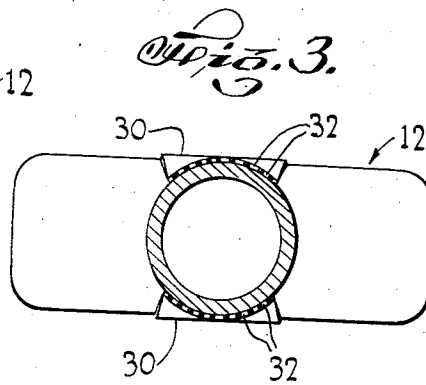
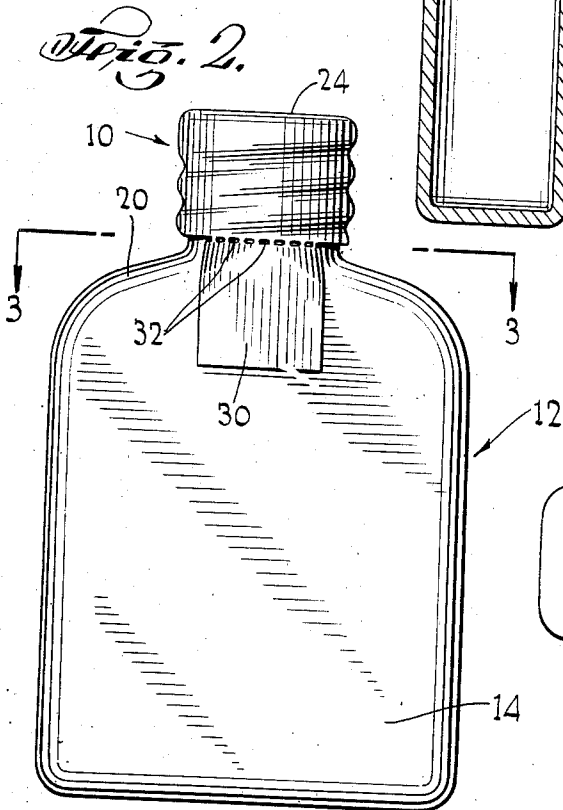
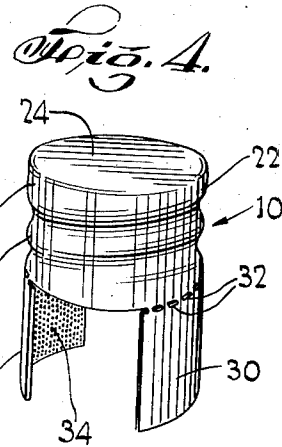
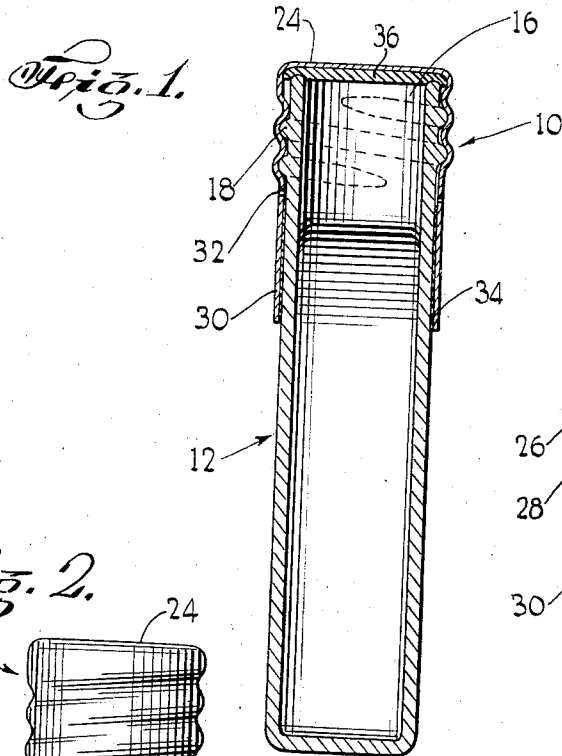


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RECEPTACLE CLOSURE

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RECEPTACLE CLOSURE

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3 Claims. (Cl. 215—82)

This invention relates to receptacle closures. More particularly the invention pertains to non-metallic closures of formed sheet material for bottles, jars and the like.

One of the objects of my invention is to provide a strong, tight closure of the character described which may be effectively used to replace the metal caps now commonly employed for this purpose.

Another object of my invention is to provide a closure of the character described which is simple and economical to manufacture and which may be made from inexpensive and readily obtainable materials.

A further object of my invention is to provide a closure of the character described having improved means for sealing the receptacle against tampering.

Still another object of my invention is to provide a closure of the character described in which the means for sealing the receptacle against tampering and the means for detachably closing the receptacle are connected in a simple fashion and inexpensive manner by an integral portion of the receptacle closure.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the appended claims.

In the accompanying drawing, in which is shown one of the various possible embodiments of this invention, and in which like reference numerals refer to like parts throughout,

Fig. 1 is a vertical longitudinal section through a bottle having attached thereto a receptacle closure embodying my invention;

Fig. 2 is a front view thereof;

Fig. 3 is a sectional view taken substantially along the plane indicated by the line 3—3 in Fig. 2; and

Fig. 4 is a perspective view of the receptacle closure itself.

Referring now to the drawing, I have there disclosed a receptacle closure 10 embodying my invention and adapted to be used in conjunction with a bottle 12 of standard design. Said bottle includes a body portion 14 suitably constructed to house a plurality of small articles such, for example, as medicinal capsules. Access to the bottle is had through a mouth 16, which is provided on its external surface with an integral, moulded, male screw thread 18 of the type com-

monly employed in this art. One or more transverse dimensions of the mouth may be smaller than the corresponding dimensions of the body 14 which may taper at 20 toward the mouth in the usual manner.

The receptacle closure 10 comprises an upper capping part 22, including a crown 24 and downwardly dependent, annular rim 26. The rim is provided with a thread 28 adapted to mesh with the male thread 18 on the bottle mouth 16. Depending from the lower edge of the capping portion 22 are two diametrically opposed tabs 30 of any desired contour. Along the line of juncture between said tabs 30 and the capping portion 22, the receptacle closure is weakened, as for example, by a row of perforations 32. The inner face of each tab 30 is coated with a layer 34 of adhesive which will strongly bond to glass, paper, resin condensates, and similar substances from which the receptacle closure and the bottle are fabricated.

The receptacle closure 10 is fabricated from nonmetallic sheet material which lends itself readily to forming by standard methods such as, for example, press moulding. Such materials include thick fibrous sheets such as paper heavily loaded with sizing, which may comprise paraffin, resin, vegetable wax, or the like, so that the sheet can be rendered highly pliable during a forming operation by the application of heat and will rigidify in its formed shape. I may alternatively use substances such as synthetic resins of the phenol or urea formaldehyde condensation or other types, cellulose acetate, etc. in lieu of the heavy treated paper. In general this material from which the receptacle closure is formed is characterized by its imperviousness to moisture, its chemical inertness to the materials contained within the receptacle, and its ability to become softened by heat or chemical softening agents. The material should also have strength and durability sufficient to resist breakage during the handling incident to capping, shipping and storage of the receptacle.

The receptacle closure may be made by cutting from a sheet of such material a blank, including a central portion and two radially extending wings. The central portion may be inserted in a press mould whose male and female portions are matingly threaded and provided with a suitable means for heating the same, for example steam. If a sheet of the above described material is inserted in a heated screw moulded press of this type a cap having a crown and a threaded rim may readily be formed. Before or after the

screw moulding operation the rows of perforations 32 may be punched between the wings and central blank.

When attaching a receptacle closure 10 to a bottle, the tabs 30 are raised slightly so as to flare outwardly from the capping portion 22. The closure may now be screwed on to the threaded mouth 16 since the raised tabs will clear the tapered portions 20 of the bottle. After the threads 28 of the receptacle closure have fully engaged the male threads 18 of the mouth, the tabs 20 are allowed to return to their vertical pendant position. Said tabs may now be so manipulated, as for example, by the application of a slight degree of heat or a softening agent and pressure, that they will conform to the underlying contour of the bottle. Finally the adhesive 34 is wetted or otherwise treated to render the same capable of sticking to the bottle. It will be understood that, if desired, the receptacle closure may be prepared without a layer 34 of adhesive on the tabs 30, and that instead a suitable adhesive may be introduced between the tabs and the bottle after the receptacle closure has been applied. Once the adhesive has set, the receptacle closure can not be tampered with without leaving visible evidence that the bottle has been opened.

Due to the fact that the receptacle closure and bottle must be relatively rotated to remove the capping portion 22 from the bottle mouth and to the fact that the rows of perforations 32 lie normal to the axis of said capping portion, the material intermediate to the perforations 32 will shear when a torque is applied to open the bottle. The size and relative spacing of the perforations is so selected that with the particular material employed in the bottle closure the torque necessary to break the capping portion 22 away from the tabs 30 is large enough to prevent accidental opening of the bottle.

A liner 36 of any type known to the art may be provided to underlie the crown 24 of the bottle closure.

It will thus be seen that there is provided a device and method for making the same in which the object of this invention is achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that all matter herein set forth or shown in the accompanying

drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A self-form-maintaining receptacle closure which is adapted to be screwed on a receptacle having a threaded neck, said closure comprising a crown, a rim having a screw thread formed therein which is adapted to engage the threaded neck, an integral self-form-maintaining deformable portion depending from an edge portion of the rim, said deformable portion being adapted to be caused to closely follow the contour of the portion of the receptacle beneath the threaded neck and to be permanently and rigidly adhesively secured thereto, and a weak portion intermediate said rim and said depending portion, which weak portion is adapted to be sheared when a torque is applied to rotate the closure for removing same from the receptacle.

2. A self-form-maintaining receptacle closure which is adapted to be screwed on a receptacle having a threaded neck, said closure comprising a crown, a rim having a screw thread formed therein which is adapted to engage the threaded neck, an integral self-form-maintaining deformable portion depending from an edge portion of the rim, said deformable portion being adapted to be caused to closely follow the contour of the portion of the receptacle beneath the threaded neck, the surface of said depending portion which faces the receptacle being coated with adhesive so that said portion can be rigidly and permanently secured to the receptacle, and a weak portion intermediate said rim and said depending portion, which weak portion is adapted to be sheared when a torque is applied to rotate the closure for removing same from the receptacle.

3. In combination, a receptacle having a threaded neck and a self-form-maintaining closure for said receptacle, said closure comprising a crown, a threaded rim, an integral self-form-maintaining deformable portion depending from an edge of the rim, said portion being deformed to closely follow the contour of a portion of the receptacle beneath the threaded neck thereof and being rigidly and permanently adhesively secured to said receptacle portion, and a weak portion on said closure intermediate said rim and said depending portion, which weak portion is adapted to be sheared when a torque is applied to rotate the closure for removing same from the receptacle.

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