Jan. 28, 1941. H. M. TUCKE 2,230,019

BOTTLE BREAKING DEVICE

Filed Nov. 12, 1938

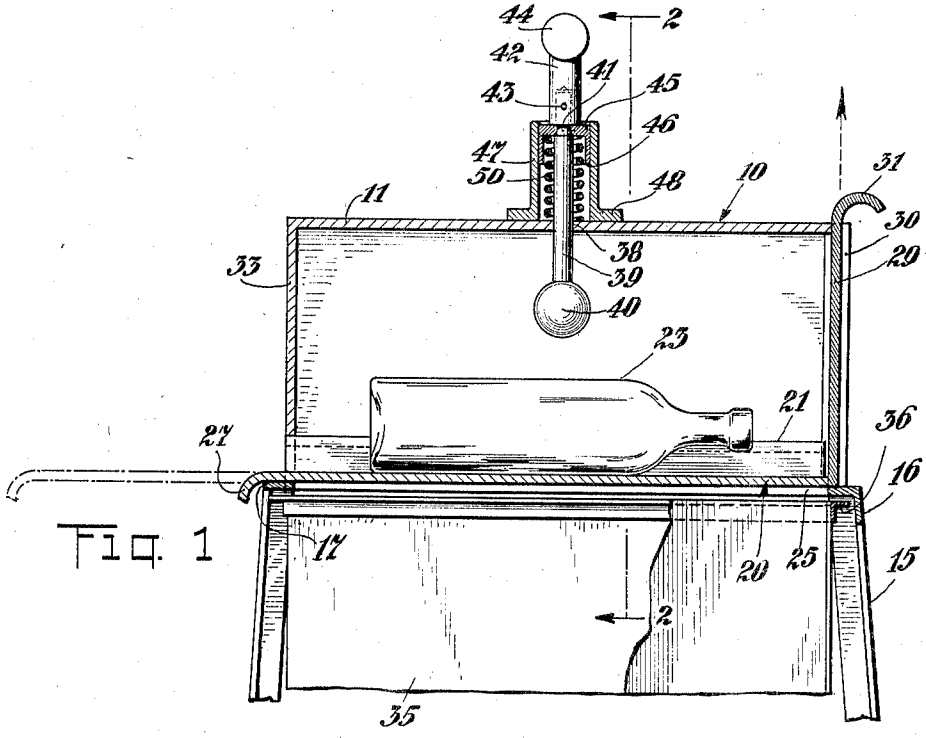


Fig. 1

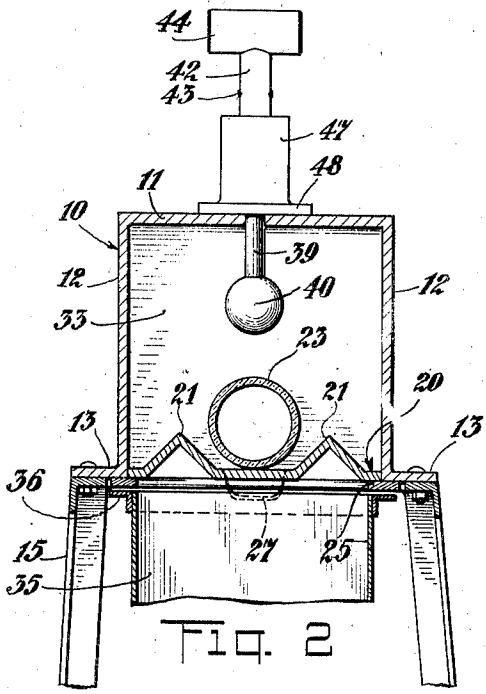


Fig. 2

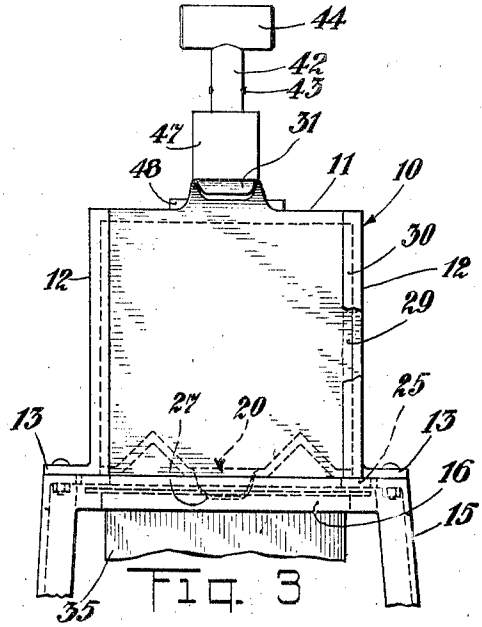


Fig. 3

INVENTOR.
HAROLD M. TUCKE
BY John P. Chandler
his ATTORNEY.

Patented Jan. 28, 1941 2,230,019

UNITED STATES PATENT OFFICE

2,230,019

BOTTLE BREAKING DEVICE

Harold M. Tucke, Chelmsford, Mass.

Application November 12, 1938, Serial No. 240,099

2 Claims. (Cl. 83—93)

This invention relates to new and useful improvements in bottle breaking devices and has for its principal object the provision of a novel structure adapted to receive a conventional bottle and being provided with means for breaking the bottle while the same is enclosed within a casing and without any danger of pieces of broken glass injuring the user of the apparatus.

Most states have statutes relating to the sale and dispensing of liquor over bars and the like which require that empty bottles be immediately broken in order to prevent the possibility of such bottles being refilled by unauthorized persons. It may be safely stated that most of such laws are so strict in their provisions that a retail dispenser of drinks may be heavily fined if such bottles are collected for a time and later destroyed in some place other than that where the drinks are dispensed.

Accordingly, the practice has grown of providing a receptacle for such bottles and when a bottle has become empty, the attendant merely breaks the thing in such receptacle with the aid of a hammer. This practice has caused many injuries and the present invention is adapted to provide improved means for destroying the bottle without any of the aforesaid danger.

A further object of the invention is the provision of a device of this character which will occupy a minimum amount of space and which may be readily operated without any danger of injury to the user.

In the drawing:

Fig. 1 is a longitudinal vertical section taken substantially through the center of the device;

Fig. 2 is a transverse vertical section taken on line 2—2 of Fig. 1; and

Fig. 3 is an elevation of the front end of the device.

A preferred embodiment of the present invention comprises a casing, designated by the reference numeral 10, which casing is substantially square in transverse section and is rectangular in longitudinal section. The casing is desirably made from sheet metal and comprises an upper wall 11 and vertical side walls 12 depending therefrom, such vertical walls 12 having outwardly turned flanges 13 along their lower marginal edges. The casing is desirably supported upon legs 15, which are preferably made from angles and at the front end of the device, as shown in Fig. 3, an angle 16 extends horizontally between the legs. At the opposite end of the device, however, a flat horizontal strip 17 extends between the legs, the flat strip being used instead of the angle for a reason hereinafter to be pointed out.

The base of the casing is designated generally by the reference numeral 20, is also desirably made from sheet metal and is longitudinally movable so that after the bottle has been broken, the base may be withdrawn and the contents of the bottle dropped into a container beneath the apparatus. This base member is provided with two longitudinally disposed, raised portions 21 which are substantially triangular in transverse section and provide means for positioning the bottle to be broken, designated as 23, substantially in the center of such base portion. The longitudinal marginal edges of the base are supported by flat strips 25 which are suitably secured to the lower surfaces of the horizontal flanges 13 integrally formed with the side walls 12. At one end of the base member, a handle portion 27 is formed for withdrawing such portion from the casing. Whereas this base member is shown as being formed from a single piece of sheet metal, it may nevertheless be made from flat material and inverted angles secured adjacent to the marginal edges of the member in order to properly position the bottle. Likewise, any other means of this character may be employed. Also, in the event that the casing is made somewhat smaller than the proportions shown, these side supports for the bottle may be eliminated entirely.

At the front end of the casing a vertically movable end wall 29 is positioned, such wall being mounted for sliding movement by means of flanges 30, which may be integrally formed with the side walls 12. At the upper end of this end wall a handle portion 31 is formed to aid in the raising of this wall when the bottle is to be inserted within the casing. At the opposite or rear end of the casing, a fixed end wall 33 is provided which wall may or may not be integrally formed with one of the side walls 12.

In order to provide means for withdrawal of the base member, the end wall 33 is provided with suitable cut-out portions along its lower edge to permit the flanges to pass therethrough. Thus it will be seen that after the bottle has been broken, the base member may be withdrawn by grasping the handle portion 27 and the broken particles of glass are, in effect, swept from the base member by engagement with the lower edges of the end wall 33. Beneath the casing a container 35 for the broken bottles may be provided, which container may be made from sheet metal or other material and may stand upon the

floor, if desired. The container shown in the drawing is provided with angles 36 extending around the upper edge thereof in order to reinforce such container. It will thus be apparent that by providing a flat strip 17 adjacent to the rear end of the device, this container may be withdrawn without its movement being interfered with by the vertical portion of the angle 16 positioned at the opposite end of the device.

The upper wall 11 of the container is provided with a central aperture 38, which acts as one support for the reciprocating rod 39, constituting a portion of the bottle breaking element. At the lower end of this rod a ball 40 is secured and when the rod is depressed, the ball coming in contact with the bottle, breaks the same. The rod is further provided at its upper end with a reduced portion 41 and an upper extension portion 42 is secured to such reduced portion by means of a set screw 43. At the upper end of the extension 42 a suitable handle 44 is secured. The reciprocating rod 39 is supported at its upper end by means of a plate 45 having an annular flanged portion 46 which is positioned within a cylindrical journal member 47. This journal member is flanged at its lower end, as shown at 48, and such flanged portion is secured to the upper wall 11 of the casing. The plate 45 is centrally apertured and is secured between the shoulder formed by the reduced portion 41 of the rod 39 and the lower end of the extension portion 42. A coil compression spring 50 rests at its lower end upon the upper surface of the casing and at its upper end is engaged by the lower surface of the plate 45. Thus, as the handle member moves downwardly, the bottle breaking element moves against the compression of the spring and when the bottle has been broken, the breaking element is returned to its normal position, shown in Fig. 1, by action of the spring. In the event that a somewhat larger bottle is to be broken, the handle may be drawn upwardly to a point wherein the ball 40 is substantially in engagement with the lower surface of the wall 11.

It will be appreciated that the foregoing embodiment of the invention is only one of several which are within the scope of the present invention and that many changes and modifications could be made without departing from the spirit thereof. For instance, the base member could be withdrawable at the front rather than at the rear end of the casing. Likewise, any other suitable opening in the side walls of the casing could be provided instead of the slidable door 29.

What I claim is:

1. A bottle breaking machine of the class described comprising a substantially rectangular casing, one of the end walls of such casing being slidable to permit a bottle or the like to be inserted within the casing, the upper wall of the casing having an aperture therein, a reciprocating plunger positioned within said aperture and being provided with a hammer element on the interior of the casing and a handle member on the extension thereof, a bottle supporting element comprising the base of the casing, a pair of spaced longitudinally disposed bottle positioning elements on said base, such base being horizontally movable to permit the broken portions of the bottle to be removed after the bottle breaking operation, one end wall of the casing having cut away portions shaped complementary to said bottle positioning elements in order to scrape the contents of the base as the same is moved.

2. A bottle breaking machine comprising an elongated casing made from sheet metal or the like, one of the vertical walls of the casing being vertically slidable to permit a bottle or the like to be inserted within the casing, the upper wall of the casing having an opening therein and a vertically movable plunger positioned within the opening, a hammer element at the lower end of the plunger and a handle portion at the upper end thereof, the base of the casing being formed with a pair of raised, longitudinally disposed ribs adapted to support the bottle in position relative to the hammer element, such base being longitudinally movable, the lower edge of one end wall of the casing being shaped complementary to the upper surface of the base, whereby, when such base is withdrawn after the bottle breaking operation, the broken portions of the bottle will be scraped from the base.

HAROLD M. TUCKE.