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BOTTLE AND LIKE CONTAINER CLOSURES

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FIG. 1

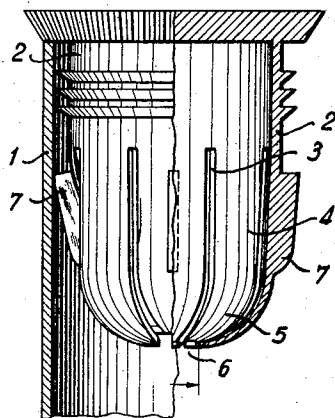
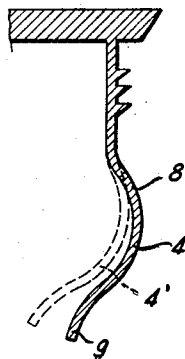


FIG. 2



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3 Claims. (Cl. 215—47)

It is known to use for the storage of tablets, dragees and the like tablet glasses or bottles which are closed by a stopper, said stopper having claw-like extensions directed towards the inside of the container which in the filled container bear on the container contents. In this way movement of the tablets, dragees or the like inside the container is substantially prevented, which movement gives rise not only to rattling, but also, for example, in the case of tablets to the possibility of breakage or wastage.

There are however certain difficulties in the production in a simple manner of such closures. Especially when using plastic as the material for the closures an economical fabrication is only attained if the simplest possible moulds without moving dies and the like can be used. Originally therefore the closures or stoppers were provided with claws of a kind which only contacted the contents of the bottle at the periphery and this permitted easy manufacture with only two part moulds. It has however been shown that through these claws bearing on the tablets these are tilted, which was undesirable. Accordingly a change-over was made to stoppers having a part projecting inwardly into the container which was dome-shaped and provided with slits, giving a construction of beehive shape, in which the ends of the claws formed by the slits are directed towards the centre, so that contact with the tablets also takes place in the centre. In this case however either a specially manufactured small plate must be used for subsequent closing of the upper opening of the closure formed therein, or the points of the claws must not reach to the centre, in order to allow room for the stem of a die, which was joined with the lower part of the mould and was essential for the production of the inner hollow space.

This however gives rise to the difficulty that in the completed stopper, a more or less large opening results at the lower points of the beehive-shaped structure, in which the tablets, dragees or the like can penetrate, so that in this case the purpose of the stopper is not fulfilled.

It is an object of the present invention to avoid the disadvantages mentioned and to provide a stopper which in spite of a substantially closed beehive-shaped form can be cheaply manufactured using a two-part injection mould.

According to the invention this is solved in that at least a part of the claws are provided externally with protuberances, for example, nose-pieces or bulges and that their pointed ends directed towards the inside of the container are still further bent in the direction of the centre and on insertion of the stopper in the container opening thereby form a substantially closed bottom.

Two embodiments of the invention are illustrated in the drawings. On these, Figure 1 shows a sectional view of a closure wherein claws have nose-pieces the right hand part showing the closure in the untensioned state and the left hand part after its insertion in a tablet bottle.

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Figure 2 shows another embodiment of the invention wherein the claws have an externally projecting bulge.

In Figure 1 there is shown a tablet bottle 1 in which a stopper-like closure 2 can be inserted. This has the shape of a beehive-like hollow body, in which by means of slits 3 a series of claws 4 are formed, whose curved and pointed ends 5 are directed towards the centre, providing however, in the untensioned condition, an opening 6. Some of the claws 4, preferably every other claw, are provided with nose-pieces 7 which project outwardly so far, that on insertion of the closure in the bottle 1 they are displaced by the wall of the latter, in the manner illustrated, on the left hand side of Figure 1, whereby the points of the curved claws are moved inwardly towards the centre line of the closure until they nearly touch or completely touch and thus close the opening 6 to such an extent that contents of the bottle can no longer penetrate into the inner space of the hollow body 2. The claws 4 which are not provided with nose-pieces can then lie with their points on the container contents. Since they, as a result of the lack of nose-pieces, are particularly resilient, an extensive bridging tolerance is possible.

A further embodiment of the invention is shown in Figure 2. Here the claws 4 are provided with bulges 8 instead of nose-pieces, which bulges project so far outwards that on insertion through the container opening they are pressed in, the claws taking up approximately the position indicated by dotted line 4'. This closure can also be manufactured in a two-part mould. The points 9 of the claws are in this example curved downwardly in the axial direction so that an approximate S-shaped cross section of the claw results. As a result of this shape the bridging tolerance is further enhanced.

The invention accordingly makes possible the production of hollow closures in two-part injection moulds without dies, wherein on insertion of the closure in the container practically complete closing of the hollow space is obtained, and wherein the closure can bear on the container contents without the risk that the tablets, dragees or the like will penetrate into the hollow space of the closure. The closure can therefore be uniformly produced for tablets, dragees and the like.

I claim:

1. A closure especially of plastic material for bottles, flasks and like containers, said closure having claw-like extensions adapted to project into the container and resiliently to restrain movement of the contents within the container characterised in that at least part of said claw-like extensions have an external protuberant portion and that the inwardly directed pointed ends of the claws are bent towards the centre on insertion of the closure in the container opening.

2. A closure especially of plastic material for bottles, flasks and like containers, said closure having an extension adapted to project into the container, the extension being of substantially inverted beehive shape formed into a plurality of claws by slits cut therein, at least some of the claws having externally projecting nose-pieces whereby on insertion of the closure into the container the pointed ends of the claws are bent towards the centre.

3. A closure especially of plastic material for bottles, flasks and like containers, said closure having an extension adapted to project into the container, the extension being of substantially inverted beehive shape formed into a plurality of claws by slits cut therein, at least some of the claws being shaped with an externally projecting bulge whereby on insertion of the closure into the container the pointed ends of the claws are bent towards the centre.

No references cited.