Feb. 26, 1963 G. J. LE BLANC ET AL 3,079,043

TABLET DISPENSER

Filed April 7, 1960

Fig. 1

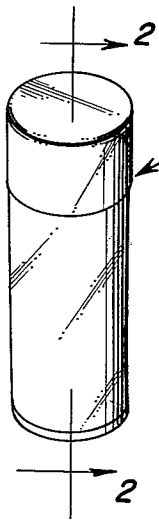
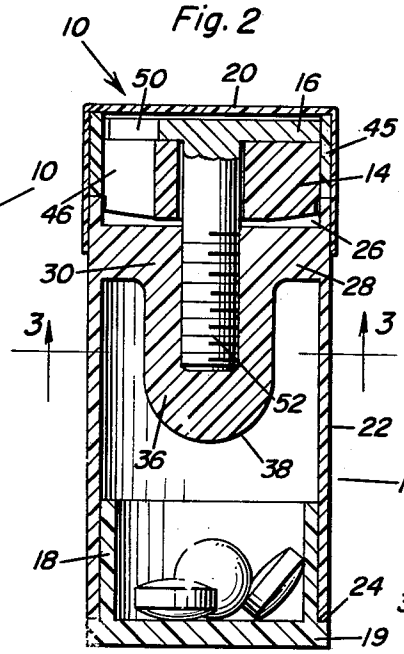


Fig. 2



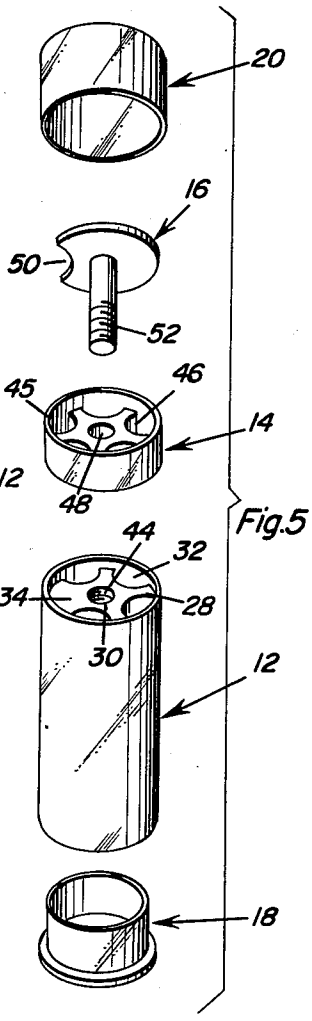


Fig.5

Fig. 3

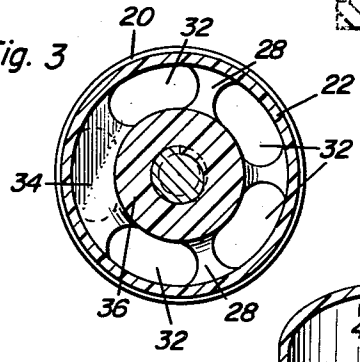
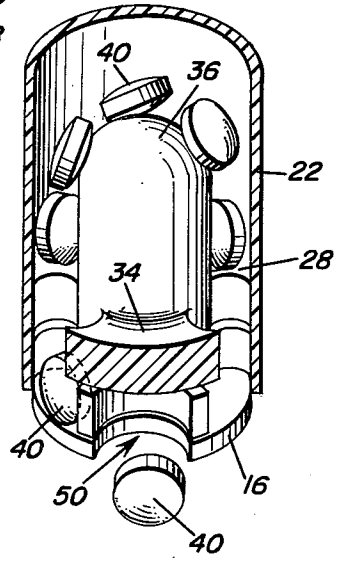


Fig. 4



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TABLET DISPENSER

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This invention relates generally to dispensing means and more particularly to a novel and improved capsule or tablet dispenser.

In recent years, many persons are using drugs in the form of tablets or capsules. Generally, capsules are obtained from an apothecary in small bottles of clear plastic. In attempting to extract one or possibly two capsules from the bottle, the user often finds that several capsules fall from the bottle as it is inverted. Indeed, it would be preferable if inexpensive capsule dispensing bottles for dispensing capsules singularly could be substituted for the open-ended bottles generally utilized.

In accordance with the above, it is the principal object of this invention to provide a novel and improved capsule dispenser for dispensing capsules from a container one at a time. More particularly, it is an object of the invention to provide a capsule dispenser construction including a container and means for allowing capsules to be singularly dispensed therefrom by merely causing partial rotation of a wheel forming an element of the dispenser.

It is a further object of this invention to provide a novel and improved capsule dispenser which is extremely simple in construction and accordingly inexpensive to manufacture, extremely reliable and durable.

It is a still further object of this invention to provide a novel capsule dispenser which assures the efficient dispensing of capsules from the container without causing jamming of the capsules and resultant chipping and breaking thereof.

It is a still more particular object of this invention to provide a novel and improved capsule dispenser construction wherein a protuberance extends through the tubular capsule container and is spaced from the walls of the container by a distance only slightly greater than the thickness of the capsules for assuring the vertical positioning of the capsules as they are dispensed from the container so as to eliminate jamming and resultant chipping and breaking of the capsules.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of the capsule dispenser showing the external appearance thereof;

FIGURE 2 is an enlarged vertical sectional view taken substantially along the plane 2—2 of FIGURE 1;

FIGURE 3 is a horizontal sectional view taken substantially along the plane 3—3 of FIGURE 2;

FIGURE 4 is a perspective view of the capsule dispenser showing approximately one-half of the container removed for revealing the inner details thereof and for explifying the mode of operation of the dispenser; and

FIGURE 5 is a perspective disassembled view of the dispenser showing the various elements thereof.

With continuing reference to the drawings, numeral 10 generally represents the capsule or tablet dispenser which includes three principal operating parts and two end caps. The three operating parts which effect the singular dispensing of capsules are the container 12, the wheel 14, and the disk 16. An end cap 18 is utilized to close a first end of the container 12 while an end cap 20 may be used to close the second dispensing end thereof.

The container 12 is cylindrical and includes a cylindrical wall 22. The wall is preferably of a clear plastic material but, may be of opaque plastic or of a light metal. The container 12 is open at a first end thereof designated by the numeral 24. A second end of the container is designated by the numeral 26 and constitutes a dispensing end. Extending radially inwardly from the wall 22 are spokes 28 which terminate in a central hub 30. Defined between adjacent spokes 28 are kidney-shaped dispensing openings 32. The openings 32 are circumferentially disposed about the central hub 30. An imperforate web 34 is supported between one pair of adjacent spokes and between the wall 22 and central hub 30. Therefore, as is particularly shown in FIGURES 3, 4 and 5, the second end 26 of the container 22 is provided with four openings which are equally circumferentially spaced relative to the wall 22 and the web 34 which is formed in lieu of one of the circumferential openings 32. A protuberance 36 extends from the central hub 30 in the container 12 as is best shown in FIGURES 2 through 4. The protuberance 36 is rounded at the end thereof as shown at 38. The protuberance is spaced from the wall 22 a distance slightly greater than the thickness of a capsule or tablet 40. Accordingly, capsules 40 received through the open first end 24 of the container 22 will fall on edge between the protuberance 36 and the wall 22 of the container 12. The capsules 40 will, of course, fall into the openings 32 on edge. A central aperture 44 is defined in the central hub 30 and is internally threaded for purposes to be more particularly described below.

A wheel 14 is provided with circumferentially and equally spaced wheel openings 46 which are registrable with the dispensing openings 32. The depth of the wheel 14 is slightly greater than the diameter of one of the capsules 40. Moreover, the openings 46, as is true of the openings 32, are slightly larger than the diameter of the capsules 40. A central aperture 48 extends through the wheel 14.

The disk 16 is substantially flat and is provided with a circumferential notch or recess 50 therein. A stud or spindle 52 which is externally threaded projects perpendicularly from the disk 16. In assembling the capsule dispenser, the wheel 14 having a wall 45 is placed adjacent the second dispensing end 26 of the container 12. The spindle 52 of the disk 16 is extended through the apertures 48 and 44 with the external threads of the spindle 52 being threadedly engaged with the internal threads in the aperture 44. The wall 45 of the wheel 14 engages the wall 22 of the container 12. Inasmuch as the wall 45 of the wheel 14 extends somewhat above the inner wheel portions, the disk 16 is recessed within the wall 45 as is well illustrated in FIGURE 2.

In order to dispense capsules 40 inserted through the open end 24 of the container 22, it is merely necessary to rotate the wheel 14 on spindle 52. The capsules 40 fall on edge around the protuberance 36 between the protuberance 36 and wall 22 of the container 12. The capsules 40 fall through the openings 32 and into the openings 46 registrable with the openings 32. The capsules 40 within the wheel openings 46 ride along the disk 16 as the wheel 14 is rotated on the spindle 52. As the openings 46 of the wheel 14 register with the recess 50 of the disk 16, the capsules 40 are dispensed individually and successively through the recess 50. The threads on the spindle 52 and in the aperture 44 are so arranged that the web 34 is aligned with the recess 50 in the disk 16 so as to prevent the direct fall through of capsules 40 from the container 12. It will be appreciated that the capsules must initially fall through the openings 32 into the openings 46 in the wheel 14 and ride along the disk 16 as the wheel 14 is turned until the respective openings 46 become registered with the recess 50.

End cap 20 is provided for being received over the

wheel 14 and the second end 26 of the container 12. End cap 18, provided with terminal flange 19 is receivable in the container 12 as particularly indicated in FIGURE 2 for closing the open end 24 thereof.

It should be appreciated that the provision of the protuberance 36 assures that the capsules 40 are received on edge in the openings 46 provided in the wheel 14. The protuberance 36 places the capsules 40 on edge as indicated in FIGURE 4 for individual passage through the openings 32 and assures jam-free operation of the dispenser. Accordingly, the capsules 40 cannot chip or break as they are dispensed from the container 12.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In a tablet dispenser, the combination of a cylindrical container having a closed end and an open end and including a peripheral wall, a hub provided centrally in the open end portion of said container, a plurality of circumferentially spaced radial spokes extending from said peripheral wall to said hub for supporting the latter, the spaces between said spokes forming a plurality of passages, means mounted on said hub outside the open end of the container for individually and successively dispensing tablets from said passages, a cylindrical protuberance provided on said hub in the container and extending toward the closed end of the latter, said protuberance being spaced radially inwardly from the peripheral wall of the container by a distance slightly larger than the thickness of tablets positioned in the closed end portion of the container whereby to guide the tablets for entering edge first into said passages, an imperforate web extending from said peripheral wall to said hub between two adjacent of said passages, an axial stud projecting outwardly from the hub through the open end of the container, said dispensing means comprising a wheel rotatably mounted on said stud and provided with a plurality of openings registrable with the respective passages, and a disc-shaped head provided at the outer end of said stud for retaining said wheel thereon and closing the openings in the wheel whereby to retain therein tablets entering the wheel openings through said passages, a marginal edge portion of said head in longitudinal alignment with said imperforate web being provided with an outlet notch for individually and successively releasing tablets from said wheel openings when the wheel is rotated.

2. The dispenser as defined in claim 1 wherein said protuberance is provided with a hemi-spherical end portion for guiding tablets edge first into the space between the protuberance and the peripheral wall of the container.

3. The dispenser as defined in claim 1 together with a removable closure cap provided at the closed end of said container.

4. The dispenser as defined in claim 1 wherein said wheel openings are of a radial dimension slightly larger than the tablet thickness whereby tablets entering the wheel openings edge first from said passages are dispensed edge first through said outlet notch.

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