

Feb. 6, 1951

F. MYERS

2,540,541

PUNCH TYPE CAN OPENER

Filed July 25, 1949

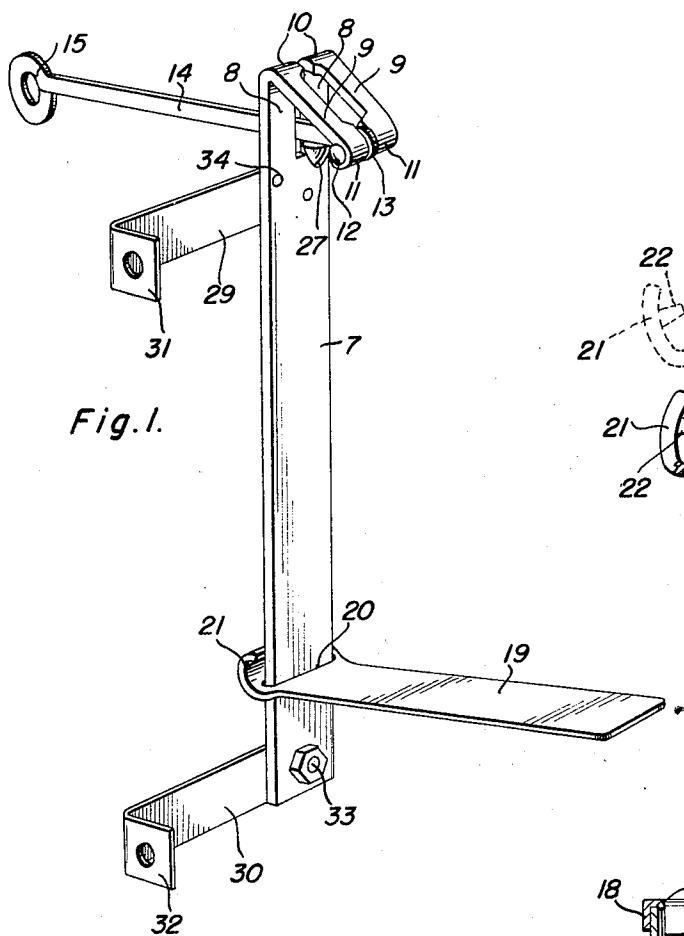


Fig.1.

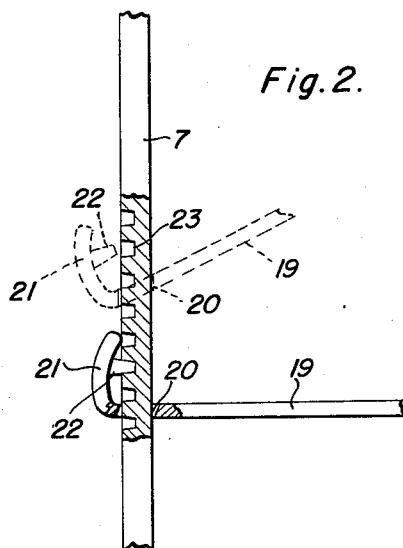


Fig. 2.

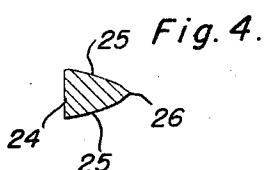


Fig. 4.

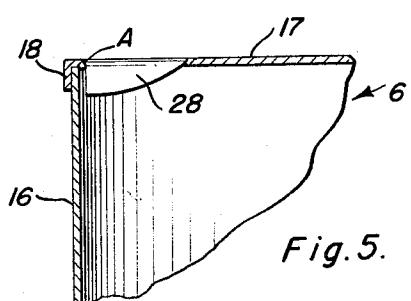


Fig. 5.

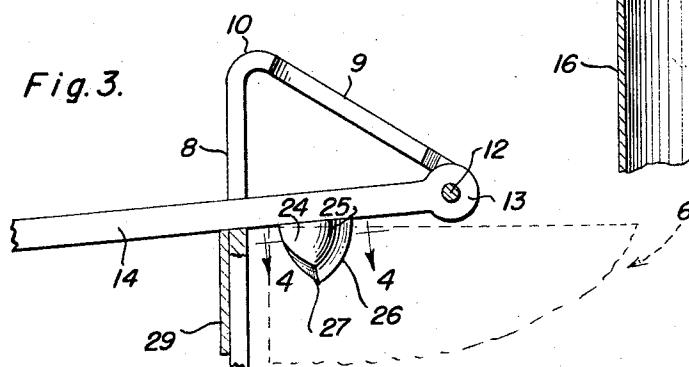


Fig. 3.

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UNITED STATES PATENT OFFICE

2,540,541

PUNCH TYPE CAN OPENER

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Application July 25, 1949, Serial No. 106,642

2 Claims. (Cl. 30—10)

1

The present invention relates to can openers of the type wherein the top of a milk or juice can is punctured, by penetrating punch means, at either one or two points to facilitate pouring of the contents of a can into a glass or equivalent container.

It will be evident from the introductory statement of my invention that I am aware that there are many and varied types of so-called can punches and that some are used to puncture two holes at diametrically opposite points, while others punch a single hole. Usually, there is a suitable frame in which the can is racked and securely held, and a pivoted lever on the frame, said lever being provided with a prong or equivalent punch to make a hole in the top of the can when pressure is brought to bear on the punch-equipped lever. Having experimented with countless types of can punches in the category under consideration, I have discovered the need for what I believe to be a more satisfactory construction wherein novelty has to do with the point at which the hinged end of the lever is pivoted in respect to the top and body of the can and wherein the punch is situated ideally in relation to the pivot point to swing in an arc which results in expeditious opening of the can.

From the foregoing, it will be seen that my primary object is, therefore, to structurally, functionally and otherwise improve upon known types of lever-equipped can-top punches and to attain the wanted ends through the medium of an especially shaped frame structure and a novelly pivoted lever which carries the punch.

Other objects and advantages will become more readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

Figure 1 is a view in perspective of a can holding and can-top punch constructed in accordance with the principles of my invention.

Figure 2 is a fragmentary view with parts in section and elevation.

Figure 3 is an enlarged view of the lever hinging arrangement, parts being in elevation and in section.

Figure 4 is a horizontal section on the line 4—4 of Figure 3.

Figure 5 is a fragmentary sectional view showing the appearance of the opening which has been struck in the top of the can.

Referring now to the views of the drawings by reference numerals and accompanying lead lines,

2

the frame structure for supporting the can 6 is characterized primarily by a relatively stationary upright 7. The upper end of this is bifurcated and the furcations have straight portions 8—8 and downturned free end portions 9—9, the latter being at oblique angles to the body portion of said upright. The bends defining the straight and angular portions 8—8 and 9—9, respectively, are denoted by the numerals 10. The terminals of the angularly bent portions 9—9 are formed into bearing eyes 11—11 to accommodate a hinge pin 12 which, in turn, serves to hingedly mount the eye 13 of the lever 14 in place. Lever 14 terminates in a suitable finger ring or grip 15 and it will be noticed that the lever extends through the slots which exist between furcations 8—8 and therefore works, let us say, outwardly of the wall 16 of the can. On the other hand, the pivoted end of the lever is suspended in a suitably elevated position over the top 17 of the can. The rim of the can top is denoted at 18. The can which is to be punctured is seated on a supporting arm 19 having a slot 20 which slidably surrounds said upright 7. The slotted end portion 25 of the arm has an inturned or suitably curved hook 21 which, in turn, is provided with a setting and retaining prong or detent 22. The detent is, in effect, a keeper and is adapted to be selectively seated in any one of the recesses 23 forming selectively usable keeper seats for said keeper. It follows, therefore, that the can resting or seating arm 19 may be adjusted up and down to put the can top at the proper level for puncturing purposes. The pressure of the puncturing element is in a direction from the rim 18 toward the center of the top. This necessitates using a special puncturing element which I broadly identify as a wedge-type punch 24. The punch has diverging walls 25 and a curvate cutting edge 26 and a penetrating point 27. Obviously, therefore, the outer or left-hand end of the lever is lifted up to a position above that shown in full lines in Figures 1 and 3 so that the penetrating point is above the level of the can top. Then, the lever is swung down (down in relation to the views of the drawing) and the point 27 first enters the top 17 just inwardly of the rim, let us say at the point A. Then, the cutting edge sweeps through an arc determined by the pivot which overhangs the can top. Not only does the punch "slice" but it wedges too, and thus provides a pair of substantially semi-triangular downbent flanges 28. It follows that the finished opening is V-shaped with the vertex of the V facing toward the radial center of the can top. This idea of "slicing"

from the rim inwardly toward the center utilizes to best advantage the leverage principle which I have adopted and is such that my frame is specifically distinct, the manner of hinging of the lever is new, and the principle of applying the forces of a wedge-shaped punch is of significance. Collectively, these features define what I believe is a unique instrumentality in this art.

In practice, the frame structure may be attached to a wall or other support, and to accomplish this, I have adopted L-shaped brackets 29 and 30 with laterally bent apertured attaching ends 31 and 32. Bracket 30 is bolted in place at 33 and bracket 29 is riveted in place at 34.

In view of the foregoing description taken in conjunction with the accompanying drawings, it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In a can holding and punching device of the class described, a frame structure embodying an upright, said upright having one end bifurcated, the furcations of said one end having straight portions in a plane with the body of the upright and having free end portions bent laterally and downwardly in respect to said body, said free end portions terminating in hinge pin knuckles, a hinge pin mounted in said knuckles, a lever having a portion extending between the furcations and terminating in an eye, said eye being con-

nected with said hinge pin, the opposite end portion of the lever extending between and beyond the furcations to a point remote from said knuckles, and a can punch carried by the eye-equipped end of said lever.

2. In a can holding and punching device of the class described, a frame structure embodying an upright, said upright having one end bifurcated, the furcations of said one end having straight portions in a plane with the body of the upright and having free end portions bent laterally and downwardly in respect to said body, said free end portions terminating in hinge pin knuckles, a hinge pin mounted in said knuckles, a lever having a portion extending between the furcations and terminating in an eye, said eye being connected with said hinge pin, the opposite end portion of the lever extending between and beyond the furcations to a point remote from said knuckles, and a can punch carried by the eye-equipped end of said lever, said can punch being wedge-shaped in cross-section and having a curvate cutting edge and penetrating point, said point entering the can top to initiate the incision and said curvate edge serving to slice through in an arcuate path to complete the incision and to spread the edge portions of the walls thereof apart.

30 FRED MYERS.

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