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J. H. DONNELLY

2,103,520

DISPENSER FOR TABLETS OR THE LIKE

Filed April 20, 1934

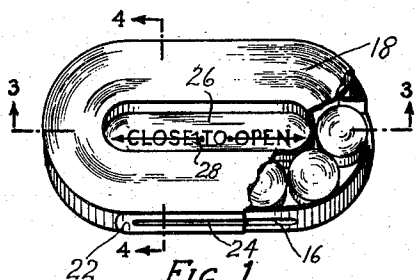


FIG. 1.

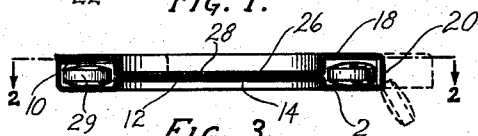


FIG. 3.

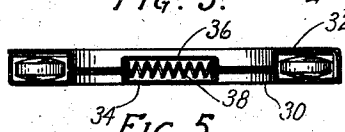


FIG. 5.

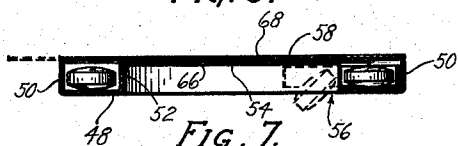


FIG. 7.

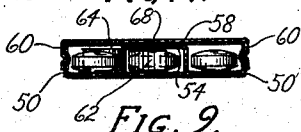


FIG. 9.

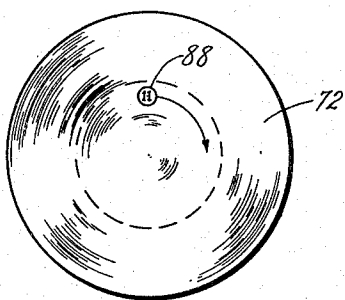


FIG. 10.

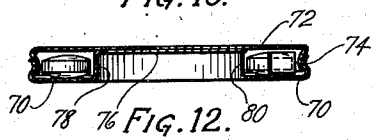


FIG. 12.

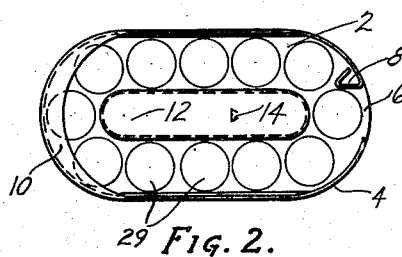


FIG. 2.

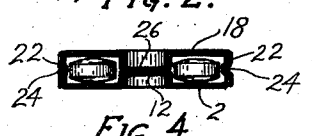


FIG. 4.



FIG. 6.

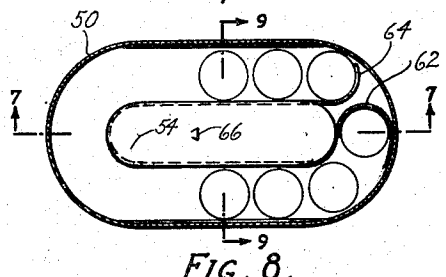


FIG. 8.

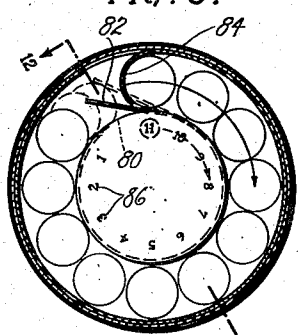


FIG. 11.

INVENTOR
John H. Donnelly
BY
Bussell & Harding
ATTORNEYS.

UNITED STATES PATENT OFFICE

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DISPENSER FOR TABLETS OR THE LIKE

John H. Donnelly, Elmhurst, N. Y., assignor of
one-half to Samuel E. Witt, New York, N. Y.

Application April 20, 1934, Serial No. 721,453

4 Claims. (Cl. 206—42)

This invention relates to a dispenser for tablets, pills, or the like, in the nature of a small container which, by manipulation of parts thereof, may be made to eject tablets or the like singly while being normally substantially closed.

Various arrangements have heretofore been proposed for the dispensing of tablets or the like from a container in such fashion that no more than one will be emitted at one time. It is the object of the present invention to improve on this type of container by providing an arrangement which not only serves for the single ejection of tablets, but which is also of simple and inexpensive construction and serves as a perfectly satisfactory container.

It will be understood that where the term "tablet" is used herein, it is intended to apply to small pellets of any form. It will be obvious that the invention is applicable for quite general use.

Detailed objects of the invention will be apparent from the following description read in conjunction with the accompanying drawing, in which:

Fig. 1 is a perspective view, partly broken away, showing one embodiment of the invention; Fig. 2 is a plan view as indicated at 2—2 in Fig. 3 showing a bottom portion of the container, the cover being removed;

Fig. 3 is a vertical section taken on the plane indicated by 3—3 of Fig. 1;

Fig. 4 is a transverse vertical section taken on the plane indicated at 4—4 in Fig. 1;

Fig. 5 is a longitudinal section illustrating a modified form of the invention;

Fig. 6 is a section similar to Fig. 3 but showing a further modification;

Fig. 7 is a longitudinal section of another modification taken on the plane indicated at 7—7 of Fig. 8;

Fig. 8 is a horizontal section through this last modification;

Fig. 9 is a transverse vertical section through the same taken as indicated at 9—9 in Fig. 8;

Fig. 10 is a plan view of still another modification;

Fig. 11 is a horizontal section taken below the cover of the modification of Fig. 10; and

Fig. 12 is a transverse vertical section taken on the plane indicated at 12—12 in Fig. 11.

Referring first to the modification illustrated in Figs. 1 to 4, inclusive, there is provided a bottom member for the container indicated at 2 having about its edges upturned flanges 4 whose continuity is interrupted at 6 to form an end

opening. A portion 8 of the flange is inturned to form a barrier, as indicated in Fig. 2. This barrier may be formed in other fashions. A portion of the flange may be bent over as indicated at 10 to form a partial top cover, the purpose of which will be indicated hereafter. This portion 10 may be separate and soldered to the upwardly extending portion of the flange, or may be provided in any other suitable fashion. While this type of dispenser is indicated as oval in form, it will be obvious that it may be rectangular, square or substantially circular.

The central portion of the bottom 2 is pressed upwardly as indicated at 12 and is provided with a slight upwardly projecting element 14 punched therefrom and designed to form a stop. The side portions of the flange 4 are longitudinally grooved as indicated at 16 so as to form an engagement whereby there may be permanently associated with the bottom a top, indicated at 18, provided with a downwardly extending flange 20 extending about the portion of the bottom which is provided with the opening 6, and at the sides to a position indicated at 22, the flange on the sides being provided with an inwardly directed groove providing a linear projection 24 engaging within the groove 16 to thereby lock the top and bottom together. The top of the container has a downward depression 26 formed therein which closely engages the upward projection 12 of the base and is provided with a downward projection 28 acting to engage the stop 14 to limit longitudinal relative sliding of the top and bottom.

By reason of the construction just described, there is provided an annular groove in which there may be located tablets 29, the continuity of this groove, so far as movement of the tablets is concerned, being interrupted by the inwardly directed portion 8 of the flange.

The operation of this modification will be evident from its construction. Normally, the cover occupies a left-hand position relative to the bottom as viewed in Fig. 3, so that a complete closure of the container is effected. By engagement of the fingers within the depressions 12 and 26, the two portions may slide longitudinally relative to each other, bringing the cover to the right, as indicated in Fig. 3, and thereby forcing outwardly the tablet adjacent the opening 6. The flange portion 10 is such that during such opening movement limited by engagement of the stops 28 and 14, there is no opening provided at the left of the container which would permit egress of a tablet. Limita-

tion of movements of the members may also be provided by making the width of either or both of depressions 12 and 26 greater than the width of the opening 6. It will be obvious that tilting of the container will serve to effect the location of the successive tablets in position to be ejected.

Whereas in the modification just described it is necessary to manually move the top and bottom to closed position, there may be provided such means as indicated in Fig. 5 as will effect the automatic closure. In this case, the construction is similar to that heretofore described except that the bottoms of the depressions in the bottom 30 and cover 32 have their central portions so shaped, as indicated at 34 and 36, as to provide a cylindrical housing for a spring 38. By the formation of semicylinders at 34 and 36 housing a spring which overlaps the ends of both of them, it will be obvious that an opening movement will tend to compress the spring, the opening being limited by full compression of the spring. Release will thereupon permit the spring to slide the bottom and cover to closed position.

In the arrangement illustrated in Fig. 6, whose operation is similar to that of the modification illustrated in Figs. 1 to 4, a larger reservoir capacity is provided by restricting the depressions 44 and 46 formed in the cover 40 and bottom 42 respectively. The remaining portions of the construction may be identical with those illustrated in the first modification. Limitation of the opening movement may be effected in any suitable manner by the provision of abutments. In the modifications heretofore illustrated, the ejection of a tablet takes place at the outer periphery. It is possible to secure an inner ejection of a tablet by the use of the modification illustrated in Figs. 7 to 9. In this arrangement, the bottom 48 is provided with a continuous outer flange 50. An inner flange 52 corresponding to the depression of the bottom heretofore indicated, extends substantially the full height of the outer flange 50 and is connected with a wall portion 54. The flange 52 is interrupted as indicated at 56 so as to permit the passage therethrough of a tablet. A cover 58 has a sliding locking connection, provided by a plurality of grooves, with the bottom, the side flanges 60 overlapping the outer flanges 50 of the bottom. A curved wall 62 is carried by the top 58 and is designed to engage a tablet and carry it through the opening 56 to an ejecting position. An extension 64 of one side of the flange 52 provides an interruption in the continuity of the tablet-containing space of the container corresponding in function to the portion 8 of the flange indicated in Fig. 2. Projections 66 and 68 are provided to limit relative movements of the bottom and cover.

It will be obvious that manual manipulation of the container here illustrated when it is resting in the hand will serve to eject into the hand one of the tablets which is located within the curvature of the element 62.

In the modifications heretofore described, a longitudinal sliding movement serves to effect ejection of a tablet. Relative rotary movement of a bottom and cover may be used instead, as indicated in the modification of Figs. 10, 11, and 12. In this last modification, a bottom 70 is provided with a continuous outer annular flange indicated at 74, while its bottom is provided with an upwardly extending portion 76 providing an inner flange 78 interrupted at 80 but continued over this interruption as a spring wall 82 ex-

tending into the annular tablet-receiving space. The cover 72 is provided with a downwardly extending flange interlocking by the grooved arrangement shown with the flange 74 so that relative rotary movements of the cover and bottom may take place but axial separation is prevented. The depending flange of the cover is continued at 84 to form an inwardly extending wall interrupting the continuity of the tablet-receiving space.

Marks, indicated at 86, may be used to indicate the number of tablets still remaining within the container, these marks being viewed through an opening 88 in the cover.

The mode of operation of this last modification will be evident from a consideration of Fig. 11, from which it will be seen that as the cover is rotated relative to the bottom in the direction indicated by the arrow, the tablets will be successively engaged with the spring 82 provided by the extension of the flange and, after clearing the edge of the opening, will be ejected by the spring action of this member. It will be obvious that the construction is such as to prevent the continuous ejection of tablets so that there will not be accidentally ejected from the device more than one at a time. It may be pointed out that this is a common feature of all the modifications.

The various modifications of the invention hereafter described may be inexpensively made from sheet metal, celluloid, cardboard, fibre, or the like, and may be readily assembled by automatic machinery of well known type. The various containers may carry advertisements or indications of their contents. The shape and size of the various modifications may vary to a considerable extent without departing from the spirit of the invention.

What I claim and desire to protect by Letters Patent is:

1. A dispenser for tablets or the like comprising a bottom member, a cover member therefor arranged for movement relative to the bottom member, one of said members being provided with an opening, and the other of said members being arranged to completely close said dispenser against exit of a tablet and provided with means whereby, when the members are moved relatively to each other, the dispenser is opened and a single tablet is exposed and ejected through the opening, and spring means for closing the container after a tablet ejecting operation, said members being arranged to confine the tablets to a single layer, and said ejection through said opening taking place in the direction of extent of said layer.

2. A dispenser for tablets or the like comprising a bottom member having a bounding flange which is continuous except for an opening therein adapted to pass only a single tablet at a time, and a cover member slidable relatively to the bottom member, arranged to completely close said dispenser against exit of a tablet, and provided with a tablet engaging means movable towards said opening whereby, when the members are moved relatively to each other, the dispenser is opened and a single tablet is exposed and ejected through the opening, said tablet engaging means serving to prevent the passage of another tablet to said opening, said members being arranged to confine the tablets to a single layer, and said ejection through said opening taking place in the direction of extent of said layer.

3. A dispenser for tablets or the like comprising a bottom member, a cover member therefor arranged for movement relative to the bottom

member, said members being arranged to provide an annular channel for the reception of tablets, one of said members being provided with an opening, and the other of said members being provided with a tablet-engaging means movable towards said opening whereby, when the members are moved relatively to each other, a single tablet is ejected through the opening.

4. A dispenser for tablets or the like comprising a bottom member, a cover member therefor arranged for movement relative to the bottom member and arranged to completely close said dispenser against exit of a tablet, one of said

members being provided with an opening, and the other of said members being provided with an elongated tablet engaging means, formed by indentation of the last named member, movable towards said opening whereby, when the members are moved relatively to each other, the dispenser is opened and a single tablet is exposed and ejected through the opening by the tablet engaging means, said tablet engaging means serving to prevent the passage of another tablet to said opening.

JOHN H. DONNELLY.