

April 16, 1935.

V. W. MOODY

1,998,164

CAN OPENING AND POURING DEVICE

Filed June 6, 1934

Fig. 1.

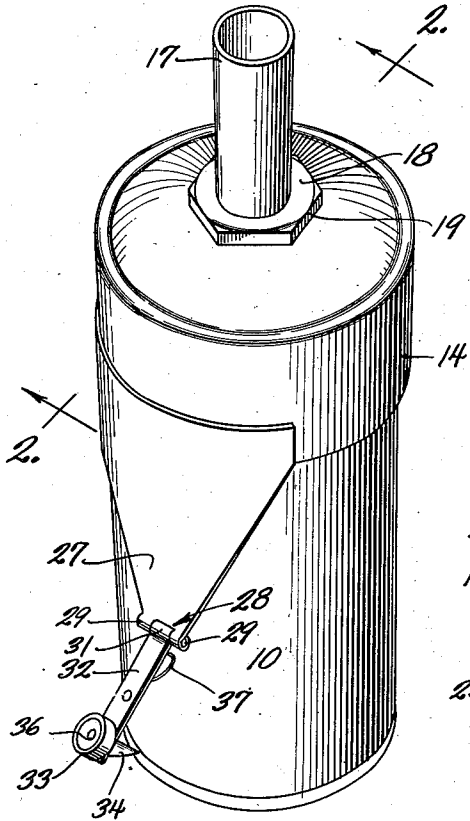


Fig. 2.

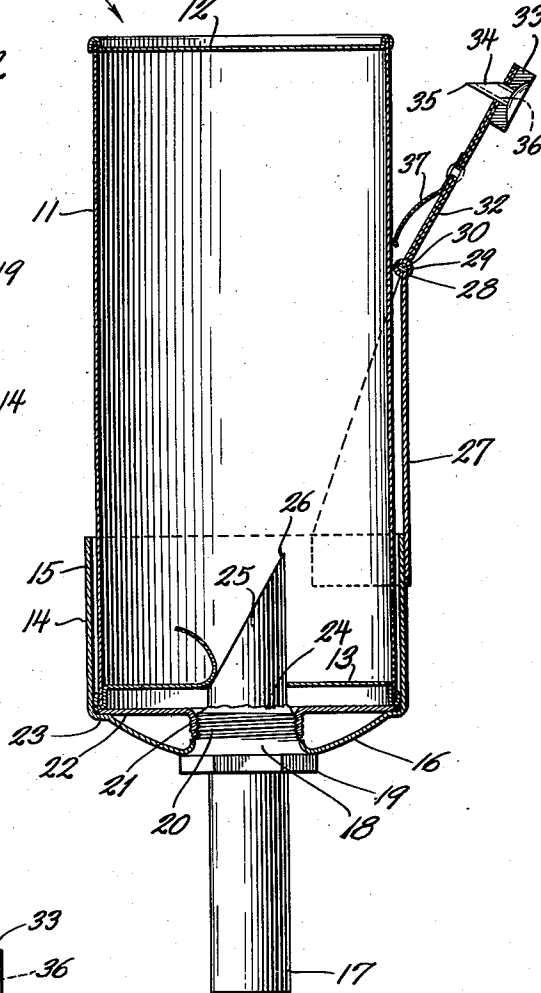
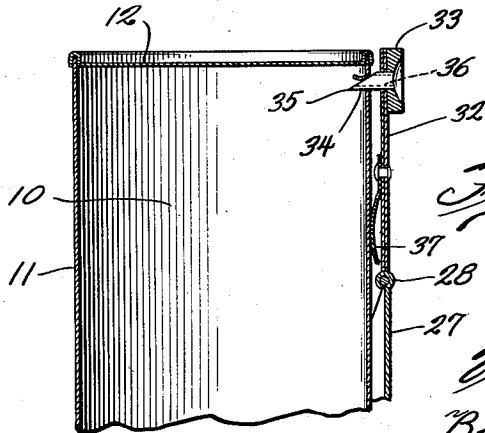


Fig. 3.

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UNITED STATES PATENT OFFICE

1,998,164

CAN OPENING AND POURING DEVICE

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Application June 6, 1934, Serial No. 729,274

2 Claims. (Cl. 221—23)

The present invention has to do with a pouring device having means for opening a can and rendering it unfit for salvage.

Because of the danger to the public that unscrupulous dealers in oil will palm off under well known trade-marks and trade names inferior types of oil, it has become necessary and customary for reputable manufacturers to supply to the automobile public oil in small sealed and marked containers which, ostensibly, can be used only once and which, when opened, must be thrown away. When oil is to be poured into the engine of an automobile from such a sealed container, the container may be and generally is opened by means of a device having suitable sharp prongs which puncture an end of the container to release the oil therefrom, there being attached thereto a suitable pouring spout. The can is thrown away after it has been emptied. It has been found that unscrupulous persons salvage these cans. By taking off the punctured end and supplying a new one, they are enabled to sell inferior oil under the reputable name upon the can. A further difficulty has been that while the prongs in the funnel-like device cut two holes, one at each side of the end of the can, one of such holes acting to let in air, the air inlet hole was so disposed that oil would flow only with difficulty.

An object of this invention therefore is to provide a new and improved oil can opening and oil pouring device which does away with the previously mentioned difficulties and has other advantages. It mutilates the container against any further use and provides a means whereby the oil will flow even when the container is in a vertical position, which was impossible with the earlier types of openers. Other objects of the invention are the provision of an improved oil can opening device, and an improved pouring device, an oil dispensing device preventing re-use of the oil container, an oil dispensing device which will allow the oil to flow readily in all natural pouring positions, and a compact oil can opening and oil pouring device. Other objects will appear as the description of the invention proceeds.

The single sheet of drawings appended hereto and made a part of this specification shows one form of the invention. In the drawing:

Figure 1 is a perspective view of the device in position upon oil containers;

Figure 2 is a vertical cross section of the device on a plane indicated by line 2—2 of Figure 1; and

Figure 3 is a partial cross section on the same

plane showing the air inlet puncturing tube protruding through the wall of the container.

Like reference characters are used to designate similar parts in the drawing and in the description of the invention which follows.

In the drawing, a conventional container 10 having a wall 11, a bottom 12 and a top 13 is shown. The container may be of any suitably sealed type having puncturable walls and ends. It may be all metal, or part metal and part paper, or all paper. For pouring the oil out of the can 10, a funnel-shaped boot 14 is placed over the top of the can.

The boot 14 comprises a housing 15 shaped to extend a short distance down the sides of the can 10. It has a dome-shaped end 16. In the center thereof is an opening through which projects a pouring tube 17. About the tube 17 and fastened to it where it passes through the end 16 is a bushing 18. The outer end of the bushing 16 is flared as at 19, and the edges of the end piece 16 about the opening containing the bushing are shaped to fit closely thereabout. The inner end 20 of the bushing is threaded and cooperates with a threaded collar 21, which is a flange formed around an opening in a diaphragm 22 of metal or other suitable material. The diaphragm 22 is held by the cooperation of the threaded parts 20 and 21 rigidly against shoulders 23 formed in the boot 14. The inner end 20 of the bushing 18 is suitably connected at 24 to the tube 17 as by welding. The inner end 25 of the tube 17 is oblique providing a cutting point 26 which, under suitable pressure, penetrates the top 13 of the container 10.

At the skirt of the boot 14, or if the tube 17 is not in the center, at the side opposite the tube 17, is a bracket or extension 27 which may project over a section of the periphery of the boot. The attachment of the bracket to the boot may be had by welding or riveting or in any other suitable way, or if desired the extension may be formed as an integral part of the boot 14.

Away from the boot 14, the extension 27 terminates in one-half of a hinge 28, the hinge comprising the bearing portion 29 and the pin 30. The complementary portion 31 of the hinge is at the end of an arm 32 which has at its free end a perforate button 33 from which protrudes toward the inside of the boot 14 a cutting tube 34, shaped to a point 35 and being hollow as at 36 to permit free passage of air. The cutting tube 34 may be of any desired size, but it has been found best to make it in comparison with the pouring tube 17.

The extension 27 and the arm 32 are of such lengths that the cutting tube 34 will be near the bottom of a container 10 within the boot. A spring 37 maintains the arm 32 out of the way while a container is being inserted into the boot, yet allows the cutting tube 34 to be forced through the wall of the container. The spring 37 also urges the ejection of the cutting tube 34 from the hole which it makes whenever arm 32 is released from pressure.

If desired, the hinge 28 and 30 may be so formed that it will prevent the arm 32 from being moved outwardly beyond a predetermined point with relation to the extension 27, or a stop may be supplied for such purpose. Such provisions have not been found necessary but may be helpful.

The operation of the device is clear. The boot 14 is positioned over the top 13 of the container 10; the point 26 is made to perforate the top by pressure on the boot; and the diagonally cut portion enlarges the opening as the boot is pressed home. The container is then inverted into a pouring position and the button 33 is pressed toward and against the can, forcing the cutting tube 34 through the wall 11 of the container on which then will be the upper side thereof. Air enters the container through the tube 34 and the hole made by it, relieving any vacuum within the container and allowing oil to run freely from the can and without bubbling.

When the can is emptied, the cutting tube 34 is withdrawn from the wall of the can by means of the button 33, if the spring 37 has not already ejected it. The container is then withdrawn from the boot. It is thrown away. The boot is ready for use with another container. The discarded container is so damaged at its top and at its side wall that it cannot be repaired for reuse, as the hole in the side wall cannot be readily closed, even though a new top may be supplied readily. To repair side and replace top for reuse would be impracticable. The puncture in the side destroys that part of the can containing the trademark.

The pouring device may be made in any desired size and to take any desired shape of can,

the necessary modifications being at once apparent. The skirt of the housing 15 may be made longer than shown, and the outer end of the pouring tube 17 may be of any selected form or dimension. If a thin fluid is confined in the container and tube 17 is made small it will be well to deepen the boot by lengthening the skirt, to avoid any danger of accidental overflow. Normally this will not be necessary.

What is claimed as new and is desired to be secured by Letters Patent of the United States is:

1. In combination, a can opening and content pouring device comprising a boot, a pouring tube extending through the end of said boot, the inner end of said tube being cut diagonally and having means for perforating said container, means between said tube and said boot for holding the tube rigidly in said boot, an extension on said boot, an arm hinged to said extension, a spring attached to said arm for engaging a can in said boot, a perforated button at the end of said arm, and a tube at the inner face of said button and having can perforating means therein, said tube extending through said perforated button.

2. In combination, a can opening and pouring device comprising a boot, a pouring tube extending through said boot, the inner end of said tube being cut diagonally and having therein means for piercing an end of a container in said boot, a diaphragm within said boot and having a threaded collar adjacent said tube, said diaphragm providing a seat for the end of said container, a flanged and threaded bushing about said tube and between said housing and said tube and said diaphragm and said tube, an extension on said boot, an arm hingedly attached to said extension, a spring upon said arm and adapted to press against the wall of a container in said boot, an apertured button on the end of said arm, and a tube in said aperture and having its outer end flush with the outer surface of said button, the inner end of said tube being cut diagonally and having means for perforating the wall of a container in said boot at a point removed from said pouring tube.

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