PATENT SPECIFICATION

DRAWINGS ATTACHED

Inventor: BERNARD FREDERICK MAJOR

998,765

998,765

Date of filing Complete Specification Jan. 30, 1963.

Application Date Feb. 28, 1962. *No. 7891/62.*

Complete Specification Published July 21, 1965.

© Crown Copyright 1965.

Index at acceptance: —**B8** P(1H, 2B4, 8J)

Int. Cl.:—**B 65 d**

COMPLETE SPECIFICATION

A Device for Dispensing Pills, Tablets and the Like

We, ORTHO PHARMACEUTICAL CORPORATION, a corporation organized and existing under the laws of the State of New Jersey, United States of America, of Raritan, State of New Jersey, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a device for dispensing pills, tablets and the like.

According to the invention there is provided a dispenser for dispensing pills, tablets, and the like, comprising a base having a plurality of cavities and an index arranged in a ring, a cover for the cavities rotatably interlocked with the base and having a dispensing aperture which is positionable successively over the cavities as said cover is rotated, the cover being sufficiently transparent so that the index may be seen therethrough, and an insert secured to the cover, the insert having a ring of time-signifying symbols corresponding to each of said cavities and said index, the symbols being so arranged that the index registers with a symbol when the dispensing aperture is brought to overlie one of the cavities, said insert being adjustable with respect to the cover so that the appropriate time-signifying symbol may be brought into registry with the index when the first pill is dispensed.

Such a device may also be used as a package for retail distribution of pills or tablets.

In a preferred form of the invention the base of the dispenser is made in the form of an annular body. The cover is made of a flexible or deformable transparent plastics material and has a flange around its outer circumference which fits over the outer circumference of the body.

In order to provide the interlocking engagement aforesaid the cover has an inner flange which may have an external circumferential lip or rib which engages under a circumferential step or in a circumferential groove in the bore of the body or against the opposite end of the bore, the body then being held between the lip or rib and the said annular surface. The arrangement may be that the lip or rib is sprung into position so that the two parts are assembled together by a snap action.

The dispensing device may have a detent arranged to locate the cover with the aperture over each cavity. For instance the cover may have a peg which is engageable in any of a series of holes in the body there being one hole for each cavity. Preferably, the cover and the walls of the bore of the body are provided with pawl means and ratchet teeth, respectively, whereby the cover may be rotated in equal steps in one direction only with respect to the body.

The body annulus may be of channel section, the base of the channel providing a radial face and the mouth of the channel, in the radial face may be closed by a circular plate. This plate may bear advertising or descriptive matter such as the name and uses of the pills, or the times at which they are to be taken.

The insert for the cover may be of flexible sheet material, such as paper or relatively thin plastic. In the preferred embodiment of the dispensing device the insert is in the form of a flat disk whose edge is notched at equal intervals, and the cover contains a circular recess for receiving the insert in a forced fit, the wall of the recess having ridges engageable with the respective notches on the insert.

A specific example of a dispenser accord-

[*Price 4s. 6d.*]

ing to the invention will now be described with reference to the drawings accompanying the provisional specification in which:

Figure 1 is a perspective view of the dispenser approximately full size,

Figure 2 is a plan view of the device shown in Figure 1 on a greatly enlarged scale with parts being broken away,

Figure 3 is a side elevation of Figure 2,

Figure 4 is a fragmental view similar to Figure 2 with parts in a moved position,

Figure 5 shows a vertical cross-section at a still further enlarged scale, and taken at the line 5—5 of Figure 1,

Figure 6 is a plan view of the body of the dispensing device,

Figure 7 is an exploded view of Figure 5.

As seen in Figures 1—4 the dispensing device generally comprises a body 10 and a cover 11. The cover 11 has a circular face 12 with a flange 13 thereon which fits over the outer circumference of the body 10. Centrally located in the face 12 is a plastics insert 14 bearing 21 time-signifying symbols 15, each symbol respesenting a day of the week. The symbols are chronologically arranged in a counter-clockwise order near the scalloped edge of the insert 14, and are in correspondence with 20 cavities 16 and an index 17 in the underlying surface of the body 10, one of the symbols also being in correspondence with a dispensing aperture 18 in the cover 11.

The cover 11 and the body 10 are formed from plastics material, the plastics material of the cover being transparent so that the index 17 on the body 10 is clearly visible therethrough.

Figure 5 and 7 shows that the cover 11 is basically in the form of an annular channel, although the bore is closed near one end by a flat plate 19. and the inner circumferential wall is divided into 3 circumferentially equispaced legs 20. The plate 19 is located slightly below the face 12 of the cover so as to form a recess 21. Recess 21 is scalloped and dimensioned so as to receive insert 14 in a force fit. A hole 23 is provided in plate 19 through which an instrument may be inserted to dislodge the insert from recess 21 when desired.

The body 10, like the cover 11, is also basically in the form of a channel section, the base of the channel providing the annular face 24. The face 24 contains 20 cavities 16, each adapted to receive a pill 25, and an index 17. The outer circumferential wall 27 of the body 10 has a step 22 of approximately the same width as the flange 13 of the cover 11 The inner circumferential wall of the body 10 is formed in the shape of ratchet teeth 28 and is chamfered as indicated at 29. The ratchet teeth 28 and the chamfer 29 cooperate with the legs 20 of the cover 11 to lock the body 10 and the cover 11 together when assembled, and to restrict their relative rotation.

The legs 20 are arranged in such a manner that they are resiliently biased against the ratchet teeth 28 and chamfer 29, as shown in Figure 5. Each leg 20 has a lip 30 at its base which snaps into place against chamfer 29 to lock cover 11 and body 10 positively together. Each leg 20 has also a detent 31 adapted to engage the ratchet teeth 28 in the manner of a pawl, whereby the cover 11 can be rotated in one direction only with respect to the body 10. As illustrated in Figure 6, legs 20 cannot move in a counterclockwise direction, but may be moved in a clockwise direction. Because of the fact that legs 20 resiliently biased against the ratchet teeth 28, an appreciable clockwise rotating force on the cover 11 is required to move detents 31 over the steps of the ratchet teeth 28. Consequently, accidental clockwise rotation of the cover 11 is prevented.

A plurality of dimples 32 are provided on the underside of face 12 of the cover 11, which maintain a clearance and ~~reduces~~ friction between the cover 11 and the body 10.

The illustrated dispenser is specifically designed to be used in conjunction with a regimen requiring that one pill be taken each day for 20 successive days. The dispenser may be sold fully loaded with pills, or separately from the pills. In the latter case the users load the pills into the dispenser. For the purpose of loading the dispenser, the cover 11 may be removed or, if the cover is not removed, the pills 25 may be placed in the cavities 16 through the dispensing aperture 18.

On the first day of the regimen, say, a Tuesday, the aperture 18 is positioned over the cavity 16 on the immediate left of the index 17, and a pill is removed. The insert 14 is then fitted into the recess 21 on the cover 11 so that one of the Tuesday symbols on the insert 14 is located opposite the index 17, as shown in Figure 2. The index 17 and the insert 14 serve as a visible record of the day on which the last pill was taken. On Wednesday, the cover is rotated clockwise to position the aperture 18 over the next pill, as shown in Figure 4. The insert 14, moving with the cover 11, is now situated such that a Wednesday symbol is in correspondence with the index 17. Accordingly, as the aperture is positioned over the cavities 16 in succession, an automatic record will be kept of the day on which the last pill was taken.

WHAT WE CLAIM IS:—

1. A dispenser for dispensing pills, tablets and the like, comprising a base having a plurality of cavities and an index arranged in a ring, a cover for the cavities rotatably interlocked with the base and having a dispensing aperture which is positionable suc-

ing to the invention will now be described with reference to the drawings accompanying the provisional specification in which:

Figure 1 is a perspective view of the dispenser approximately full size,

Figure 2 is a plan view of the device shown in Figure 1 on a greatly enlarged scale with parts being broken away,

Figure 3 is a side elevation of Figure 2,

Figure 4 is a fragmental view similar to Figure 2 with parts in a moved position,

Figure 5 shows a vertical cross-section at a still further enlarged scale, and taken at the line 5—5 of Figure 1,

Figure 6 is a plan view of the body of the dispensing device,

Figure 7 is an exploded view of Figure 5.

As seen in Figures 1—4 the dispensing device generally comprises a body 10 and a cover 11. The cover 11 has a circular face 12 with a flange 13 thereon which fits over the outer circumference of the body 10. Centrally located in the face 12 is a plastics insert 14 bearing 21 time-signifying symbols 15, each symbol respesenting a day of the week. The symbols are chronologically arranged in a counter-clockwise order near the scalloped edge of the insert 14, and are in correspondence with 20 cavities 16 and an index 17 in the underlying surface of the body 10, one of the symbols also being in correspondence with a dispensing aperture 18 in the cover 11.

The cover 11 and the body 10 are formed from plastics material, the plastics material of the cover being transparent so that the index 17 on the body 10 is clearly visible therethrough.

Figure 5 and 7 shows that the cover 11 is basically in the form of an annular channel, although the bore is closed near one end by a flat plate 19. and the inner circumferential wall is divided into 3 circumferentially equispaced legs 20. The plate 19 is located slightly below the face 12 of the cover so as to form a recess 21. Recess 21 is scalloped and dimensioned so as to receive insert 14 in a force fit. A hole 23 is provided in plate 19 through which an instrument may be inserted to dislodge the insert from recess 21 when desired.

The body 10, like the cover 11, is also basically in the form of a channel section, the base of the channel providing the annular face 24. The face 24 contains 20 cavities 16, each adapted to receive a pill 25, and an index 17. The outer circumferential wall 27 of the body 10 has a step 22 of approximately the same width as the flange 13 of the cover 11 The inner circumferential wall of the body 10 is formed in the shape of ratchet teeth 28 and is chamfered as indicated at 29. The ratchet teeth 28 and the chamfer 29 cooperate with the legs 20 of the cover 11 to lock the body 10 and the cover 11 together when assembled, and to restrict their relative rotation.

The legs 20 are arranged in such a manner that they are resiliently biased against the ratchet teeth 28 and chamfer 29, as shown in Figure 5. Each leg 20 has a lip 30 at its base which snaps into place against chamfer 29 to lock cover 11 and body 10 positively together. Each leg 20 has also a detent 31 adapted to engage the ratchet teeth 28 in the manner of a pawl, whereby the cover 11 can be rotated in one direction only with respect to the body 10. As illustrated in Figure 6, legs 20 cannot move in a counterclockwise direction, but may be moved in a clockwise direction. Because of the fact that legs 20 resiliently biased against the ratchet teeth 28, an appreciable clockwise rotating force on the cover 11 is required to move detents 31 over the steps of the ratchet teeth 28. Consequently, accidental clockwise rotation of the cover 11 is prevented.

A plurality of dimples 32 are provided on the underside of face 12 of the cover 11, which maintain a clearance and ~~reduces~~ friction between the cover 11 and the body 10.

The illustrated dispenser is specifically designed to be used in conjunction with a regimen requiring that one pill be taken each day for 20 successive days. The dispenser may be sold fully loaded with pills, or separately from the pills. In the latter case the users load the pills into the dispenser. For the purpose of loading the dispenser, the cover 11 may be removed or, if the cover is not removed, the pills 25 may be placed in the cavities 16 through the dispensing aperture 18.

On the first day of the regimen, say, a Tuesday, the aperture 18 is positioned over the cavity 16 on the immediate left of the index 17, and a pill is removed. The insert 14 is then fitted into the recess 21 on the cover 11 so that one of the Tuesday symbols on the insert 14 is located opposite the index 17, as shown in Figure 2. The index 17 and the insert 14 serve as a visible record of the day on which the last pill was taken. On Wednesday, the cover is rotated clockwise to position the aperture 18 over the next pill, as shown in Figure 4. The insert 14, moving with the cover 11, is now situated such that a Wednesday symbol is in correspondence with the index 17. Accordingly, as the aperture is positioned over the cavities 16 in succession, an automatic record will be kept of the day on which the last pill was taken.

WHAT WE CLAIM IS:—

1. A dispenser for dispensing pills, tablets and the like, comprising a base having a plurality of cavities and an index arranged in a ring, a cover for the cavities rotatably interlocked with the base and having a dispensing aperture which is positionable suc-

* C L M S *

cessively over the cavities as said cover is rotated, the cover being sufficiently transparent so that the index may be seen therethrough, and an insert secured to the cover, the insert having a ring of time-signifying symbols corresponding to each of said cavities and said index, the symbols being so arranged that the index registers with a symbol when the dispensing aperture is brought to overlie one of the cavities, said insert being adjustable with respect to the cover so that the appropriate time-signifying symbol may be brought into registry with the index when the first pill is dispensed.

2. A dispensing device as claimed in claim 1 in which the insert is removably affixed to the cover.

3. A dispensing device as claimed in claim 1 or claim 2 in which the cover contains a recess shaped to receive the insert and the insert is positioned therein in a forced fit.

4. A dispensing device as claimed in claim 3 in which the periphery of the recess is provided with vertical ridges and the edge of the insert contiguous to the said periphery contains notches engaging the ridges.

5. A dispensing device as claimed in any of the preceding claims in which there are 20 cavities and 21 chronologically ordered time-signifying symbols representing the days of the week.

6. A dispensing device substantially as hereinbefore described and shown in the drawings accompanying the provisional specification.

ORTHO PHARMACEUTICAL CORPORATION
Per: Boult, Wade, & Tennant,
111/112, Hatton Garden, London, E.C.1,
Chartered Patent Agents.

Leamington Spa: Printed for Her Majesty's Stationery Office by the Courier Press.—1965.
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies may be obtained