March 27, 1951 W. M. McBRIDE 2,546,467

CREAM CAN OPENER

Filed July 20, 1946

Fig. 1

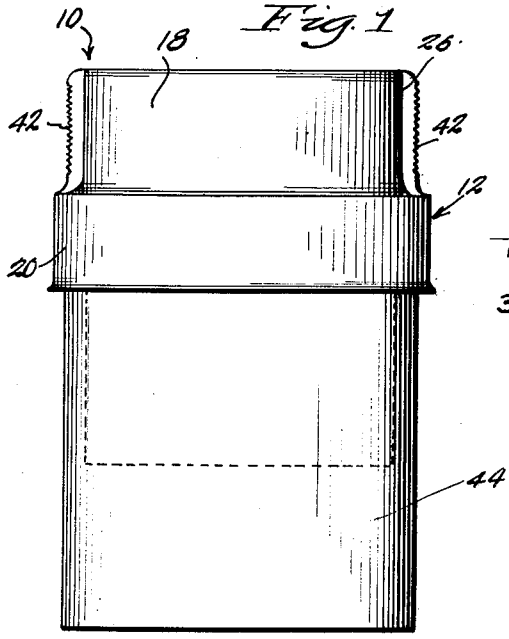


Fig. 2.

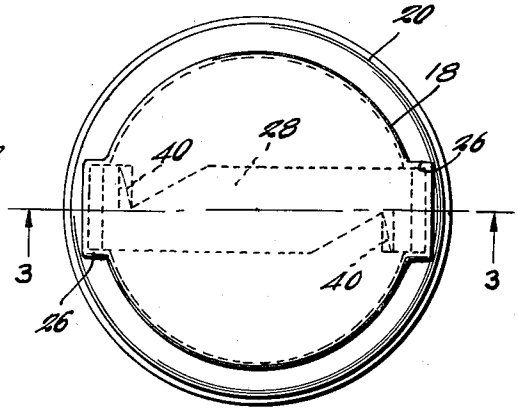
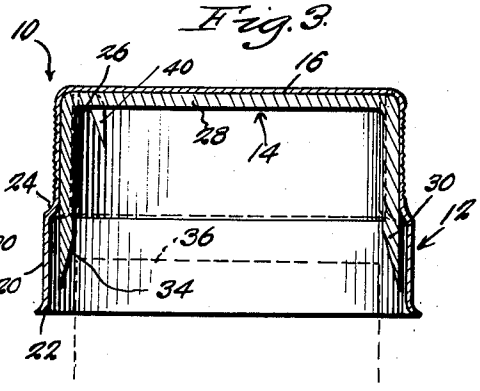


Fig. 3.



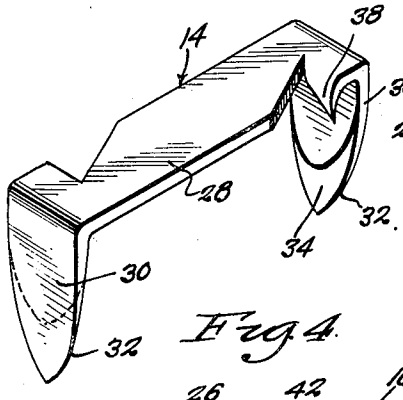


Fig 4.

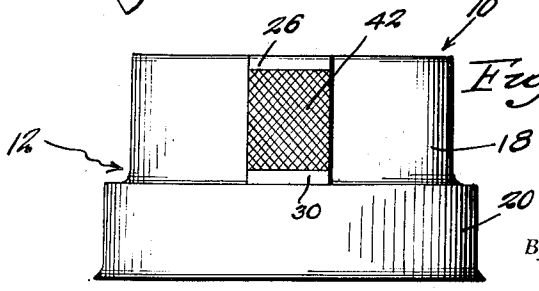


Fig. 5. WILLIAM M. McBRIDE *Inventor*

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CREAM CAN OPENER

William M. McBride, Columbus, Ohio

Application July 20, 1946, Serial No. 685,255

4 Claims. (Cl. 30—6.1)

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My invention relates to a novel and useful improvement in a cream can opener and more specifically pertains to a household utensil which is adapted to expeditiously, neatly and with safety open cream cans of different diameters.

A very important object of my invention consists in providing a can opening device which is equally adapted to efficiently open cream cans of either the large or small size without danger of spilling the contents thereof.

Another important object of the invention resides in providing a can opening device in accordance with the foregoing objects wherein the cutting element may be manufactured separately and readily attached to a cap or enclosing shield in a secure and most efficient manner.

An additional important object of the invention contemplates the provision of a can opener in accordance with the preceding objects wherein the cutting element is adapted to permit and facilitate the passage of a can of reduced diameter through the cutting element for a larger can, and into proximity with those designed to puncture a smaller can.

Still another object of the invention envisions the provision of a can opener corresponding to the aforementioned objects and wherein the cutting element is provided with convenient gripping surfaces which are mounted in the cover the latter being readily engaged to effect rotation of the cover and cutter during manipulation of the implement.

These, together with various ancillary objects of the invention which will later become apparent as the following description proceeds, are attained by my device, one embodiment of which has been illustrated by way of example only, in the accompanying drawings, wherein:

Figure 1 is a side elevation showing the invention applied in operative position to a can of large diameter in full line and to one of smaller diameter in dotted line;

Figure 2 is a top plan view of Figure 1;

Figure 3 is a vertical central section taken substantially upon the line 3—3 of Figure 2;

Figure 4 is a perspective view of a cutter bar of the invention; and,

Figure 5 is a side elevational view of the instrument being taken at right angles to Figure 1.

Referring more specifically to the annexed drawings, the numeral 10 indicates generally the improved device forming the object of this invention. The can opening implement consists generally of a cover or shield member denoted by 12 and a cutting element indicated generally at 14. As shown best in Figure 3, the shield 12 consists of a cap or cup-like member having an upper surface 16 and extending downwardly to form a skirt or cylindrical sleeve 18 of sufficient diameter to snugly accommodate a cream can of the smaller size. From its portion of reduced diameter 18, the sleeve is diametrically enlarged

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to provide a cylindrical portion 20 which may conveniently be outwardly flared as indicated at 22, this portion being of requisite diameter to receive a cream can of the larger size. As shown at 24, the portions 18 and 20 of different diameters merge into a shoulder portion which constitutes a stop for the upward travel therein of a cream can of larger size. Upon diametrically opposite sides, the upper portion 18 is interiorly grooved as at 26 for a purpose to be now set forth.

Attention is now directed to Figure 4 which more clearly shows the construction and shape of the cutting element. The member 14 will be generally formed of suitable material such as tool steel, and is constructed as a U-shaped member having a flat transversely extending portion 28 which terminates in opposite, downwardly extending legs 30. These legs are provided with suitable depending cutting edges 32 and are bevelled upon their inward surfaces as at 34 to form thereby guide surfaces for facilitating the passage of a cream can of small diameter, therebetween, for a purpose to become later apparent. This additional function of the legs 30 is more clearly illustrated by reference to Figure 3, wherein the outline of a cream can of reduced diameter is indicated in dotted lines at 36 in preparation to being passed between the legs 30. It will be understood that the depending legs 30 will be of sufficiently resilient construction to deflect to permit this movement of the can therebetween. Intermediate the ends of the cross member 28, depending lugs 38 are struck downwardly and terminate in cutting points 40. These lugs and cutting points define a second set of cutters which are appropriately spaced to constitute can puncturing and opening means for the top surface of a cream can of small size. As shown, they extend downwardly into the chamber enclosed by a skirt 18 just sufficient distance to perform their functions, and are not engageable by the upper surface of a can which is received upon the shoulder 24.

The length of the cutter element 14 is so chosen that the legs 30 are snugly received in the vertical grooves 26 when the upper surface of cross member 28 is abutted with the inner surface of the top portion 16. By this means, the engagement of the legs 30 within the slot 26 serves to position the cutting element in the cover member in a non-rotatable manner, thus facilitating the formation of a rigid structure. At the same time, the outer surfaces of the legs 30 are pressed into the channel 26 and sleeve 18 is knurled as at 42 to provide finger grip portions for proper manipulation of the cutter. It should be here noted, that the puncturing and cutting forces are applied directly to the cutting bar which is of heavy construction rather than to the cover member which will be of relatively light construction.

I desire it to be understood that I may employ

materials of any desired characteristics, and in one embodiment of the device the cover member 12 may conveniently be formed of light sheet metal which may be welded to the upper surface of a strap 28 of the cutter element. However, in some instances, the shield may be of any suitable plastic material, and the cutting element 14 secured thereto by riveting, imbedding therein, or any other desired manner.

From the foregoing, the operation of the device will be now apparent. When a cream can of large size indicated at 44 is to be opened, the can is inserted in the flared portion 22 and being guided thereby, is pressed into the sleeve portion 20 until its top surface is engaged by the depending set of cutters 32. Continued upward movement of the can causes the puncturing at diametrically opposite points thereon of its upper surface, one such opening being employed as a discharge opening while the other will serve as an air vent. The shoulder 24 serves to limit upward movement of the can after the proper penetration has been effected, and provides a surface against which the can may be pressed when it is desired to rotate the cutter upon the surface of the can in order to enlarge the opening. In some instances, this rotation may be maintained until the entire upper surface has been removed from the cream can. It should be here noted that the legs 30, with the cutting elements 32, are spaced inwardly from the inner circumference of sleeve 20, whereby the wall of the cream can may be accommodated.

When using the same device to puncture a cream can of the smaller size, the can 36 is inserted as shown in Figure 3, and the bevelled portion 34 of the depending cutters 32 serve to center and guide the can between these cutters and into the restrictive sleeve portion 18 of the cover. As will be evident, the can is pushed inward until the cutters 40 puncture the upper surface thereof at diametrically opposite points, the can finally coming to rest with its upper surface abutting the lower surface of the bar 28.

It will be understood that in the preferred manner of using the implement, the can will rest upon a table top or the like, and the implement 10 pushed down upon the can, with the cover 12 enveloping and guiding the can as the implement is lowered thereon in the manner above set forth.

I desire to call particular attention to the fact that in my construction, the cutting element 14 is formed of tool steel and is of relatively heavy and sturdy construction, and as this element is disposed to directly receive the actuating force during its operation, the attached cover 12 may be of relatively lighter construction.

In accordance with the foregoing principles of my invention, numerous embodiments and modifications will be readily apparent to those skilled in the art, and accordingly I do not limit myself to the exact construction shown, but may avail myself of any equivalent modifications falling within the scope of the appended claims.

I claim as my invention:

1. In a can opener, a can receiving cap having a closed upper end and its upper internal circumference of a lesser diameter than its lower internal circumference in order to selectively accommodate cans of different diameters, diametrical vertical channels in the side walls of the upper portion of said cap, a U-shaped cutting bar secured to the upper end of said cap and having its legs received in said channels, said legs being spaced inwardly from the inner wall of the lower portion of said cap, said legs including knife cutting edges and terminating in cutting points.

2. In a can opener, a can receiving cap having a closed upper end and its upper internal circumference of a lesser diameter than its lower internal circumference in order to selectively accommodate cans of different diameters, diametrical vertical channels in the side walls of the upper portion of said cap, a U-shaped cutting bar secured to the upper end of said cap and having its legs received in said channels, said legs being spaced inwardly from the inner wall of the lower portion of said cap, said legs including knife cutting edges and terminating in cutting points, and a pair of depending lugs carried by said cutting bar intermediate the legs thereof and constituting cutting points for a can receivable in the upper, diametrically reduced portion of said cap.

3. In a can opener, a can receiving cap having a closed upper end and its upper internal circumference of a lesser diameter than its lower internal circumference in order to selectively accommodate cans of different diameters, diametrical vertical channels in the side walls of the upper portion of said cap, a U-shaped cutting bar secured to the upper end of said cap and having its legs received in said channels, said legs being spaced inwardly from the inner wall of the lower portion of said cap, said legs including knife cutting edges and terminating in cutting points, and a pair of depending lugs carried by said cutting bar intermediate the legs thereof and constituting cutting points for a can receivable in the upper, diametrically reduced portion of said cap, said lugs being integral portions struck downwardly from said cutting bar.

4. In a can opener, a can receiving cap having a closed upper end and its upper internal circumference of a lesser diameter than its lower internal circumference in order to selectively accommodate cans of different diameters, diametrical vertical channels in the side walls of the upper portion of said cap, a U-shaped cutting bar secured to the upper end of said cap and having its legs received in said channels, said legs being spaced inwardly from the inner wall of the lower portion of said cap, said legs including knife cutting edges and terminating in cutting points, and a pair of depending lugs carried by said cutting bar intermediate the legs thereof and constituting cutting points for a can receivable in the upper, diametrically reduced portion of said cap, said lugs being integral portions struck downwardly from said cutting bar, said cap being knurled for gripping engagement.

WILLIAM M. McBRIDE.

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