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(54) **Nestable one-piece can body or lid**

(57) A can body (11) has a circular section side wall (12) including a cylindrical portion (16) and a tapered portion (17) which diverges away from a base (13), the cylindrical portion being adjacent a rim (14), whereby two or more such bodies can be nested. A step (18) may separate the two portions so as to limit the extent of nesting. A lid (30)has a similar construction with a cylindrical portion (36), a tapering portion (35) and a step (37).

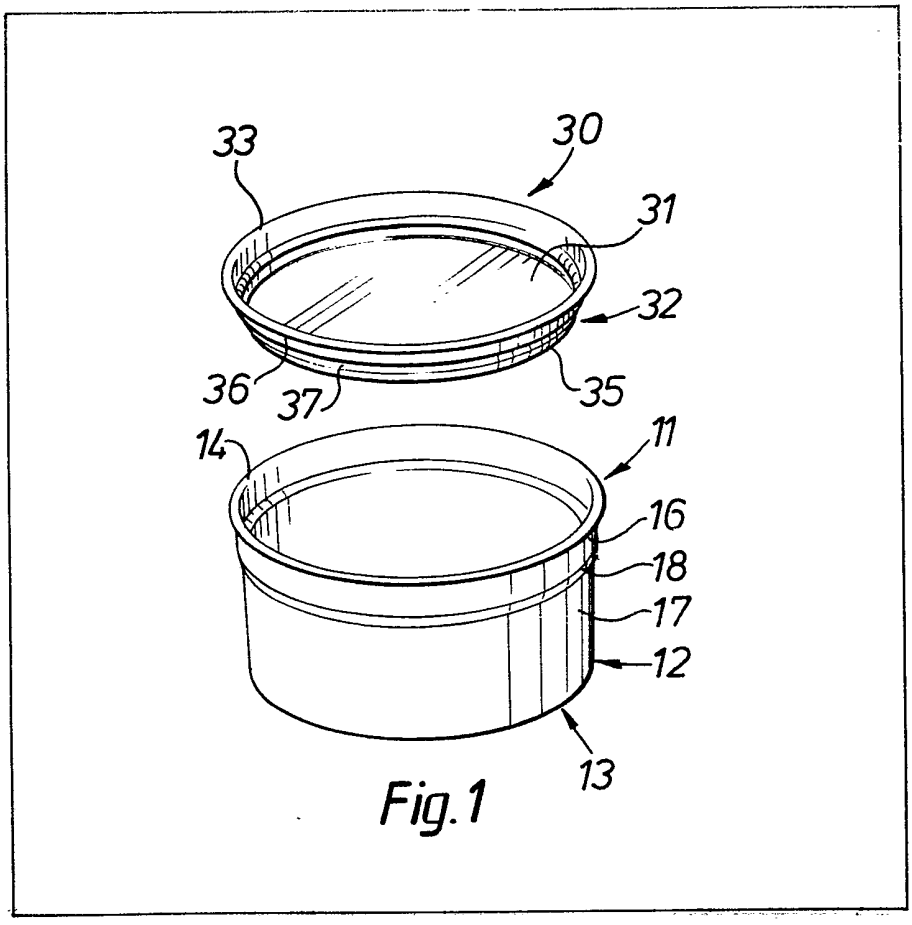

Fig.1

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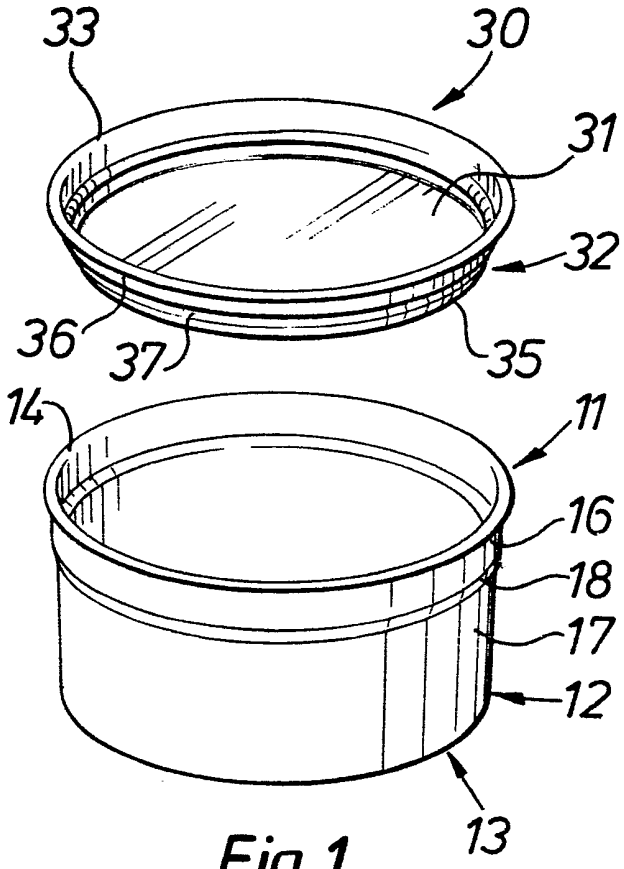

Fig. 1

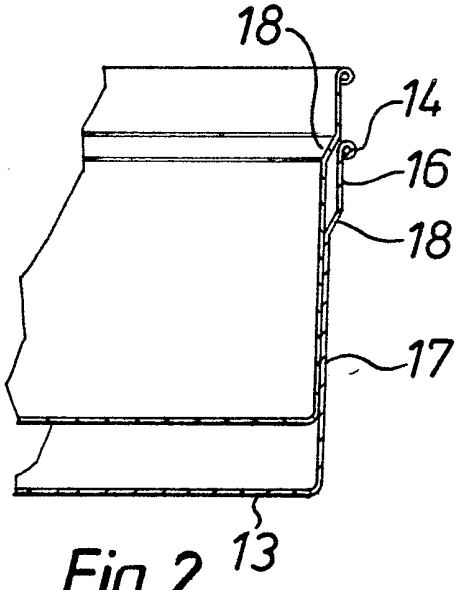

Fig. 2

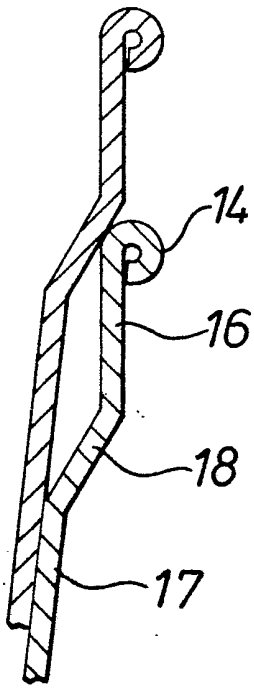

Fig. 3

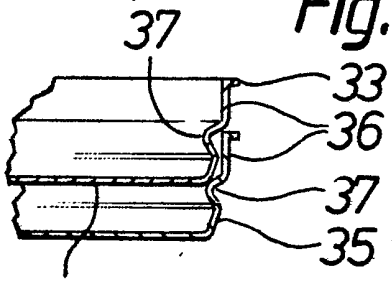

Fig. 4

SPECIFICATION

One-piece can body or lid

The invention relates to a one-piece can body or lid, i.e. a can or lid which is drawn through a die with a mandrel. The can body is of the type in which a removable lid is plug-fitted and the lid is of the type which is plug-fitted into a can body.

A can having a body and a lid of this type is disclosed in U.K Patent Specification No. 1146985. The can body has a cylindrical side wall integral at one end with a base and formed at the opposite open end with an external rim. The lid has a cylindrical side wall, which is plug-fitted into the open end of the body and an external rim which seats on the external rim of the body.

When can bodies of this type are filled, they are usually fed manually to a conveying device, or a multiplicity of such bodies are arranged on a pallet and are automatically stripped successively therefrom. The pallet has to be frequently replaced. Lids of this type are similarly handled.

There is a need to simplify and speed up this procedure and with other types of can it is possible to produce a slight taper of the body, so that the bodies can be nested and stacked for housing in a feed magazine, from which the bodies can be successively stripped. This also reduces the space required for storage and for transport of the empty bodies. With the type of can, with which the present invention is concerned, this has not previously been possible, because a lid will not properly fit in plug fashion into a tapered body and the lid is liable to pop out of the body.

The present invention provides a one-piece can body or lid comprising a circular-section wall closed at one axial end and open at the opposite axial end, wherein the wall has two axially extending circular section portions, one of which is cylindrical and the other of which tapers with reducing cross-sectional areas in the direction from the open end to the closed end.

The tapered portion permits nesting of a plurality of the bodies or lids and the cylindrical portions permit plug-fitting of the lid in the cylindrical portion of a can body. A non-nestable lid of conventional form could be used with the can body, if desired, and a non-nestable body could similarly be used with a lid according to the invention.

It is preferred that means is provided between said two axially extending portions to limit the extent to which the lid or body can extend, when nested, into an identical lid or body.

This means may be an annular step or a bead formed in the wall.

Reference is now made to the accompanying drawings, wherein:—

Figure 1 is a perspective view of a can body and a can lid according to the invention;

Figure 2 is an enlarged sectional view of parts of two such can bodies, shown nesting;

Figure 3 is an enlargement or a detail of figure 2; and

Figure 4 is an enlarged sectional view of parts of two can lids, each as shown in Figure 1, shown nesting.

Referring to Figure 1, a can body 11 is shown which is formed in one-piece by being drawn through a die by a mandrel. The can has a circular section side wall 12 integral at one axial end with a base 13 (Figure 2). The opposite axial end has an out-turned rim 14 and is open.

Figure 1 also shows a lid 30, which can be plug-fitted in the open end of the body. The lid has a base 31 integral with a circular section wall 32 at one axial end thereof. The opposite end is formed with an out-turned rim 33. The lid is also drawn through a die by a mandrel.

With the lid plug-fitted in the body, the rim 33 of the lid engages with the rim 14 of the body.

Referring additionally to Figures 2 and 3, the side wall 12 of the body has an upper axial portion 16 separated from a lower axial portion 17 by a step 18. The upper portion 16 has a constant cross-section, whereas the lower portion tapers and has a cross-section which reduces in area from the step 18 to the base 13. The step 18 is such that the cross-sectional area of the adjacent upper portion 16 is greater than the cross-sectional area of the adjacent lower portion 17.

Two such bodies can nest together with the rim 14 of one body seating on the step 18 of the other body. The tapering of the lower portions 17 permits such nesting and this engagement of the rim with the step limits the degree of nesting and prevents tight inter-fitting of the nested bodies.

The constant cross-section upper portion 16 permits plug-fitting of a lid in the body.

Referring to Figures 1 and 4, the lid side wall 32 has a lower tapered axial portion 35, an upper axial portion 36, of constant cross-section, and an intervening bead 37, formed in the wall. The tapered portion 35 permits nesting with another such body and the degree of nesting is limited by the base 31 of the inner lid seating on the bead 37 of the outer lid, the bead being projected into the interior of the lid.

In use, the constant cross-section portion 36 plug-fits into the constant cross-section portion 16 of a body.

During the process of filling the can bodies and fitting the lids. the bodies and lids can be stacked in respective magazines in nesting relationship with other bodies and lids and both can be separately transported in such stacked, nesting relationship.

CLAIMS

1. A one-piece can body or lid comprising a circular section wall closed at one axial end and open at the opposite axial end, wherein the wall has two axially extending circular section portions, one of which is cylindrical and adjacent the open end, and the other of which tapers with reducing cross-sectional areas in the direction from the open end to the closed end, whereby a pair of identical such bodies or lids can be nested.

2. A one-piece can body or lid according to Claim

The drawing originally filed was informal and the print here reproduced is taken from a later filed formal copy.

1, wherein means is provided between said two axially extending circular section portions to limit the extent to which the body or lid can extend, when nested, in an identical such body or lid.

3. A one-piece can body or lid according to Claim 2, wherein said means is an annular step or a bead.

4. A one-piece can body constructed substantially as herein described with reference to Figures 1, 2 and 3 of the accompanying drawings.

5. A one-piece lid constructed substantially as herein described with reference to Figures 1 and 4 of the accompanying drawings.

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