Aug. 7, 1962 L. L. GRIFFITHS 3,048,068

CLOSURE REMOVER DEVICE

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Fig. 1.

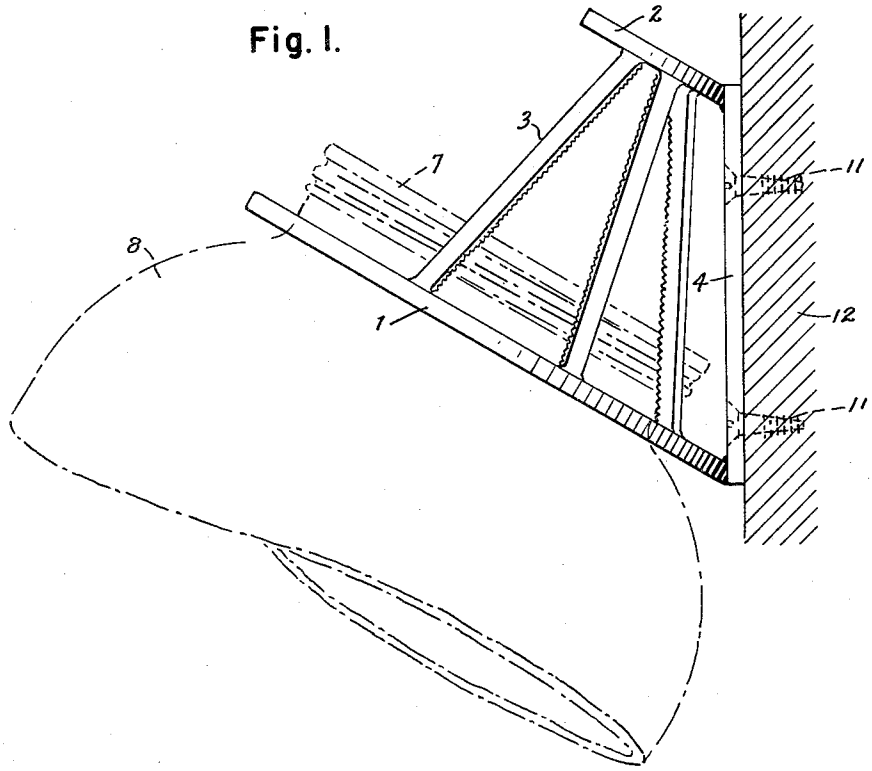
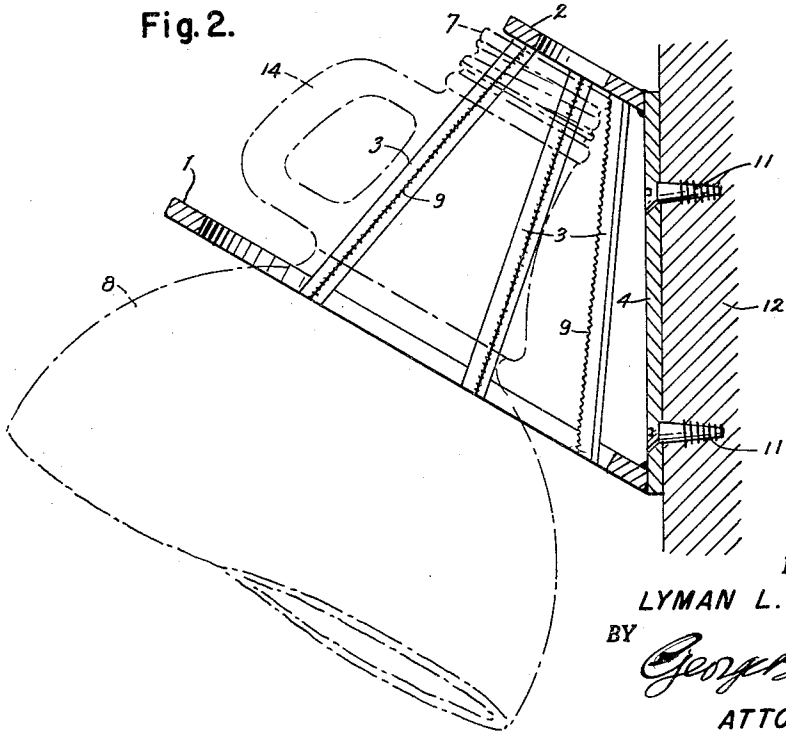



Fig. 2.




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Fig. 3.

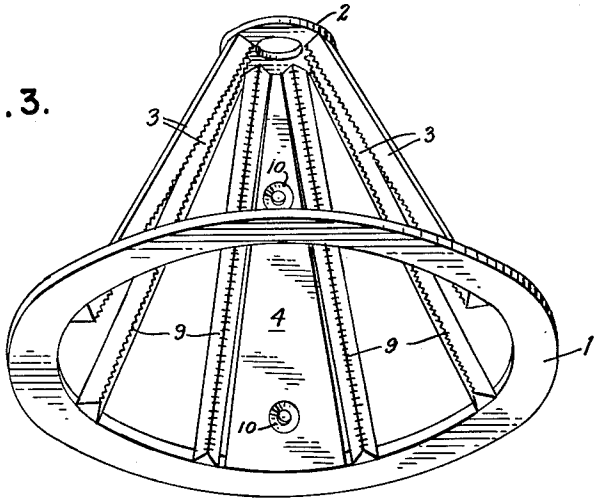



Fig. 4.

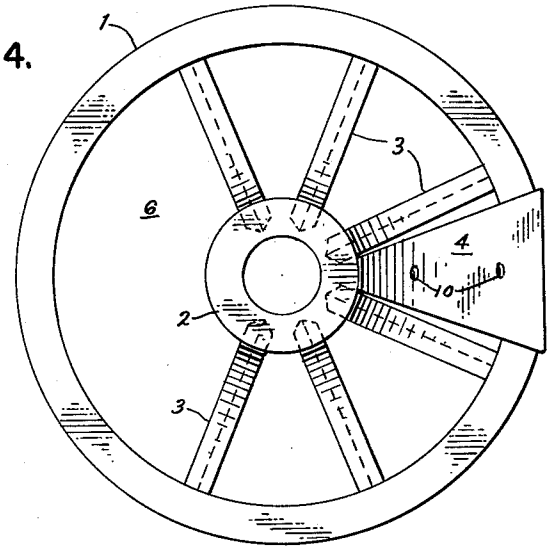



Fig. 5.

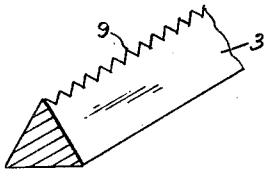
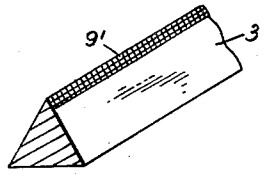



Fig. 6.




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# CLOSURE REMOVER DEVICE

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1 Claim. (Cl. 81—3.3)

This invention relates to closure remover device.

The primary object of this invention is to provide a device whereby threaded or lug secured closures or caps of any kind and of a great range of sizes and shapes can be removed easily and quickly.

Another object of the invention is to provide a device for the removal of threaded or lug secured closures or caps from containers, such as from bottles or jars, which accommodates a variety of sizes and structures with equal facility without need for adjustment, for instance, which can be used to remove such closures or caps from a container with a handle or ear projecting from its neck or side, or from a container having a large bulk or diameter compared with its closure or cap.

Another object of this invention is to provide a device for the removal of closures or caps from bottles, jars, or other containers where such cap or closure is secured in place by threads or lugs, into which device the top of such container can be readily inserted so as to bring said closure or cap into peripheral contact with friction elements with sufficient gripping force to permit the loosening of the closure or cap by the turning of the body of the bottle or jar; said device providing space for manipulation of bottles, jars or containers with protruding ears or handles on a side thereof or of relatively bulky containers, and which device permits such manipulation without need for adjustment and without injury to the top edges of the containers.

I am aware that some changes may be made in the general arrangements and combinations of the several devices and parts, as well as in the details of the construction thereof without departing from the scope of the present invention as set forth in the following specification, and as defined in the following claim; hence I do not limit my invention to the exact arrangements and combinations of the said device and parts as described in the said specification, nor do I confine myself to the exact details of the construction of the said parts as illustrated in the accompanying drawings.

With the foregoing and other objects in view, which will be made manifest in the following detailed description, reference is had to the accompanying drawings for the illustrative embodiment of the invention, wherein:

FIG. 1 is a side view of my device mounted on wall with a bottle top or closure of comparatively large circumference therein.

FIG. 2 is a partly sectional side view of my device with a bottle with protruding ear therein.

FIG. 3 is a perspective front view of my device.

FIG. 4 is a top plan view of my device.

FIG. 5 is a fragmental view of a friction bar in my device, and

FIG. 6 is a fragmental view of a modified form of the friction bar.

The illustrative embodiment of the invention herein includes a base ring 1 and a top ring 2 connected by converging friction bars 3 and by a bracket plate 4.

The base ring 1 and the top ring 2 are flat and concentric. The connecting bars 3 are spaced from one another circumferentially with respect to the rings 1 and 2.

The circumferential space 6 opposite said bracket plate 4 is about one hundred and thirty (130°) degrees circumferentially between the adjacent pair of bars 3 so as to leave space for the insertion of the ears or handles or lugs or the like protuberances on certain types of containers and to permit the turning of said ears or handles or the like in said space 6 to loosen the closure 7 of the containers 8 sufficiently for the subsequent manual removal of said closure 7.



Each bar 3 may be of any suitable cross section. In the herein form the inside edge of each bar 3 faces inwardly of the device and is formed into a friction element capable of gripping the periphery of the closure 7. In the present illustration the inner edge of each friction bar 3 is provided with teeth-like serrations 9 as in FIG. 5, or with knurled serrations 9′ as shown in FIG. 6, for engagement by the closure 7.

The bracket plate 4 is a flat plate also converging toward the top ring 2 at about the same angle as the bars 3. The bracket plate 4 is provided with suitable mounting means. In the herein illustration holes 10 are provided for screws 11 for mounting the bracket plate 4 on a wall. When the bracket plate 4 is mounted on a usual perpendicular wall 12, as shown in FIGS. 1 and 2, it causes the axis of the device to be tilted upwardly converging toward the wall 12 so that the bottom ring 1 is at an upward incline away from the wall to facilitate insertion of the closure end of the container. When the container 8 is axially registered with the axis of the device and thus inserted through the bottom ring 1, it is held at an angle which will prevent the slopping or spilling of the contents of the container while it is turned relatively to the device.

In operation the device is mounted on the wall 12 by means of screws 11 through the bracket plate 4. Thus the device is held in an angularly inclined attitude relatively to wall 12, predetermined by the angle of convergence of the bracket plate 4. Then the container is inserted through the bottom ring 1, as shown in FIGS. 1 and 2, so that the periphery of the closure 7 is pressed against the friction serrations 9. Then, while the closure 7 is thus held, the container 8 is turned sufficiently to loosen, but not to entirely free, the closure 7. Then the container 8 with the loosened closure 7 is withdrawn through the bottom ring 1 and thereupon the closure 7 can be easily removed manually. In order to replace a closure on a container, the above steps are performed in reverse, namely the closure 7 is manually screwed on the container 8 and then the closure on the container is inserted through the bottom ring 1 and pressed against the bars 3, and finally the container 8 is turned until the closure 7 is suitably tightened. The one hundred and thirty degrees circumferential space 6 was found sufficient for the degree of turning required for loosening or tightening the type of container having some projection, such as an ear, lug or handle 14, as shown in FIG. 2. But larger turn can be accomplished by partly withdrawing the container after each turn, and inserting it again in the initial position, then pressing the closure 7 again against the bars 3 and turning the container for further loosening the closure 7.

Only moderate strength or pressure need be applied for stabilizing the closure between the bars 3, therefore any injury either to the closure or to the container is obviated. Turning or rotating the container 8 relatively to the stabilized closure 7 can be accomplished also with moderate strength so that the operation in this device can be performed by any person having ordinary dexterity and strength.

The device herein described is eminently fit for use on containers and closures of modern packaging; it has great versatility and scope; it provides a device in conveniently accessible location; it is simple and unitary in structure, having no moving parts; and it is safe and easy in operation.

I claim:

A device for loosening closures on containers compris-

ing a bottom ring and a top ring of smaller diameter than the bottom ring, a plurality of circumferentially spaced gripping bars connecting said rings and converging toward said top ring to grip closures of various sizes, friction means on the portions of said bars facing inwardly of the space included by said converging bars, and a mounting member between said rings for mounting said device on a surface and converging toward said top ring so as to hold the bottom ring at an incline away from the surface on which said mounting member is mounted, the spacing between at least two adjacent bars being of a width to provide turning space for a projection extending from a container.



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