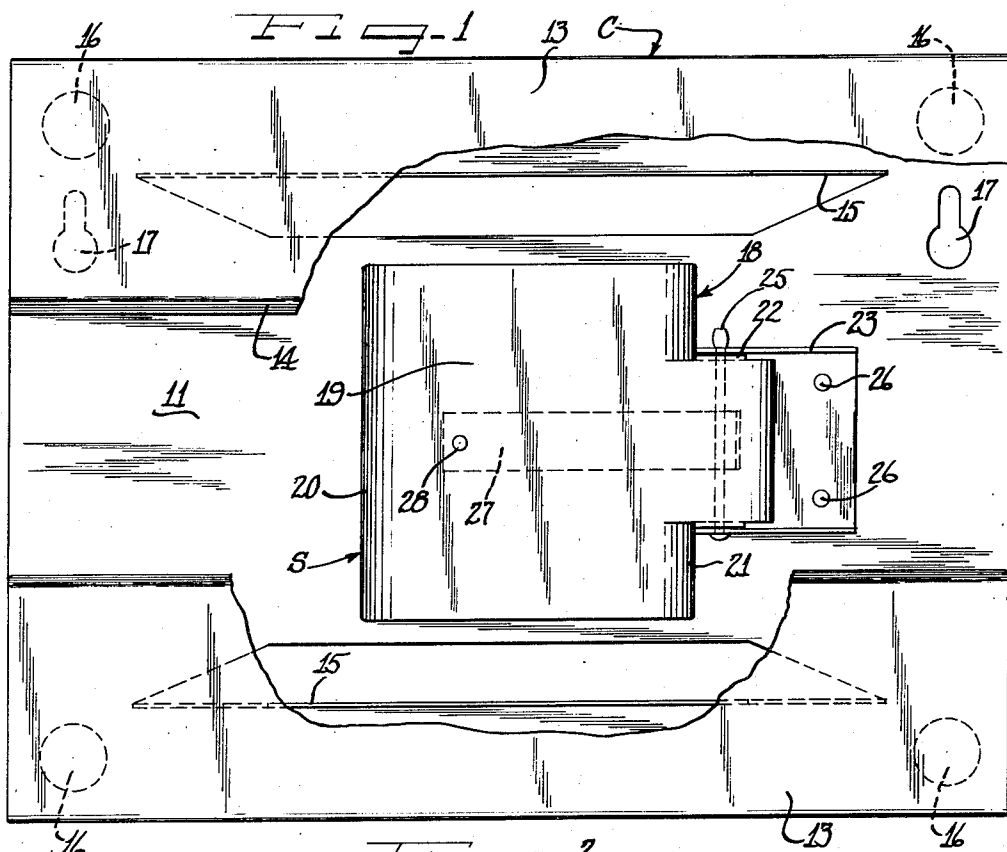
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AUTOMATIC DISPENSING DEVICE

Filed Sept. 24, 1953

2 Sheets-Sheet 1



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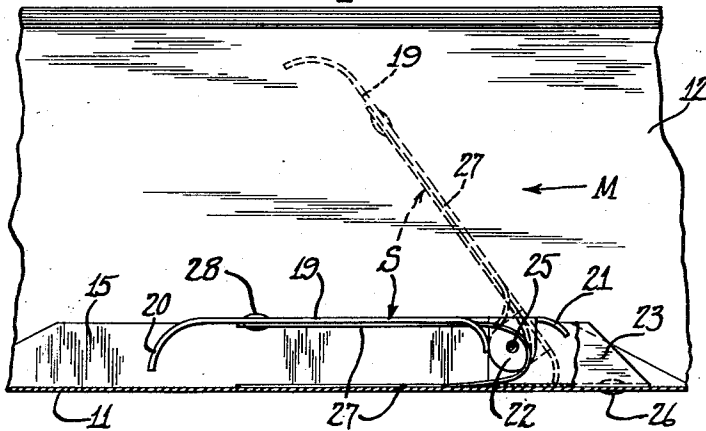
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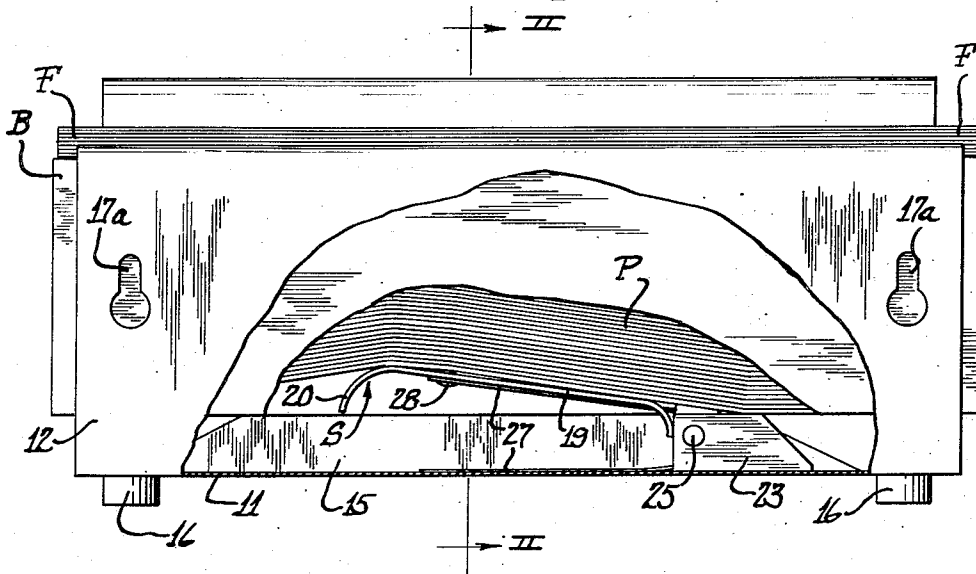
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AUTOMATIC DISPENSING DEVICE

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Application September 24, 1953, Serial No. 382,168

2 Claims. (Cl. 221-46)

The present invention relates to a new and improved automatic paper dispenser.

In handling individual articles of food, especially on the retail level, it is customary to employ a sheet of paper to prevent the bare hand from coming in contact with the food article. This is especially true in handling fresh foods, such as fruits, pastries, and meats. The type of paper sheets most often employed for this purpose is glassine, parchment or other grease-proof papers. These papers are supplied to retailers in several forms, such as in rolls, plain packs, or interfolded packs.

The last mentioned form, that is interfolded paper sheets, are customarily packed in boxes having a slit-like aperture or dispensing opening on the top for removing the paper sheets. The packs of paper sheets are interfolded or leafed in such a manner that the removal of the top sheet of the pack causes an edge of the next sheet to be introduced into the dispensing opening. In this manner, a single sheet at a time can be removed from the box while the box is substantially full. However, as the contents of the box diminish, the removal of the top sheet does not always result in the introduction of the next sheet into the dispensing opening. This is especially true of slippery, highly finished grease-proof papers, such as the glassine papers used by butchers. Accordingly, as the box becomes empty, it is often necessary for the operator to dig or "grope" into the dispensing opening in order to remove a sheet of paper from the box.

By the present invention, however, this problem of dispensing sheets from partially full boxes of interfolded papers has been eliminated. In accordance with my invention, interfolded papers are supplied in boxes having not only a slit-like dispensing opening on the top, but also a substantially rectangular aperture on the bottom side. A box of this structure is held in a box retaining member having a spring-loaded means mounted thereon which exerts a constant pressure against the pack of interfolded papers through the rectangular aperture in the bottom of the box. In this manner, the entire contents of the box is continually urged toward the dispensing opening on the top side of the box. In this manner, it is thus possible to remove the contents of the box, a sheet at a time, down to and including the very last sheet.

In accordance with the foregoing, an object of this invention is to provide a new and improved dispensing means for interfolded papers.

Another object is to provide an automatic dispensing means for interfolded papers.

A further object is to provide a new and improved dispensing mechanism for interfolded sheets of paper having a spring-loaded mechanism for constantly urging the interfolded papers in a box toward the dispensing opening.

Other objects and advantages of the instant invention will be apparent to those skilled in the art from the following disclosure and description of the annexed sheets of drawings which, given by way of illustration only, and

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not by way of limitation illustrate one embodiment of the instant invention.

On the drawings:

Figure 1 is a top plan view of the automatic dispensing mechanism of the instant invention with parts broken away;

Figure 2 is a cross-sectional view taken along line II-II of Figure 4 with parts in elevation;

Figure 3 is a broken away cross-sectional view illustrating the structure and operation of the spring-loaded pressure foot;

Figure 4 is a side plan view with parts broken away of a box of interfolded papers in place in the dispensing mechanism of the instant invention, and illustrating the manner in which the mechanism operates.

As shown in the drawings:

As seen best in Figures 1 and 2, the automatic dispensing device of the instant invention consists of a C-shaped box retaining member shown generally at C and a spring-loaded pressure foot shown generally at S.

The generally, C-shaped box retaining member C comprises a bottom plate 11, opposed parallel side walls 12, and co-planar box retaining flanges 13 projecting perpendicularly inwardly from the opposed side walls 12. The box retaining flanges 13 are parallel to the bottom plate 11. The free edges 14 of the box retaining flanges 13 are turned inwardly to afford gripping engagement with the top surface of a box B held by C. The free edges 14 are in parallel opposed spaced relation, thereby providing a dispensing opening shown generally at D.

Resilient feet or pads 16 are provided on the underside of the bottom plate 11. These feet or pads may be produced from materials such as rubber or plastic or any other substance which will afford a firm, non-slipping foundation.

Apertures 17 are provided in the bottom plate 11 for mounting the dispensing mechanism 10 to a vertical surface, such as a wall if such mounting is desired. As shown best in Figure 4, the opposed side walls 12 are provided with apertures 17a for mounting the dispenser on the underside of a horizontal surface; for example, the underside of a table or counter if such is desired. The mounting of the dispenser, by means of the holes 17 or 17a, may easily be accomplished by the use of screws or the like inserted through said apertures.

The bottom plate 11 is provided with a pair of up-standing box supporting flanges 15. These flanges 15 are formed longitudinally and perpendicularly to said bottom plate 11. The box supporting flanges 15 are parallel to the side walls 12. The supporting flanges 15 may be provided by securing same to the bottom plate 11 by means of rivets, welding, soldering or the like. Preferably, however, and as shown in Figure 1, the box supporting flanges may be formed simultaneously with the forming of the box retaining member C, such as by punching the flanges 15 from the bottom plate 11 and turning said flanges upwardly until they are normal to the bottom plate 11. Since the generally C-shaped box retaining member C is preferably formed from a single piece of elongated sheet metal, this method of simultaneously forming the box supporting flanges 15 by punching same from the bottom plate 11 is the preferred procedure.

The spring-loaded pressure foot shown generally at S is centrally disposed on the bottom plate 11 between the box supporting flanges 15. The spring-loaded pressure foot comprises a substantially rectangular paper engaging plate 19 having its forward edge 20 and its rearward edge 21 turned downwardly. Downturned portions or ears 22 having apertures therethrough are provided as an attaching means for the paper engaging plate 19. The paper engaging plate 19 is pivotally fulcrumed to a channel, or U-shaped supporting bracket 23, by means of

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a pin 25. The U-shaped bracket 23 is mounted on the bottom plate 11 by means of rivets or the like 26.

A resilient tongue spring 27 is provided for spring-loading the paper engaging plate 19. Accordingly, the spring 27 is elastically deformed into a generally U-shaped configuration. One leg of the U-shaped spring is attached to the underside of the paper engaging plate 19 by means of a rivet or the like 28. The other leg of this spring is not attached to the bottom plate 11, but is allowed to resiliently abut or press against the bottom plate 11.

When a box is not disposed in the box retaining member C, the spring-loaded pressure plate 19 is resiliently urged into the general position shown by the dotted lines in Figure 3. When the spring 27 is loaded, however, the pressure plate 19 is pressed down in the position denoted by the solid line drawing in Figure 3. When in a compressed or spring-loaded state, the pressure plate 19 is substantially flush with the top free edges of the box supporting flanges 15, as shown best in Figure 3.

The boxes of interfolded papers which may be used with the present invention are substantially the same as the interfolded papers presently available commercially, with the exception that a substantially rectangular aperture is provided on the bottom side to accommodate the entrance of the spring-loaded paper engaging plate 19 through the aperture.

When an operator wishes to load and use the dispenser of the instant invention he merely employs the following procedure:

A box of interfolded papers such as B in Figures 2 and 4, having a slit-like dispensing aperture 29 on its top side formed by upraised flaps F, and a centrally located substantially rectangular aperture 30 on its bottom side is introduced into the C-shaped box retaining member C from the end and in the direction denoted by the arrow M in Figure 3. As the box is slidably introduced into the box retaining member, the box first makes contact with the box supporting flanges 15 and rides thereon. As the box is further introduced into the dispenser, riding on the box supporting flanges 15, the spring-loaded pressure plate 19 is compressed downwardly by the box B into the position shown by the solid line drawing in Figure 3. When as shown in Figures 2 and 4, the box B is fully introduced into the dispenser and the rectangular aperture 30 on the bottom side thereof properly positioned, the spring-loaded pressure plate 19 is resiliently urged through the aperture 30 and against the interfolded pack of papers P. The dispenser unit, with the box B contained therein, is then ready for use.

The pressure plate 19 being under spring-loaded tension, produces a constant resilient force upon the pack of papers P, urging the pack toward the upper dispensing aperture 29. Thus, as the sheets of paper are removed from the top of the pack, the pack of paper P progressively moves upwards in the box toward the dispensing opening 29. In this manner, it is possible to remove the contents of the box a sheet at a time down to and including the very last sheet in the box.

A distinct advantage of the instant invention lies in the fact that the box retaining member C will accommodate a box of any reasonable length having a width and height comparable to the box retaining area of the dispenser as shown best in Figure 2; and having a centrally located, substantially rectangular aperture 30 on its bottom side capable of receiving the spring-loaded paper engaging foot 19.

It will be appreciated by those skilled in the art that

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various modifications and changes may be effected without departing from the scope of the novel concepts of the present invention.

I claim as my invention:

1. The combination of a box for retaining a stack of interfolded sheets, said box having a dispensing opening in the top thereof and an aperture in the bottom thereof, and a device partially enclosing said box but open at its ends and so constructed and arranged as to facilitate the end-wise insertion of said box into said device and the dispensing of said sheets therefrom, said device having a bottom plate, opposed side walls and box-retaining flanges extending inwardly therefrom and defining a dispensing slot coinciding with said dispensing opening in said box, a pair of parallel longitudinal box-supporting flanges on said bottom plate supporting the bottom of said box in spaced relation from said bottom plate, and resilient paper engaging means centrally disposed on said bottom plate between said box-supporting flanges exerting resilient pressure against a stack of sheets in said box via the aperture in the bottom thereof to bias said sheets towards said dispensing opening and slot.

2. The combination of a box for retaining a stack of interfolded sheets, said box having a dispensing opening in the top thereof and an aperture in the bottom thereof, and a device partially enclosing said box but open at its ends and so constructed and arranged as to facilitate end-wise insertion of said box into said device and the dispensing of said sheets therefrom, said device having a bottom plate, opposed side walls and box-retaining flanges extending inwardly therefrom and defining a dispensing slot coinciding with said dispensing opening in said box, a pair of parallel longitudinal box-supporting flanges on said bottom plate supporting the bottom of said box in spaced relation from said bottom plate, and resilient paper engaging means centrally disposed on said bottom plate between said box-supporting flanges exerting resilient pressure against a stack of sheets in said box via the aperture in the bottom thereof to bias said sheets towards said dispensing opening and slot, said resilient means including a paper-engaging plate pivotally mounted at one end from said bottom plate about an axis extending at right angles to said box-supporting flanges and a spring urging the other end of said paper-engaging plate upwardly, whereby when said box is inserted into said device through the open end thereof nearest the pivotally mounted end of said paper-engaging plate the box upon being slid along said box-supporting flanges and in contact as its upper surface with said box-retaining flanges serves to cam said paper-engaging plate downwardly to load said spring.

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