This invention relates to a can puncturing device and more particularly to the fixedly positioned type that includes a removable can puncturing jaw that may easily be maintained in sharpened condition to insure a long and useful life for the device. The numerous can puncturing devices, now in common use, fall into two general categories, one the small unmounted openers and the other the fixedly positioned openers. Both of these types of openers have inherent shortcomings. In the unmounted and many of the mounted type of openers, it has been common practice to form the can puncturing jaw as an integral part of the operating handle either by the proper shaping of the handle or by striking the can puncturing jaw from the handle in the form of a tank. In virtually all of the instances where the can puncturing jaw is an integral part of the operating handle, the material forming the operating handle is relatively soft with the result that the can puncturing jaw quickly loses its cutting edge and the life of the satisfactory use of the tool is thereby greatly reduced.

The primary object of the present invention resides in the provision of a new and improved can puncturing device which will overcome the inherent shortcomings of those now in common use.

Another object resides in the provision of a new and improved device which is simple in form, inexpensive to produce and one which insures a long useful life for the device.

Another object resides in the provision of a new and improved can puncturing device that includes a removable can puncturing jaw formed of material that may be sharpened and re-sharpened at will to insure virtually unlimited useful life for the device.

Another object resides in the provision of a new and improved can puncturing device that affords a means by which the can is positioned to facilitate its opening without encountering spillage of its contents.

Another object resides in the provision in a can puncturing device of spring means to retain the puncturing jaw in protected position against a stop member when the device is not in use.

Another object resides in the combination of elements which provides a device of sturdy construction that is not subject to early fatigue.

Other objects and advantages will become apparent from the following description of an illustrative embodiment of the present invention.

In the drawing:

Figure 1 is a side elevational view of a can puncturing device embodying the teachings of the present invention in which parts are broken away to more clearly illustrate its structure;

Figure 2 is a front elevational view of the device shown in Fig. 1;

Figure 3 is a far side elevational view of the upper portion of the device shown in Fig. 1;

Figure 4 is a horizontal sectional view, taken substantially on the line 4—4 of Fig. 3, showing the rockably journaled operating handle together with a bottom plan view of the can puncturing jaw and the protective hood against which the jaw is normally retained; and

Figure 5 is a top plan view of a can showing the contour of the opening formed therein through the action of the puncturing jaw.

Referring more particularly to Fig. 1 of the accompanying drawing, it will be noted that the can puncturing device 10, embodying the teachings of the present invention, comprises an elongated body portion in the form of a bracket 11 having a flat rear face 12 and provided with a pair of vertically spaced apertures 13 adapted to receive mounting screws 14 by which the device is fixedly attached to a stationary support 15 such as a wall or face of a cabinet.

The lower extremity of the bracket 11 is provided with a forwardly directed foot or flange 16 that provides a support for the bottom marginal edge of a can to be punctured. A pair of laterally spaced vertically disposed marginal flanges 17 project forwardly from the body portion of the bracket 11 adjacent its upper end. The pair of flanges 17 are provided with axially aligned holes 18 in which a portion 19 of a handle 20 is rockably mounted. In the present instance, the handle 20 is formed of a bent rod having a diameter that is receivable through the axially aligned holes 18 in the flanges 17. It will be noted that the portion 19 is disposed at an angle of substantially ninety degrees with respect to the remaining portion of the handle 20 which is disposed laterally of the bracket 11 and provides its gripping portion. A pair of laterally spaced threaded holes 21 formed in the portion 19 of the handle 20 are adapted to receive anchoring screws 22 that serve to releasably retain a can puncturing jaw 23 in position on the portion 19 of the handle 20.

The can puncturing jaw 23 is formed of hardened steel and includes a downwardly turned point 24 at its outer extremity. The intermediate portion of the jaw 23 includes a pair of laterally spaced substantially parallel sides 25 that extend rearwardly from the point 24. The parallel sides 25 merge into outwardly flared portions 26. The point 24, sides 25 and outwardly flared portions 26 are all provided with a beveled edge 27 that is sharpened throughout its entire length to form the can penetrating and cutting edge of the jaw 23. A pair of washers 28 are positioned on the portion 19 of the handle 20 adjacent parallel sides 29 that extend rearwardly from the outwardly flared portions 26 of the jaw 23. A pair of laterally spaced holes 30 formed adjacent the rear portion of the jaw 23 serve to receive the screws 22 by which the jaw 23 is removably mounted on the portion 19 of the handle 20. The overall width of the rear portion of the jaw 23 and the thickness of the washers 28 serve to retain the jaw 23 against lateral movement between the flanges 17.

A coil spring 31 surrounds that portion of the handle 20 disposed between its housed and gripping portions. One end of the coil spring 31 is provided with a hook portion 32 adapted to encompass the adjacent flange 17 on the body portion 11 of the device. The other end of the coil spring 31 is anchored to the gripping portion of the handle 20 through its insertion into a hole 33 formed in the handle 20 adjacent the bend therein. The coil spring 31 serves to normally retain the forward portion of the jaw 23 in contact with the undersurface of a forwardly extending flange 34 that is cast as an integral portion of the bracket 11 and the flanges 17. In addition to normally retaining the jaw 23 in a protected position beneath the flange 34, the coil spring 31 normally retains the gripping portion of the handle 20 in a vertical position to facilitate the gripping and rocking of the
handle to effect the penetration of the top of the can through the medium of the jaw 23.

Referring more particularly to Fig. 1 of the accompanying drawing, it will be noted that the flanges 17 are of stepped form and each include a surface 35 disposed at a slight angle with respect to the face of the bracket 11. These surfaces against which the peripheral wall of the can may be positioned to place the top surface of the can at an angle which extends downwardly and outwardly from the bracket 11 to tilt the can in a manner to lower the level of the fluid contained therein below the point at which the puncturing jaw penetrates the top of the can to insure against spillage of the contents of the can during the opening operation thereof. In this connection, it should be noted that the forwardly extending foot or flange 16 formed on the bracket 11 is provided with a top surface 36 that is disposed in a plane substantially normal to that of the surfaces 35 formed on the flanges 17 to insure the proper positioning of the can on the bracket.

With the bottom of the can supported on the top surface 36 of the foot 16 and held against the surfaces 35 of the flanges 17 with the left hand, the user may grasp the operating handle 20 with the right hand and rock the handle forwardly and downwardly to swing the can puncturing jaw 23 into contact with the top surface of the can. Additional downward pressure on the handle 20 effects the puncturing of the top of the can by the sharply pointed end 24 of the jaw 23. Continued downward movement of the handle 20 extends the opening in the can to a point adjacent its marginal rim. The contour of the opening formed in the top of the can corresponds to that of the jaw 23 and is of sufficient length to permit the admission of air at one end of the opening as its contents is being forced from the other end of the opening by the thrust of the can. The sharpened edge of the jaw 23 insures a smooth cut of the top of the can and the displaced portion of the can top is turned downwardly and inwardly to insure against any external burring around the opening. In view of this condition, the user may, if desired, drink directly from the can without fear of cutting his lips.

While the structure of the present device affords a novel combination of elements, it should be understood that one of the principal advantages of the present device resides in the fact that the cutting jaw, which is formed of hardened steel, may be quickly and easily removed from the portion 19 of the handle 20 to facilitate the sharpening of its cutting edge from time to time as necessary may require to insure virtually endless satisfactory life for the device.

Another advantage of the present device resides in the relative angular position between the gripping portion of the handle 20 and the jaw 23 on the portion 19 of the handle. With these elements positioned in the manner disclosed in the accompanying drawing, it will be noted that the gripping portion of the handle 20 engages the upper marginal rim of the can to limit its forward and downward movement at a position where the sharply pointed end 24 of the jaw 23 lies within the confines of the can to insure against the puncturing of the side wall of the can simultaneously with the opening of its top.

From the foregoing detailed description of the present invention, it will readily be understood that a simple, inexpensive and effective can puncturing device has been provided that will permit the can puncturing jaw to be removed and resharpened at will to insure a long and satisfactory use of the device.

While the invention has been described in considerable detail in the foregoing specification, it is to be understood that various changes may be made in its embodiment without departing from or sacrificing any of the advantages therein claimed.

I claim:

1. A can puncturing device comprising a body portion, a horizontally disposed forwardly projecting flange adjacent the lower end of said body portion, said flange forming a support for the lower marginal portion of the can, a pair of laterally spaced vertically disposed forwardly projecting flanges adjacent the upper end of said body portion, an abutment surface on each of said laterally disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, a handle including a shaft portion journalled for rocking movement in said laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, and extending radially of said shaft by which the shaft is rocked, and a tempered can puncturing jaw removably positioned on the shaft portion of said handle disposed between said last named flanges whereby downward rocking movement of gripping portion of said handle is effective to cause said temped can puncturing jaw to penetrate the top of the positioned can to form an opening therein through which the contents of the can may be poured.

2. A can puncturing device comprising a body portion, a horizontally disposed forwardly projecting flange adjacent the lower end of said body portion, said flange forming a support for the lower marginal portion of the can, a pair of laterally spaced vertically disposed forwardly projecting flanges adjacent the upper end of said body portion, an abutment surface on each of said laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, a handle comprising a bent rod having portions disposed substantially at right angles to each other, one of said portions being journalled for rocking movement in said laterally spaced vertically disposed forwardly projecting flanges and the other of said portions being disposed laterally of said body portion to provide a gripping means, and a hardened steel can puncturing jaw removably retained on the portion of said handle disposed between said last named flanges whereby downward rocking movement of the gripping portion of said handle is effective to cause said hardened steel can puncturing jaw to penetrate the top of the can and form an opening therein through which the contents of the can may be poured.

3. A can puncturing device comprising a body portion, a horizontally disposed forwardly projecting flange adjacent the lower end of said body portion, said flange forming a support for the lower marginal portion of the can, a pair of laterally spaced vertically disposed forwardly projecting flanges adjacent the upper end of said body portion, an abutment surface on each of said laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, a pair of axially aligned holes in said laterally spaced forwardly extending flanges, a handle including a shaft portion journalled for rocking movement in said pair of axially aligned holes, and a gripping portion on said handle disposed laterally of said body portion and extending radially of said shaft by which the shaft is rocked, and a tempered can puncturing jaw removably positioned on the shaft portion of said handle disposed between said last named flanges whereby downward rocking movement of the gripping portion of said handle is effective to cause said temped can puncturing jaw to penetrate the top of the positioned can to form an opening therein through which the contents of the can may be poured.

4. A can puncturing device comprising a body portion, a horizontally disposed forwardly projecting flange adjacent the lower end of said body portion, said flange forming a support for the lower marginal portion of the can, a pair of laterally spaced vertically disposed forwardly projecting flanges adjacent the upper end of said body portion, an abutment surface on each of said laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, a pair of laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, an abutment surface on each of said laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, a handle comprising a bent rod having portions disposed substantially at right angles to each other, one of said portions being journalled for rocking movement in said laterally spaced vertically disposed forwardly projecting flanges and the other of said portions being disposed laterally of said body portion to provide a gripping means, and a hardened steel can puncturing jaw removably retained on the portion of said handle disposed between said last named flanges whereby downward rocking movement of the gripping portion of said handle is effective to cause said hardened steel can puncturing jaw to penetrate the top of the can and form an opening therein through which the contents of the can may be poured.

5. A can puncturing device comprising a body portion, a horizontally disposed forwardly projecting flange adjacent the lower end of said body portion, said flange forming a support for the lower marginal portion of the can, a pair of laterally spaced vertically disposed forwardly projecting flanges adjacent the upper end of said body portion, an abutment surface on each of said laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, a pair of axially aligned holes in said laterally spaced forwardly extending flanges, a handle including a shaft portion journalled for rocking movement in said pair of axially aligned holes, and a gripping portion on said handle disposed laterally of said body portion and extending radially of said shaft by which the shaft is rocked, and a tempered can puncturing jaw removably positioned on the shaft portion of said handle disposed between said last named flanges whereby downward rocking movement of the gripping portion of said handle is effective to cause said temped can puncturing jaw to penetrate the top of the positioned can to form an opening therein through which the contents of the can may be poured.
spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, a handle comprising a bent rod having portions disposed substantially at right angles to each other, one of said portions being journaled for rocking movement in said laterally spaced vertically disposed flanges and the other of said portions being disposed laterally of said body portion to provide a gripping means, a pair of laterally spaced threaded apertures in the portion of said handle disposed between said last named flanges, a hardened steel can puncturing jaw including a forwardly projecting sharpened portion and a pair of laterally spaced holes adjacent the other end of said jaw, and anchoring means receivable in said laterally spaced holes and said threaded apertures for releasably retaining said hardened steel puncturing jaw on said handle whereby downward rocking movement of the gripping portion of said handle is effective to cause said hardened steel puncturing jaw to penetrate the top of the can and form an opening therein through which the contents of the can may be poured.

5. A can puncturing device comprising a body portion, a horizontally disposed forwardly projecting flange adjacent the lower end of said body portion, said flange forming a support for the lower marginal portion of the can, a pair of laterally spaced vertically disposed forwardly projecting flanges adjacent the upper end of said body portion, an abutment surface on each of said laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, a horizontally disposed forwardly projecting flange adjacent the upper end of said body portion, said last named flange forming a partial enclosure for the space between said laterally spaced vertically disposed flanges and projecting beyond their forward edges, a handle including a shaft portion journaled for rocking movement in said laterally spaced vertically disposed forwardly projecting flanges and a gripping portion on said handle disposed laterally of said body portion and extending radially of said shaft portion by which the shaft is rocked, a tempered can puncturing jaw removably positioned on the shaft portion of said handle disposed between said last named flanges whereby downward rocking movement of gripping portion of said handle is effective to cause said tempered jaw to penetrate the top of the positioned can to form an opening therein through which the contents of the can may be poured, and spring means disposed between said handle and said body portion whereby the forward portion of said puncturing jaw is normally retained in contact with the lower surface of said last named horizontally disposed flange to afford protection against accidental contact with the cutting edge of said puncturing jaw.

6. A can puncturing device comprising a body portion, a forwardly projecting flange adjacent the lower end of said body portion, a can supporting surface disposed at an obtuse angle with respect to the said body portion, a pair of laterally spaced vertically disposed forwardly projecting flanges adjacent the upper end of said body portion, an abutment surface on each of said laterally spaced vertically disposed forwardly projecting flanges against which circumferentially spaced portions of the can are held to properly position it on said body portion, said abutment surfaces being disposed in a plane substantially normal to that of said can supporting surface on said first named flange whereby the positioned can is forwardly tilted with respect to said body portion, a handle including a shaft portion journaled for rocking movement in said laterally spaced vertically disposed forwardly projecting flanges and a gripping portion on said handle disposed laterally of said body portion and extending radially of said shaft portion by which said shaft portion is rocked, and the tempered can puncturing jaw removably positioned on the shaft portion of said handle disposed between said vertical flanges whereby downward rocking movement of the gripping portion of said handle is effective to cause the tempered jaw to penetrate the top of the tiltedly positioned can to form an opening therein above the fluid level in the can to insure against spillage of the contents of the can and permit the ready escape of any gases contained in the fluid contents of the can.

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