Feb. 10, 1942. J. M. HOTHERSALL 2,272,204

CAN OPENER

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Fig 2

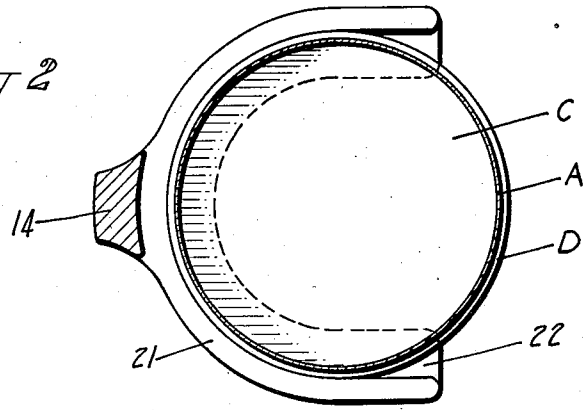
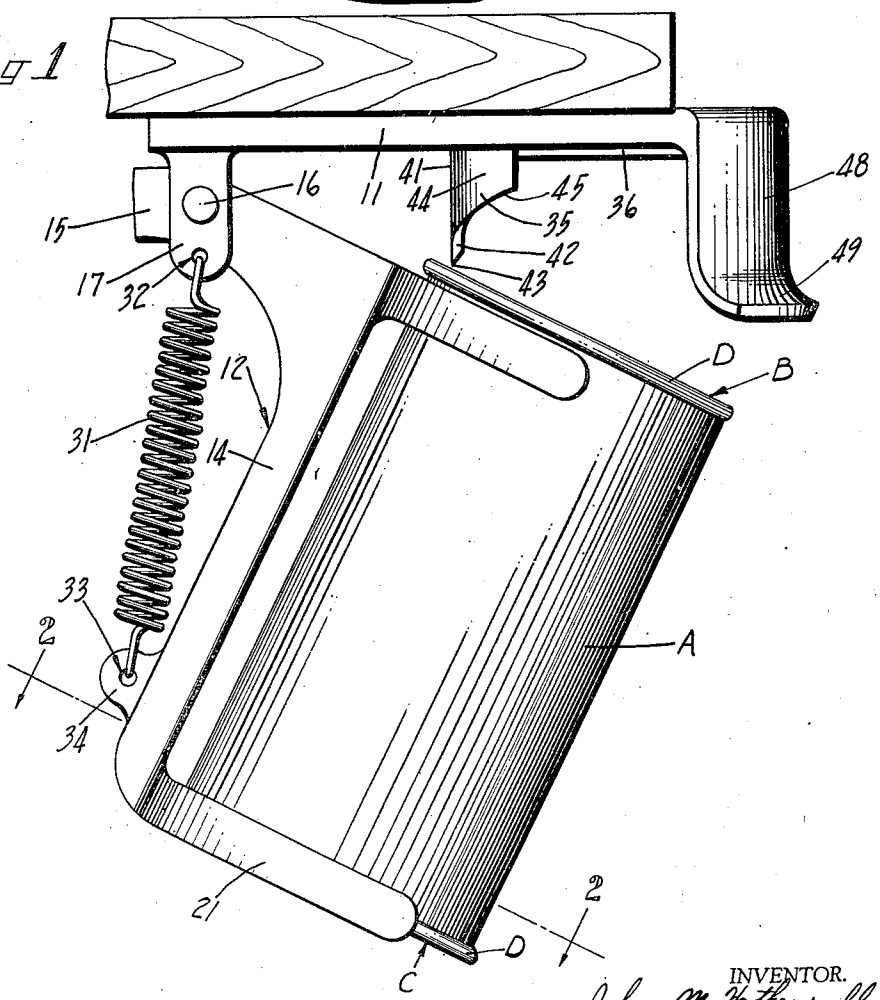


Fig 1



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Fig 4

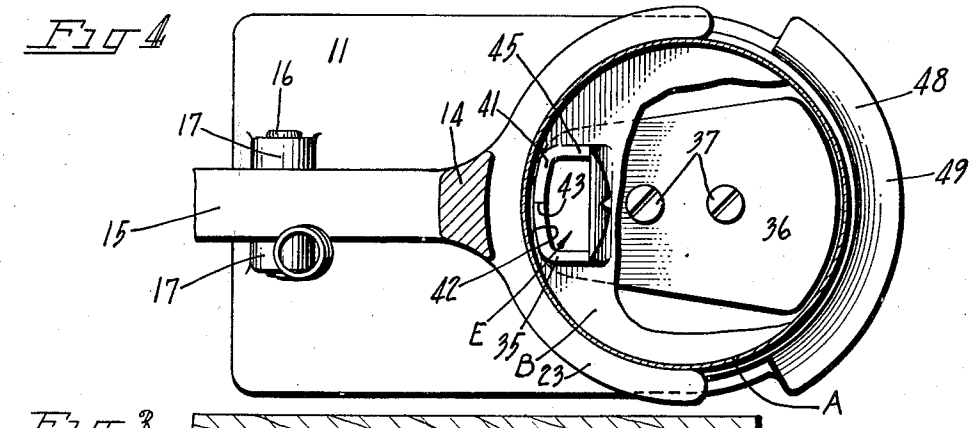
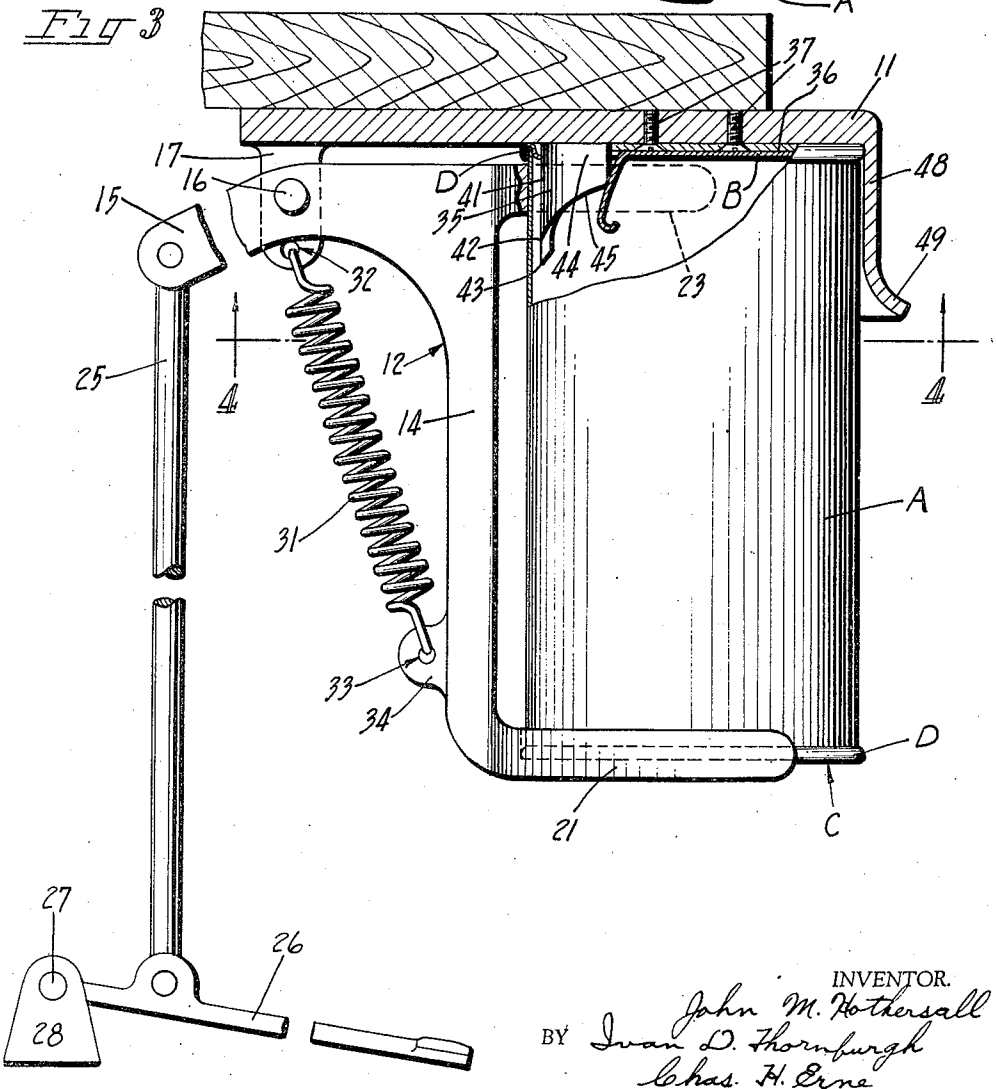


Fig 3



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Patented Feb. 10, 1942

2,272,204

UNITED STATES PATENT OFFICE

2,272,204

CAN OPENER

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Application December 31, 1940, Serial No. 372,663

7 Claims. (Cl. 30—16)

The present invention relates to a can opening device and has particular reference to a bracket type can opener which is operated by foot pressure while the can to be opened is held in one hand.

An object of the invention is the provision of a bracket type can opener which may be operated by foot pressure so that the can to be opened may be held in one hand while leaving the other hand free to hold other things.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a side elevation of a can opening device embodying the instant invention, the view showing a can in position as at the beginning of an opening operation;

Fig. 2 is a sectional view taken substantially along the line 2—2 in Fig. 1;

Fig. 3 is a view similar to Fig. 1 showing the moving parts of the device and the can in a different position, parts of the device and portions of the can being broken away and shown in section; and

Fig. 4 is a sectional view taken substantially along the line 4—4 in Fig. 3.

As a preferred embodiment of the invention the drawings illustrate a bracket type opening device for opening sheet metal cans A having top and bottom end members B and C, respectively, secured to the body of the can by suitable end seams D. In the device the top end member B is preferably pierced adjacent the top end seam D and cut inwardly toward the center of the top along substantially parallel lines of severance while turning the cut-away portion inwardly of the can to produce a wide substantially rectangular shaped dispensing opening E. In beer cans which may be readily opened in this manner, such a wide opening is desirable to permit the customer to drink directly from the can.

Such an opening device preferably includes a bracket 11 which may be secured to the bottom of a table or bar. If desired such a bracket may be made with a vertical leg so that it may be secured to a wall or other suitable vertical support.

The bracket 11 supports a movable cradle 12 which is adapted to retain a can A to be opened while the latter is held in one hand. The cradle is preferably fashioned after a bell crank and includes a depending leg 14 and a rearwardly extending lever arm 15. This cradle is mounted on a pivot pin 16 located in the lever arm and carried in a pair of spaced depending lugs 17 formed on the bracket 11.

The lower end of the cradle leg 14 is formed with a curved or horse-shoe shaped base 21 which extends out at a right angle to the leg and which is open at the front of the device. This open bottom base is surrounded by a ledge 22. The bottom C of a can A to be opened is supported on this base when the can is placed in the device for opening.

The upper end of a can A placed in the device is also supported and for this purpose the upper end of the cradle leg 14 is formed with a curved flexible guide rail 23. This guide rail is open at the front of the device so that a cam may be readily slipped into it, being then retained against displacement.

The cradle 12 and a can A held therein are adapted to be rocked on the pivot pin 16. This is effected by a vertical link 25, the upper end of which is connected with the outer end of the cradle lever arm 15. The lower end of the link is connected with a foot treadle 26. The foot treadle is mounted on a pivot pin 27 carried in a bracket 28 preferably secured to the floor.

The foot treadle is maintained in a raised position relative to the floor, by a tension spring 31. One end of the spring is hooked into a hole 32 in one of the bracket lugs 17 while the opposite end is secured in a hole 33 in a lug 34 formed on the cradle leg 14. This spring normally retains the cradle in the position shown in Fig. 1 where it is spaced away from the bracket 11 so that a can may be readily inserted into the cradle.

Thus by stepping on the treadle 26 the cradle arm 15 is rocked on its pivot pin 16 and the cradle is swung against the resistance of the spring 31. This rocking action moves a can A held in place in the cradle in an upward direction toward the bracket 11. It is during this upward movement that the can is opened as will now be explained.

The opening of the can A is preferably affected by a cutter 35 formed on a plate 36 which is secured by screws 37 to the bottom of the bracket 11. The cutter is formed with a curved depending rear wall section 41 having beveled cutting edges 42 and this wall section terminates in a sharp piercing point 43. The rear wall section 41 merges into a pair of forwardly ex-

tending substantially straight side wall sections 44 having curved and beveled cutting edges 45. The rear wall section is disposed so that when the can is fully opened it is just inside of the top end seam D of the can A in the cradle 12. The side wall sections 44 thereupon extend toward the center of this can top. This cutter is removable and replaceable so that it may be changed if desired.

Hence as the upwardly moving can approaches the cutter, the sharp point 43 of the latter pierces the can top B adjacent the top end seam D and the can is thus impaled on the cutter. As the can continues to move upwardly it pushes further onto the cutter until the can end seam D engages against the bottom of the bracket 11, as shown in Fig. 3. The cutter thus produces the dispensing opening E hereinbefore mentioned. This engagement of the can top with the bracket 11 terminates the opening operation. Upon releasing the foot from the foot treadle 26, the spring 31 draws the cradle 12 and the can held therein away from the cutter to the original position shown in Fig. 1. Thereupon the opened can may be removed from the cradle.

Provision is made for guarding the cutter when not in use to prevent injury to the user. To this end a depending curved guard 48 having a lowered flared edge 49 is formed on the bracket 11. This guard is proportioned so that it partially surrounds the can when the latter is impaled upon the cutter and thus serves as a guard against inadvertent squirting of liquid contents from the cans during opening as well as a guard for the cutter.

It should be mentioned that the inclination of the cradle, when it is in non-operating position, as shown in Fig. 1, and which is the position from which the opened can is withdrawn, is not at too great an angle so that spilling of liquid contents when the can is withdrawn from the cradle is prevented since the opening E is at the highest part of the can. This tipping action is limited by the cradle lever arm 15 which is bent so that it will engage against the bracket 11 and thereby restrict the downward movement of the cradle when the latter is pulled down by the spring 31.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A can opening device, comprising in combination a bracket adapted to support the device, a cutter on said bracket, and a cradle mounted relative to said bracket for supporting a can to be opened, said cradle being movable toward and away from said bracket to impale the can on the cutter and thereby produce a dispensing opening in the can.

2. A can opening device, comprising in combination a bracket, a cutter on said bracket, a lever arm pivotally mounted on said bracket, a cradle carried on said lever for supporting a can to be opened in alignment with said cutter, and actuating means connecting with said lever arm for rocking it and the cradle carried thereon to force the can onto the cutter to produce a dispensing opening in the can.

3. A can opening device, comprising in combination a bracket adapted to be secured to a support, a cutter on said bracket, a lever arm pivotally mounted on said bracket, a cradle carried on said lever for supporting a can to be opened in alignment with said cutter, actuating means connecting with said lever arm for rocking it and the cradle carried thereon to force the can onto the cutter to produce a dispensing opening in the can, and means for returning the cradle to its original position after an opening operation so that the can may be removed from said cutter.

4. A can opening device, comprising in combination a bracket, a cutter on said bracket, a lever arm pivotally mounted on said bracket, a cradle carried on said lever arm for supporting a can to be opened in alignment with said cutter, a link connecting with said lever arm, and a foot pedal connecting with said link, said link and said foot pedal being adapted to rock said lever arm and the cradle carried thereon to force the can onto the cutter to produce a dispensing opening in the can.

5. A can opening device, comprising in combination a bracket for supporting the device, a removable cutter secured to said bracket, a lever arm pivotally mounted on said bracket, a cradle carried on said lever for supporting a can to be opened in alignment with said cutter, actuating means connecting with said lever arm for rocking it and the cradle carried thereon to force the can onto the cutter to produce a dispensing opening in the can, and a guard on said bracket adjacent said cutter which partially surrounds a can being opened to block discharge of contents from the can during the opening operation.

6. A can opening device, comprising in combination a bracket, a hollow cutter on said bracket, a lever arm pivotally mounted on said bracket, a cradle carried on said lever arm, said cradle having a base adapted to receive a can to be opened and to support it in an upright position in alignment with said cutter, said cradle having curved guide rails to surround and support the upper end of the can adjacent its upper end seam, and actuating means connecting with said lever arm for rocking it and the cradle for impaling the can onto the cutter so that the cutter will pierce the can top adjacent its end seam and cut inwardly toward the center of the top while turning back the cut-away portion to produce a substantially rectangular dispensing opening therein.

7. A can opening device, comprising in combination a wall bracket, a lever arm pivotally mounted on said bracket, a cradle carried on said lever arm for supporting a can to be opened and for swinging the can toward the bracket, and a hollow puncturing cutter mounted on said bracket and adapted to enter a wall of the can upon movement of said cradle for forcing back a part of the can wall and for forming a dispensing opening therein for the can contents.

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