April 26, 1938. A. L. ANDERSON 2,115,406

BOTTLE DESTROYING DEVICE

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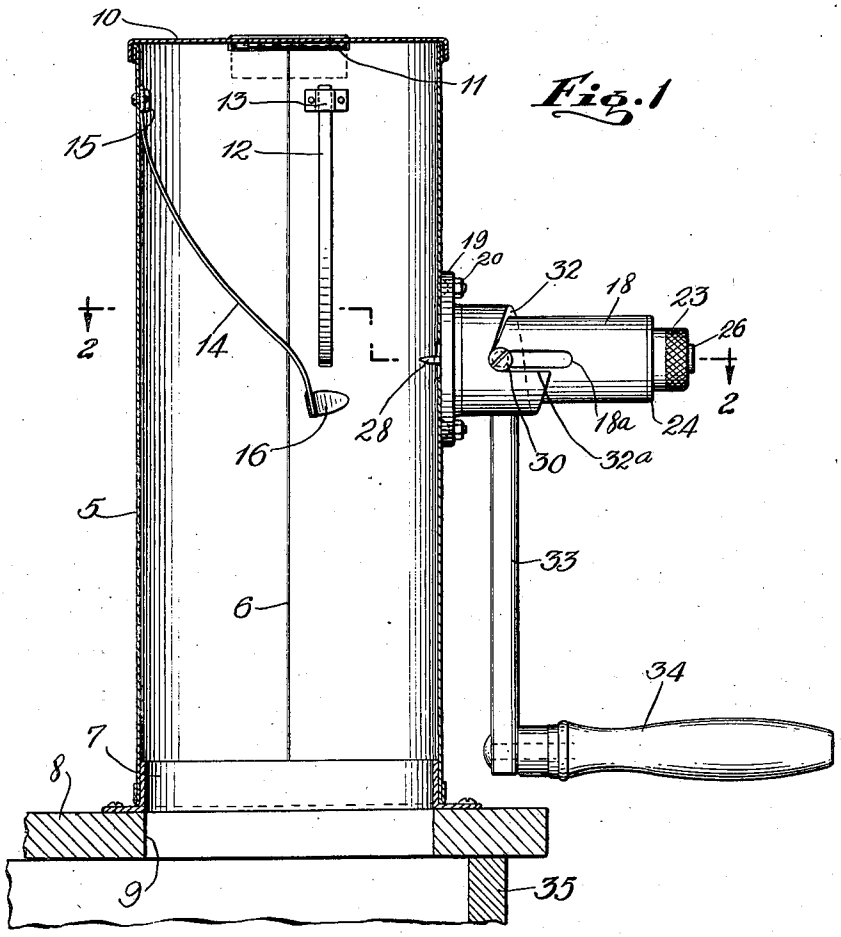



Fig. 1

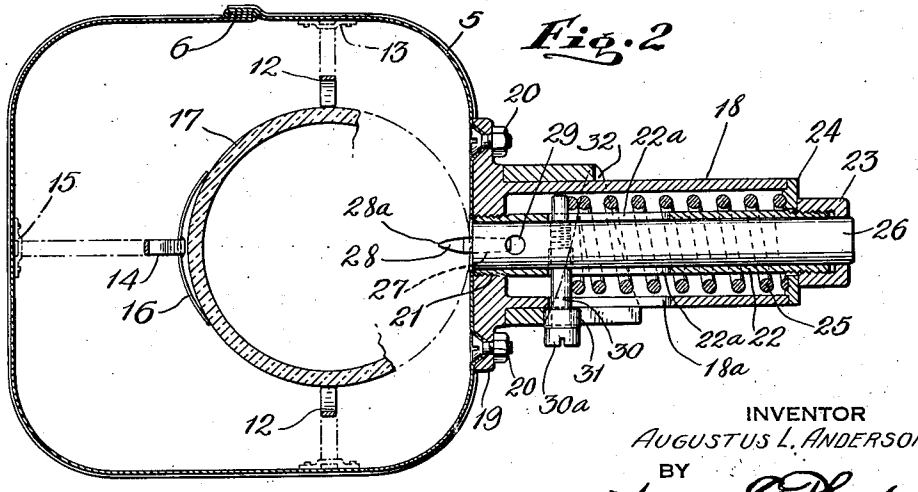



Fig. 2

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## BOTTLE DESTROYING DEVICE

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9 Claims. (Cl. 83—93)

This invention relates to devices for breaking or destroying bottles, and particularly bottles which have been used as containers for alcoholic or other beverages so as to prevent the refilling or reuse thereof; and the object of the invention is to provide a device of the class described in the form of an elongated container open at both ends, a cover controlling admission to one end of the container, one side wall of the container having a spring actuated hammer rod having a pointed end adapted to enter the container to engage the wall of a bottle placed therein in the operation of breaking or destroying the same; a further object being to provide the interior of the container or three of the walls thereof with spring arms for locating the bottle in the container and to engage bottles of different shapes and contours, to support one wall of the bottle at all times adjacent the hammer or plunger; a further object being to provide a crank for moving or drawing the plunger into an outwardly extended position against the action of the spring employed, and a cam on said crank permitting the quick release of the plunger to provide a quick inward movement of the plunger, insuring the destruction to the bottle struck by the pointed end thereof; and with these and other objects in view, the invention consists in a device of the class and for the purpose specified, which is simple in construction, efficient in use, and which is constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a side and sectional view of a device made according to my invention; and,

Fig. 2 is a section on the line 2—2 of Fig. 1, indicating the method of use of the device.

In practice, I provide an elongated tubular container 5, which in the construction shown is made from a sheet of material having adjacent edges joined to form a seam 6 at one side of the tube, the lower end of the container being reinforced by a ring 7, L-shaped in cross sectional form, which may be secured to any suitable support, or as shown in the accompanying drawing, mounted upon a base plate 8 having an aperture 9 registering with the bore of said container. The other end of the container is open and adapted to be closed by a cover 10 hinged to one side wall as indicated at 11.

On opposite side walls of the container and arranged within the chamber thereof are two fairly light spring arms 12, the upper ends of which are secured in clips 13, and on another side wall is another spring arm 14 retained in a clip 15. The lower end of the spring arm 14 has an arc-shaped shoe portion 16 which serves to locate the bottle indicated at 17 in Fig. 2 of the drawing in proper relation with respect to the destruction element employed, which result is also accomplished by the spring arms 12. On the side wall of the container 5 opposite that to which the arm 14 is attached is secured a tubular housing 18 which is flanged at one end as seen at 19 to receive attaching bolts, screws or the like 20, the heads of which are preferably countersunk in the walls of the container 5 in the manner clearly illustrated in Fig. 2 of the drawing so as to provide a smooth or flush inner surface of the container.

The inner end of the housing 18 is provided with a threaded bore 21 receiving the threaded end of a guide or bearing tube 22, to the outer threaded end of which is attached a nut 23 which bears against a washer 24 seating in the end of the housing 18. The washer forms a seat for one end of a coil spring 25. Mounted in the bearing tube 22 is a plunger rod 26, the inner end of which has a tapered hole 27 in which a tapered hardened pin 28 seats. The free end 28a of the pin is pointed. The rod 26 is provided with a transverse aperture 29 at the inner end of the pin 28 to facilitate the insertion of a tool to forcibly remove the pin 28 for repair or replacement if desired.

A cam pin 30 is threaded to the plunger rod 26 inwardly of the aperture 29 and extends to both sides of the rod 26 to form a seat for the other end of the spring 25. The protruding ends of the pin pass through elongated slots 22a formed in the tube 22. The outer end of the pin 30 also passes through an elongated aperture 18a in the housing 18, the pin 30 having a screw driver head 30a to facilitate its attachment and detachment. Adjacent the head is an anti-frictional roller 31 which operates upon a cam 32. The cam 32 is in the form of a sleeve rotatably mounted on the housing 18, an arm 33 being attached to the cam and provided at its free end with an angularly extending handle 34 forming a crank facilitating the rotation of said cam. The cam is provided with a sudden offset or drop 32a which permits quick inward movement of the plunger rod 26 by the spring 25 when the roller 31 on the pin 30 is brought into alinement with the drop

32a of the cam or into the position shown in Fig. 1 of the drawing.

In the operation of the device as shown in the accompanying drawing and especially with the cam arrangement disclosed, and assuming that a bottle, such for example as 17, has been broken by the inward movement of the plunger 26 and the pin 28 thereon, the crank 34 will be rotated so as to rotate the cam 32, and the roller 31 will travel over the surface of the cam. When the crank and cam are in a position of substantially one hundred and eighty degrees to that shown in Fig. 1, a new bottle to be broken may be inserted into the tubular casing 5 by first raising the cover 10, in which operation, any parts of the previously broken bottle that may still remain in the container or casing will be pushed downwardly therethrough and dropped into a suitable receptacle, part of which is indicated at 35 in Fig. 1 of the drawing. When the new bottle is in proper position, the operator will first close the cover 10 to prevent any fragments of glass from falling upwardly through the container, and will then proceed to rotate the crank to move the same into the position shown in Fig. 1, at which time, the plunger rod 26 will be released and the spring 25 will suddenly urge said rod inwardly, causing the pin 28 to strike the surface of the bottle supported in alinement therewith by the springs 12, 14, causing said bottle to be broken. The springs 12 and 14 will be of sufficient tension and strength to frictionally support any size bottle within the container, and at the same time, provide sufficient resistance to the hammer-like blow of the pin 28 to insure destruction to the bottle. The above operation may be repeated from time to time and whenever occasion arises for the necessity of destroying a bottle.

It is understood that the laws of some States require the immediate destruction of bottles used as containers for alcoholic beverages when the same become empty. With a device of the kind under consideration, which may be conveniently carried about from place to place or arranged upon or as a part of a suitable receiver or receptacle for broken bottles, the operation of disposing of such bottles in the manner required may be accomplished in a simple and economical manner with absolute safety to the operator.

It is understood that the present drawing is merely illustrative of one method of carrying my invention into effect, and the size and contour of the container or tubular casing may be varied as well as the structure of the hammer and the means for actuating the same.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A bottle destroying device of the class described comprising an elongated tubular casing open at opposite ends and having a chamber extending throughout the length thereof, a cover for closing one end of the casing, a plunger movably mounted in connection with one side wall of the casing intermediate the ends thereof, a spring mounted on said plunger for actuating the plunger in one direction to project one end thereof into the chamber of said casing, and means in operative engagement with the plunger for moving the same outwardly of the chamber of said casing against the action of said spring and for controlling the release of said plunger to permit sudden movement of the inner end of the plunger into the chamber of said casing, said last named means comprising a cam arranged outwardly of the casing and encircling said plunger.

2. A bottle destroying device of the class described comprising an elongated tubular casing open at opposite ends and having a chamber extending throughout the length thereof, a cover for closing one end of the casing, a plunger movably mounted in connection with one side wall of the casing intermediate the ends thereof, a spring mounted on said plunger for actuating the plunger in one direction to project one end thereof into the chamber of said casing, means in operative engagement with the plunger for moving the same outwardly of the chamber of said casing against the action of said spring and for controlling the release of said plunger to permit sudden movement of the inner end of the plunger into the chamber of said casing, said last named means comprising a cam arranged outwardly of the casing and encircling said plunger, and a crank for rotating said cam.

3. A bottle destroying device of the class described comprising an elongated tubular casing open at opposite ends and having a chamber extending throughout the length thereof, a cover for closing one end of the casing, a plunger movably mounted in connection with one side wall of the casing intermediate the ends thereof, a spring mounted on said plunger for actuating the plunger in one direction to project one end thereof into the chamber of said casing, means in operative engagement with the plunger for moving the same outwardly of the chamber of said casing against the action of said spring and for controlling the release of said plunger to permit sudden movement of the inner end of the plunger into the chamber of said casing, said last named means comprising a cam arranged outwardly of the casing and encircling said plunger, a crank for rotating said cam, and tensional means within said casing for supporting a bottle in position to be engaged by said plunger.

4. A bottle destroying device of the class described comprising an elongated tubular casing open at opposite ends and having a chamber extending throughout the length thereof, a cover for closing one end of the casing, a plunger movably mounted in connection with one side wall of the casing intermediate the ends thereof, a spring mounted on said plunger for actuating the plunger in one direction to project one end thereof into the chamber of said casing, means in operative engagement with the plunger for moving the same outwardly of the chamber of said casing against the action of said spring and for controlling the release of said plunger to permit sudden movement of the inner end of the plunger into the chamber of said casing, said last named means comprising a cam arranged outwardly of the casing and encircling said plunger, a crank for rotating said cam, tensional means within said casing for supporting a bottle in position to be engaged by said plunger, and said last named tensional means comprising a plurality of spring arms normally extending to the central portion of the casing.

5. A bottle destroying device of the class described comprising an elongated tubular casing open at opposite ends and having a chamber extending throughout the length thereof, a cover for closing one end of the casing, a plunger movably mounted in connection with one side wall of the casing intermediate the ends thereof, a spring mounted on said plunger for actuating the plunger in one direction to project one end

thereof into the chamber of said casing, means in operative engagement with the plunger for moving the same outwardly of the chamber of said casing against the action of said spring and for controlling the release of said plunger to permit sudden movement of the inner end of the plunger into the chamber of said casing, said last named means comprising a cam arranged outwardly of the casing and encircling said plunger, a crank for rotating said cam, tensional means within said casing for supporting a bottle in position to be engaged by said plunger, said last named tensional means comprising a plurality of spring arms normally extending to the central portion of the casing, and one of said spring arms terminating at its ends in an arc-shaped shoe portion.

6. A bottle destroying device of the class described comprising an elongated tubular casing open at opposite ends and having a chamber extending throughout the length thereof, a cover for closing one end of the casing, a plunger movably mounted in connection with one side wall of the casing intermediate the ends thereof, a spring mounted on said plunger for actuating the plunger in one direction to project one end thereof into the chamber of said casing, means in operative engagement with the plunger for moving the same outwardly of the chamber of said casing against the action of said spring and for controlling the release of said plunger to permit sudden movement of the inner end of the plunger into the chamber of said casing, said last named means comprising a cam arranged outwardly of the casing and encircling said plunger, a crank for rotating said cam, tensional means within said casing for supporting a bottle in position to be engaged by said plunger, said last named tensional means comprising a plurality of spring arms normally extending to the central portion of the casing, one of said spring arms terminating at its ends in an arc-shaped shoe portion, and an enlarged base for said casing having an aperture therein registering with the chamber of said casing.

7. A bottle destroying device of the class described comprising a container having a chamber in which a bottle is adapted to be placed, means within the chamber of said container for supporting a bottle against one wall of the container, a bottle destroying element supported in connection with and arranged outwardly of said wall only of the container and movable inwardly and outwardly with respect to the chamber thereof, said element comprising a spring actuated plunger rod, the inner end of which is movable into and out of the chamber of said container and adapted to strike a bottle supported therein, a tubular casing for supporting and guiding said plunger rod, and manually actuated means mounted on said casing for moving the plunger outwardly against the action of the tensional means employed for actuating said plunger, said last named means comprising a cam and a crank for actuating said cam.

8. A bottle destroying device of the class described comprising a container having a chamber in which a bottle is adapted to be placed, means within the chamber of said container for supporting a bottle against one wall of the container, a bottle destroying element supported in connection with and arranged outwardly of said wall only of the container and movable inwardly and outwardly with respect to the chamber thereof, said element comprising a spring actuated plunger rod, the inner end of which is movable into and out of the chamber of said container and adapted to strike a bottle supported therein, a tubular casing for supporting and guiding said plunger rod, manually actuated means mounted on said casing for moving the plunger outwardly against the action of the tensional means employed for actuating said plunger, said last named means comprising a cam and a crank for actuating said cam, a cover for closing one end of the container, the other end of the container being open, and said first named means comprising a plurality of springs arranged within the chamber of the container and supported in connection with at least two walls thereof.

9. A bottle destroying device of the class described comprising a container having a chamber in which a bottle is adapted to be placed, means within the chamber of said container for supporting a bottle against one wall of the container, a bottle destroying element supported in connection with and arranged outwardly of said wall only of the container and movable inwardly and outwardly with respect to the chamber thereof, said element comprising a spring actuated plunger rod, the inner end of which is movable into and out of the chamber of said container and adapted to strike a bottle supported therein, a tubular casing for supporting and guiding said plunger rod, manually actuated means mounted on said casing for moving the plunger outwardly against the action of the tensional means employed for actuating said plunger, said last named means comprising a cam and a crank for actuating said cam, a cover for closing one end of the container, the other end of the container being open, said first named means comprising a plurality of springs arranged within the chamber of the container and supported in connection with at least two walls thereof, and one of said last named springs including an arc-shaped shoe portion for localizing a bottle placed in the chamber of said casing.

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