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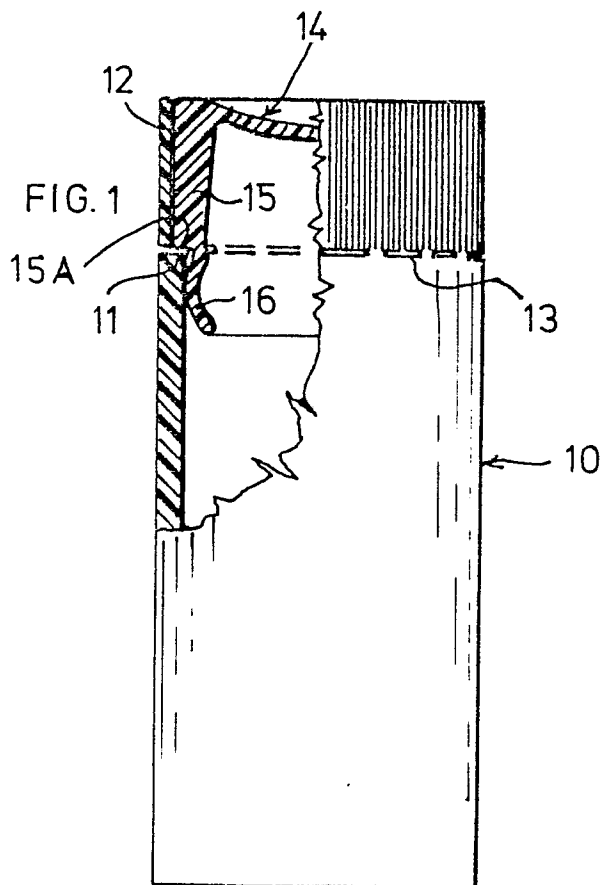
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Cylindrical container.

A cylindrical container (10), especially for tablets, is extended at its mouth end with a cylindrical collar (12) of greater inner diameter than the inner diameter of the container. Into the container there can be inserted a closure plug (16) supported by a lid (14), which lies inaccessible within the sealing collar (12). At the axially inner end of the collar there are peripheral weakening slits (13) with intermediate portions of material which rupture when the collar is twisted relative to the container. The lid can then be gripped for removing the plug from the container.



Cylindrical container

The present invention relates to a cylindrical container of the type described in the preamble to the attached claim. The container is of the type which is used, i.e., for medicines in tablet form.

Previously known containers of the type in question have a lid in the form of a cylindrical plate which abuts the edge of the mouth of the container when the plug of the lid is pressed into the mouth of the container. The diameter of the lid is greater than the outer diameter of the container so that the lid has a free edge portion extending outside of the container mouth edge to be easily grasped by the fingers when the plug is to be pulled out to open the container. In order to seal such a lid it is usually necessary to do this with a shrink film over the lid and extending down onto the container.

The projecting lid edge presents, however, certain disadvantages for machine filling and sealing of the container. It can also be difficult to get a secure grip on the relatively narrow lid edge when extracting the plug. Also, sealing involves an additional costly step at the same time as the seal obtained can be difficult to break.

The purpose of the present invention is to achieve a container of the type in question which does not have the above mentioned disadvantages.

This is achieved with a container having the characteristics disclosed in the attached claim. The container according to the invention has in its closed and sealed state a cylindrical outer surface which extends without projections from one end of the container to the end of the lid. The lid is disposed within a collar which is an extension of the container itself. The collar guarantees that the container cannot be opened before access is gained to the cylindrical outer surface of the lid. This can only be done by twisting the cylindrical collar to obtain rupture along the perforation near the axially inner end of the collar. The collar is thus twisted off. Only thereafter is it possible to grasp the cylindrical lid and pull out the plug.

A suitable embodiment of the container is shown as an example in the accompanying drawing.

Fig. 1 shows a cut-away side view of the container with the sealing collar and the lid plug in the closed position; and

Fig. 2 is a side view of the container after removal of the sealing collar to reveal the cylindrical lid.

The cylindrical container 10 extends up to an internal shoulder 11 and is thereafter extended with a sealing collar 12.

The axially inner end portion of the sealing collar is provided with a weakened zone in the form

of slits 13 or other perforations aligned around the entire circumference of the collar. If the container 10 is held securely and the collar 12 is twisted, rupture will occur along the slits 13 and the collar can be removed and discarded. The outer surface 12 of the collar is suitably fluted as shown in the drawing to provide a secure grip when twisting the collar.

The lid 14 consists of a substantially cylindrical wall 15 which in the example shown has a cylindrical outer surface. This surface can, however, be provided with a depression to facilitate gripping the wall 15 in Fig. 2 after the collar 12 has been twisted off.

At its axially inner end the lid has an elastic plug 16 which seals against the interior of the container.

As can be seen in Fig. 1, the wall 15 of the lid has a maximum outer diameter which is smaller than the outer diameter of the container but greater than the inner diameter of the container. The inner edge 15A of this wall rests against the shoulder 11.

The cylindrical collar 12 has the same outer diameter as the container 10 and an inner diameter which is at least equal to the maximum outer diameter of the lid wall 15.

The lid wall 15 and the collar 12 have approximately the same length so that the lid lies protected and inaccessible inside the collar 12.

In order to provide additional protection against the lid being opened before the collar 12 has been twisted off, it is also possible within the scope of the invention to have a snap connection which locks the lid when pressed down to the position shown inside the collar. A small bead can for example be provided on the outside of the wall 15 to snap into a circular groove on the inside of the collar 12 when the lid has been pressed into its position shown in Fig. 1. In this case, the collar 12 when twisted remains on the lid if so desired; i.e. the collar remains on the cover when the cover is removed to extract the plug. This eliminates the problem of discarding the collar after the seal is broken.

Claims

Cylindrical container (10) having at one end a lid (14) which can be fixed to the mouth of the container by virtue of the fact that the lid has a closure plug (16) which can be pressed sealingly into the container, **characterized** in that the lid (14) has a substantially cylindrical wall (15), the maximum outer diameter of which is smaller than

the outer diameter of the container (10) but greater than the outer diameter of the container; that the end portion of the container at the mouth is extended with a cylindrical sealing collar (12) which has the same outer diameter as the container (10) and an inner diameter which is at least equal to the outer diameter of the lid wall (15); that between the axially inner end of the collar (12) and the inside of the container there is a shoulder (11); that the axial length of the lid wall (15) is approximately equal to the length of the collar (12) so that after insertion of the plug to the closure position, the lid will lie inaccessible within the collar when the inner edge (15A) of the lid wall abuts against the shoulder (11); and that at least a portion of the collar, preferably substantially the entire collar, forms a removable portion by virtue of the fact that the collar has a weakened zone, for example by perforations or slits (13), extending around the entire periphery of the collar and disposed to rupture when the portion of the collar lying above the weakened zone is twisted at the same time as the container is held fast.

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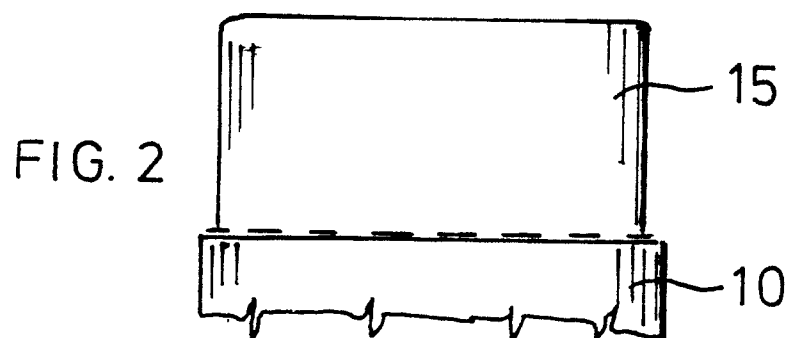
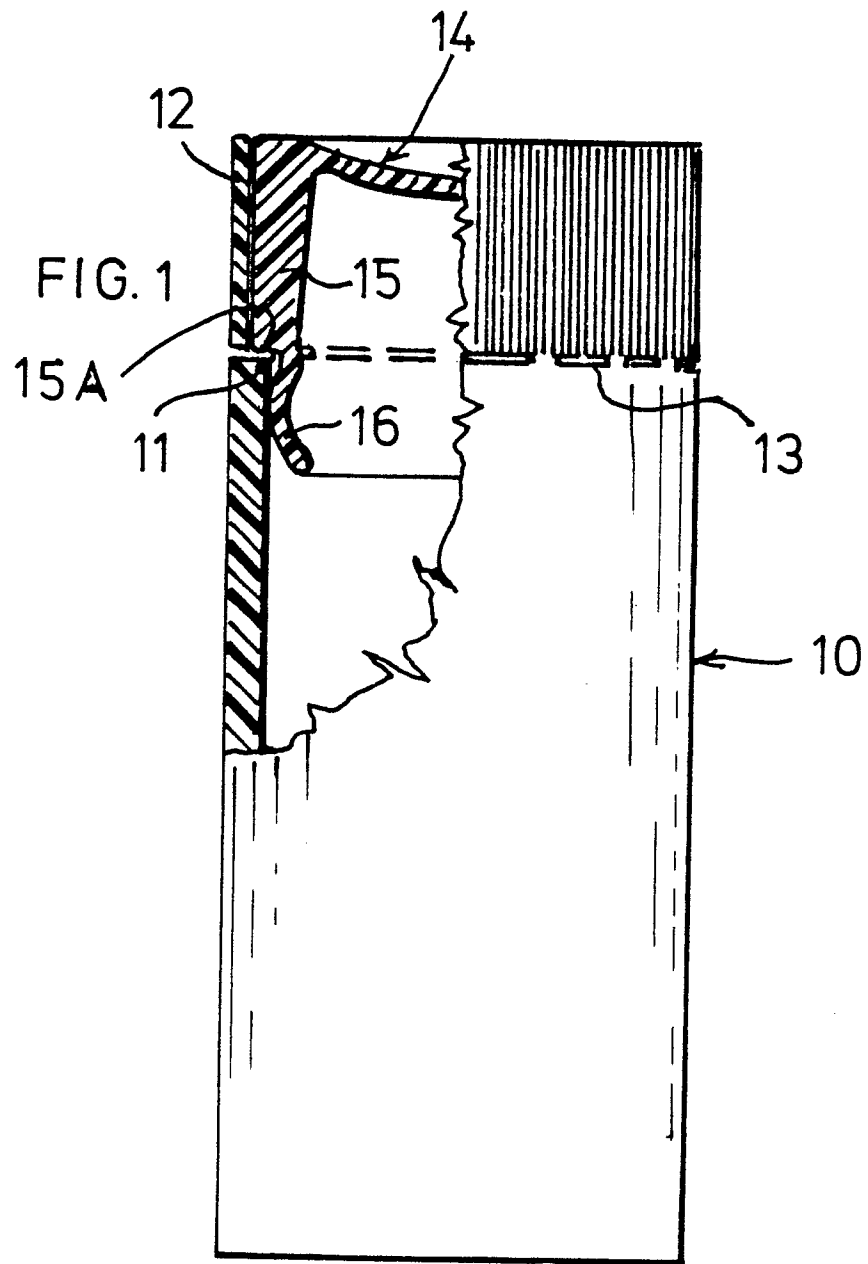
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 4)
X	CH-A- 435 558 (GEIMUPLAST PETER MUNDT KG) * Column 3, lines 27-57; figures 1-3 *	1	B 65 D 55/02 B 65 D 43/04
A	--- CH-A- 524 515 (METAL BOX CO.) * Column 3, line 61 - column 5, line 22; column 7, lines 9-40; figures 1-3, 11, 12 *	1	
A	--- FR-A-1 482 162 (VIDAL) * Page 1, right-hand column, line 25 - page 2, left-hand column, line 26; figures 1-4 *	1	
A	--- FR-A-2 312 418 (PARTICIPATIONS ET PROCEDES INDUSTRIELS) * Page 3, lines 9-18; figures 6, 7 *	1	TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
A	--- CH-A- 528 035 (METAL BOX CO.) * Column 4, line 59 - column 6, line 37; figures 10, 11 *	1	B 65 D

The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 10-11-1987	Examiner BERRINGTON N.M.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	