No. 848,576. PATENTED MAR. 26, 1907.

A. W. STEPHENS.

BOTTLE OPENER AND STOPPER.

APPLICATION FILED JAN. 15, 1907.

Fig. 1

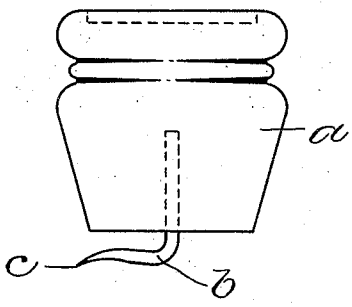


Fig. 2

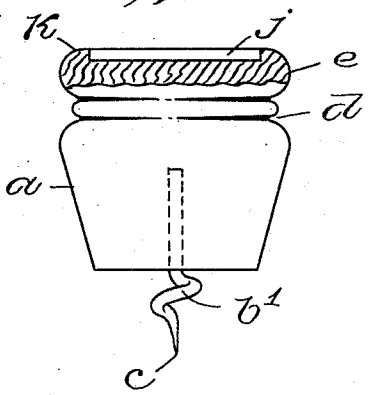


Fig. 3.

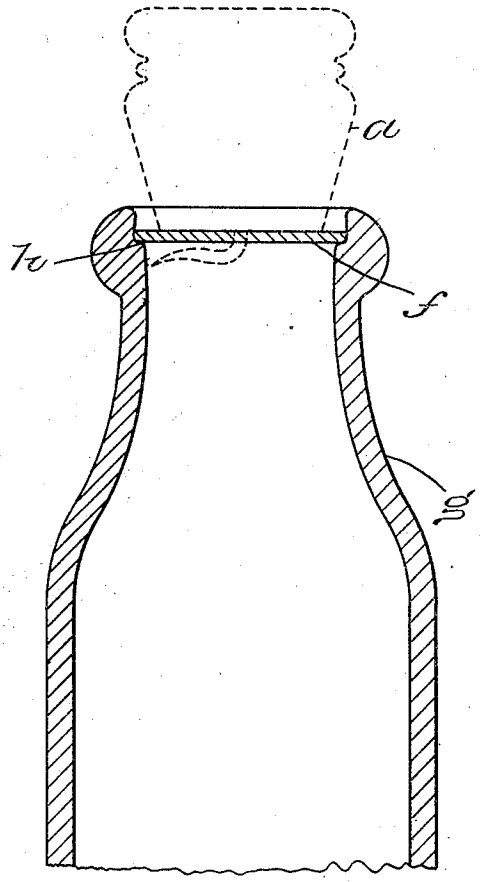
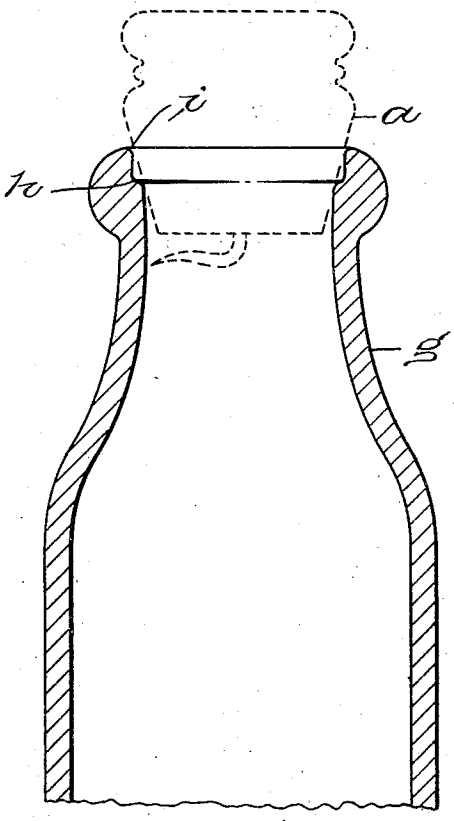


Fig. 4



Witnesses:

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UNITED STATES PATENT OFFICE.

AUGUSTUS W. STEPHENS, OF WALTHAM, MASSACHUSETTS.

BOTTLE OPENER AND STOPPER.

No. 848,576. Specification of Letters Patent. Patented March 26, 1907.

Application filed January 15, 1907. Serial No. 352,395.

To all whom it may concern:

Be it known that I, AUGUSTUS W. STEPHENS, of Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Bottle Openers and Stoppers, of which the following is a specification.

This invention has for its object to provide an instrument adapted to remove the paper covers which are usually used for closing the mouths of milk-bottles and also to serve as a closure for such a bottle after the cover has been removed.

The cover for milk-bottles now in almost universal use is the circular disk of stiff tough paper or cardboard which is inserted a slight distance within the mouth of the bottle. It is impossible to remove this cover by the fingers alone; but a pointed instrument which can pierce the paper is necessary for this purpose. After a bottle has once been opened and part, but not all, of the contents removed it is necessary or desirable to cover the bottle again. If in again closing the bottle the same cover is used, a repetition of the inconvenience and trouble in removing the cover is experienced whenever the necessity arises of pouring out more of the milk. Previous to this time instruments have been devised which can be used conveniently to pierce and remove these paper coverings; but if the cover has been replaced a second removal needs a similar employment of the opening device, and therefore is a cause of annoyance which is unnecessary.

By my present invention I have devised a combined bottle opener and stopper which is effective for removing the original cover and then may be used itself as a temporary closure of the bottle between the time of first opening and emptying the same. Its use enables the original covering to be thrown away when first removed and avoids the inconvenience and annoyance of opening the bottle a second or third time by the cover-removing member.

The accompanying drawings illustrate the formation and manner of use of an article embodying my invention.

Figure 1 represents an elevation of one form of the device. Fig. 2 represents an elevation, partly in section, of a modified construction adapted for the same purposes as the device in Fig. 1. Figs. 3 and 4 represent sectional views of a milk-bottle illustrating the two functions of the device.

The same reference characters indicate the same parts in all the figures.

The article embodying my invention consists of a main body *a*, which has at one end a prong *b*, which is sharpened at its end to a point *c*. This prong extends downward from the center of the lower end of the body, and between its point of connection therewith and its end is offset so as to extend laterally. In Fig. 1 the prong is a hook-shaped member which is bent so that its end portion extends approximately parallel with the bottom face of the body. In Fig. 2 the prong is represented by *b'* and is formed with a helical twist, the pointed end *c* being brought back into the axial line of the body *a*—that is, directly in line with the point of connection between the prong and the body. The offset intermediate portion of the prong is bent sufficiently far, preferably, to constitute one complete turn of a helix.

The body *a* is shaped as a frustum of a cone with the smallest diameter of the conical portion less than and the largest diameter greater than the mouth of the ordinary milk-bottle. Thereby when the instrument is inserted into the open mouth of such a bottle some portion of its conical surface will bear against the rim and effectually close the mouth. Near the upper or outer end of the body is a groove *d*, which permits the formation of a bead *e*, whereby the instrument can be readily handled.

The function which the instrument serves of opening the bottle is illustrated in Fig. 3, wherein the dotted lines show the device of the character illustrated in Fig. 1 in position preliminary to removing the paper covering or disk stopper *f* from the bottle *g*. The point of the prong is engaged with the cover somewhere near the middle of the same and is then pushed forward in a horizontal direction. The downward inclination of the point, which is clearly illustrated in the figures, causes it to pierce the cover and lie beneath the lower surface thereof. Thereupon when the instrument is raised it carries the cover with it. The latter may then be readily removed and thrown away.

In using the form of device shown in Fig. 2 the sharpened point is first pushed through the paper cover at any convenient point preferably near the edge, so as to avoid the danger of bending the cover and pushing it down into the bottle-neck below the supporting-shoulder *h*. After insertion of the point

a turn of the instrument brings the offset portion of the prong beneath the cover, so that lifting of the instrument will engage and carry the cover away from the bottle with it. Whenever it is necessary after first opening the bottle to close it again, the instrument may be inserted in the open mouth, as shown by dotted lines in Fig. 4, when the conical sides thereof will rest either against the shoulder *h* or the rim *i*, according to the relative diameters of the latter and the taper of the instrument. This effectually closes the bottle, so that nothing external may fall into it and so that the contents will not spill over if it is rapidly moved. When it is desired to pour out more of the bottle's contents, it is only necessary to remove the stopper and then replace it like an ordinary bottle-stopper, thereby avoiding the necessity of a search for the paper-cover remover and the trouble of picking the same out of the bottle and again setting it in place.

In the top surface of the body portion *a* I provide a circular depression or recess *j*, on the bottom of which advertising matter may be printed or a printed card may be secured. The annular rim *k*, surrounding the recess, guards against rubbing of the bottom of the recess, and so protects the printed matter against erasure.

Preferably the body portion of the instrument is made from wood or other firm and easily-worked material, while the portion which serves as the cover-remover—that is, the prong—is made of metal, with a shank inserted and secured in an orifice extending from the bottom end of the body. If desired, however, the body portion may be made of other suitable material.

As shown in the drawings, the bottom of the plug-stopper *a* is wide and flat, so that it can seat squarely on the paper or disk stopper *f*. The prong has an offset portion which is but a slight distance below the flat bottom surface of the plug-stopper, said distance being, in fact, only slightly in excess of the thickness of the usual paper or disk stopper *f*. Therefore when the device is to be used, as described, for extracting the paper or disk stopper, the prong being pushed through such disk, the plug-stopper *a* can be used as a lever by means of which the disk can be pried out by an easy motion and with very little effort. This is because the wide surface of the plug-stopper enables one edge thereof to rest upon the disk near the point where the latter rests upon the shoulder *h* of the bottle. This point serves as a fulcrum to enable considerable leverage to be obtained, the plug-stopper being high enough so that the disk stopper will be removed by a rocking movement on such fulcrum instead of a direct upward pull. Then, as stated, when the disk *f* has been removed and slipped off from the prong the plug-stopper *a* can be used to close the mouth of the bottle and without risk of the metal prong projecting far enough into the bottle to be submerged in the milk.

I claim—

A combined stopper and disk remover, comprising a tapered body shaped to fit the mouth of a milk-bottle and having a rigid wide flat bottom surface and having a hooked prong adapted to engage a disk stopper, the bottom of said body being of slightly less diameter than the mouth of the bottle and said body being of a height to enable it to be operated as the long arm of a lever to remove a disk stopper while one edge of the bottom portion rests upon such disk near the margin thereof.

In testimony whereof I have affixed my signature in presence of two witnesses.

AUGUSTUS W. STEPHENS.

Witnesses:

A. H. BROWN,

C. F. BROWN.