Dec. 6, 1938. G. C. ERB 2,138,844

LIQUID DISPENSER

Filed July 17, 1937 2 Sheets-Sheet 1

Fig. 1

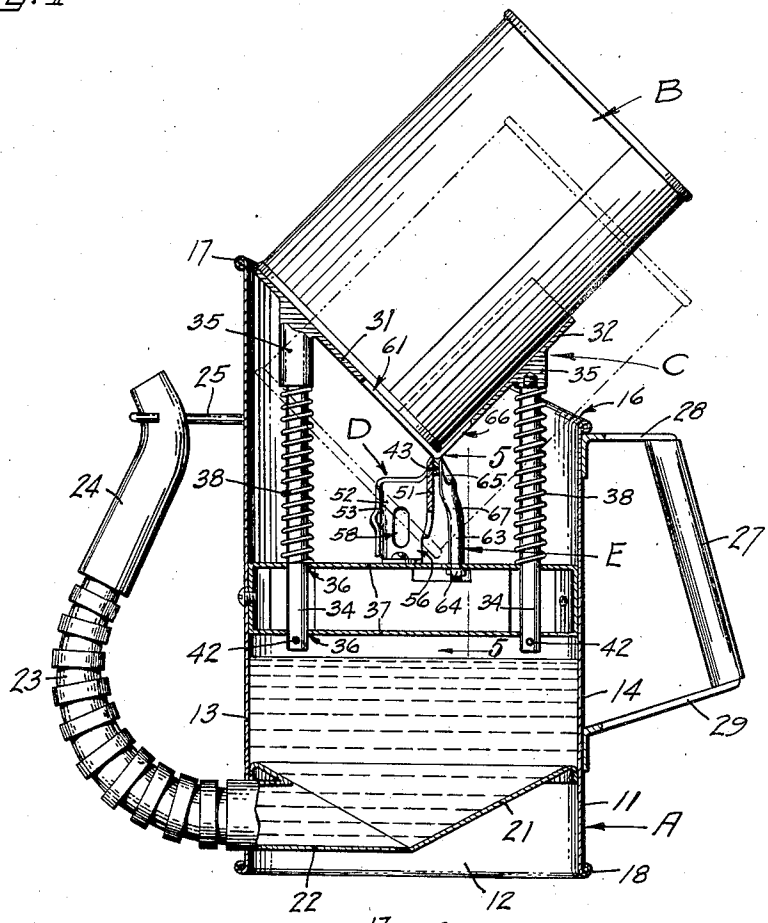
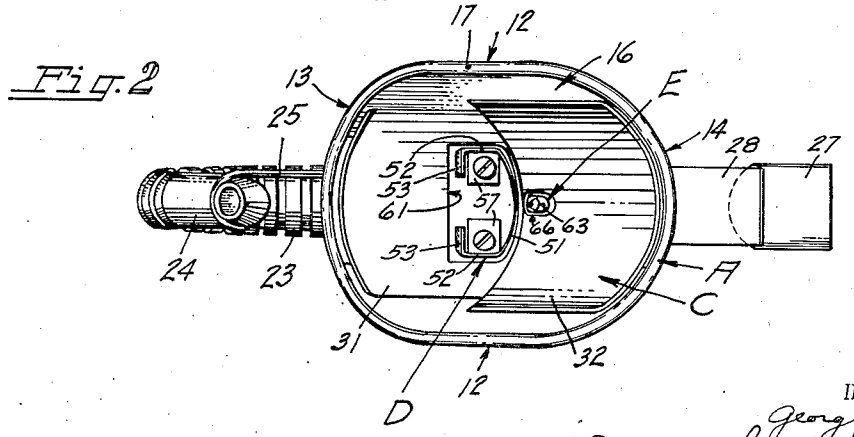


Fig. 2



INVENTOR.
George C. Erb.

BY Dravo D. Thornburgh
Charles H. Cline
ATTORNEYS

Dec. 6, 1938. G. C. ERB 2,138,844

LIQUID DISPENSER

Filed July 17, 1937 2 Sheets-Sheet 2

Fig. 3

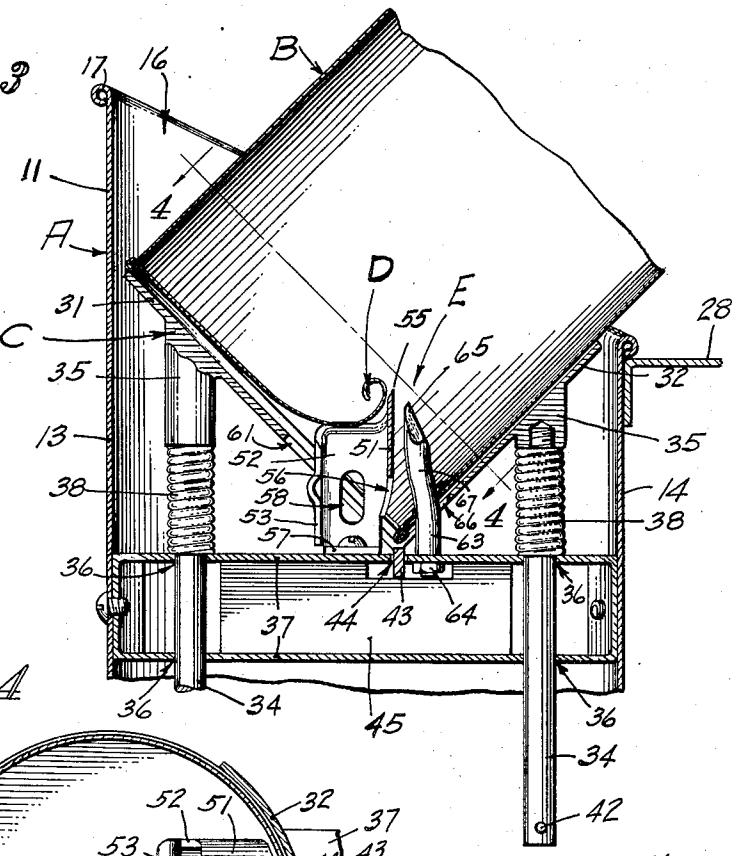


Fig. 4

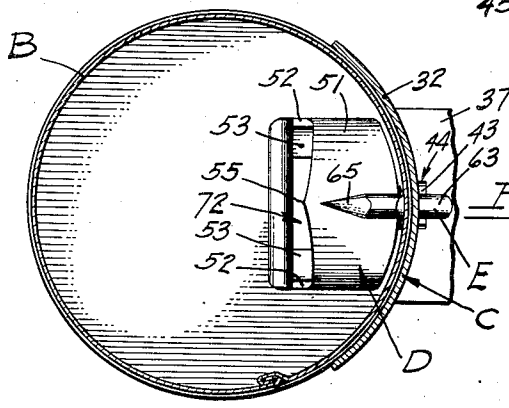


Fig. 5

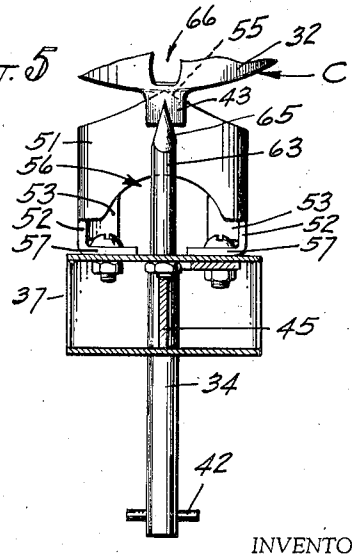
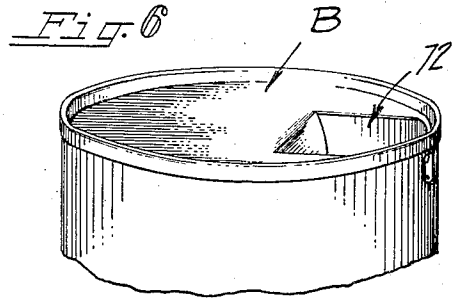


Fig. 6



INVENTOR.
George C. Erb.

BY Ivan W. Thornburgh
Charles H. Ernest

ATTORNEYS

Patented Dec. 6, 1938

2,138,844

UNITED STATES PATENT OFFICE

2,138,844

LIQUID DISPENSER

George C. Erb, Forest Hills West, N. Y., assignor to American Can Company, New York, N. Y., a corporation of New Jersey

Application July 17, 1937, Serial No. 154,273

5 Claims. (Cl. 221—23)

The present invention relates to a liquid dispensing device which is adapted to receive and hold the liquid from a sealed receptacle or can, and has particular reference to a movable cradle disposed within the dispensing device and adapted to receive and hold the sealed can while the latter is impaled on elements which produce a pouring opening in an end of the can and also simultaneously mutilate its body so that its re-use as a container of liquids is prevented.

An object of the invention is the provision of a liquid dispensing device having a movable cradle for carrying a can to be opened and for holding the can at an angle relative to can opening and can mutilating elements disposed within the dispensing device so that movement of the cradle will impale the can on the elements in such a manner as to produce a pouring opening on one wall of the can for emptying its contents into the dispensing device and to simultaneously mutilate another wall of the can so that the latter will be rendered unfit for subsequent use as a container of liquids.

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 part sectional, part elevational view of a canned oil dispensing device embodying the instant invention, a can being shown in position ready to be opened;

Fig. 2 is a top plan view of the device, the can being omitted;

Fig. 3 is an enlarged section of the upper portion of the dispensing device, showing a can in section and in opened position;

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

Fig. 5 is an enlarged sectional detail taken substantially along the line 5—5 in Fig. 1; and

Fig. 6 is an enlarged perspective view of the opened and mutilated end of a can removed from the dispensing device after it has been drained of its contents.

As a preferred embodiment of the invention the drawings illustrate a device which is adapted to dispense canned lubricating oil such as used in automobiles. The device includes a dispenser A (Fig. 1) which is adapted to receive a can B to be opened and to collect and hold the contents of the can after it is opened, a cradle C for holding the can while it is in the dispenser, a can opening element or cutter D for opening the can, and a mutilating element E for mutilating the can so that it will be unfit for subsequent use as a container of liquids.

The dispenser A is similar to dispensers now commonly used in oil and gasoline stations and in garages for dispensing canned lubricating oil. It includes a tubular body 11 (Fig. 1) which in cross-section is formed with straight and parallel side walls 12 (see also Fig. 2) merging into rounded front and rear walls 13, 14. At the upper end of the body, its walls are cut away at an angle thus providing an elongated open mouth 16. This mouth is surrounded by an outwardly curled or rolled rim 17 on the top edge of the body walls.

The lower end of the body is straight in order to provide a base for resting the dispenser on when it is not in use. This end of the body is also provided with an outwardly curled or rolled rim 18.

A bottom 21 is secured within the body 11 and is preferably of an inverted cone shape having a discharge pipe 22 which projects through the front wall 13 of the body. The discharge pipe is connected to one end of a flexible hose or tube 23 having at its opposite end a discharge spout 24 for dispensing the contents of the dispenser. When the discharge spout is not in use it is supported in an upright position alongside the body by a hook 25 which is secured to the body front wall 13.

A handle 27 is provided for carrying the dispenser. This handle is held by upper and lower rigid straps 28, 29 secured to the rear wall of the body 1.

The cradle C is located within the dispenser A near its open mouth end is disposed in a tilted or angular position. It is formed with a flat bottom wall section 31 and an integral curved wall section 32 disposed at right angles to the bottom wall. This provides for support of the can B as shown in Figs. 1 and 3.

The cradle is yieldably mounted on a pair of vertical rods 34. The upper ends of the rods are threaded into bosses 35 formed on the cradle wall sections 31, 32. The lower ends of the rods extend through holes 36 formed in a hollow bridge member 37 which is disposed within the dispenser and which is rigidly secured at its ends to the dispenser front and back walls 13, 14. A compression spring 38 surrounds each rod and is interposed between the bottom of its associated boss 35 and the top of the bridge member. These springs support the cradle, normally holding it in raised position as shown in Fig. 1, but at the same time permitting depression of the cradle

within the dispenser to a position shown in Fig. 3.

Vertical movement of the cradle is restricted by pins 42 and a lug 43. The pins are located in the lower ends of the rods 34 and limit the upward travel of the cradle. The lug 43 is formed at the corner intersection or joint of the cradle wall sections 31, 32 this being at the lowest part of the cradle. When the cradle approaches its lowermost position the lug enters a slot 44 (see also Fig. 3) formed in the top of the bridge member. At the lowermost position the lug strikes against a web section 45 (see also Fig. 5) of the bridge member and this limits the downward movement of the cradle.

The can opening element or cutter D is disposed inside the dispenser A and is mounted on top of the bridge member 37. In cross-section (Fig. 2) the cutter is shaped similar to the letter C having a curved vertical rear wall 51 (see also Figs. 1, 3, 4 and 5), a pair of short straight and parallel side walls 52, and similar short straight front flanges 53. The top edge of the rear wall 51 is beveled to form a sharp point 55. This portion of the cutter when the cradle is in raised position frictionally engages against the forward face of the stop lug 43. The lower portion of the rear wall of the cutter is cut away thus providing an opening 56.

The top edge of the side walls 52 and of the front flanges 53 of the cutter D are also beveled thus forming a cutting edge continuing forward from the top edge of the rear wall 51 and terminating in the front flanges. Lugs 57 are formed on the lower edges of the side walls and are bolted to the top of the bridge member 37. It is these lugs and bolts which hold the cutter in place. The side walls are also provided with openings 58.

The upper portion of the cutter D is adapted to extend up into the cradle C when the latter is pushed down into the position shown in Fig. 3. For this purpose the bottom wall section 31 of the cradle is provided with an opening 61 (Figs. 1, 2 and 3) which is disposed adjacent the joint between this wall section and the side wall section 32.

The mutilating element E is also located inside the dispenser A and is adjacent the cutter D but on the opposite or rear side of the lug 43. This mutilating element comprises a vertically disposed short rod 63, the lower end of which is shouldered and threaded and is secured by a nut 64 in the top wall of the bridge member 37. The upper end of the rod is provided with a sharp point 65 which is adapted to enter into an opening 66 formed in the side wall section 32 of the cradle C when the latter is in the depressed position shown in Fig. 3. The rod is slightly curved as at 67.

A can B to be opened is placed in the cradle C with the bottom end of the can resting on the bottom wall section 31 and the side wall of the can supported by the curved side wall section 32 of the cradle. This position locates the bottom end seam of the can adjacent the joint between the wall sections of the cradle, i. e., adjacent the stop lug 43 as shown in Fig. 1. By applying a downward pressure on the can, the can and the cradle C are forced down, against the resistance of the supporting springs 38, into the dispenser A and over the opening element D and mutilating element E.

As the cradle and can descend over the elements D and E the sharp point of the cutter D enters the opening 61 of the cradle and punctures the bottom end of the can adjacent its end seam. At the same time the sharp end of the mutilating element E enters the opening 66 of the cradle and punctures the side wall of the can adjacent the same end seam.

As the cradle and can move down further the cutting edges of the cutter front wall 51 and side walls 52 cut through the can bottom, turning back as the cutting proceeds the cut away portion of the can wall as shown in Figs. 3 and 4. Near the end of the cutting stroke the front flanges 53 of the cutter assist in this turning back feature. The cutting stops when the lug 43 strikes against the bridge member web 45. An opening 72 (Fig. 6) is thus formed in the bottom of the can. This can opening permits the contents of the can to drain out into the dispenser by way of the openings 56, 58 and the open front of the cutter.

During this same downward movement of the cradle and can the can side wall moves down over the curved section of the mutilating element E. This enlarges and elongates the puncture in the side wall of the can and thus so mutilates the can body that it is rendered unfit for subsequent use as a container of liquids.

When the contents of the opened can have fully drained out into the dispenser, a release of the pressure on the can permits the springs 38 to raise the cradle and the can into original position. The can may then be lifted out of the cradle and discarded. Dispensing of the liquid from the dispenser is effected in the usual manner through the pouring hose 23 and spout 24.

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 liquid dispensing device, comprising in combination a dispenser adapted to receive a sealed receptacle containing a liquid to be dispensed and also adapted to collect and hold the liquid from said receptacle, spaced receptacle opening and mutilating elements located within said dispenser, and a cradle also in said dispenser for supporting the receptacle to be opened, said cradle being vertically movable relative to said opening and mutilating elements for impaling the receptacle on the elements in order to produce a pouring opening in a wall of the receptacle through which its contents may flow into the dispenser and to also produce a mutilation of the receptacle so that it will be rendered unfit for subsequent use as a container of liquids.

2. A liquid dispensing device, comprising in combination a dispenser adapted to receive a sealed receptacle containing a liquid to be dispensed and also adapted to collect and hold the liquid from said receptacle, spaced receptacle opening and mutilating elements located within said dispenser, and a cradle angularly disposed in said dispenser for supporting at an angle the receptacle to be opened, said cradle being vertically movable relative to said opening and mutilating elements for impaling the receptacle on the element in order to produce a pouring opening in the bottom of the receptacle adjacent the end seam connecting the bottom with a side wall of the receptacle, the opening so produced permitting emptying of the receptacle contents into

the dispenser, said impaling action also producing a mutilation of the receptacle side wall adjacent the end seam so that it will be rendered unfit for subsequent use as a container of liquids.

3. A liquid dispensing device, comprising in combination a dispenser adapted to receive a sealed receptacle containing a liquid to be dispensed and also adapted to collect and hold the liquid from said receptacle, a bridge member secured in said dispenser, a vertically movable cradle mounted on said bridge member for supporting a receptacle to be opened, a receptacle opening element and a receptacle mutilating element also mounted on said bridge member beneath said cradle for simultaneously cutting into said receptacle when the cradle is pushed down in the dispenser, said opening element producing an opening in a bottom of the receptacle for emptying its contents into the dispenser and said mutilating element producing a tear in a side wall of the receptacle which renders it unfit for subsequent use as a container of liquids.

4. A liquid dispensing device, comprising in combination an open mouth dispenser adapted to receive a sealed receptacle containing a liquid to be dispensed and also adapted to collect and hold the liquid from said receptacle, spaced receptacle opening and mutilating elements rigidly mounted within said dispenser, a vertically movable cradle disposed within said dispenser adjacent its open mouth for supporting the receptacle to be opened while the latter is moved down in the dispenser and impaled on said opening and mutilating elements for emptying the receptacle of its contents and for mutilating the receptacle to render the same unfit for re-use as a container of liquids, and means for dislodging the impaled receptacle from said elements and for returning the cradle and its empty receptacle to their original position in the mouth of the dispenser so that the receptacle may be easily grasped for removal from the cradle.

5. A liquid dispensing device comprising in combination, a dispenser adapted to receive a sealed receptacle containing a liquid to be dispensed and also adapted to receive and hold the liquid from said receptacle, spaced receptacle opening and mutilating elements rigidly mounted within said dispenser, and a cradle member mounted for vertical movement within and relative to said dispenser for supporting a receptacle to be opened, said opening and mutilating elements being adapted to cut into separate wall portions of said receptacle when the cradle member is moved vertically into engagement with said elements, said opening element producing an opening in one wall of the receptacle for emptying its contents into the dispenser and said mutilating element producing an opening in another wall of the receptacle to render the same unfit for subsequent use as a container for liquids.

CHARLES C. ERB.