

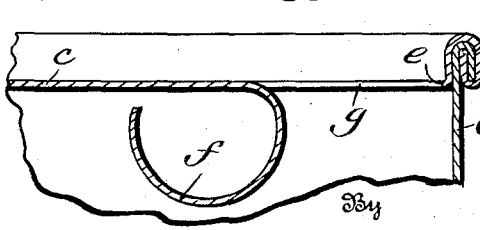
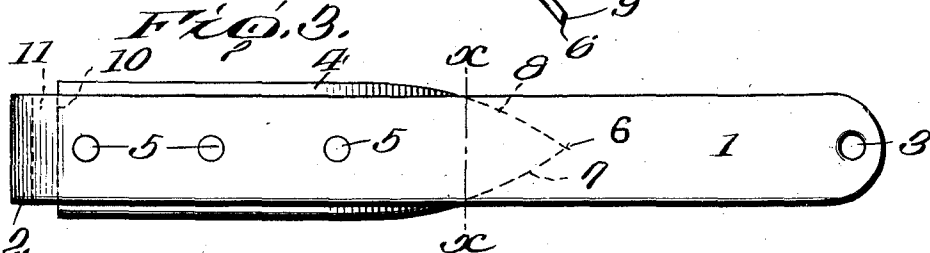
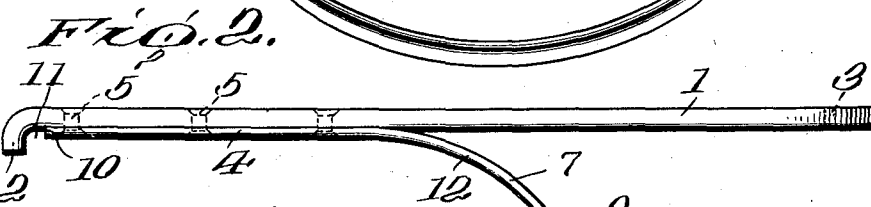
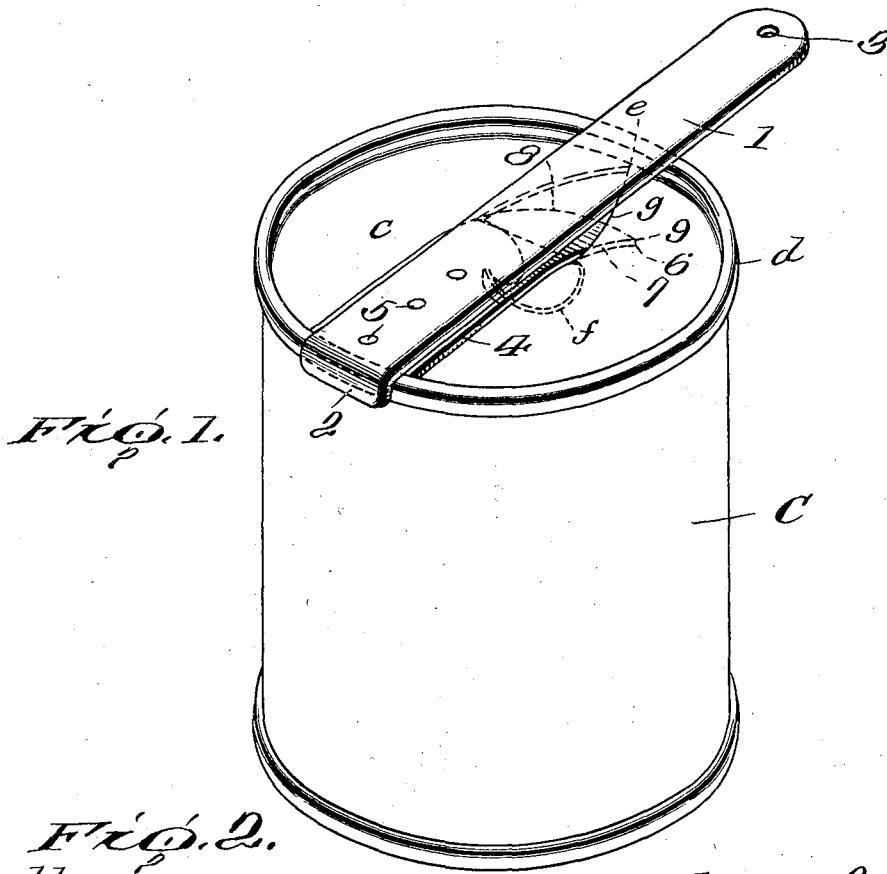
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CAN OPENER

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2,053,637

CAN OPENER

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3 Claims. (Cl. 164—119)

The invention relates to new and useful improvements in can openers, and more particularly to a can opener which is adapted to form an opening in the end of a can wherein the metal is severed along diverging lines.

An object of the invention is to provide a hand operated metal cutting tool which may be applied to a can so as to provide a leverage for the cutting of the metal and wherein the cutting blade is so disposed and shaped as to cut the metal along diverging lines, rolling inwardly and downwardly the portion of the metal between said lines so as to provide a wide opening through which the contents may be discharged.

A further object of the invention is to provide a can opening tool of the above type having an operating handle and a retaining means adapted to engage the double seam of a can, and wherein the cutting blade is so disposed as to sever the end of the can beginning at a point adjacent the double seam and leading inwardly along diverging lines.

In the drawing, which shows by way of illustration one embodiment of the invention:

Figure 1 is a perspective view showing a can opener embodying the invention as applied to a can and having been manipulated for forming an opening in the can end.

Figure 2 is a side view of the can opening tool.

Figure 3 is a top plan view of the same.

Figure 4 is a sectional view through the can and the opening formed by the can opening device.

The improved can opening tool consists of a bar having a handle portion and a retaining means adapted to engage the double seam of a can. This serves as an actuating means for manipulating the cutting blade to sever the metal. The cutting blade is rigidly attached to the bar and is shaped so as to provide a piercing point disposed midway between the ends of the bar and spaced therefrom so that when the retaining means is applied to the double seam, the cutter bar may be held by hand thereagainst and used as a lever for forcing the cutting blade through the metal. This cutting blade has a cutting edge which recedes from the piercing point toward the bar and the retaining means.

Referring more in detail to the drawing, the improved can opening device includes a cutter bar 1 having one end thereof bent downwardly as indicated at 2, thus forming a hook end. The cutter bar otherwise is substantially straight from one end to the other and is provided with an opening 3 at the handle end thereof which may

be inserted onto a supporting means when the cutting tool is not in use.

Attached to the under side of the cutter bar is a blade 4, said blade as shown being slightly wider than the cutter bar. The relative dimensions of the cutter bar and blade, however, are not important. The bar should be of sufficient width so as to provide a rigid cutter bar, while the blade is of proper width to provide the desired width of opening in the can end. Said blade is secured to the cutter bar by screws or bolts 5, 5. It may be attached in any suitable way so as to provide a rigid connection between the blade and the cutter bar.

The cutting blade toward its free end tapers so as to provide a piercing point 6. The tapered edges 7 and 8 are preferably curved outwardly slightly from the center line of the bar. The blade is also curved downwardly from the line $x-x$ to the piercing point and this curve is so dimensioned that the inner face of the piercing point extends generally in an upward or nearly vertical direction. The outer edge 9 of the piercing point likewise extends upwardly and nearly vertical so as to provide a piercing point of sufficient strength to pierce the metal of the can end. The rear end 10 of the cutting blade is spaced away from the hook end 2 of the cutter bar so as to provide a recess 11 serving as a retaining means for engagement with the double seam of the can. This space is dimensioned so that when the cutter bar is placed on the double seam it will freely engage the double seam but will have a restricted movement in a direction lengthwise of the cutter bar. The side edges 7 and 8 of the cutting blade are substantially vertical, thus providing a sharp cutting edge 12 at the lower face of the cutting blade. The cutting edges 12 recede from the point toward the cutter bar and also toward the retaining means. From the above it will be apparent that the cutting blade is provided with a curved underface extending from a direction lengthwise of the operating member to a direction at an angle thereto at its outer end, and that the cutting edges are so disposed that any plane at right angles to the bar and passed at any point of the curved end will trace a straight line including the cutting edges and the body of the blade. This enables the end to be cut along diverging lines and the metal between the lines contacting with the curved underface will be progressively rolled downwardly into the container and away from the opening formed in the end of the container.

The cutting blade is so proportioned that when

the retaining means of the cutter bar is placed on the double seam, the piercing point will contact with the can end adjacent the double seam at a point diametrically opposed to the point where the retaining means engages the double seam. The operator places one hand directly above the retaining means and holds the cutter bar rigidly against the double seam. The other hand is placed on the handle end of the bar and the cutter bar pressed down. This will cause the piercing point to penetrate the end of the can, and the cutting edges 12 sever the metal along diverging lines leading inwardly toward the center of the can. These lines, however, are spaced and the space between the lines gradually increases for the purpose of producing a relatively large opening. The curvature and the angle of the cutting edges 12 relative to each other may be greatly varied from that shown in the drawing. As the cutter bar is moved toward the can end, the metal will be progressively cut by the receding edges 12 of the cutting blade. At the same time that the metal is cut, the portion between the severing lines will be curled, and the curl will gradually continue to form as the cutting lines are formed. The result is that the metal between these severing lines is curled downwardly and inwardly away from the opening thus leaving the opening free for the discharge of the contents of the can.

In Figures 1 and 2 of the drawing, the can is illustrated at C. The end which is to be cut is indicated at c and the double seam adjacent which the end is penetrated is indicated at d. When the cutter is applied to the can, the metal is penetrated at the point e and the part cut away, indicated at f, is curled downwardly and inwardly and thus leaves an opening g which is unobstructed, and through which the contents may be dispensed. It will also be noted that the cutter penetrated the metal close to the double seam and the body wall of the container. When the cutter swings about the retaining means as a center, it can be so proportioned as to cut very close to the inner wall of the double seam, and this has the advantage that the opening when formed extends so close to the body wall that the entire contents may be emptied from the container through the opening by a tilting of the container to the usual pouring angle.

It will be obvious that the cutting blade may be otherwise formed and attached to the cutter bar. It is essential, however, that it shall be so shaped as to pierce the metal and then sever the same along diverging lines, rolling back the part of the metal between the lines where it is severed so as to make a very wide opening through which the contents may be dispensed.

Having thus described the invention, what I claim as new and desire to secure by Letters-Patent, is—

1. A can opener comprising an operating member having a handle portion and a portion adapted to engage the double seam of a container, said operating member having a cutting blade rigid therewith, said cutting blade being shaped so as

to provide a curved under face extending from a direction lengthwise of the operating member to a direction at an angle thereto at its outer end, said cutting blade terminating in a penetrating point disposed intermediate the handle portion and the engaging portion and having diverging cutting edges so disposed that any plane at right angles to the bar and passed at any point of the curved end of the blade will trace a straight line including the cutting edges and the body of the blade, whereby the container end may be penetrated and cut along diverging lines, said curved underface being disposed at a sufficient distance from said seam contacting portion to bring about cutting engagement with the metal between said diverging lines, for rolling the same downward into the can and away from the opening formed in the end thereof.

2. A can opener comprising an operating member having a handle portion at one end thereof and a portion adjacent the other end thereof adapted to engage the double seam of a can, said operating member having a cutting blade rigid therewith, said cutting blade being disposed and shaped so as to provide a curved under face extending from a direction lengthwise of the operating member to a direction at an angle thereto at its outer end, said cutting blade terminating in a penetrating point adapted to penetrate the can end and having widely diverging independent cutting edges for cutting the metal along lines which intersect and diverge from each other, said cutting edges being so disposed that any plane at right angles to the bar and passed at any point of the curved end of the blade will trace a straight line including the cutting edges and the body of the blade, said curved under face being disposed at a sufficient distance from said seam contacting portion to bring about cutting engagement with the metal between said lines for rolling the same downwardly into the can and away from the opening formed in the end thereof.

3. A can opener comprising an operating member having a handle portion at one end thereof and a portion adjacent the other end thereof adapted to engage the double seam of a can, said operating member having a cutting blade rigid therewith and positioned so as to engage the can end adjacent the double seam at the side opposite that engaged by the operating member, said cutting blade being disposed and shaped so as to provide a curved under face extending from a direction lengthwise of the operating member to a direction at an angle thereto at its outer end, said cutting blade terminating in a penetrating point adapted to penetrate the can end and having diverging cutting edges so disposed that any plane at right angles to the blade and passed at any point through the curved blade will trace a straight line including the cutting edges and the body of the blade, said curved under face engaging the metal between said lines for rolling the same downwardly into the can and away from the opening formed in the end thereof.

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