May 22, 1951 M. DER ALEXANIAN 2,554,173

OPENER FOR CONTAINERS HAVING WEAKENED CLOSURES

Filed Oct. 2, 1948

Fig. 1.

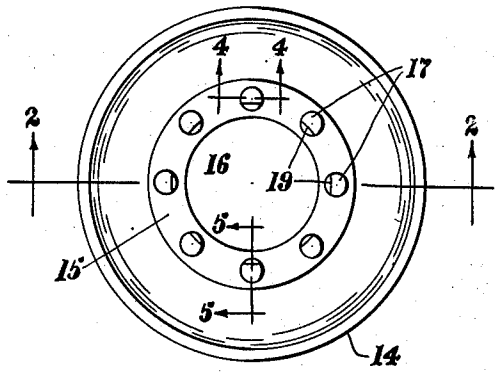


Fig. 3.

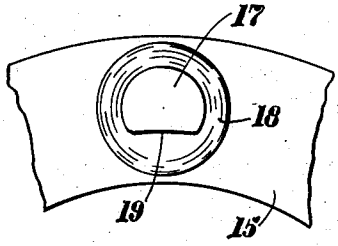


Fig. 2.

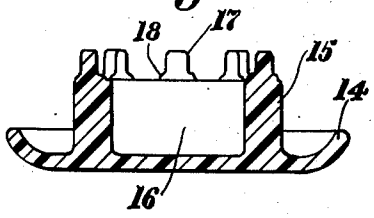


Fig. 4.

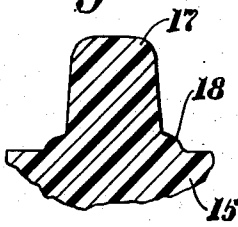


Fig. 5.

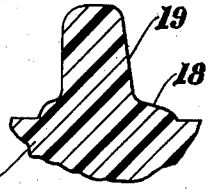


Fig. 6.

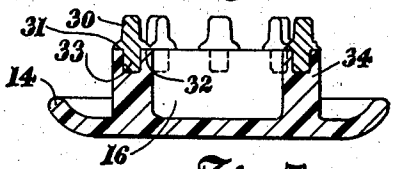


Fig. 8.

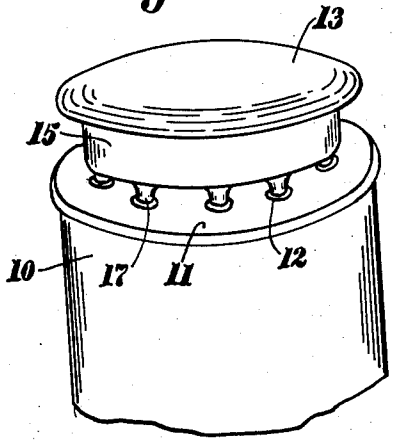
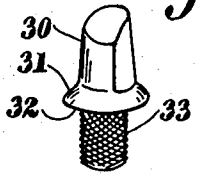


Fig. 7.



INVENTOR.
Manoog Der Alexanian.
BY Heard Smith & Tennant
Attorneys

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OPENER FOR CONTAINERS HAVING WEAKENED CLOSURES

Manoog Der Alexanian, Boston, Mass.

Application October 2, 1948, Serial No. 52,457

3 Claims. (Cl. 30—6.1)

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It is common to provide containers for cleaning powders and a wide variety of articles with the top of such containers, usually of metal, having a plurality of weakened closures which have to be opened by the user. These closures are usually formed by partially cutting through the metal thoughout the major portion of a circular periphery and these closures are usually arranged in a circular series. It is a matter of common knowledge that the users generally open these closures one at a time with an ice pick, the point of a knife, or can opener, or any other available instrument, often to the damage of the instrument employed.

It is the object of the present invention to provide an inexpensive, durable, simple device which may be readily and easily handled and placed in position on the container top and readily operated by simple pressure to open all, or any number, of these weakened container top closures.

The object of the invention is further to provide such a device having a transparent plastic body with depending projections visually alinable through the body with the weakened closures and readily operable by simple pressure to open the closures.

The nature and objects of the invention will appear more fully from the accompanying description and drawings and will be particularly pointed out in the claims.

The drawings illustrate preferred forms of devices embodying the present invention.

In the drawings:

Fig. 1 is a bottom plan view illustrating a preferred form of the device;

Fig. 2 is a view in cross section taken on the line 2—2 of Fig. 1;

Fig. 3 is an enlarged detail of a portion of the construction shown in Fig. 1;

Fig. 4 is a detail in transverse cross section taken on the line 4—4 of Fig. 1;

Fig. 5 is a detail in transverse cross section taken on the line 5—5 of Fig. 1;

Fig. 6 is a view similar to Fig. 2 of another form of the device in which the projections are formed as metal inserts;

Fig. 7 is a view in perspective of one of the metal inserts shown in Fig. 6;

Fig. 8 is a view in perspective illustrating the top of a container having a circular series of weakened closures together with a device of the present invention in position ready to be pressed toward the container top to force open the closures.

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The top portion 10 of an ordinary type of container, such as is employed for holding cleaning powders, is shown in Fig. 8. Such containers commonly have a metal top 11 provided with a plurality, usually arranged in circular series, of weakened closures 12. Each of these weakened closures is usually formed by partially scoring or cutting through the metal along the major portion of a circular periphery so that the closures when forced downward swing about the uncut portion usually facing the center of the container top.

The body portion of this device indicated generally at 13 presents a smooth, slightly convex, circular top portion, having a depending annular rim 14, a depending central annulus 15. The provision of the annulus 15 enables the device to be composed of a minimum amount of material, because of the vacant space 16, while still giving the device ample strength.

The invention further provides a plurality of projections 17 depending from the annulus as illustrated. These projections correspond in position to the container closures and consequently are quite invariably arranged in a circular series as illustrated.

An important feature of the invention is that the device presents an integral rigid plastics body. The term "plastics" is herein used in the sense as defined by Simonds in his work Industrial Plastics, third edition 1945, page 18, wherein it is stated: "a newly coined word 'plastics' is used as the adjective for 'made-of-plastic'."

In the form of the invention shown in Figs. 1 to 5 the projections are formed integral with the plastics body, each having a slight taper, a smooth rounded end, a flat side 19 to cause the projection to correspond in general cross section to the weakened closure, and usually a slight shoulder 18 where the projection joins the body.

In the form of the invention further illustrated in Figs. 6 and 7 the projections are formed of a suitable metal and inserted in the annulus 34. One of these projections is shown separately in Fig. 7 with the projecting portion 30 and the shoulder 31 of the same shape as before, while the portion 33 inserted in the body is shown as preferably knurled on its surface. When in place each projection has the bottom surface 32 of the shoulder 31 resting squarely on the body.

The projections, whether formed integral with the body as in the one form or formed as metal inserts as in the other form, preferably correspond in cross sectional shape to that of the weakened closures of the container to be opened,

preferably taper somewhat from the base toward the tip, and are rounded off as may be required to form a dull-pointed end. These projections correspond in position to the closures of the container and are consequently, with the usual type of container, arranged in a circular series with the projections spaced from one another in accordance with the spacing of the closures of the container.

The entire body of the device with its depending annulus and, in the form shown in Figs. 2, 4, and 5, with the projections is an integral rigid plastics structure and preferably an integral rigid transparent plastics structure. The great advantage in transparency is that it enables the device readily to be positioned visually through the body with the projections alined with the closures, but even if the body is not transparent it can still be quite readily positioned to aline the projections with the closures because of the circular shape of the body corresponding to the circular shape of the container and because of the correspondence in position of the projections with the position of the weakened closures.

Any suitable plastic material which may be readily moldable into the required shape of this device may be employed provided that it imparts the required qualities of rigidity, strength and durability. For ordinary purposes urea formaldehyde, or what are commonly known as urea molding powders or compounds, cellulose acetate, or what are commonly known as acetate molding powders or compounds, or phenol formaldehyde, or what are commonly known as phenolic molding powders or compounds, are suitable for this purpose. In order to secure the required transparency a plastic material must be selected which will give this result and as such materials are well known and common there will be no difficulty in selecting such a material. For example, the methyl metacrylics are readily moldable and highly transparent. Such plastics are on the market under the names "Plexiglas" and "Lucite." The chief factor will be in selecting a molding powder or compound which will give the required transparency at a low cost.

The device may be made by present molding methods either as an integral entirety or with the metal inserts.

When the device is placed upon a container with the projections alined with the weakened

closures and with the slightly convex or dome-shaped top of the body in engagement with the palm of the user it requires but a simple pressure toward the container top to engage and force open the closures efficiently and accurately. If it is desired to open less than the full number the pressure may be applied so as to tilt the device and thus open any number less than all of the closures.

The invention presents a very simple, effective, readily operated device for the purpose, pleasing in appearance, readily molded of any desired color and preferably of sufficient transparency of the body to enable the projections to be visually alined through the body with the closures.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is:

1. An opener, for a container having in its top a plurality of weakened closures arranged in a circular series, consisting of an integral rigid transparent plastics dome-shaped body for engagement with the palm of the user and having a depending annulus, and a plurality of projections depending from the annulus and corresponding in position to the closures, the said projections visually alinable through the body with the closures and acting when so alined and the body is pressed toward the container top to engage and force open the closures.

2. An opener, having the construction and operation defined in claim 1, in which the projections are metal inserts in the annulus.

3. An opener having the construction and operation defined in claim 1, in which the projections are integral with the annulus.

MANOOG DER ALEXANIAN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,861,438	Grisko	June 7, 1932
1,959,862	Grisko	May 22, 1934
2,029,607	Brenner	Feb. 4, 1936
2,279,833	Madan	Apr. 14, 1942
2,442,694	Keiser	June 1, 1948
2,455,972	Bowditch	Dec. 14, 1948