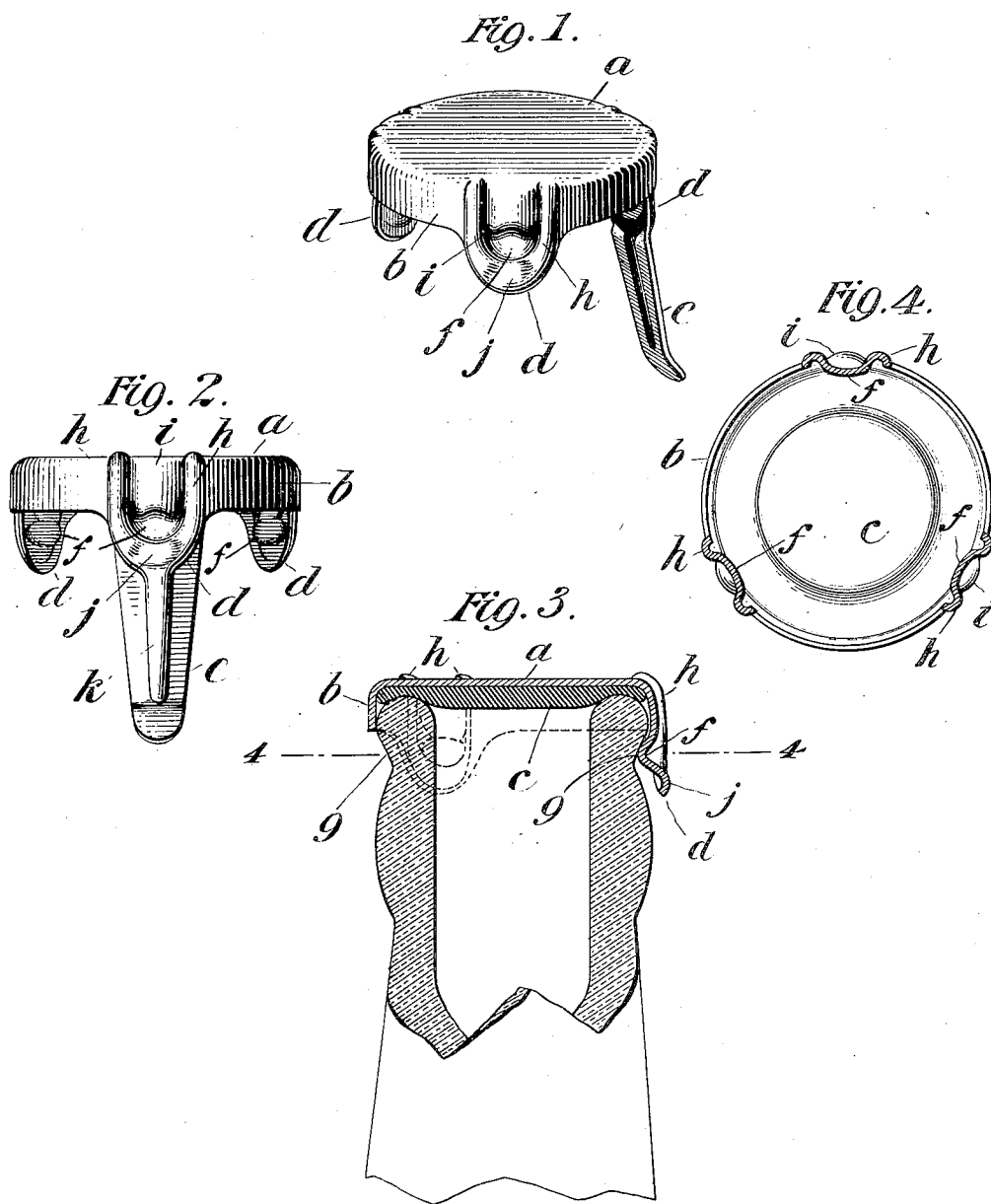


No. 829,341.

PATENTED AUG. 21, 1906.

G. KIRKEGAARD.
BOTTLE STOPPER.
APPLICATION FILED APR. 2, 1906.



Witnesses
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UNITED STATES PATENT OFFICE

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BOTTLE-STOPPER.

No. 829,341.

Specification of Letters Patent.

Patented Aug. 21, 1906.

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To all whom it may concern:

Be it known that I, GEORG KIRKEGAARD, a citizen of the United States, residing at the city of New York, in the borough of Brooklyn and State of New York, have invented certain new and useful Improvements in Bottle-Stoppers, of which the following is a full, clear, and exact description.

This invention relates to bottles and jar stoppers of that general class in which a metal cap having a lining of packing material, such as cork, is fastened upon or over the mouth of the bottle or jar.

The object of the invention is to provide a construction of bottle-stopper which after being originally applied to the vessel by means of machinery, so as to make a perfect seal, can be readily removed therefrom without the use of any special tool and by simple hand manipulation.

A further object of the invention is to provide a construction of stopper whereby the cap having been once removed from the receptacle can be replaced by hand a number of times and obtain a seal substantially as perfect as the original seal.

With these objects in view the invention consists of the construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved cap-stopper. Fig. 2 is a side elevation of the same. Fig. 3 is a section of the upper part of a bottle and the stopper applied thereto, and Fig. 4 is a sectional view of the cap along line 4 4 of Fig. 3 looking upward.

The stopper comprises a cap consisting of a disk portion *a*, having an annular depending flange *b*, forming an inverted cup, within which is placed a disk *c* of cork or other suitable packing material. At three points around the flange *b* substantially one hundred and twenty degrees apart are formed fingers *d*, and one of the fingers is extended to form a handle or tailpiece *e*. The parts so far described are made out of a single piece of sheet metal, usually tin, and of considerable weight or body to afford stiffness and strength. Each of the fingers *d* is embossed or pressed in a peculiar manner, first, to afford lugs to engage the bottle or jar, and, second, to afford strength or stiffness to the fingers for a purpose which will hereinafter appear. The holding-lugs for engaging the

bottle are indicated by *f*. They project inward radially at such a distance below the disk *a* as to engage the usual inclined shoulder *g* on the external surface of the bottle-neck, thus affording three points of engagement between the cap and the bottle for holding the former in place. For stiffening and strengthening the fingers the U-shaped ribs *h* are provided. These extend from points well over the edge of disk *a* downward around and below the holding-lugs *f*. Between the arms of the ribs *h* the metal of the flange *b* is also bulged outward above the projection *f*, as indicated at *i*, so that the whole structure of the finger is far more rigid and strong than the remaining portions of the flange *b* or the disk *a*. Upon the face of the lower or curved portion of the ribs *h* a further projection or nub *j* is formed for a purpose which will hereinafter appear.

In fixing this stopper upon the bottle or jar originally a machine or tool is ordinarily employed which serves to first press downward upon the disk *a* to compress the packing material *c* against the mouth of the bottle and then to laterally and inwardly press against the lower ends of the fingers *d* to force the holding-lugs *f* into engagement with the annular shoulder *g*. To facilitate the operation of this machine or tool, the nubs *j* are provided, the jaws of the tool impinging against these nubs instead of against the rib *h*, and thus avoiding the flattening out of the latter. The cap thus secured to the bottle is held firmly in place by the strength of the fingers *d*, and in order to remove it from the bottle it is necessary to force outward at least one of these fingers. For this purpose I have provided the handle or tailpiece *e*, which is reinforced by a central rib *k*. Grasping the lower end of this handle between the thumb and finger or by inserting a knife or fork or other utensil between it and the neck of the bottle the handle can be forced outward sufficiently to release the lug *f*, associated with the handle, from the shoulder *g* and permit the cap to be lifted.

If after opening the bottle it is desired to reseal it, this operation can be readily performed by simply placing the cap over the mouth of the bottle and pressing downward upon the disk *a* with the hand or fingers until the fingers *d* snap under the shoulders *g*, whereupon, by reason of the spring of the

metal, the pressure of the lugs *f* against the inclined shoulder *g* will draw the cap downward sufficiently to effectually seal the bottle.

The merit of the construction herein described resides in the fact that the material of the fingers *d* is so shaped as to be stronger and stiffer than the adjoining metal in the flange *d* and disk *a*, so that when the fingers have been originally set inward by the machine or tool they will not thereafter of themselves yield and can only be forced outward by the yielding of the weaker material of the flange *b* and disk *a* immediately surrounding the fingers. In other words, the finger is stiff or rigid, while the surrounding metal is more or less yielding, and the locking position of the fingers is not changed or distorted by the removal of the cap from the bottle or by its replacement thereon. The only distortion that takes place is in the flange *b* and disk *a*, and this restores itself the moment the cap is seated on the bottle or removed therefrom.

Having described my invention, I claim—

25 1. A bottle-stopper comprising a metallic cap containing packing material and provided with a depending annular flange and with holding-fingers extending from and below said flange, said holding-fingers having inwardly-directed lugs to engage the neck of the bottle and being stiffened or reinforced from their lower extremities upward through the depth of said flange, for the purpose described.

35 2. A bottle-stopper comprising a metallic disk, an annular depending flange and a plurality of fingers extending downward from the flange, said fingers having embossed or impressed therein U-shaped ribs the arms of which extend substantially from the edge of the disk to and around the lower extremity of the fingers, for the purpose set forth.

40 3. A bottle-stopper comprising a metallic cap containing packing material and having a number of depending fingers around its periphery, each finger having an inwardly-extending lug for engaging the neck of the bottle and also strengthening-ribs surrounding said lugs and extending upward to the cap, substantially as described.

4. A bottle-stopper comprising a disk having an annular depending flange, a number of fingers extending downward beyond said flange, embossed lugs at the lower ends of said fingers, an embossed rib extending around said lugs and upward to the edge of the disk and an embossed surface between the arms of said rib and above said lug, for the purpose set forth.

5. A bottle-stopper comprising a metallic cap containing packing material, a number of fingers depending from said cap, and having holding-lugs formed on their inner surfaces, and a strengthening-rib surrounding said holding-lug and provided with a nub adapted to be engaged by a fastening tool or machine.

6. A bottle-stopper comprising a sheet-metal disk having a depending annular flange, integral depending holding-fingers provided with reinforcing means extending from the lower ends of the fingers across the width of the flange to the disk, and a handle or tail-piece extending from one of the fingers, for the purpose set forth.

7. A bottle-stopper comprising a sheet-metal cap containing packing material and having a depending flange, fingers depending from the lower edge of said flange and provided with a reinforcement extending from their lower ends upward through the width or depth of the flange, one of said fingers having a tailpiece provided with a reinforcement extending throughout its length and continuing through the length of the finger to which it is attached and the width of the flange, for the purpose set forth.

8. A bottle-stopper comprising a sheet-metal cover for the mouth of the bottle and fingers extending from the edge of said cover and adapted to hold it upon the bottle, said fingers provided with reinforcing means extending into the body of the cover beyond the edge from which the fingers extend.

In witness whereof I subscribe my signature in the presence of two witnesses.

GEORG KIRKEGAARD.

Witnesses:

WM. M. STOCKBRIDGE,
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