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CLOSURE FASTENER

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Fig. 1.

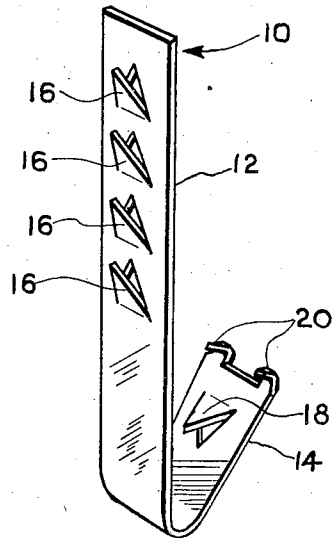
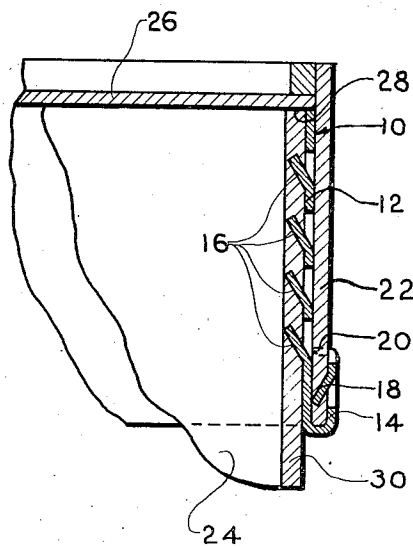


Fig. 2.



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CLOSURE FASTENER

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2 Claims. (Cl. 217—89)

The present invention relates to closure fasteners. More particularly, it relates to fasteners for retaining the tops of boxes, cases, buckets and other containers in closed position during shipping, storage, handling or any time when the closure is likely to be dislodged from the container.

Many types of containers, for example, shipping containers, are filled with heavy and bulky products or commodities which exert considerable pressure on the container closure when the containers are up-ended during handling, shipping or storage, which tends to remove the closure from the container. In addition, such containers are difficult to provide with closure fasteners because the exterior of the containers must be maintained substantially free from projections which would be vulnerable to damage during handling and shipping and thereby impaired to the point where failure would be imminent and loss or damage to the contents would become likely. Because of the absence of closure fasteners which were capable of maintaining closures in tight, dirt-excluding position on containers and at the same time capable of being applied to the containers with a minimum of effort and which were within themselves sufficiently simple in nature to be economically feasible, container manufacturers and users have resorted to such expedients as sealing tapes, sealing flaps and the like which are slow of application, unsightly in appearance and frequently undependable in function.

It is an object of the present invention to provide a closure fastener which overcomes all of the foregoing difficulties.

It is another object of the present invention to provide a closure fastener which provides a maximum of strength and at the same time is relatively simple in structure.

It is another object of the present invention to provide a closure fastener which is urged into tighter fastening cooperation with the container and the closure when forces tending to remove the closure from the container are exerted upon it.

Other objects and advantages, if not specifically pointed out, will be apparent to those skilled in the art from the following detailed description of what are now considered the preferred forms of the invention.

The closure fastener of the present invention in general comprises a clip having suitable projections for locking a portion of the clip into tight contact with some part of the container

closure, and also having projections for locking contact with the body of the container and are so positioned that the two sets of projections are urged into tighter locking cooperation with the container and the closure when force is exerted upon the container closure in a direction to remove it from the container.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the invention will be indicated in the claims.

For a more complete understanding of the invention reference should be made to the following detailed description and the attached drawing in which like reference characters refer to like parts throughout and in which:

Fig. 1 is a perspective view of a clip of the present invention, showing the preferred shape of the clip prior to attachment to a container closure, and

Fig. 2 is a fragmentary vertical view of a container and a container closure showing the closure fastener in operative position.

The container closure fastener in its now preferred form comprises a clip 10 which is illustrated in Fig. 1 in the form which it takes prior to being applied to a container closure. The clip comprises a leg member 12 which is preferably formed integrally with a shorter leg member 14 which extends at an angle to the leg 12 which is something less than 90°, for example 30 to 60 degrees. The leg member 12 is provided with pointed projections 16 which may be suitably formed by punching out the projections from the body of the leg member 12 by a punch press or similar apparatus. The projections 16 may be of any desired number, although several of them are preferred, and in the event only one or two are employed, it is preferred that the small number of projections be positioned toward the midsection of the leg 12.

The short leg 14 is also provided with a projection 18 which may be formed in the same manner as the projections 16 and in addition is provided with turned-over members 20 which are sharpened to form lugs.

The closure fastener of the present invention is best suited for use on a container having a telescoping top and formed of any material which is sufficiently soft to permit penetration by the projections 16 and 18 and the lugs 20. Such containers may be made from wood, vulcanized fibre, corrugated board, chip board,

laminated paper, moulding compositions and the like. Although the containers may take many different shapes, for the purpose of explanation of the invention and not in limitation thereof, the closure fastener will be described as applied to a cylindrical type of container formed with a telescoping closure.

In the preferred manner of application of the closure fastener to the closure, the side wall of the telescoping closure is positioned along the longer leg 12 of the clip with the bottom edge of the wall in contact with the vertex of the angle formed by the legs 12 and 14, and the leg 14 is bent toward the leg 12 in any suitable manner as by a clamp, hammer, pliers, or the like, as illustrated in Fig. 2. This causes the lugs 20 and the projection 18 to penetrate the wall 22 of the container closure and to prevent removal of the clip from the container closure wall 22 merely by relatively sliding action between the clip and the closure wall.

By reference to Fig. 2, it will be seen that any relatively sliding action between the closure fastener and the wall 22 will result in the projection 18 being more deeply embedded in the wall 22, which tends to force the legs 12 and 14 into tighter clamping relation with the closure wall 22 and thereby locks the clip into tighter gripping contact with the container closure. As many closure fasteners 10 as desired may be positioned around the side wall 22 of the container closure.

The container closure is then slipped over the open end of the container 24 until the top 26 of the container closure contacts the top edge 28 of the container wall 30. This causes the container closure wall 22 to be forced outwardly by the sharpened projections 16 sliding over the container wall 30 and the sharp ends of these projections slightly penetrate the wall 30. The closure is then moved in a direction to normally remove it from the container wall 30 which causes the sharpened projections 16 to force their way into the container wall 30 and bring the container closure wall 22 into tight contact with the wall 30. Thereafter, any effort to remove the container closure by pulling in a direction to normally slide it off of the container causes the container closure to be locked into tighter closing relation with the container.

When it is desired that the container closure top 26 be held in tight sealing relation with the top edge 28 of the container wall 30 to obviate the possibility of dirt, dust or moisture finding its way into the container, the container closure fastener may be applied by first forcing the projections 16 of the leg 12 into the side wall 30 of the container so that the top of the leg 12 of the clip is flush with the top edge 28 of the container wall 30 when the projections 16 have been forced sufficiently into the wall 30 to bring the leg 12 into tight contact with the wall 30. Thereafter, the container closure is slipped over the container until the bottom edge of the container closure wall 22 contacts the vertex of the angle formed by the legs 12 and 14. Thereafter, the leg 14 is bent to clamp the wall of the container closure 22 between the legs 12 and 14 and to force the sharpened projection 18 and the sharpened lugs 20 into the container closure wall 22.

When it is desired to remove the container closure from the container, the leg 14 is bent outwardly and away from the wall 22 by means of some sharp pointed instrument, such as a screw driver. The container closure can then be slipped off of the container and then the clips can be

removed from the container wall 30 by bending downwardly on the legs 14 so as to withdraw the projections 16 from the container wall 30.

The container closure clip 10 can be rapidly formed from any desired material, for example, strap metal, such as strap steel, by a relatively simple machine, and the clip 12 may be applied to the container closure, if desired, as a last step in the forming operation for the container.

Although the closure fastener of the present invention may be employed for containers for practically any desired commodity, it finds particular utility in fastening closures on containers used to package relatively heavy and bulky commodities, such as rolls of Cellophane (regenerated cellulose) or rolls of paper, foil, textiles or the like. When the container closure clip is in close fastening position, there is very little of the container closure accessible from the exterior which renders the closed containers exceptionally free from projections which are subject to interference with other containers and other objects which would tend to accidentally dislodge the closure from the container as well as damage the walls of storage rooms and conveyers, and provide a hazard to operators and the clothing of persons coming in contact with the closed container.

Any effort toward removal of the container closures from the container without first bending the leg 14 away from the wall 22 of the container closure only results in more tightly fastening the container closure in place because there is no tendency for the closure clip to fulcrum about any point and thereby produce a leverage which would disturb the clamping relation between the projections 16 and/or 18 and the adjacent parts of the container or container closure.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

The invention having been described, what is claimed is:

1. A package comprising a container having an open end, a tight-fitting closure member telescoped over the open end of said container, a U-shaped closure fastener positioned about the free edge of said closure, one leg of said fastener positioned between the closure and the container, said leg having an integral sharpened projection extending toward the open end of the container and embedded in the wall of the container, the other leg of said fastener positioned against the outside of said closure and having an integral sharpened projection extending toward the open end of the closure and embedded in the outer wall of said closure, said oppositely extending projections permitting the closure carrying said fastener to slide onto the container but preventing removal of the closure therefrom.

2. A closure fastener adapted to be positioned about the free edge of a tight-fitting closure member telescoped over the open end of a container, said fastener comprising a U-shaped member, one leg of said fastener having an integral sharpened projection extending upward on the outside of said leg only, the other leg of said fastener having an integral sharpened projection extending downward on the inside of said leg.

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