Oct. 15, 1940. W. F. PUNTE 2,218,437

CAN OPENER

Filed Nov. 23, 1939

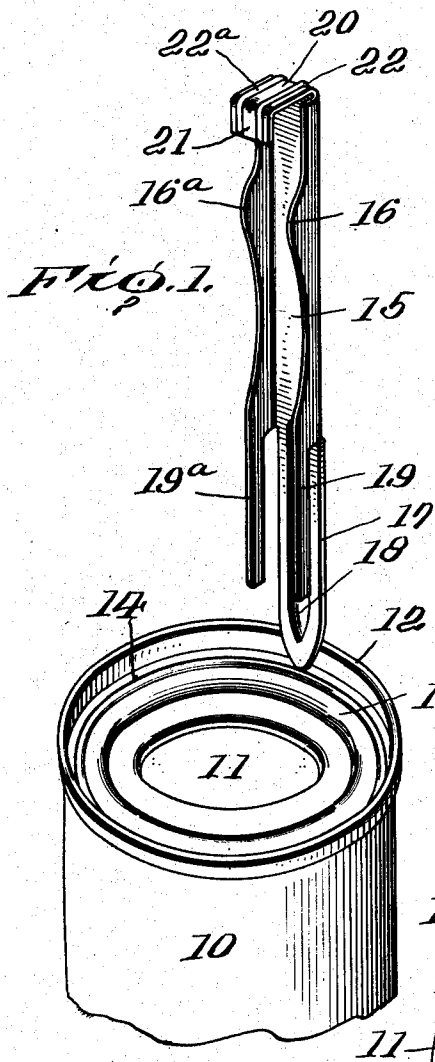


Fig. 1.

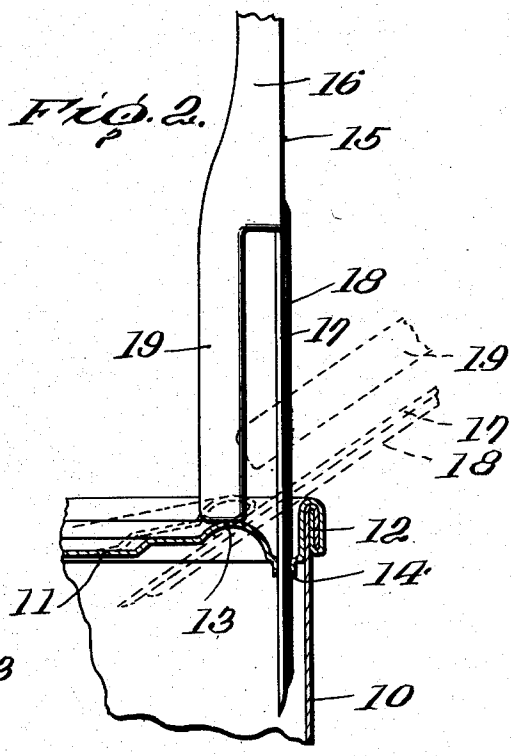


Fig. 2.

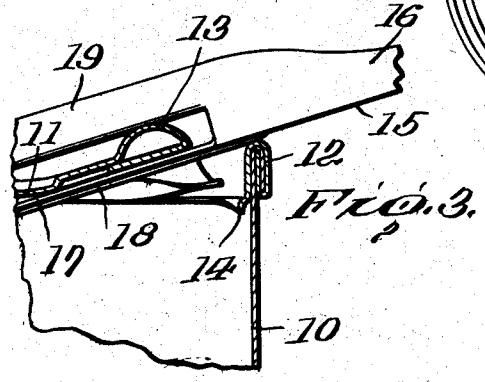


Fig. 3.

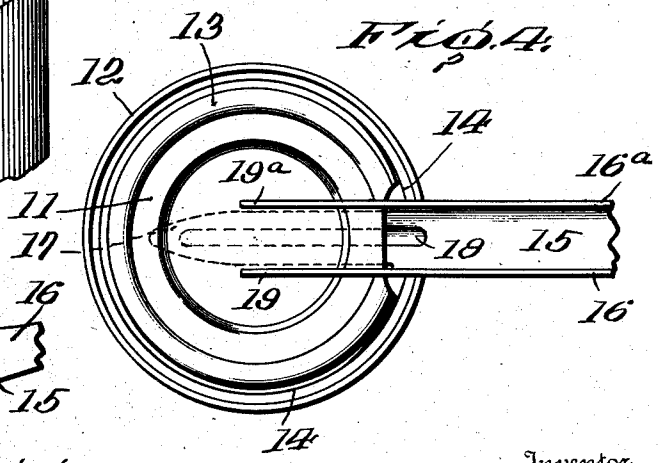


Fig. 4.

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CAN OPENER

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Application November 23, 1938, Serial No. 242,092

2 Claims. (Cl. 30—3)

The present invention relates to new and useful improvements in an instrument for opening containers, and more particularly to improvements in a can opener which is adapted to remove the can end and which is adapted to be conveniently disconnected from the can end for repeated use.

According to the present invention, substantially the entire can end is adapted to be removed by the opener. To this end, the can end is provided with a removable portion defined by a weakened line which may be formed in any suitable manner, as by scoring. The opener is one which is adapted to remove the entire portion of the can end within the score or weakened line, without the necessity of providing any projecting tongue on the can end. The opener is constructed so as to remove the portion of the can end within the score line in such a manner that it can be easily disconnected from the removed portion of the can end so that it can be repeatedly used.

An object of the present invention is to provide a can opening instrument made entirely from a sheet metal blank which is so formed and shaped as to give the strength and rigidity necessary in using the instrument for opening containers.

A further object of the invention is to provide a can opener of the above type which is inexpensive to manufacture, extremely simple in construction and thoroughly efficient in use.

A still further object of the invention is to provide a can opener which, by proper manipulation thereof, is adapted to puncture the end and to remove the entire portion of the can end within the score line.

A still further object of the invention is to provide a can opener of the above type which includes spaced members between which the removable portion of the can end can be disposed after puncturing so that the entire portion of the end within the score line can be removed by proper manipulation of the opener.

The above and other objects of the invention will in part be obvious, and will be hereinafter more fully pointed out.

In the accompanying drawing:

Figure 1 is a perspective view of the opener and a portion of the container, the opener being being shown in position for puncturing the can end.

Figure 2 is an enlarged fragmentary side view of the container in section with the opener shown, in full lines, extending through the can end after the puncturing operation, and showing in dotted lines, the position of the opener when elevating a portion of the can end adjacent the punctured score line.

Figure 3 is a view, similar to Figure 2, but showing the position of the opener after it has been moved so that the removable portion of the can end is disposed between the spaced members on the opener.

Figure 4 is a top plan view showing the can end and the opener in the position of Figure 3 before the opener is manipulated so as to remove the portion of the can end within the score line.

Referring more in detail to the accompanying drawing, the container is illustrated as including a cylindrical body portion 10 and an end portion 11 which is suitably secured to the body portion, as by a conventional double seam 12. It is obvious that the opener which is to be hereinafter fully described, can be used with a container of any desired shape. The can end 11 is provided with a raised annular portion 13 within the double seam 12, and this annular portion 13 serves to strengthen the can end. Between the annular portion 13 and the connection between the can end and the body portion, the can end is scored, as at 14, to provide a weakened line defining the removable portion of the can end.

The opener is made entirely from a sheet metal blank which is shaped and formed so as to provide the necessary strength and rigidity. The opener includes a body or handle portion 15 having the longitudinal side walls 16, 16a thereof turned in the same direction at substantially right angles thereto so as to strengthen the same. One end of the handle portion terminates in a pointed piercing or puncturing member 17 which is disposed substantially in the plane of the handle or body portion 15. The puncturing member 17 is provided with a longitudinally extending rib 18 which serves to strengthen the instrument when in use.

The side walls 16, 16a of the handle portion 15 are extended in the direction of the puncturing member 17 to provide members 19, 19a, respectively. The members 19, 19a are parallel to one another and are disposed in the planes of the side walls 16, 16a, respectively, and are spaced from the adjacent surface of the puncturing member 17. The members 19, 19a terminate short of the pointed end of the puncturing member 17 and are parallel thereto so as to provide a space of sufficient width to permit the removable portion of the can end to be disposed therebetween during proper manipulation of the

opener in the manner to be hereinafter pointed out.

The opposite end of the handle portion 15 is shaped to provide a hand-rest and a bottle opening instrument. This end of the handle portion 15 is bent at right angles thereto, as at 20, and the portion 20 is again bent inwardly, as at 21, so that the latter portion 21 is disposed substantially parallel to the body portion 15. The portions 20 and 21 are provided with strengthening ribs 22, 22a so that this end of the instrument can be used for opening bottles or the like without deformation thereof. Thus, the portion 21 may be placed beneath the skirt on a bottle cap with the top of the cap disposed beneath the adjacent edges of the side walls 16, 16a. In this position of the opener, downward movement of the opposite end thereof will effect removal of the bottle cap in the customary manner.

In using the opener for opening cans or similar containers, the portion 20 serves as a hand-rest on which pressure can be applied to the opener for puncturing or piercing a portion of the score line in the can end. For this operation, the opener is placed substantially in the position shown in Figure 1 with the pointed end of the member 17 disposed on the score line 14 around the can end. Pressure is then applied to the hand-rest so that the pointed end of the member 17 will rupture the can end at the score line. The opener will extend substantially to the position shown by the full lines in Figure 2 in accomplishing this puncturing or rupturing operation. However, the opener need only be passed through the can end a distance sufficient to permit the opener to be moved outwardly to the position shown in dotted lines in Figure 2. During this movement of the opener, the portion of the can end within the ruptured part of the score line will be elevated by the member 17, as shown.

In order to completely remove the portion of the can end within the score line 14, the opener is moved inwardly of the container from the dotted line position shown in Figure 2 to the position shown in Figure 3. In this position of the opener, a portion of the can end including a portion of the annular bead 13 will be disposed within the space between the member 17 and the members 19, 19a. Thus, the members 17 and 19, 19a serve substantially as stationary jaws between which a portion of the can end is disposed. When the opener has been moved to the position shown in Figures 3 and 4, it is now only necessary to employ the opener as a lever which is moved in a counterclockwise direction, as viewed in Figure 3, so that the entire portion of the can end within the score line will be severed along the score line and completely removed. After the end portion of the container is thus removed, the opener can be conveniently disconnected from the removed portion of the end so that the opener can be again used for opening other containers, thus obviating the necessity of providing a separate opener with each container.

While one form of the invention has been shown in the accompanying drawing for purposes of illustration, it is to be clearly understood that minor changes in the details of construction and arrangement of parts may be made without departing from the scope of the invention as set forth in the appended claims.

I claim:

1. A container opener formed entirely from a sheet metal blank, comprising a substantially flat body portion having side walls extending outwardly therefrom in the same direction and at substantially right angles thereto for strengthening the same, one end of said body portion being extended in substantially the same plane thereof and having a pointed end adapted to puncture the container wall, the side walls of said body portion being extended in the respective planes of the said side walls toward but terminating short of the pointed end of said body portion and spaced therefrom for permitting a portion of the container to be disposed therebetween after the puncturing operation whereby this portion of the container can be removed by manipulation of the opener, and the opposite end of said body portion being extended at substantially right angles to the plane thereof and to the said side walls for providing a hand rest.

2. A container opener formed entirely from a sheet metal blank, comprising a substantially flat body portion having side walls extending outwardly therefrom in the same direction and at substantially right angles thereto for strengthening the same, one end of said body portion being extended in substantially the same plane thereof and having a pointed end adapted to puncture the container wall, said pointed end having a strengthening rib extending longitudinally thereof, the side walls of said body portion being extended in the respective planes of the said side walls toward but terminating short of the pointed end of said body portion and spaced therefrom for permitting a portion of the container to be disposed therebetween after the puncturing operation whereby this portion of the container can be removed by manipulation of the opener, the opposite end of said body portion having an extension disposed at substantially right angles to the plane thereof and to the planes of said side walls, the free end of said extension being disposed substantially parallel to said body portion whereby the entire extension provides a hand rest and a convenient means for opening capped containers, and the entire extension having ribs for strengthening the same.

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