Jan. 1, 1929. 1,696,920

J. H. MILLER

BOTTLE CROWN REMOVER

Filed Jan. 3, 1927

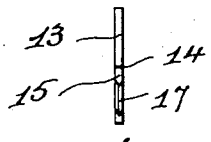


Fig. 2.

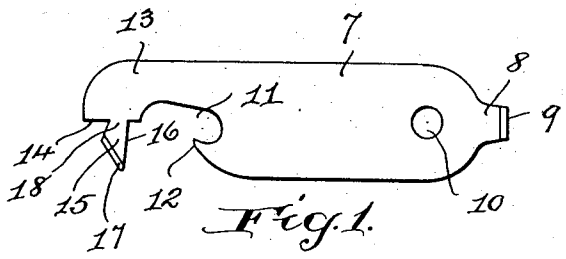


Fig. 1.

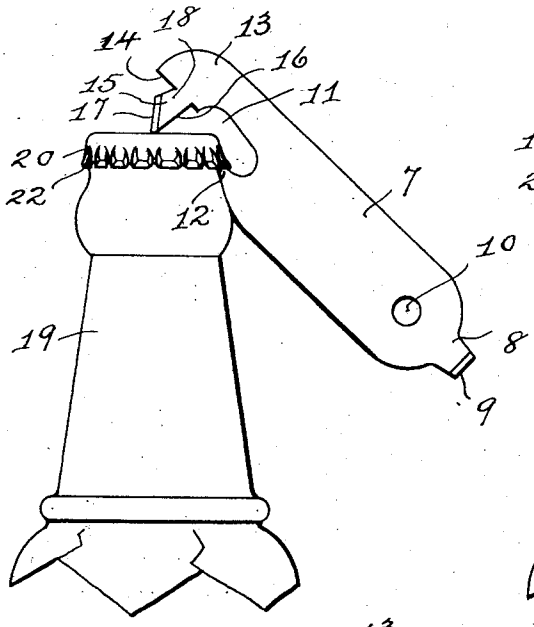


Fig. 3.

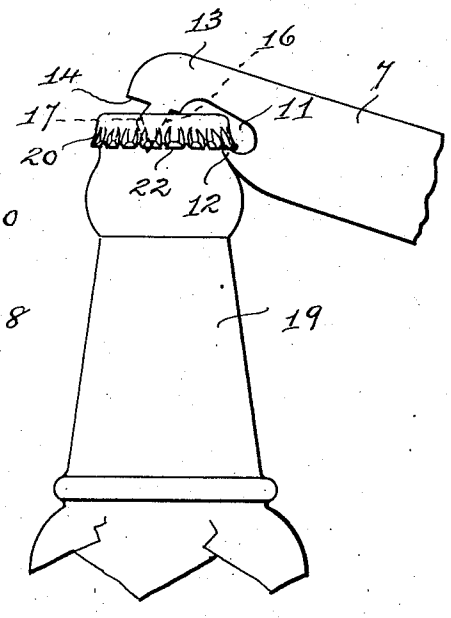


Fig. 4.

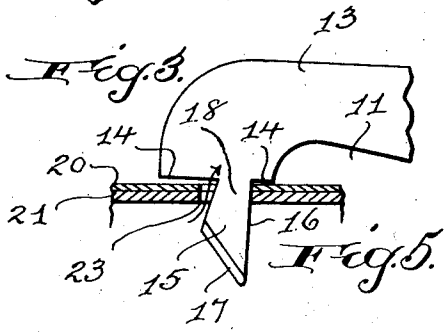


Fig. 5.

INVENTOR.

BY Joseph H. Miller

Charles B. Manns Jr.

ATTORNEY.

Patented Jan. 1, 1929. 1,696,920

UNITED STATES PATENT OFFICE.

JOSEPH H. MILLER, OF HARRISBURG, TEXAS.

BOTTLE-CROWN REMOVER.

Application filed January 3, 1927. Serial No. 158,604.

My invention relates to improvements in bottle crown removers and has for its object to provide an exceedingly simple and cheap structure for removing metal crowns from bottles or jars and which will practically eliminate the liability of breaking the neck during the prying off operation.

Quantities of beverages are bottled under pressure and are sealed by metal crowns having a sealing medium on the inner side and which are held by an annular flange that is crimped into locking engagement with a shoulder on the outer side of the bottle neck.

The internal pressure against the under side of the crown makes it more difficult to remove because that pressure keeps the crimped-in locking flange of the crown close around the locking shoulder and when the prying off operation takes place it is necessary to exert quite an upward pull to strip the crown from the shoulder and frequently this pull is sufficient to break the neck of the bottle.

I have noted during the crown removal operation, that after the crown has been disturbed sufficiently to vent the internal pressure the balance of the removal operation is exceedingly easy and I have therefore provided a crown remover which will first operate to eject a vent for the internal pressure and will then operate to remove the crown.

With these, and other objects in view, the invention is illustrated in the accompanying drawing, wherein,—

Fig. 1 shows the improved crown-remover in side view.

Fig. 2 illustrates the same in front elevation.

Fig. 3 shows the improved remover in position against the crown in readiness for the preliminary operation of venting the crown.

Fig. 4 illustrates the position of the remover with respect to the crown while puncturing the latter to vent the internal pressure, and

Fig. 5 shows a sectional detail on an enlarged scale through a portion of the crown to illustrate the vent-opening made in the latter just prior to its removal from the bottle-neck.

Referring to the drawing the numeral 7, designates the hand-hold or body-part of the remover which may be of any form or shape desired, but which in the present instance is formed from a flat blank of metal sufficiently stiff to meet the strains to which it will be subjected.

In the present instance one end of the body-part 7 has a projection, 8 whose opposite edges are beveled, as at 9, to produce a screw-driver tool, and an opening or perforation, 10 is also provided in the same end in order that the tool may be hung on a hook or nail. These features, however, are not essential, and in fact, are immaterial to the present invention.

At the forward end, the remover tool has on its under side a recess 11 with a forwardly-extending point or hook, 12 at one side of that recess but at the base of the latter.

The tool is also shaped to provide a bearing-arm 13, to project over the top of a crown and this arm has a bottom edge 14, in a horizontal plane above the hook 12, which edge 14, forms a fulcrum point by seating on top of the crown during the removal operation.

At the bearing or fulcrum edge 14, I provide a depending pin, prong or piercing projection 15, which latter may be of a variety of shapes, but I have found in practice that if I form this projection with a straight rear edge 16, which preferably inclines forwardly as it extends downwardly, and a beveled and reversely-inclined forward cutting-edge 17, that I gain advantages in operation which will presently be explained.

It is also to be noted that the width of the depending projection 15, immediately beneath the bearing or fulcrum edge 14 is narrower at 18 than at a point below it, and this also is done with deliberation because of an advantage gained thereby, as will also presently be pointed out.

In Figs. 3 and 4 of the drawing I show a bottle-neck 19, with a conventional crown 20 thereon and in Fig. 5, I show a portion of the crown top and the sealing disk 21 at the under side thereof as is usually provided in these metal crowns.

In the operation of the improved remover tool I first engage the hook 12 beneath the crimped or corrugated flange 22 of the metal crown and then swing the forward end of the tool down over the top of the crown to present the point of the cutting-edge of the projection 15, to the top of the crown, as shown in Fig. 3 of the drawing.

Then, as the body-part 7 of the tool is raised the tool will rock on the hook 12, and the cutting edge 17 of the projection 15 will pierce the top of the crown and cut its way through the crown and also through the sealing disk 21. While the downward motion of the projection 15 through the crown is taking place, the straight edge 16 at the rear side of the lug, which edge is blunt, keeps the tool drawn forward and holds the hook 12, under the flange 22 of the crown,—the cutting being accomplished by the forward inclined cutting edge 17 of the piercing projection.

As the rocking of the tool is continued the narrow portion 18 of the piercing projection will occupy the longer slit 23 that has been made through the crown and its sealing disk by the broader part of the lug that has passed to the underside of the crown and thus leave sufficient free opening in the crown and seal about the projection for the escape of the gas in the bottle, thereby relieving the crown of the internal pressure and enabling the same to be readily stripped from the bottle-neck.

Having described my invention I claim:—

A tool for removing metal bottle crowns having a recess to bridge the edge of the crown and at the rear side of the recess the tool having a forwardly-extending hook to engage the locking-flange of the crown, and at the opposite forward side of the recess said tool being provided with a depending crown-piercing projection which projection has a blunt and straight rear edge at that side which confronts the hook and a forwardly-inclined cutting-edge in front of the said rear blunt-edge whereby the straight blunt edge will draw the tool forward and keep the hook engaged with the crown-flange as the front inclined cutting-edge of the projection enters the crown.

In testimony whereof I affix my signature.

JOSEPH H. MILLER.