March 18, 1952 A. McD. HESS 2,589,693

SCREW CAP REMOVER

Filed Feb. 11, 1948

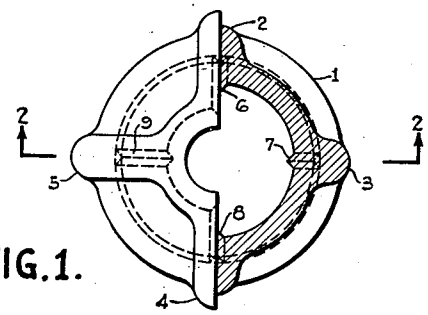

FIG.1.

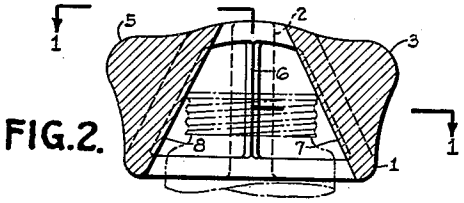

FIG.2.

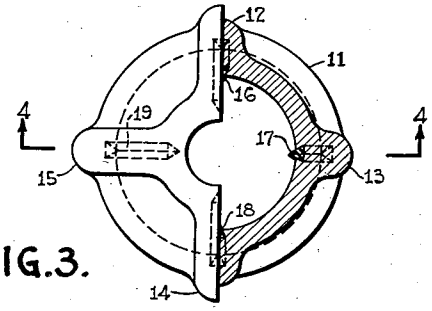

FIG.3.

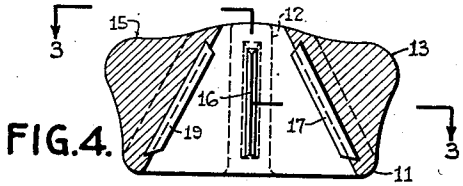

FIG.4.

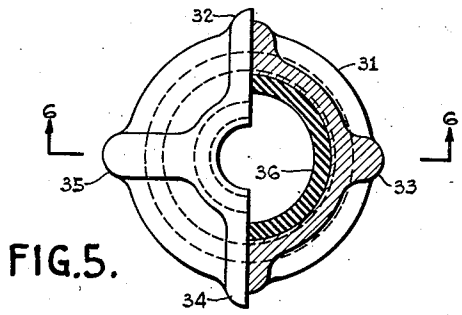

FIG.5.

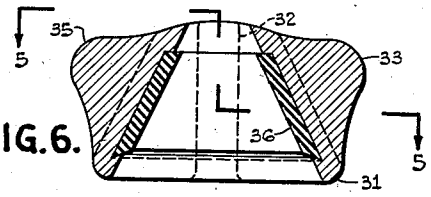

FIG.6.

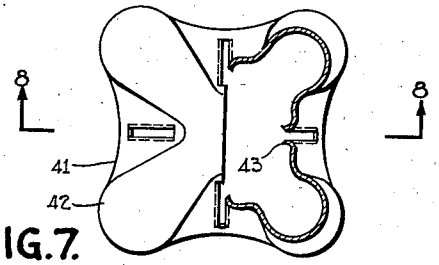

FIG.7.

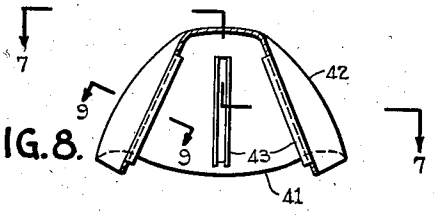

FIG.8.

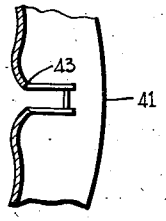

FIG.9.

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INVENTOR

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UNITED STATES PATENT OFFICE

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SCREW CAP REMOVER

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3 Claims. (Cl. 81—3.4)

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The present invention relates to a domestic or restaurant kitchen appliance for tightening or loosening threaded and screw caps of glass and ceramic jars such as are employed for packing condiments, preserves, pickles, and the like.

The invention consists, briefly, of a tapered, caplike structure, adapted to be held in one's hand, which may be securely engaged with the caps of jars and by manual manipulation be employed to tighten or loosen such caps.

An object of the invention is to provide means for facilitating the opening by unscrewing the screw tops of jars which have become stuck due to mechanical resistance or from corrosion of the tops which usually are of metal or alloy composition.

Another object of the invention is to provide means for tightening screw caps when packing jars so as to effect a seal.

These and other novel features of the invention will be better understood from the following detailed description and the accompanying drawing showing preferred embodiments of the invention in which:

Fig. 1 is a view of an integrally cast appliance taken on line 1—1 of Fig. 2;

Fig. 2 is a view taken on line 2—2 of Fig. 1 showing in dotted lines how the appliance may be applied to the cap of a jar;

Fig. 3 is a view taken on line 3—3 of Fig. 4 of another embodiment of the invention having removable contact elements;

Fig. 4 is a view taken on line 4—4 of Fig. 3;

Fig. 5 is a view taken on line 5—5 of Fig. 6 of another embodiment of the invention having a single removable contact element;

Fig. 6 is a view taken on line 5—5 of Fig. 6;

Fig. 7 is a view taken on line 7—7 of Fig. 8 of another embodiment of the invention which is stamped from a sheet;

Fig. 8 is a view taken on line 8—8 of Fig. 7;

Fig. 9 is a view taken on line 9—9 of Fig. 7.

Referring to Fig. 1 and Fig. 2 of the drawing illustrating one embodiment of my invention, the appliance is formed by stamping, molding, or casting a relatively tough plastic rubber, synthetic material, or metal into a single frustum-shaped or tapered piece 1 having an oval-shaped top and exterior radially projecting fins 2, 3, 4, and 5 and interior radially projecting fins 6, 7, 8, and 9, or whose interior may simply be of a tapered, rough surface.

Referring to Fig. 3 and Fig. 4 of the drawing illustrating another embodiment of my invention, the appliance is formed by stamping, molding, or

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casting any suitable material into a single frustum-shaped or tapered piece 11 having exterior radially projecting fins 12, 13, 14, and 15 and having removable interior radially projecting elements 16, 17, 18, and 19 which fit slidably and securely into slots provided in the interior wall of the piece 11.

Referring to Fig. 5 and Fig. 6 of the drawing illustrating another embodiment of my invention, the appliance is formed by stamping, molding, or casting any suitable material into a single section 31 formed in the shape of a frustum of a cone or tapered, and which is provided interiorly with an annular slot. The section 31 is further provided with exterior radially projecting fins 32, 33, 34, and 35. A circular member 36 formed by stamping, molding, or casting a relatively tough plastic rubber or synthetic material is adapted to fit into the interior annular recess in the member 31.

Referring to Fig. 7, Fig. 8, and Fig. 9 of the drawing illustrating another embodiment of my invention, the appliance is formed in a single piece 41 by stamping, molding, or casting any suitable sheet metal or synthetic in the form of a frustum of a cone or tapered, which is provided exteriorly with radially projecting fins 42 between which slots are punched in and the edges 43 are turned inwardly to form contact members with which to engage jar caps.

In the use of the appliance, which may be of such size that it is adapted to fit the different sizes of jar caps ordinarily encountered in the average kitchen, the upper portion of the frustum or tapered member, whose top is oval, is fitted into the palm of one's hand so that the fingers may clasp around it comfortably in such a manner that the fingers may be brought to bear against the exterior radially projecting fins when an effort is made to turn the appliance about the frustum's axis.

The appliance may then be applied to a cap in the general manner illustrated by the dotted lines in Fig. 2 and sufficient force be exerted downwardly by pressing or bumping it so as to securely engage the appliance with the cap. When the engagement between the appliance and the cap is secure, the appliance and the cap may be turned in either direction, i. e., right or left about the frustum's axis until the cap is sufficiently loosened or tightened, whichever is desired.

The embodiments illustrated in Fig. 1 and Fig. 2, and Fig. 5 and Fig. 6 are specially adapted to tighten caps on fresh packs. The embodiment illustrated in Figs. 5 and 6 while suitable for the same purposes in general as that illustrated in

Fig. 1 and Fig. 2, has the added advantage, however, of containing the removable contact element **36** which may be renewed when it becomes worn.

The embodiments illustrated in Fig. 3 and Fig. 4, and Fig. 7, Fig. 8, and Fig. 9 are adapted for use on caps which are particularly difficult to tighten satisfactorily or to loosen, especially the latter, e. g., when a cap is corroded and struck. The elements **16**, **17**, **18**, and **19**, which for apparent reasons are of triangular cross section, may be of metal or alloy so that when the appliance is brought into use, a sufficient pressure or a sharp tap or bump may be exerted to cause the elements to bite into the cap to which it is applied and thus secure the engagement of the appliance when exerting a great turning force thereto. Moreover, the elements **16**, **17**, **18**, and **19** may be rotated as one edge and another become worn and eventually turned end for end, thus insuring a long life for the elements.

The embodiment illustrated in Fig. 7, Fig. 8, and Fig. 9 in general is particularly adapted for loosening caps which have become corroded and stuck. It may be stamped from a steel plate so that the sharp edges **43** may be projected inwardly for contact with a cap.

By proper pressure or a sharp tap or bump when employing either of the embodiments of Fig. 3 and Fig. 4, or Fig. 7, Fig. 8, and Fig. 9, the contact elements **16**, **17**, **18**, and **19**, or **43** will be caused to bite into the upper edge of a cap and at the same time loosen by spreading the vertical wall of the cap whereafter a partial turn will completely disengage the cap so that it may be completely and readily removed.

While the appliance has been illustrated with four contact elements and with four outward fins, it will be recognized that any suitable number may be employed.

Moreover, while the interiors of the appliance are shown tapered and as following straight lines, it is also to be recognized that the interior walls may describe concave or convex lines, if such are found more suitable in some adaptations, without departing from the spirit and scope of the invention.

Obviously other minor changes can be made to my invention as herein set forth without altering its spirit and scope, therefore it is desired that it be limited only by the foregoing description and the appended claims.

I claim:

1. An appliance for loosening and tightening jar caps comprising a hollow frustum-shaped member having exterior projections and a plurality of longitudinally extending slots the edges of which are bent inwardly to constitute contact elements adapted to grip the cap.

2. An appliance for loosening and tightening jar caps comprising a hollow frustum-shaped member presenting a conical wall and having exterior projections and a plurality of slots disposed longitudinally of the conical wall the edges of which slots are bent inwardly to constitute contact elements adapted to grip the cap.

3. A hand tool for loosening and tightening jar caps comprising a hollow frustum-shaped member the upper end of which is rounded to fit the hollow of the hand and which is provided with exterior projections and with a plurality of slots the edges of which are bent inwardly to constitute contact elements adapted to grip the cap.

ALEXANDER McD. HESS.

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