

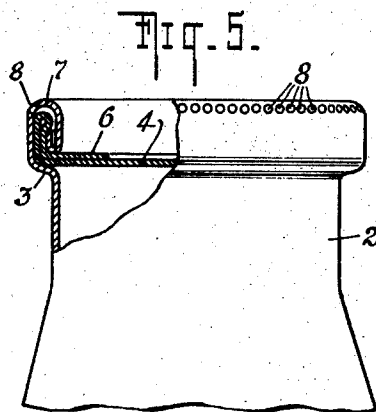
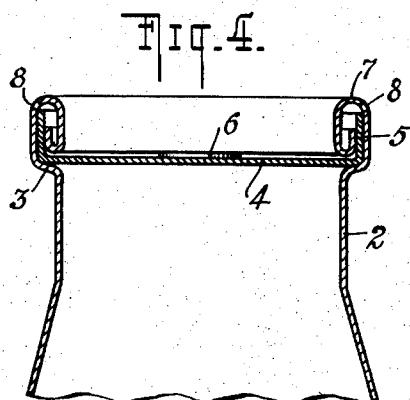
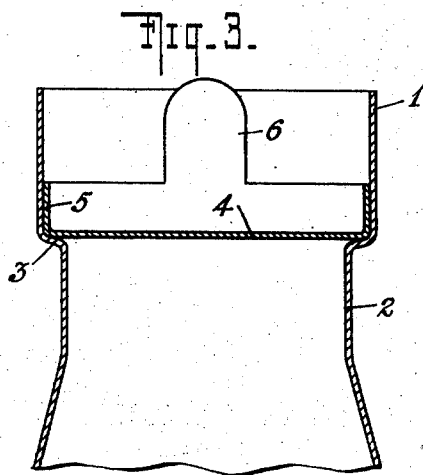
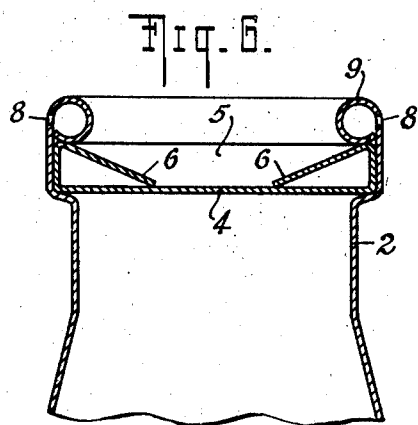
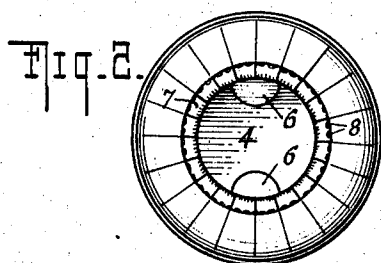
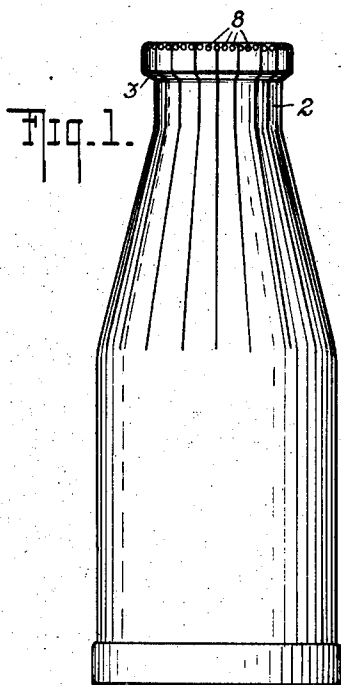
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CLOSURE DEVICE FOR PAPER RECEPTACLES

Filed July 2, 1932



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CLOSURE DEVICE FOR PAPER RECEPTACLES

Application filed July 2, 1932, Serial No. 620,565, and in Germany July 15, 1931.

The invention relates to a closure device for paper bottles and similar paper receptacles in which the closure device comprises a cover disc secured on a rim or ledge of the neck of the bottle or other receptacle, such cover disc being applied to such rim or ledge from above. The cover disc rests on a ledge in the side of the neck of the receptacle and after having been pressed into position on such ledge is retained in position thereon by a bead formed by the curling inwardly of the upper edge of the receptacle neck. In accordance with the invention the edge of the neck of the receptacle is provided with a row of apertures near the upper extremity thereof, so that the upper portion of the neck of the receptacle can be torn from the body of the receptacle.

One of the objects of the invention is to provide a closure device which is to all intents and purposes tamper-proof, i. e. a closure device, the removal of which in the first instance may be detected, so that it is impossible to remove such closure without the fact of such removal becoming known to the person subsequently handling the receptacle. It is a further object of the invention to manufacture the closure device in such manner that the cover disc closing the opening of the receptacle can be replaced into the opening of the bottle or receptacle after the closure device has once been opened, so that such cover disc can be used as a temporary closing means in the course of the periodical dispensation of portions of the contents of the receptacle. In accordance with my invention these results are obtained by providing a series of apertures throughout the periphery of the upper edge of the receptacle so far above the ledge on the inner surface of the receptacle neck, that after the upper portion of the closure device has been removed, the cover disc will still be retained in its tightly fitting position within the bottle opening so as to serve as a temporary closing device.

Specific embodiments of my invention are illustrated in the accompanying drawing forming part of this specification in which similar reference characters identify similar

parts in the several views. In such drawing, Fig. 1 is a side view of a paper bottle embodying my invention; Fig. 2 is a top view of the bottle; Fig. 3 is a longitudinal section of the upper part of the bottle neck with the cover disc inserted therein prior to the curling inwardly of the upper edge of the receptacle to form the bead retaining the cover disc in position; Fig. 4 is a longitudinal section through the upper part of the bottle neck with the edge of the receptacle curled inwardly to form the bead retaining the cover disc in position within the bottle neck; Fig. 5 is a partial longitudinal section of the upper part of the bottle turned 90° from the position thereof illustrated in Fig. 3, with the removing tabs flat against the upper surface of the cover disc, and showing the series of apertures in the upper edge of the receptacle; and Fig. 6 illustrates a modified form of my invention in which the upper edge of the receptacle is curled inwardly to form a circular bead.

Slightly removed from the upper edge 1 of the bottle 2, a ledge 3 in the side of the bottle neck is formed, as by pressure of other method known to those skilled in the art. On the ledge 3 rests a cover disc 4 provided with an upwardly extending rim 5 having, preferably at two opposite points along its periphery, removing tabs or flaps 6. In accordance with my novel method of manufacturing the closure device the upper edge 1 of the receptacle is curled inwardly and downwardly to form a bead 7, of the configuration shown in Figs. 4 and 5, the bead 7 retaining the cover disc 4 in its position upon the ledge 3 so that it cannot be withdrawn or removed from the neck of the receptacle without unrolling the bead 7. The side of the receptacle at a point approximately on the level of the upper edge of the rim 5 of the cover disc 4, or slightly lower than such upper edge, is provided with a line of perforations 8, such perforations being made in the side of the receptacle either by the tool which is used to form the bead, or by any other suitable means, before the cover disc 5 is inserted into the neck of the bottle. It will be seen that if it is desired

to remove the cover disc 4 by lifting one of the flaps 6, it is necessary to unwind the bead 7 by lifting the inwardly and downwardly extending portion thereof. When the configuration of the bead 7 has thus been destroyed by unfurling the same, it is possible to remove from the bottle the upper portion of the receptacle which constituted the upper edge 1, by tearing off such upper portion along the line of perforations 8. The cover disc 4 may then be removed to permit the dispensing of the contents of the receptacle and such cover disc can be reinserted to effect a temporary closing of the bottle or receptacle.

In the modification of my invention shown in Fig. 6, the upper edge 1 of the bottle is curled inwardly to form a round bead 9 rolled into a configuration having a circular cross-section, a line of perforations 8 being provided in such construction for the same purpose as in the embodiment illustrated in Figs. 3 to 5.

It will be evident from an inspection of the drawing taken in conjunction with the description given hereinabove, that my new and novel closure device can be easily formed, that it effects a secure closure of the receptacle and that it cannot be removed without the fact of such removal being evident. The closure device therefore is effectively tamper-proof, and at the same time makes possible the use of the cover disc, remaining in position within the neck of the receptacle after the tearing away of the upper portion of the closure device, as a temporary closing means for the receptacle.

While I have described and illustrated my novel closure device as applied to a milk bottle, it is obvious that its use is not limited to bottles of the particular configuration used to bottle milk, but is equally applicable for any receptacle having a similar neck formation.

I claim:

1. A closure structure for paper receptacles having a neck portion provided with an inner peripheral ledge, comprising a cover disc seated on said ledge and a bead for securing said cover disc on said flange formed by an inwardly and downwardly curling edge of the receptacle, the edge of the receptacle forming the bead and near the upper edge of the rim of the cover disc secured thereby being provided with a series of apertures extending throughout the circumference of the receptacle, whereby the portion of the receptacle extending above the series of apertures may be torn off.

2. A closure structure for paper receptacles having a neck portion provided with an inner peripheral ledge, comprising a cover disc seated on said ledge and a bead for securing said cover disc on said flange formed by an inwardly and downwardly curling edge of

the receptacle, said cover disc having a rim extending upwardly and so as to be secured entirely within the bead formed by the inwardly curled edge of the receptacle, the edge of the receptacle forming the bead and near the upper edge of the rim of the cover disc secured thereby being provided with a series of apertures extending throughout the circumference of the receptacle, whereby the portion of the receptacle extending above the series of apertures may be torn off.

3. A closure structure as claimed in claim 1 in which the ledge upon which the cover disc is seated is at a point below the plane defined by the series of apertures, the cover disc being held tightly upon its seat in the opening of the receptacle to serve as a temporary closing device when the upper portion of the receptacle rim forming the bead has been torn off.

4. A closure structure as claimed in claim 2 in which the ledge upon which the cover disc is seated is at a point below the plane defined by the series of apertures, the cover disc being held tightly upon its seat in the opening of the receptacle to serve as a temporary closing device when the upper portion of the receptacle rim forming the bead has been torn off.

Signed at New York in the county of New York and State of New York this 22nd day of June A. D. 1932.

CARL RISTOW.