

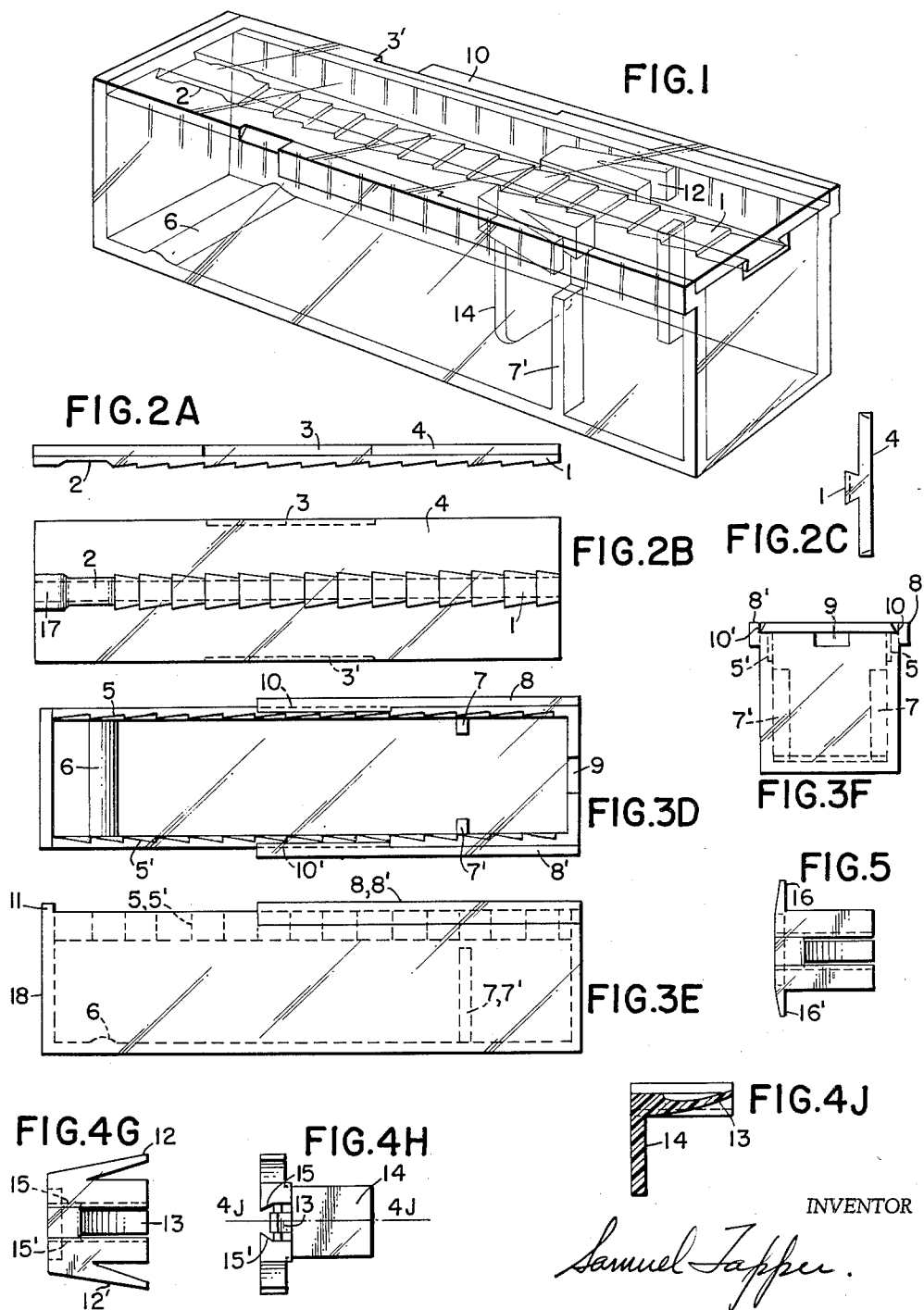
June 26, 1962

S. TAPPER

3,040,929

TABLET DISPENSING PACKAGES

Filed Sept. 22, 1958



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3,040,929

TABLET DISPENSING PACKAGES

Samuel Tapper, 440 Baldwin Road, Maplewood, N.J.

Filed Sept. 22, 1958, Ser. No. 762,288

2 Claims. (Cl. 221-246)

This invention relates to packages, and more specifically to tablet dispensing, pocket size packages or containers.

The object of this invention is to provide a means to securely pack a given number of tablets in a container which is so designed and engineered that one tablet at a time can be removed, and the remaining tablets will continue to be securely held and prevented from rattling.

An important feature of the hereinafter described package is the novel arrangement and design of the parts wherein the movement of the cover alone changes the space relationships within the container, diminishing the volume of the forward area and increasing the volume in the after area of the container. Another important feature is the novel method employed to hold the tablets in check while one is left free to be removed. The method of moving the tablets forward in a positive and controlled manner is also novel and important.

To gain a further understanding of this invention, reference is here made to the drawings accompanying and forming a part of this specification, in which:

FIG. 1 shows a perspective view of the tablet dispensing package, assembled and in a closed position.

FIGS. 2A, 2B, and 2C show the side, bottom, and end views of the cover of the package.

FIGS. 3D, 3E, and 3F show the top, side, and end views of the container portion of the package.

FIGS. 4G, 4H, and 4J show the ram in top, end, and cross-sectional views, FIG. 4J being a cross-section taken on the line 4J-4J of FIG. 4H.

FIG. 5 shows a modified version of the ram of FIG. 4 wherein the lateral pawls of the ram are shortened.

An explanation of the manner in which the package functions is as follows:

Into the uncovered container, in the larger area between the forward end wall 18 of the container and the vertical bars 7-7', the required number of tablets are placed. The drawing demonstrates a twelve unit package. The second tablet in the container will rest on ridge 6, thus elevating it above the level of the remaining eleven tablets. Vertical bars 7-7' act as back stops for the tablets.

The ram and cover are assembled by slipping the ram on the rearward end of the slide track of the spine on the under side of the cover so that when the cover is placed in position on the container, the ram will be in back of the tablets at vertical bars 7-7', with its flat panel 14 against the adjoining tablet.

The cover is fastened to the container by a suitable slide catch, herein indicated by 10-10' of the container in FIG. 3D and 3-3' of the cover in FIG. 2B. When the cover is drawn back, one tablet will be exposed and can be dropped out of the container by inverting it. The second tablet will be held in position by pressure of the forward end area 17 of the spine 1, FIG. 2B. At the same time, the upwardly directed pawl or tongue 13 of the ram will engage the next forward tooth of the spine 1 so that when the cover is moved forward to the closed position, the ram will move forward, moving all the remaining tablets forward, releasing the pressure on the second tablet as it moves into the position vacated by the first tablet. The lateral pawls 12 and 12' of the ram will engage the next forward teeth on the sides of the container and prevent any backward movement. The package is now closed and ready to dispense another tablet when the cover is again drawn back.

Referring to FIG. 1:

Here the package is shown with the top in a closed position, and the ram advanced three teeth or spaces. As the cover is slid backward, it disengages itself from the pawl immediately below its spine until it moves a distance predetermined by the thickness of one tablet, which is also the distance between two successive teeth. Then it reengages the pawl, moving the ram forward as the cover is returned to its closed position.

Referring to FIGS. 2A, 2B, and 2C:

FIG. 2B shows the cover as seen from below. Running lengthwise along the center is a spine 1, which is divided into sections. The length of each section is determined by the thickness of the tablets to be dispensed. Viewed from the side as shown in FIG. 2A, the sections appear as saw teeth, the end of each section being on a different plane than the beginning of the next abutting section. As indicated in FIG. 2C, the spine 1 is narrower at the area of juncture with cover portion 4. At 2 the spine is made thinner and the teeth are eliminated. 3 and 3' are bevels to provide a means for fastening cover to container and provide a sliding surface. The thinning down of the spine at 2 is very important because it permits succeeding tablets to move into second position on ridge 6 without jamming or tilting.

Referring to FIGS. 3D, 3E, and 3F:

In the drawing, and for the purpose of demonstrating the functioning of this invention, twelve spaces for tablets are indicated, though spaces for any number of tablets can be provided. The upper portions of the inner sides of the container shown in FIGS. 3D, 3E, and 3F are divided into units in the shape of saw teeth and resemble racks, as indicated by 5 and 5'. All the units are of equal size except the first one next to the forward end of the container at 18, which is slightly wider to allow the first tablet to free itself from the remaining tablets so it can drop out without difficulty when the cover shown in FIGS. 2A, 2B, and 2C is drawn back into its open position. No. 6 is a slight rise in the bottom of the container and runs laterally across the same, as shown in FIG. 3D. This is of great importance because by raising the tablet in second position at 6, when the cover is drawn back, area 17 at the forward end of the spine presses down on the top of the tablet resting on 6, thereby checking the movement of all the tablets remaining in the container.

Vertical bars 7 and 7' are back stops for the tablets and facilitate the filling of the container by holding the tablets in position.

Flanges 8 and 8' are guides for the cover to prevent sideways.

10 and 10' are overlapping inverted bevels along the top inner edges of the flanges 8 and 8' respectively, and in co-operation with the cover bevels 3 and 3' constitute a fastening device for holding the cover on the container and limiting its fore-and-aft movement.

9 is a cutout to permit the end of spine 1 to pass through.

Referring to FIGS. 4G, 4H, and 4J:

FIGS. 4G, 4H, and 4J show the ram that moves the tablets forward. In FIG. 4G, 12 and 12' are fixed pawls that function as flexible rather than hinged units, and prevent backward movement by engaging successive teeth in the container shown in FIG. 3D (5 and 5') as the cover is moved backward and forward. Running lengthwise across the top of the ram is a channel whose inverted beveled sides 15 and 15' slide along the beveled sides of the spine 1 in FIG. 2C. Along a portion of its length, the bottom of the channel is slotted at both sides, the remaining central portion is raised at its free end to form an upwardly directed pawl 13 which would function in conjunction with the teeth on the aforementioned

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spine 1 in FIG. 2A. Said upwardly directed pawl 13 would permit the cover, to slide backward, but on the forward motion it would engage a tooth in spine 1, FIG. 2A, and move forward with the cover. Panel 14 is a flat area at right angles with the top surface of the ram. It extends downward, as shown in FIG. 4J, and functions as the piston to push the tablets forward, and keep them in place when the action stops.

Referring to FIG. 5:

The ram of FIG. 5 is identical with that of FIGS. 4G, 4H and 4J except that the pawls 12 and 12' in FIG. 4G are shortened and changed as shown by 16 and 16' to extend outward at right angles to the line of movement of the ram.

What is claimed is:

1. A tablet dispensing package consisting of a container, cover, and ram, wherein the cover is slidably mounted for longitudinal movement on the side walls of the container, and has a toothed spine on its under surface, said spine placed lengthwise from end to end along the central area of said cover, said spine being suitably undercut on both sides to provide a slide track for the ram which is mounted on the slides along the said slide track and which successively engages the teeth along the aforementioned spine by means of an upwardly directed flexible pawl extending in a backward direction from the body of said ram, the teeth on the spine being so directed as to advance the ram on forward or closing movement of the cover, and there being a panel extending downward from the ram to press the tablets forward when the ram is advanced by the cover, said ram also having two lateral flexible pawls, one on each side engaging the teeth on two racks, one rack set on the inside of each side wall of the container, the teeth of said racks being so directed as to prevent ram movement during rearward or opening movement of the cover, said container also having on each of the inner surfaces of the side walls a vertical bar, said bars being opposed to each other within the container and so placed as to abut the last tablet therein when the container is full, the distance between said opposing bars being greater than the width of the aforementioned panel on the ram, and there being a space between said bars and the rear end wall of the container, into which space the panel of the aforementioned ram is placed when the package is closed after loading.

2. A tablet dispensing package consisting of a container, cover, and ram, wherein the cover is slidably mounted for longitudinal movement on the side walls of the container, and has a toothed spine on its under surface, said spine placed lengthwise from end to end along

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the central area of said cover, said spine being suitably undercut on both sides to provide a slide track for the ram which is mounted on the slides along said slide track and which successively engages the teeth along the aforementioned spine by means of an upwardly directed flexible pawl extending in a backward direction from the body of said ram, the teeth on the spine being so directed as to advance the ram on forward or closing movement of the cover, and there being a panel extending downward from the ram to press the tablets forward when the ram is advanced by the cover, said ram also having two lateral flexible pawls, one on each side engaging the teeth on two racks, one rack set on the inside of each side wall of the container, the teeth of said racks being so directed as to prevent ram movement during rearward or opening movement of the cover, said container also having on each of the inner surfaces of the side walls a vertical bar, said bars being opposed to each other within the container and so placed as to abut the last tablet therein when the container is full, the distance between said opposing bars being greater than the width of the aforementioned panel on the ram, and there being a space between said bars and the rear end wall of the container, into which space the panel of the aforementioned ram is placed when the package is closed after loading with tablets, and wherein the toothed spine on the under surface of the cover is made shallower in depth directly above the position of the second tablet from the forward end wall of the container, there also being an arched ridge on the inside bottom surface of the container, said ridge running laterally across the bottom directly under the position of the second tablet therein to raise the level of the second tablet, permitting the thicker end portion of the spine adjacent to the aforementioned shallow area to rest upon the second tablet when the cover is drawn back into open position and prevent movement of said second tablet until the cover is advanced to a closed position.

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