June 7, 1955 D. WABER ET AL 2,710,114

DISPENSERS FOR PROPHYLACTICS

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Fig: 1.

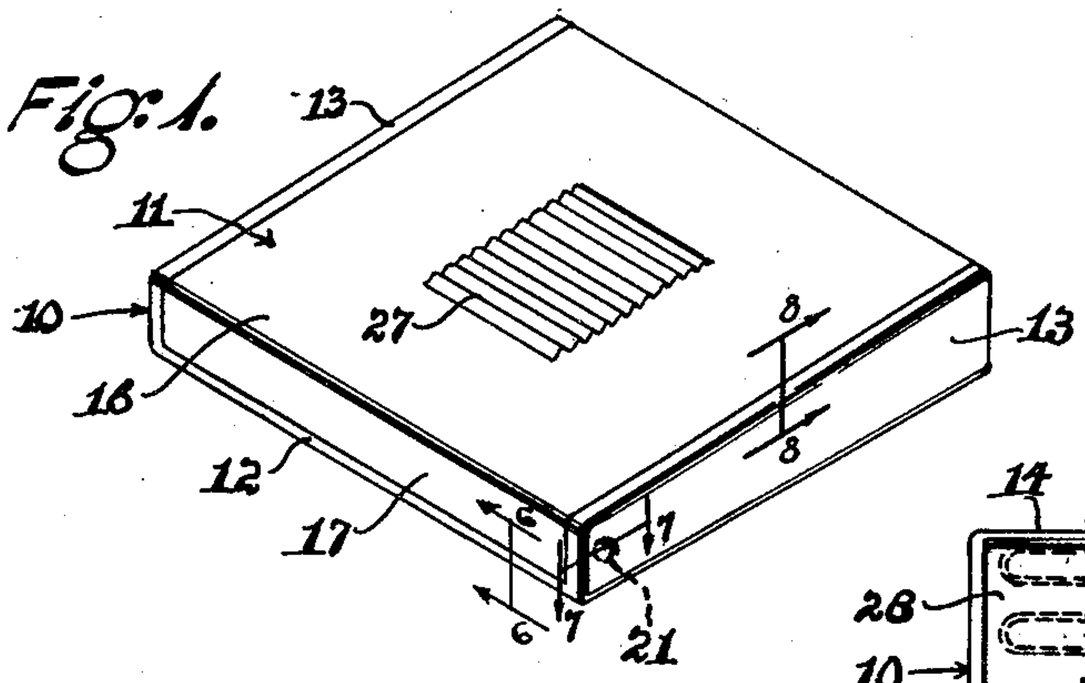


Fig: 2.

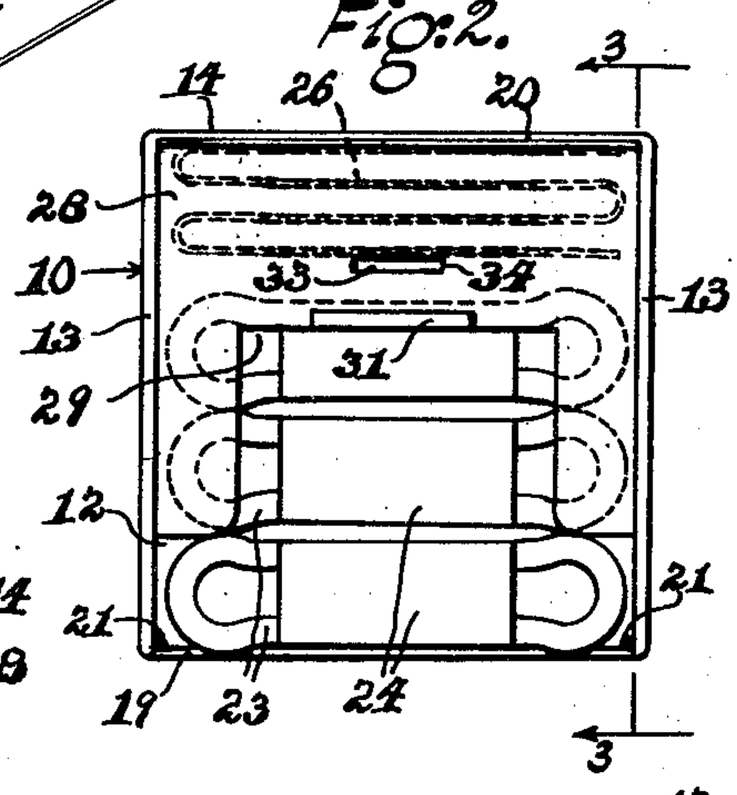
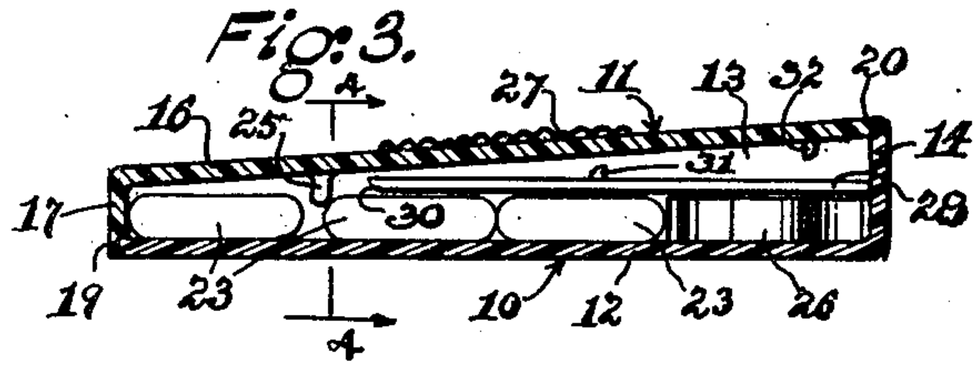


Fig: 3.



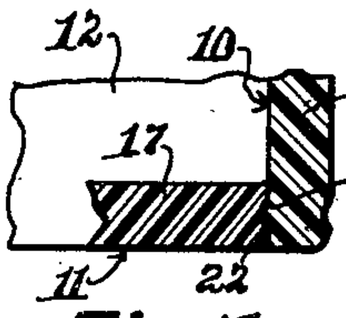


Fig: 7.

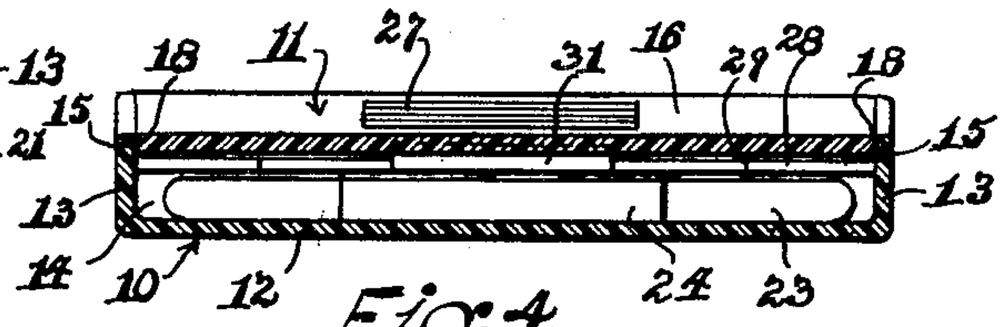


Fig: 4.

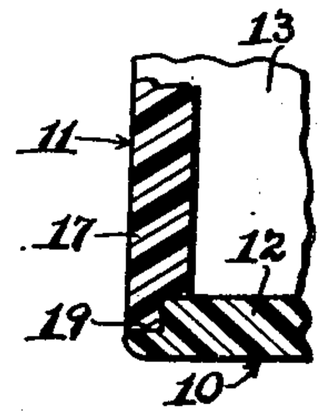


Fig: 6.

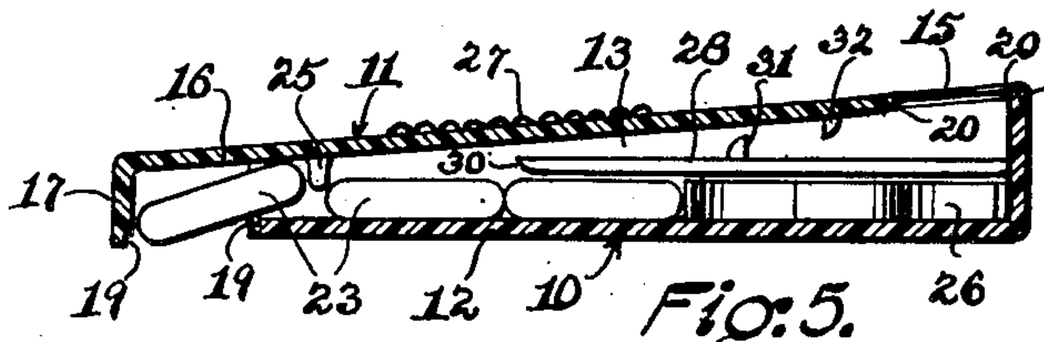


Fig: 5.

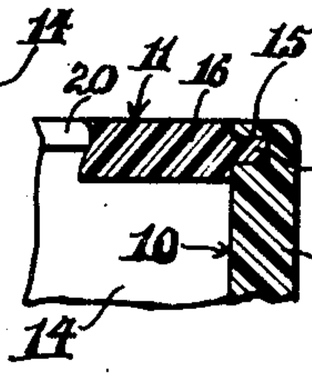


Fig: 8.

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DISPENSERS FOR PROPHYLACTICS

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12 Claims. (Cl. 221—232)

Our invention relates to a new and useful dispenser for prophylactics and has for one of its objects to produce a small, compact, pocket size package from which a number of separate articles or individually wrapped items may be dispensed, one at a time, as desired or required.

Another object of our invention is to produce a package which is adequately sealed when closed to keep out particles of tobacco, dirt or other foreign substances with which the package might come in contact, as when carried in a person's pocket, thus retaining the contents in a clean and sanitary condition.

Another object of this invention is to produce a dispensing receptacle including a box-like or container body having an opening at the top and one end, the latter constituting an outlet or mouth, and a closure slidably mounted in an inclined plane sloping downwardly from the rear towards the front of the body and including a top and front for normally closing the top opening and outlet and provided with an ejector depending from the inside surface of the top portion to engage the foremost one of a number of articles in the receptacle for moving said foremost article forwardly during the dispensing operation and to be contacted by the next succeeding article to retain any other or others of said articles in the receptacle and to pass over the previously succeeding article as the closure is retracted towards its closed position.

Another object of the present invention is to construct a dispenser of the character mentioned from suitable material having some flexibility, elasticity or pliability and utilizing such inherent characteristics for the efficient operation of the apparatus.

Another object of this invention is to employ dispensable individually wrapped items or articles having some compressibility which characteristic cooperates with parts of the dispenser to aid in the operation of the latter.

Another object of the invention is to provide unique means for limiting the forward and retracting movements of the closure.

A further object of our invention is to divide the interior of the body to provide a compartment for holding the articles to be dispensed and resilient means such as a zigzag ribbon-like spring, for urging said articles forwardly, and further providing means to allow the insertion of an instrument for temporarily retaining the resilient means compressed an extra amount while the body of the apparatus is being loaded.

A still further object of this invention is to construct the cooperating parts of the body and closure so that when the latter is closed the several joints will be practically sealed against the entrance of foreign substances into the body of the apparatus.

With the above and other objects in view, this invention consists of the details of construction and combination of elements hereinafter set forth and then designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and

use the same we will describe its construction in detail referring by numerals to the accompanying drawing forming a part hereof, in which:

Fig. 1 is a perspective view of the dispenser for prophylactics constructed in accordance with our invention.

Fig. 2 is a top plan view thereof with the closure removed and the spring held in a retracted position while the dispensable articles are shown in the approximate positions assumed when under spring tension and the closure is closed.

Fig. 3 is an enlarged section on the line 3—3 of Fig. 2 with all parts in operative condition and the closure in the closed position.

Fig. 4 is a section on the line 4—4 of Fig. 3.

Fig. 5 is a view similar to Fig. 3 with the closure partially open during the dispensing operation.

Fig. 6 is a further enlarged fragmentary sectional view on the line 6—6 of Fig. 1 showing one way in which the joint between the front of the closure and the bottom of the body may be constructed.

Fig. 7 is a similar view on the line 7—7 of Fig. 1 illustrating one form of closure fastener.

Fig. 8 is a similar view on the line 8—8 of Fig. 1 displaying a type of sliding connection between the body and closure.

In carrying out our invention as herein embodied 10 and 11 represent, respectively, a box-like body and a closure produced from relatively stiff material, such as what is commonly known as plastic, having some inherent flexible or pliable qualities or characteristics and opaque, translucent or transparent.

The body 10 comprises a bottom 12 from which project the upwardly extending perpendicular side walls 13 and rear wall 14 so that the top of said body and the front are normally open, the latter constituting an outlet through which articles in the package are to be dispensed. The upper edges of the side walls, preferably, are inclined in a downwardly sloping direction from the rear wall 14 as plainly shown in Figs. 1, 3 and 5.

Runways or track guides 15, Figs. 4, 5 and 8, are formed in the inner faces of both side walls longitudinally thereof and are inclined in a downwardly sloping direction from their rear portions towards and to their forward ends and where the upper edges of said walls are similarly inclined said runways run parallel to the side wall upper edges adjacent thereto.

The closure 11 includes a top wall 16 and a pendant front 17 substantially fitting within the confines of the body to close the normally open upper portion of said body and the front outlet. Along the side edges of the top wall 16 of said closure are formed the tongues or tracks 18 which are slidably fitted into the runways 15 to permit the closure to slide to and fro. The tongues should snugly fit the runways to reduce to a minimum the possibility of the closure accidentally opening. The lower edge of the closure front and forward edge of the body bottom are provided with companion rabbet joint formations 19, Fig. 6, to provide a dirt proof joint when the closure is closed and similar rabbet joint formations 20 are formed on the rear edge of the closure top wall and the upper edge of the body back wall for the same purpose.

To hold the closure in a closed position a suitable holding means is provided and, for purposes of illustration, said holding means is shown as comprising a projection 21, Fig. 7, formed with and extending from the inner face of a body side wall 13 for registration with a socket 22 in a side edge of the closure front wall 17. Of course the locations of the projection and socket can be reversed, that is, the projection might be on the closure and the socket in the body wall. Also the fastening means may be provided in multiple, one at each

side of the closure and body, as suggested in Fig. 2, or said fastening means might be arranged between the closure front wall and the bottom of the body.

The articles 23 to be dispensed, rubber prophylactics, are rolled up and individually wrapped with a band 24, Figs. 2 and 4, to prevent unrolling. These articles, therefore, are elastic and compressible to some extent and these qualities may be utilized in the operation of the dispenser.

An ejecting means 25, such as a rib, depends from the underneath face of the closure top wall 16 adajcent to but spaced from the front wall 17 of said closure and the spacing is such that the distance between the ejecting means and the front wall is slightly greater than the depth of an article 23, that is, the dimension of said article between its front and rear edges. The articles 23 are urged forwardly towards the front outlet by resilient means 26 such as a flat ribbon spring wound in zigzag form and located on the bottom of the body between the rear wall 14 and the last one of a number of articles arranged in a row also on the bottom of the body.

The ejector 25 is adapted to lie between the foremost article and the next succeeding article, when more than one article is in the device, and behind the article at the forward end of the body, regardless of the number of articles in the device. Due to this arrangement any article or articles behind the ejector will be held in contact therewith by the spring 26 and moved forwardly as said ejector is projected towards the outlet because of the forward sliding movement of the closure but such articles cannot pass the ejector for movement to the outlet. The article in front of the ejector 25 will be pushed forwardly thereby as the closure is projected forwardly and simultaneously the front wall 17 will be moved away from the front of the body so as to open the outlet through which the foremost article will be ejected by descending from the forward edge of the bottom wall 12 of the body, as depicted in Fig. 5. As the ejector continually approaches closer to the bottom wall of the body as the closure is projected forwardly said ejector will gradually have a greater amount of its height engaged with the articles on both sides thereof thus insuring the positive ejection of the forward article and the retention of a succeeding article. To make it rather easy to slide the closure by pressure of the thumb on the top wall of said closure a roughened area 27 may be provided on the exterior of the top wall 16 of said closure.

That the dispensible articles and spring may be retained in a straight row, one behind another, particularly in the rear part of the body where there is considerable space between the bottom wall and the closure, there is provided a partition 28 in parallel spaced relation to the bottom wall 12 and joined to the side and back walls of the body. Preferably said partition has a recess 29, Fig. 2, in its forward central portion to lighten the structure and to accommodate the ejector 25 when the latter is positioned so as to pass the forward edge of the partition. This condition occurs when the dispensible articles are relatively larger than those illustrated herein. The forward edge or edge portions of the partition 28 are arcuately beveled from underneath as shown at 30, Figs. 3 and 5, to permit unobstructed assembly of the spring and loading of the articles in the body underneath of the partition.

The forward or projection movements of the closure, and hence the ejector 25, are limited by suitable stop means herein shown as two cooperating lugs 31 and 32. The stationary lug 31 is on the partition 28 and projects upwardly from said partition into the path of travel of the movable lug 32 pendant from the inside face of the top 16 of the closure 11. These lugs are so located that when the closure is closed they are slightly farther apart than the distance of the ejector 25 from the forward outlet end of the body. This will insure that the outlet will be open sufficiently to permit exit of an article before the outward movement of the closure is halted but will prevent the actual disengagement of the closure from the body. The upper edge of the lug 31 from its forward face and the lower edge of the lug 32 from its rear face are arcuately beveled, as plainly shown in Figs. 3 and 5, to cause lug 32 to ride over lug 31 when the closure is initially assembled. This is due to the reverse flexion of the closure and partition because of the pliable quality of the material from which the apparatus is constructed.

While loading the articles in the container body the spring 26 may be temporarily retained in an extraordinarily contracted condition, as shown in Fig. 2, by use of any suitable instrument 33 inserted through the aperture 34 in the partition 28 in front of said spring 26 after it has been contracted the extra extent necessary to position it completely to the rear of said aperture.

All exposed corners of the body and closure, that do not have to be square for operational reasons, are rounded to reduce to a minimum the likelihood of the device catching in a person's clothing or the lining of a pocket.

In actual practice, the spring can be contracted beyond its usual position and the articles loaded into the body and the spring holding means withdrawn just prior to the closure being closed. As the closure is moved to the closed position the ejector 25 will ride over the foremost article due to the flexible quality of the material of the device and the compressible characteristics of the articles as well as the inclined path of travel of the ejector.

When it is desired to dispense the articles, the closure 11 is projected forwardly with sufficient initial force to release the holding means 21—22 and thereafter with moderate force to move the ejector 25 towards the outlet at the forward end of the body. As said ejector moves forwardly it will engage the rear of the article at the forward end of the body and slide said article forward from the dispenser body through the outlet. During this action the ejector 25 continually approaches the bottom wall 12 of the body 10 and provides a positive barrier to the passage of the next succeeding article or spring 26 through the outlet. As the closure is retracted it will push the next succeeding article rearwardly until the ejector 25 has been raised sufficiently, due to its upwardly inclined travel, to permit said next succeeding article to be propelled forwardly by the spring 26. This action may be assisted by the flexible qualities of the material from which the device is manufactured as well as the compressible characteristics of the articles. When the article is released by the ejector, as the latter reaches its innermost location, said article will be moved into engagement with the front wall 17 of the closure and ahead of the ejector ready to be dispensed upon the next projection of the closure.

From the foregoing it will be apparent that the continuous descent and elevation of the ejector, relative to the bottom wall of the body, during projection and retraction of the closure, controls the ejection of the forward article and the holding of any other articles against passage through the outlet and subsequent release of a succeeding article so as to be moved into the dispensing position. Only under certain conditions is the flexibility of the dispenser material and/or the elasticity or compressibility of the articles themselves depended upon for efficient operation of the device and these certain conditions would arise only when the articles might be slightly oversize.

The device is exceedingly simple in construction and operation, light in weight, compact and inexpensive in the cost of manufacture thus particularly adapting it to use in connection with a package in which the dispensing container is to be discarded after all of the contents have been disposed of.

Of course we do not wish to be limited to the exact

details of construction herein shown and described as these may be varied within the scope of the appended claims without departing from the spirit of our invention.

Having described our invention what we claim as new and useful is:

1. A dispenser for prophylactics comprising a box-like body normally open at the front and on the top and adapted to contain articles arranged in a row from the front towards the rear, the top of said body sloping downwardly and forwardly, a closure for the front and top slidably attached to the top of said body, and a pendant ejector on said closure in spaced adjacent relation to the front end thereof.

2. The structure according to claim 1 wherein the distance of the ejector from front end of the closure is approximately equal to the depth of the articles to be dispensed.

3. The structure according to claim 1, in combination with means to limit the sliding movements of the closure, and other means to hold the closure in a closed position.

4. A dispenser of the class described comprising a body including a bottom, rear and side walls leaving the front and top of said body normally open, the upper edges of said walls sloping downwardly and forwardly, a closure including a top and front wall, means to slidably attach said closure to said side walls in a forwardly sloping direction and completely closing the top and front of said body when the closure is retracted into the backward position, and an ejecting means pendant from the underneath surface of the closure top wall in spaced relation to the front wall, said ejector continually approaching the body bottom wall as the closure is projected forwardly and continually receding as said closure is retracted.

5. The dispenser according to claim 4, in combination with resilient means in the body to urge forwardly articles arranged in a row on the bottom of the body, and wherein the ejector is spaced a distance from the front wall approximately equal to spacing of said articles.

6. The dispenser according to claim 4 wherein the elements of rabbeted joints are formed on the upper edge of the body rear wall, the rear edge of the closure top, the forward edge of the body bottom wall and the lower edge of the closure front wall.

7. A dispenser of the kind mentioned comprising, in combination, a receptacle body normally open at the top and provided with an outlet at the forward end, a closure slidably attached to said receptacle body in a downwardly and forwardly sloping inclined plane, and an ejector pendant from said closure to approach and recede from the bottom of the receptacle as the closure is respectively projected forwardly and retracted.

8. A dispenser for prophylactics comprising a receptacle body of flexible material including bottom, rear and parallel side walls and normally open at the top and front, the latter constituting an outlet for articles positioned in a row on the bottom from front to rear of said body, the upper edges of said side walls sloping downwardly and forwardly and having runway grooves in the inner faces of said walls parallel with and adjacent to said upper edges, a closure including a top wall and pendant front wall to close the top and front of the body, tongues on the side edges of the closure top wall and registering with the runways for slidably mounting the closure in an inclined plane relative to the bottom wall of the body, an ejector on the inside of the closure pendant from the top wall thereof and in spaced adjacent relation to the front wall of said closure and adapted to approach and recede from the body bottom wall as the closure is respectively projected forwardly and retracted, a partition in the rear portion of the body in spaced parallel relation to the body bottom wall, a spring between the body bottom wall and the partition for urging a row of articles resting on said bottom wall forwardly towards the outlet, and means to limit the projecting movements of the closure.

9. The dispenser according to claim 8 wherein the forward edge of the partition is arcuately beveled from the underside.

10. The dispenser according to claim 8 wherein the partition is provided with an aperture for the insertion of an instrument in front of the spring to temporarily hold the latter in an extraordinary contracted position.

11. The dispenser according to claim 8 wherein the means to limit the projecting movement of the closure comprises a lug pendant from the top wall of the closure adjacent its rear end, and an upwardly projecting lug extending from the partition into the path of travel of the first mentioned lug, said lugs being spaced apart when the closure is closed, a distance approximately equal to the spacing of the ejector from the front wall of the closure.

12. The structure set forth in claim 11 wherein the lower edge of the lug on the closure is arcuately beveled from its rear face and the upper edge of the lug on the partition is arcuately beveled from its forward face.

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