April 7, 1936. P. P. MÜLHENS 2,036,351

HOLDER FOR THE CAPS OF CONTAINERS

Filed Nov. 30, 1935

Fig. 1.

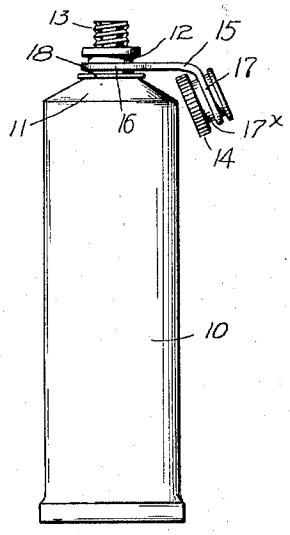


Fig. 2.

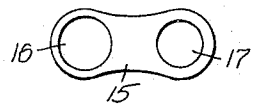


Fig. 3.

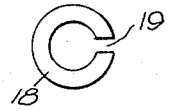


Fig. 4.

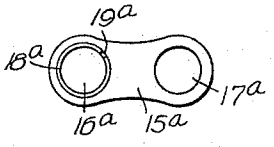


Fig. 6.

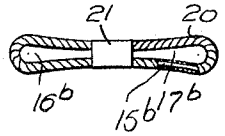


Fig. 5.

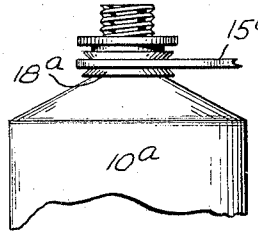


Fig. 8.

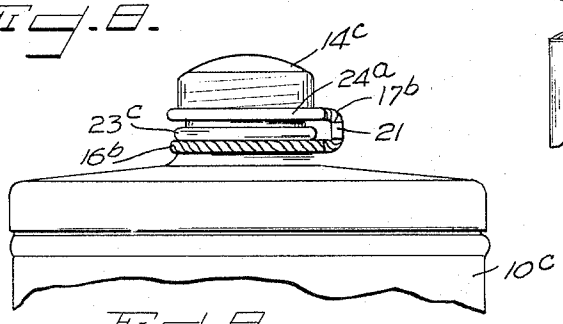


Fig. 11.

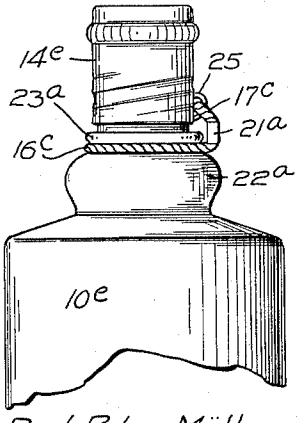


Fig. 9.

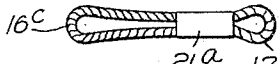


Fig. 7.

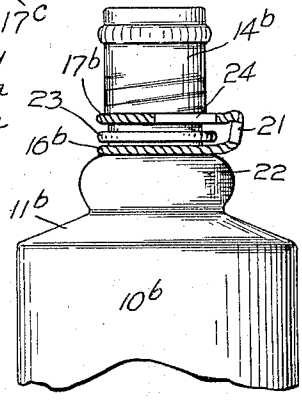
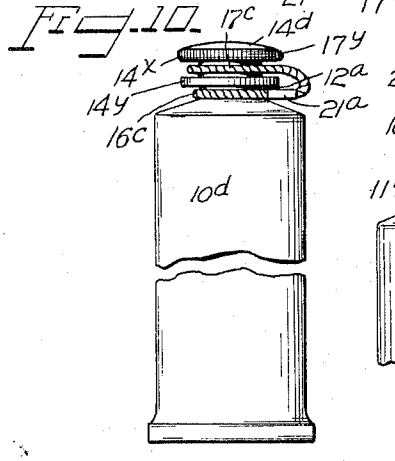


Fig. 10.



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BY
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HOLDER FOR THE CAPS OF CONTAINERS

Paul Peter Mülhens, Cologne, Germany

Application November 30, 1935, Serial No. 52,296

4 Claims. (Cl. 221—60)

My invention relates to an improved holder or retainer for the caps of containers, more particularly for the screw caps of collapsible tubes, and its principal object is to provide a simply constructed retainer which will not only prevent loss of the cap or its undesired separation from the tube, but will also hold the cap in a position to prevent interference with free use of the contents of the tube.

Various forms of cap retainers have been heretofore proposed and my invention is especially related to non-metallic flexible retainers, usually of rubber. Retainers of this kind heretofore employed had certain disadvantages among which may be mentioned the tendency to twist when in use, the lack of sufficient rigidity to hold the cap out of the path of discharge from the tube and the inefficiency of the device if the openings for receiving the cap and tube, respectively, were either too large or too small.

Another object of my invention is to obviate these defects in flexible retainers and I accomplish this object by providing two forms of my invention in one of which the flexible retainer is wound about with suitable material and in the other of which I interpose between the retainer, which may be flat, and the breast of the container a disc made of material which has relatively high adhesion to the retainer and relatively slight adhesion to the material of the container, usually metal.

The invention is illustrated in the accompanying drawing in which Fig. 1 is an elevational view of a collapsible container in open position, the screw cap being connected to the container by one form of my improved holder; Fig. 2 is a plan view of the holder; Fig. 3 is a similar view of a disc interposed between the retainer and the breast portion of the container; Fig. 4 is a similar view of a modified form of holder in which the disc is positioned in one of the holder openings; Fig. 5 is an elevational view of a portion of a container showing the manner in which the holder of Fig. 4 is applied; Fig. 6 is a plan view of a modified holder consisting of a rubber core wound around with a fibrous strand; Figs. 7 and 8 are elevational views of parts of containers illustrating the application of the holder of Fig. 6; Fig. 9 is a plan view of a slightly modified holder of the kind shown in Fig. 6 and Figs. 10 and 11 are elevational views of containers illustrating the application of the holder of Fig. 9.

Referring to Figs. 1 to 3 of the drawing, 10 denotes a collapsible tube or container having the breast portion 11, the neck 12 and the threaded mouth or nipple 13 designed to be closed by the screw cap 14. The holder, shown in Fig. 2, consists of the intact intermediate web portion 15 and the oppositely disposed eyes or holes 16 and 17. The hole 17 is designed to receive the reduced part 17^x of the cap 14 and the hole 16 to receive the neck 12 of the container 10. The holder is made of flexible material, usually rubber, and hence has practically no rigidity; the consequence is that unless preventative measures be provided the cap tends to get into the way of the contents issuing from the container and interfere with satisfactory operation. To obviate this difficulty, I interpose between the breast portion 11 of the container and the adjacent part of the holder a perforated disc 18 as shown in Fig. 3. The disc is made of a suitable material, such as smooth paper, celluloid or the like, having relatively great adhesion to the holder but relatively slight adhesion to the container metal. As a result of this construction, the cap when removed from the nipple 13 may be moved or thrown into the position indicated in Fig. 1, where it will remain out of the path of the material issuing from the container, until the cap is positively replaced. The disc is slotted at 19 to facilitate its application to the neck 12.

In the modified construction of Figs. 4 and 5, the disc 18^a is of double conical form and its intermediate portion is seated in the hole 16^a of the holder 15^a. The disc is slotted at 19^a. The holder 15^a is also provided with the hole 17^a to receive a screw cap and the application of this device to a container 10^a is illustrated in Fig. 5.

Fig. 6 shows a holder in the form of a loop consisting of a rubber core 15^b wound about with a fibrous thread 20, such as silk, cotton, linen or the like, to impart a certain degree of rigidity to the holder. Intermediate its ends the holder is provided with a clip 21 thus providing the holes or openings 16^b and 17^b to receive the neck and cap, respectively, of a container. In Fig. 7 the holder of Fig. 6 is applied to a container 10^b having a bulbous portion 22 above the breast part 11^b and a collar 23 above the portion 21. The opening 16^b engages the container between the collar 23 and bulbous portion 22, and the opening 17^b engages the cap, that part of the loop in which the opening 17^b is formed being wholly or partly enclosed in a bead 24 formed at the base of the cap 14^b. In Fig. 8 the eye 16^b engages the neck of a sifter top can 10^c below a collar 23^c while the other eye 17^b

engages the screw cap 14c and is enclosed in a bead 24a formed at the base of the cap.

The holder shown in Fig. 9 is much like that shown in Fig. 6 except that the clip 21a is nearer one end of the loop than the other thereby providing openings 16c and 17c differing in size from each other. In Fig. 10 the opening 16c contains the neck 12a of the container 10d and the opening 17c is traversed by the reduced portion 17y of the cap 14d which has a knurled overhanging head 14x and a bottom flange 14y at opposite ends of the reduced portion 17y. In Fig. 11 the holder is applied to a container 10e with the opening 16c encircling the container above a bulbous portion 22a and below a collar 23a and the opening 17c having therein an eye 25 on the cap 14e.

My improved retainer is applicable to a great variety of container constructions and the forms shown in the drawing are but a few of the many with which it may be effectively used.

I claim:—

1. As a new article of manufacture, a holder for connecting a cap to a container, said holder comprising a flexible loop consisting of a rubber core and a fibrous material wound thereabout and means dividing said loop into oppositely disposed eye portions.

2. As a new article of manufacture, a holder for connecting a cap to a container, said holder comprising a rubber core, a fibrous material wound thereabout and a clip intermediate the ends of said holder and dividing the same into two oppositely disposed eye portions.

3. In combination, a container, a removable cap therefor, a holder for connecting said cap to said container, said holder comprising a flexible member having oppositely disposed openings therein to receive the cap and a part of the container, and a disc interposed between the material of said holder and said container, said disc consisting of a material having relatively great adhesion to said holder and relatively slight adhesion to said container.

4. In combination, a metal container, a removable cap therefor, a holder for connecting said cap to said container, said holder comprising a strip of rubber having oppositely disposed openings to receive the cap and container neck, respectively, a slotted disc interposed between said holder and the material of said container, said disc having relatively great adherence to the rubber of the holder and relatively slight adherence to the metal of the container.

PAUL PETER MÜLHENS.