July 21, 1936. R. J. AUL 2,047,932

BOTTLE BREAKER

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Fig. 1.

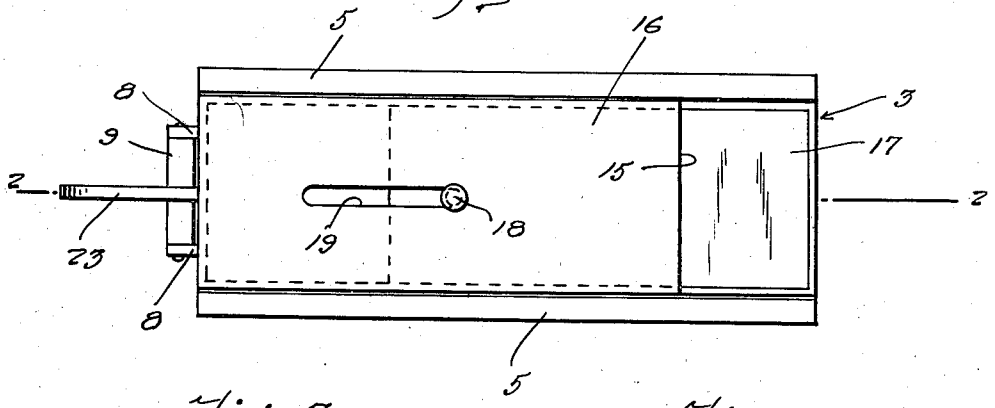


Fig. 3.

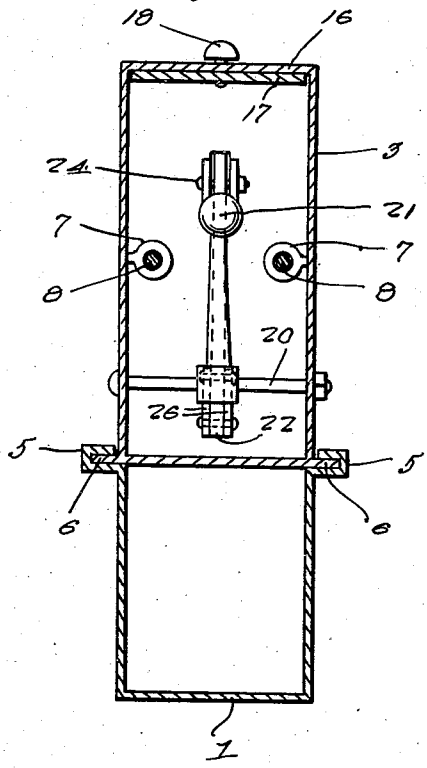
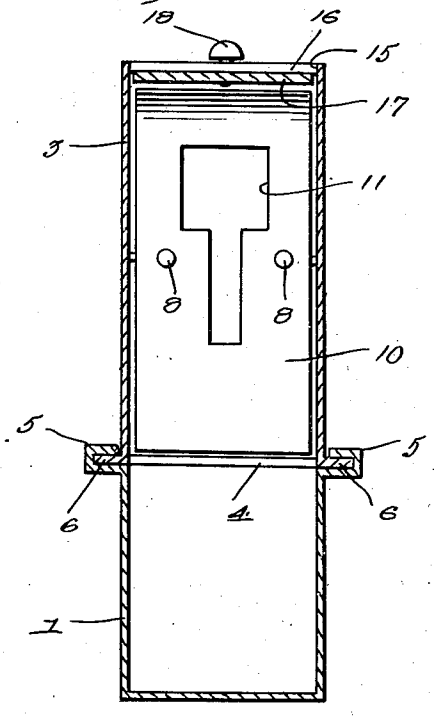


Fig. 4.



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Fig. 2.

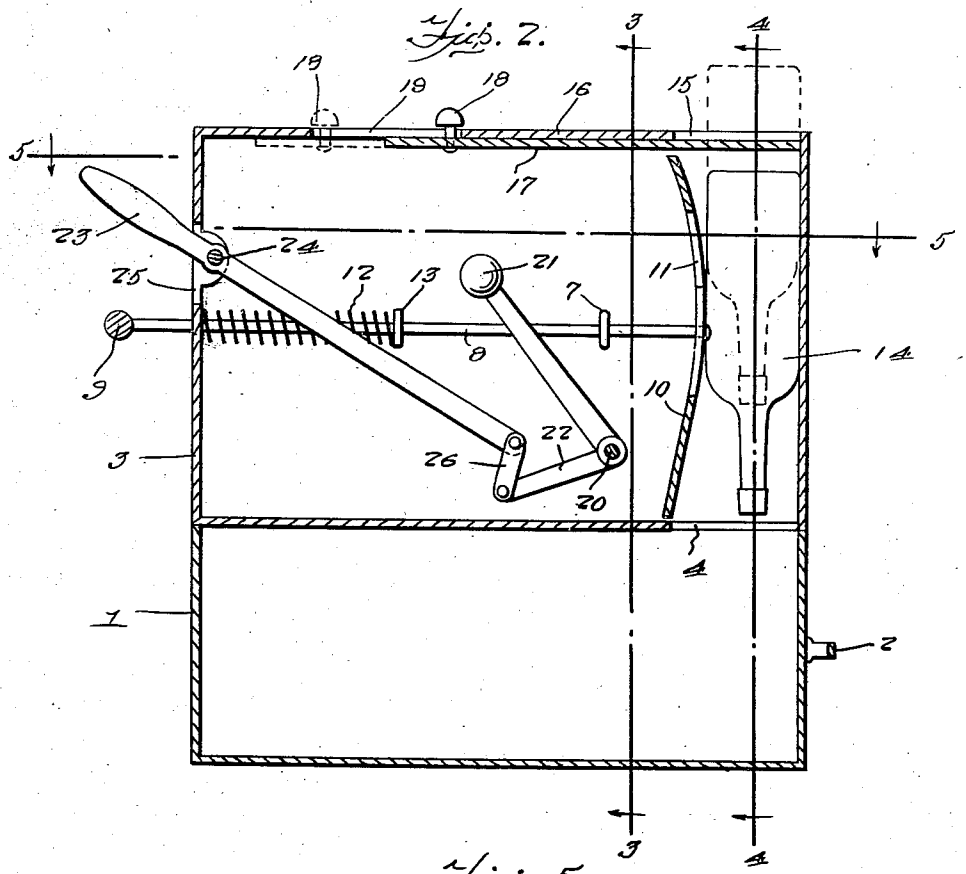
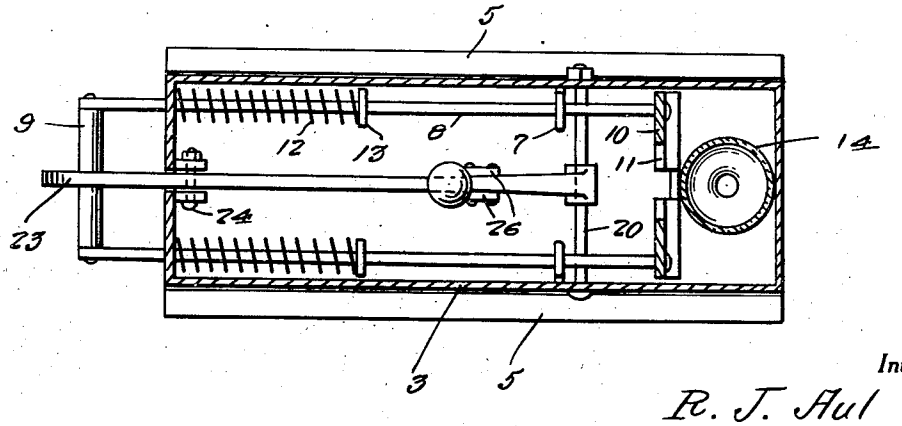


Fig. 5.



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BOTTLE BREAKER

Rudolph J. Aul, Hammond, Ind.

Application December 17, 1935, Serial No. 54,936

3 Claims. (Cl. 83—93)

The present invention relates to new and useful improvements in bottle breakers and has for its primary object to provide, in a manner as hereinafter set forth, a device embodying a novel construction and arrangement through the medium of which bottles of various sizes may be broken rapidly and with certainty but without the danger of injury from flying glass.

Another very important object of the invention is to provide a bottle breaking device embodying novel clamping means for securing the bottles in position to be broken.

Other objects of the invention are to provide a bottle breaker of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:—

Figure 1 is a top plan view of a bottle breaker constructed in accordance with the present invention.

Figure 2 is a view in vertical section through the invention, taken substantially on the line 2—2 of Figure 1.

Figure 3 is a view in vertical transverse section, taken substantially on the line 3—3 of Figure 2.

Figure 4 is a vertical transverse sectional view, taken substantially on the line 4—4 of Figure 2.

Figure 5 is a horizontal sectional view, taken substantially on the line 5—5 of Figure 2.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises an elongated container 1 of suitable metal for the reception of broken glass. On the forward end of the container 1 is a handle 2.

Removably mounted on the container 1 is a casing 3 which communicates with said container 1 through an opening 4 in the forward portion of the bottom of said casing 3. The container 1 is open at its top throughout its length. Formed on the upper edges of the longitudinal walls of the container 1 are horizontally projecting, substantially channel-shaped guides 5 which slidably receive laterally projecting flanges 6 on the lower portion of the casing 3. It will thus be seen that the container 1 and the casing 3 are slidably connected.

Guides 7 are mounted on the side walls of the casing 3 and slidable in said guides is a pair of spaced, parallel rods 8 which extend slidably through the rear wall of said casing 3 and have secured therebetween a handle 9. On the inner ends of the rods 8 is an arcuate clamp 10 having an opening 11 therein of substantially the shape shown to advantage in Figure 4 of the drawings. Coil springs 12 encircle the rods 8 and have one end engaged with collars 13 on said rods for yieldingly urging the clamp 10 toward the adjacent front end wall of the casing 3 for clamping the bottles therebetween, as at 14.

The bottles 14 are inserted neck first in the casing 3 through an opening 15 in the forward end portion of the top 16 of said casing. Slidable beneath the top 16 is a closure 17 for the opening 15. The closure 17 is actuated through the medium of a button 18 which is operable in a longitudinal slot 19 provided therefor in the top 16.

Mounted transversely in a lower portion of the casing 3 is a shaft 20 on which a hammer 21 is mounted for swinging movement in a vertical plane. Extending from the inner end of the hammer 21 is an arm 22. The reference numeral 23 designates a hand lever which is pivotally mounted, at an intermediate point, as at 24, on the rear end wall of the casing 3, said lever extending through an opening 25 which is provided therefor in said rear end wall. At its inner end, the hand lever 23 is operatively connected by links 26 to the arm 22.

Briefly, the operation of the invention is substantially as follows:—

The closure 17 is slid to open position, as indicated in broken lines in Figures 1 and 2 of the drawings, for permitting the insertion of the bottle's neck first downwardly through the opening 15. The clamp 10 is, of course, retracted against the tension of the coil springs 12 through the medium of the handle 9. However, when the insertion is being made the bottle may be simply forced downwardly to the desired position between the clamp 10 and the forward end wall of the casing 3 where said bottle is frictionally secured by said clamp. The closure 17 is then moved to closed position after which the outer end of the hand lever 23 is swung downwardly for actuating the hammer 21, said hammer passing through the opening 11 in the clamp 10 and striking the bottle with sufficient force to thoroughly smash said bottle. The broken glass falls

by gravity through the opening 4 into the container 1. The container 1 may, of course, be conveniently emptied when desired by simply removing the casing 3 therefrom. The construction and arrangement of the hammer 21, lever 23, links 27, etc. is such that said hammer, when said lever is released, returns by gravity to inoperative or retracted position where it is ready for the next operation. Also, the construction and arrangement is such that the usual Government seal on the neck of the bottle will not be damaged.

It is believed that the many advantages of a bottle breaker constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:—

1. A bottle breaker comprising a casing for the reception of a bottle, a clamp slidably mounted in said casing for engagement with the bottle, said clamp being cooperable with one of the walls of the casing for frictionally securing the bottle therebetween, said clamp having an opening therein, a hammer mounted for swinging movement in the casing and operable through the opening for smashing the bottle, a hand lever pivotally mounted in the casing, and means operatively connecting the hammer to said hand lever for actuation thereby.

2. A bottle breaker comprising a casing for the reception of a bottle, a pair of rods slidably mounted in the casing and extending through one of the walls thereof, a handle mounted between the outer ends of said rods, an arcuate clamp mounted on the inner ends of the rods and engageable with the bottle for frictionally securing said bottle against movement, said clamp having an opening therein, a hammer mounted for swinging movement in the casing and operable through the opening for smashing the bottle, and means for actuating the hammer.

3. A bottle breaker comprising a container, a casing removably mounted on said container, said casing having an opening in its top for the insertion of a bottle, a closure for said opening, a clamp slidably mounted in the casing and engageable with the bottle for frictionally securing said bottle in position in the casing, said clamp having an opening therein, a hammer mounted for swinging movement in the casing and operable through the second-named opening for smashing the bottle, and means for actuating said hammer, the casing further having an opening in its bottom communicating with the container for the passage of the smashed bottles into said container.

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