

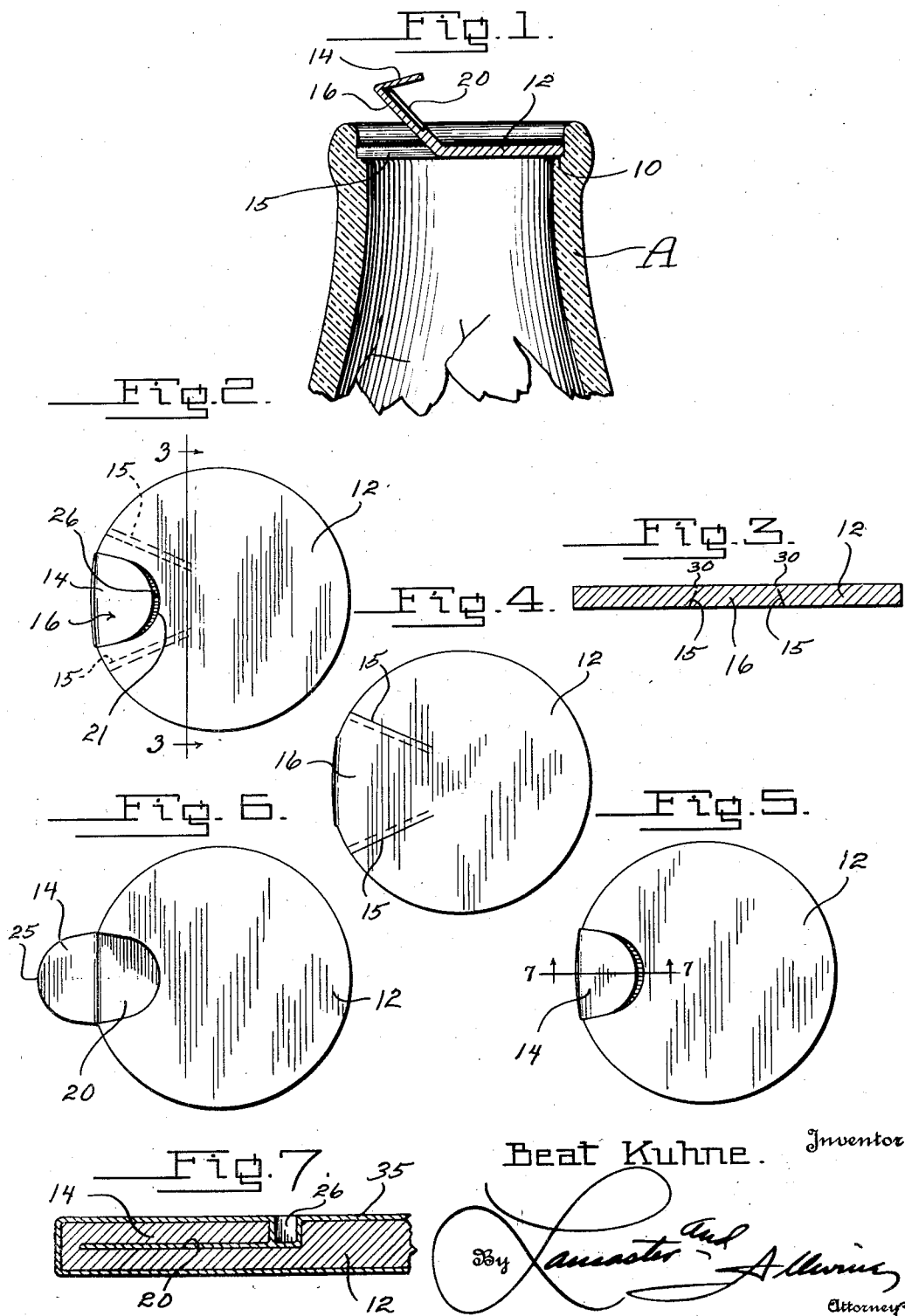
Aug. 9, 1927.

1,638,490

B. KUHNE

MILK BOTTLE CAP

Filed March 27, 1926



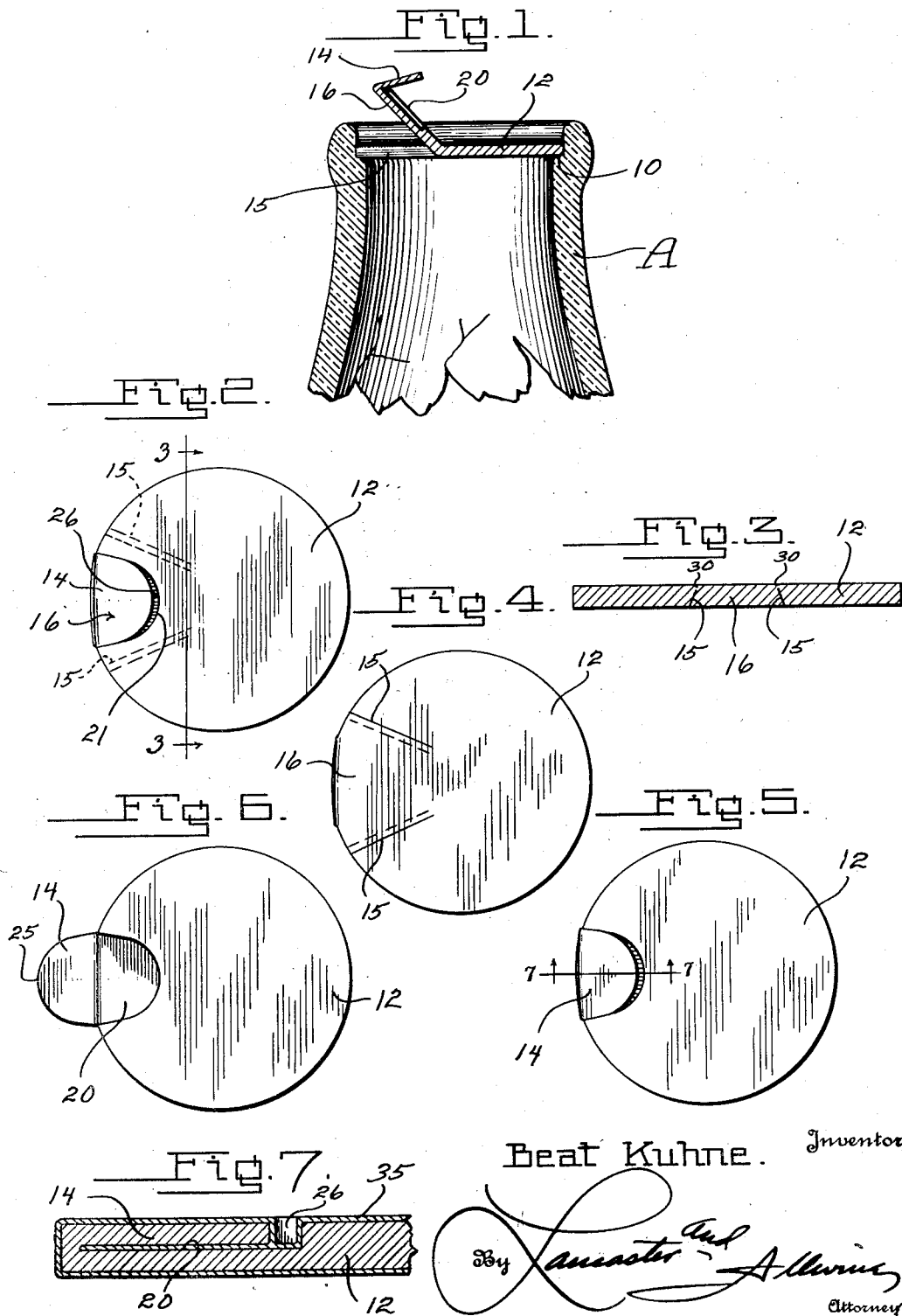
Aug. 9, 1927.

1,638,490

B. KUHNE

MILK BOTTLE CAP

Filed March 27, 1926



Patented Aug. 9, 1927.

1,638,490

UNITED STATES PATENT OFFICE.

BEAT KUHNE, OF LEWISTOWN, MONTANA.

MILK-BOTTLE CAP.

Application filed March 27, 1926. Serial No. 97,884.

The present invention relates to improvements in closures for containers such as milk bottles and the like; and the primary object of the invention is to provide a novel type of milk bottle cap embodying features whereby a portion of the cap may be swung outwardly of the remainder of the cap in a manner for providing an opening through which all or a portion of the contents of the bottle may be poured or withdrawn.

A further object of the invention is to provide a milk bottle cap embodying a flat closure disc having a pull tab or flap connected at the peripheral edge of the disc and extending inwardly from the periphery of the disc in a manner whereby the same may be readily grasped for removal of the disc from the bottle without the necessity of employing any special instrument for removal of the cap from the bottle.

A still further object of the invention is to provide a novel type of milk bottle cap embodying a pull tab, and which tab is so associated with the main body portion of the cap as to permit of the cap being inserted into the mouth of a milk bottle as by the standard capping machines now in use.

A still further object of the invention is to provide a novel type of milk bottle cap embodying a peripherally connected pull tab and which tab normally overlies the body portion of the cap in a manner to present flat top and bottom surfaces for the caps, thus permitting of stacking of the caps for proper use with the bottle capping machines.

Other objects and advantages of the invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawing forming a part of this specification and in which drawing:

Figure 1 is a central vertical section through the upper portion of a conventional type of milk bottle and showing the improved cap in section and with the lip thereof in a raised position for forming an opening in the cap.

Figure 2 is a top plan view of the improved cap.

Figure 3 is an enlarged section on line 3—3 of Figure 2.

Figure 4 is a bottom plan view of the cap.

Figure 5 is a top plan view of a slightly modified form of the invention, this type of cap being particularly well adapted for re-

moval of the cap as a whole from the milk bottle.

Figure 6 is a top plan view of the form shown in Figure 5 and showing the tab swung free of the main body portion of the cap.

Figure 7 is an enlarged fragmentary section on line 7—7 of Figure 5.

Referring to the drawing in detail, and wherein similar reference characters designate corresponding parts throughout the several views, the letter A may designate a conventional type of milk bottle the mouth of which is provided with the usual internal annular flange 10 upon which the usual closure cap may rest for sealing of the bottle.

The bottle cap, which may be formed of any suitable material such as pulp or fiber board, and which may be impregnated in any suitable manner, embodies a closure disc 12 having an integrally formed pull tab or flap 14 secured at one portion to the peripheral edge of the disc.

Extending inwardly in converging relation from the peripheral edge of the disc, are slits or score lines 15. These slits 15 are preferably formed in the under side of the disc and terminate a slight distance below the top surface of the disc as clearly illustrated in Figure 3. It will also be observed in Figure 3 that these slits 15 extend upwardly in the disc in converging relation to one another and which inclining of the slits or score lines will provide a substantially wedge shaped lip 16 having its area at the underside of the disc greater than the area of the lip at the upper face of the disc. It will also be observed that by so extending the slits 15 inwardly in converging relation from the periphery of the disc, that the greatest width of the lip 16 is disposed at the periphery of the disc and the object for which will be subsequently explained.

Provided in the upper side of the lip 16, and disposed wholly inwardly of the marginal edges of the lip, is a depression or pocket 20 which opens at the outer edge of the lip and has its inner end wall of arcuate formation as at 21. This depression 20 may either be formed by removal of a portion of the lip, but it is preferred that such be formed by compressing the material of which the cap is formed. This depression 20 may be of a depth substantially one-half of the thickness of the disc, and of a depth

equal to the thickness of the tab 14. As will be observed, the base portion of the tab is secured to the outer edge of the lip 16 in a line forming the peripheral edge of the disc and extends inwardly when in its normal position into the depression 20 with its arcuate free end 25 spaced slightly from the inner arcuate wall 21 of the depression and provides an arcuate recess 26 into which one's finger nail may be slid for initial raising of the tab from the depression. This arcuate recess 26 may be readily formed by making the tab 14 of slightly less length than the length of the depression 20.

It will be observed that when desiring to swing a portion of the cap upwardly, as illustrated in Figure 1 for permitting of a portion of the contents being poured or withdrawn from the bottle, that the tab 14 is first raised out of the depression 20, and upon further pulling upon this tab, the slight amount of material 30 which is left uncut by the slits 15, will tear and thus allow the lip 16 to swing upwardly and provide an opening in the cap sufficiently large to permit of the contents of the bottle being withdrawn.

It is not absolutely essential that the uncut portions 30 be left when cutting the slits 15, as the slits 15 may extend clear through the disc without liability of accidental upward swinging of the lip due to the wedging action caused by the angles of inclination at which the slits are formed. Inward swinging of the lip is prevented by reason of the free end of the lip resting upon the flange 10 of the milk bottle. It is desirable however that should the disc be formed with the slits 15 extending from the top to the bottom surface thereof, that the cap be suitably coated with paraffin or the like as indicated at 35 in Figure 7. As will be observed in Figure 7, this paraffin coating 35 extends between the tab 14 and the walls of the depression 20 and which will permit of ready and free swinging of the tab out of the depression.

By so having the lip 16 of greater width at the periphery of the disc, it will be seen that when the lip is swung upwardly for forming an opening in the disc, that a substantial portion of the peripheral edge of the disc is moved out of contacting engagement with the inner surface of the bottle neck, and thus allow for the remaining portion of the disc being drawn free of the bottle neck when desiring to remove the whole cap from the bottle.

While the lip 16 has been defined as having a depression 20 provided therein for receiving the tab 14, I do not wish to be limited to this construction since if so desired the tab 14 may be formed by merely pro-

viding score lines in the upper face of the lip, and with the same scoring operation, provide the recess 26 at the inner end of the tab for permitting of the initial raising of the inner end of the tab. With the last mentioned construction, the tab 14 will separate from the lip 16 on a line parallel with the bottoms of the score lines, owing to the layer like formation of the material of which the cap is made.

Referring particularly to Figures 5 and 6, it will be seen that the slits 15 for providing the lip 16 have been omitted and merely the tab 14 provided in the upper side of the disc. Such construction is particularly well adapted for use when desiring to remove the cap as a whole from the bottle.

From the foregoing description it will be apparent that a milk bottle cap of novel construction has been provided, embodying features whereby a portion of the cap may be swung free of the main body portion of the cap for permitting of the contents of the bottle being withdrawn, and with the construction of the cap such as to present smooth or flat upper and lower surfaces, thus allowing for proper stacking of the caps for use in connection with the standard capping machines.

Changes in detail may be made to the specific forms of the invention herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. A bottle cap comprising a closure disc having slits extending inwardly from the peripheral edge thereof and extending in upwardly converging relation and defining a lip, and a pull tab connected with the outer edge of the lip.

2. A bottle cap comprising a closure disc provided with a lip of greater area at the under side of the disc than at the top side thereof, and a pull tab integrally formed in the upper side of the lip and normally disposed with its top surface flush with the top surface of the lip.

3. A bottle cap comprising a closure disc having score lines provided in its under side and extending to the periphery of the disc for defining a lip, a depression formed in the upper side of the lip and opening at the peripheral edge of the disc with its side edges spaced inwardly from the score lines and having its inner end terminating short of the inner end of the lip, and a tab integrally connected at one end with the outer edge of the lip and extending inwardly into the depression with its top surface flush with the top surface of the disc.

BEAT KUHNE.