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CLOSURE CAPS FOR BOTTLES AND LIKE CONTAINERS
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The present invention relates to closure caps for bottles and like containers of the type comprising a metal cap with crimping crown and a packing of plastic or like material adapted to form a stopper by means of a projecting central part intended to engage in the neck of the container. After the container has been opened, a stopper packing of this type can be re-used by the user as an ordinary stopper.

In order to make this possible, the stopper packing must be capable of being easily separated from the cap, while on the other hand it is necessary to fix said packing in the cap in a suitable manner to ensure dependable connection of the two elements before and during the stoppering operations.

The present invention aims at providing means for permitting these two contradictory conditions to be reconciled in a particularly simple and practical manner. The invention consists essentially in effecting the fixing of the packing in the cap by means of a press-stud type of snap device, through the cooperation of a male element in the form of a stud on the back of the packing and a complementary aperture provided in the top of the cap and serving as a stud hole.

Experience has shown that a very simple snap fastener of this type permits of perfect behaviour of the packing in the course of the various operations which the caps have to undergo in automatic machines intended to handle them.

In one preferred embodiment, the stud hole provided in the centre of the top of the cap has at its edge a downwardly directed flange converging towards the interior and the stud hole cooperates with a stud of which the upper face is substantially in alignment with said top of the cap. This form of construction offers the advantage that it avoids the projection of any part beyond the normal profile of the cap, thereby eliminating any complication or modification in the adjustment of the members intended to handle the caps in automatic stoppering or capping machines.

The characteristics and advantages of the invention will moreover be clear from the following description which is given by way of example and with reference to the accompanying drawings, in which:

Figure 1 is a view in section of a closure cap according to the invention and

Figure 2 is a similar view of another embodiment of the invention.

In the embodiment selected and illustrated in Figure 1, a cap 1 of known type, comprising a crown 2 for crimping over the neck 3 of a container, which for example is made of glass, is lined with a packing 4 of plastic material. Said packing has a projecting central part 5 intended to engage elastically inside the neck 3. The top of the cap is pierced at its centre by a circular aperture 6, and a projecting stud 7 provided for the purpose on the back of the packing is engaged in the latter by snapping home, said stud having a peripheral bead of a diameter slightly greater than that of the aperture 6. A connection similar to a press-stud is thus formed for fixing the packing to the cap.

In the preferred embodiment illustrated in Figure 2, the packing 10 provided in the cap 11 is of a design already known per se, and is constituted by a piece of moulded plastic material having a depending skirt 12 constituting the stopper proper and connected to a re-entrant central part 13 separated from the skirt 12 by an annular gap 14 and ending in a top face 15 substantially in alignment with the peripheral part of the packing, and slightly widened as indicated at 16. The central aperture, which is here again provided in the top 17 of the cap, comprises in this case a downwardly directed flange at the edge, thereby enabling the bead 16 formed on the periphery of the face 15 to be gripped.

The connection is thus made without the two complementary inter-engaging elements projecting beyond the normal profile of the cap, of which the upper face in particular remains flat.

When a bottle or other container fitted with a closure cap of the type described is opened, the packing forming the stopper tends to become detached from the cap because of the deformation of the latter, and to remain in position on the neck. If the stopper packing should become detached from the neck together with the cap, it is very easy to separate it from the latter by simply pressing with one finger, with the object of using it to re-stopper the container.

The invention is of course not limited to the embodiments selected and illustrated, these have been given only by way of examples and the details of construction thereof can on the contrary form the subject of various modifications, depending on the types of stopper packings and caps used.

What ever the form of construction, the fixing by a press-stud type of snap engagement according to the invention offers the possibility of separating the packing from the cap by simply pressing with one finger, so that the packing remains utilisable as an independent stopper.

This feature will be particularly appreciated in all cases where the contents of the container is not consumed at one time and where it is desirable to re-close the container. This feature does not exist with crown corks known up to the present time. All that could be done with these known caps was to replace them on the neck of the container after opening; this however did not provide effective closure.

We claim:

1. A closure for bottles and like containers comprising a metal cap having a container-attaching skirt portion and a top provided with press-stud receiving opening having at its edge a downwardly directed peripheral flange converging towards the interior, a sealing member of plastic or like material having a downwardly projecting central stopper-forming part, and a stud projecting from the upper portion of the sealing member and cooperating with the flange in the press-stud receiving
opening in the top of the cap for detachably connecting the sealing member and cap together, said stud having a top surface substantially in the plane of the top surface of the cap when the sealing member is attached to the cap.

2. A closure according to claim 1 wherein the downwardly projecting central stopper-forming part is tubular and is connected at its lower end with the lower end of a smaller tubular element positioned within the stopper-forming part and which is closed at its upper portion and forms the stud.

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