March 19, 1935. C. H. ERNE 1,994,466

OIL DISPENSING DEVICE

Filed Feb. 20, 1933

Fig. 1

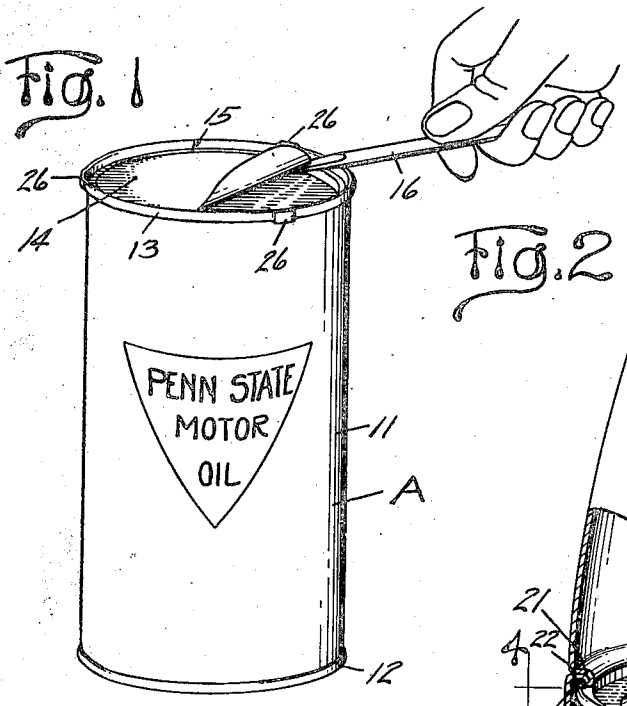


Fig. 2

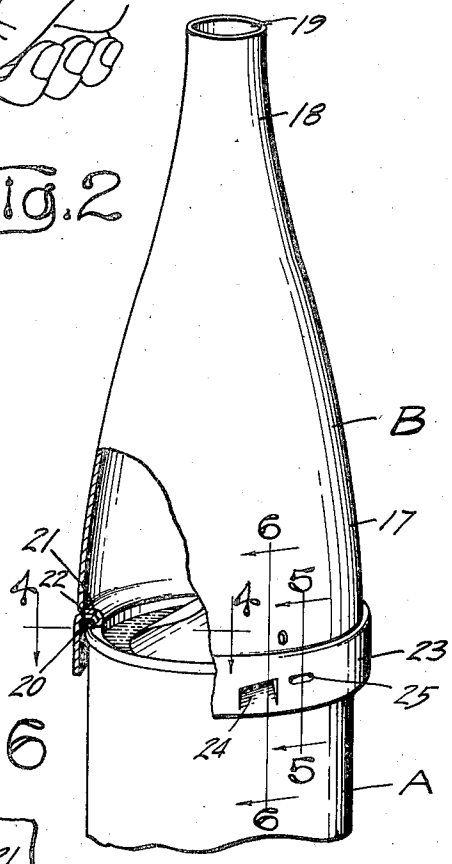


Fig. 4

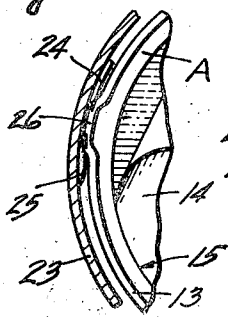


Fig. 5

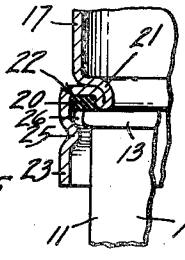


Fig. 6

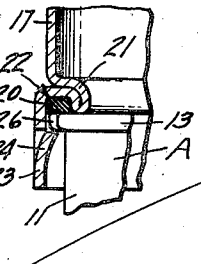
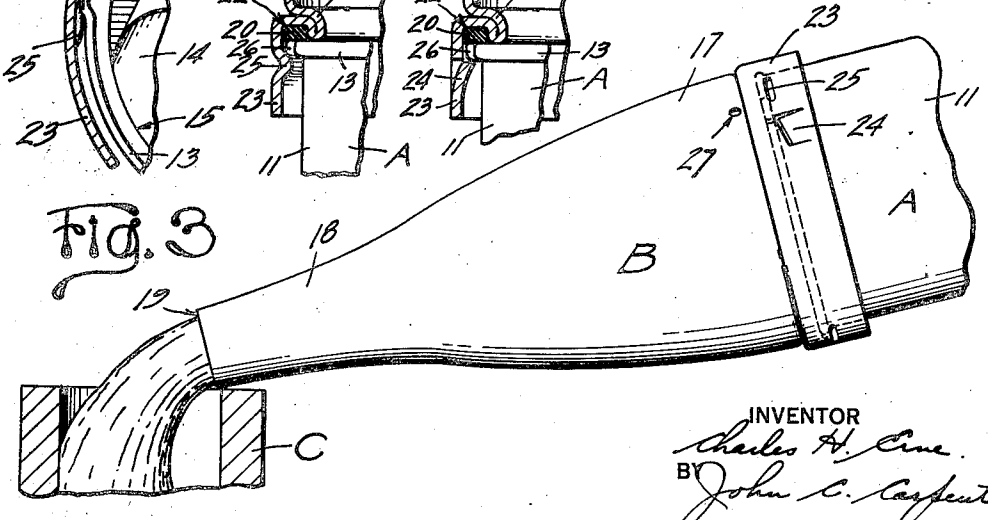


Fig. 3



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1,994,466

OIL DISPENSING DEVICE

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9 Claims. (Cl. 221—23)

This invention relates in general to an improved device for dispensing liquids and more particularly to expeditiously dispensing a unit charge of lubricating oil from a sealed container.

The principal object of the invention is to provide the combination of a readily frangible, tamperproof, oil container adapted to cooperate with a simple, inexpensive, funnel spout adapted to fit over and make liquid tight locking engagement with the frangible container, so that a unit charge of oil may be readily dispensed from the container through the funnel spout and directly into the filling opening of an automobile crank case or other ultimate place of deposit.

An important object of the invention is the provision of a novel method of dispensing branded or labeled motor oils in sealed, tamperproof containers in an expeditious and economical manner, which method is designed to substantially prevent substitution and adulteration of the oils and to protect the ultimate consumer against adulterated and inferior quality.

Another important object of the invention is the provision of such an oil container having locking projections upon a part thereof which cooperate with like projections upon the dispensing device, so that both container and device may be readily brought into intimate and liquid tight locking engagement for the dispensation of the contents.

Another important object of the invention is the provision of a combination pouring spout and funnel, shaped and dimensioned so as to conduct and transfer liquids, such as lubricating oils, from a substantially widely opened container to a more or less restricted opening in the ultimate place of deposit, such as the filling holes of automobile crank cases, which differ in size and accessibility according to different makes and sizes of cars, and to make such transfer speedily and with a minimum waste of oil and motion and with a minimum soiling of the devices involved.

Still another important object of the invention is the provision of such a combination pouring spout and delivery funnel of simple and inexpensive construction, provided with a sealing gasket and cooperating with a readily frangible container of metal or fibre or partly metal and partly fibre, for dispensing a unit charge of oil from such containers, the while sealingly interlocking with said container and without resort to the expensive equipment now in use at filling stations and elsewhere.

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 drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of a suitable oil container with scored top end and illustrates the removal of the scored end;

Fig. 2 is a perspective view of the container and funnel spout, with parts broken away, in interlocked or threaded relationship;

Fig. 3 is a partly sectional, partly elevational view, showing the interlocked or threaded container and funnel spout in tilted or pouring position;

Fig. 4 is a fragmentary, horizontal sectional view taken along the lines 4—4 of Fig. 2;

Fig. 5 is a fragmentary, vertical sectional view taken along the lines 5—5 of Fig. 2; and

Fig. 6 is a like view taken along the lines 6—6 of Fig. 2.

The preferred embodiment of the invention illustrated in the drawing, comprises generally a sheet metal container A and a substantially bottle shaped funnel and pouring spout B, also made of sheet metal of somewhat heavier gauge than the metal of the container.

Preferably, the container A illustrates a size to hold an exact unit charge of lubricating oil, for example, a quart. It may, however, be made in a number of different sizes, for instance, half gallon, gallon or five quart size, or any other desired size. It comprises a cylindrical body 11, having a bottom end secured to it by means of a double seam 12, or in any suitable liquid tight manner. A top end is secured to the opposite end of the body 11 by a like seam 13, and has a countersunk flat panel 14 provided with an annular score line 15, located just within the upwardly projecting seam 13. The container is opened by breaking through the score line 15 with a sharp instrument such as a pocket knife or a screw driver 16 and prying up the panel 14 either partly, as shown in Fig. 1, or entirely removing the panel.

The funnel spout B, preferably made from seamless brass or copper tubing, and gradually reduced by spinning from its largest diameter to its smallest diameter is substantially bottle shaped.

It comprises a tubular body 17 of comparatively large diameter at its lower end and at its upper end gradually tapering into a comparatively small diameter tapered neck or spout 18, which, at its outer extremity, defines a restricted circu-

lar pouring opening 19. The body 17, near its large diameter bottom, has its tubular wall turned inwardly and downwardly and upon itself to provide a container engaging shoulder 21, having a recess 22, and thence terminates in a depending flange or collar 23.

In order to provide for a liquid tight engagement between the funnel spout and the container, an annular gasket 20, preferably of rubber or other suitable material, is packed or crowded into the recess 22 of the shoulder 21.

The depending flange or collar 23 is provided, at spaced intervals around its periphery, with inwardly projecting locking threads 24 and companion stop lugs 25. Each locking thread 24 is formed by cutting the metal of the flange 23 vertically along parallel, spaced lines and along a line inclined from the horizontal and connecting the vertical cuts, leaving the bottom connected with the flange and bending inwardly the cut metal.

Each stop lug 25 is formed by indenting the metal of the flange 23 along a line substantially horizontal with the highest point of the slanting or inclined cut end slightly spaced away from the thread 24. Three sets of locking threads and companion stop lugs are preferably employed.

To cooperate with these locking and stop elements on the funnel spout B, corresponding locking projections are provided on the container A by squeezing and projecting outwardly the metal of the top seam 13 at three spaced points 26 about the periphery of the seam 13. These locking projections or threads 26 may be produced by a suitable die or squeezer jaw operation after the double seam 13 is formed in the usual manner and without endangering the tightness of the seam 13.

It will be readily seen that instead of spinning the funnel spout B from seamless tubing, it may well be formed from a flat blank of any suitable sheet metal, in which case the edges of the blank would be joined in a side seam.

Also, the shoulder 21 and collar 23 may be joined to the body 17 as a separate piece instead of being integral with the body as is shown in the preferred illustration.

In order to assure the ultimate purchaser that he gets the brand and quality of lubricating oil he asks and pays for, the tamperproof oil container A may be marked with the brand of oil it contains, by lithographing or labeling or in any other suitable manner. Fig. 1 shows one example of such marking.

The funnel spout B may be made in a number of different sizes and diameters to threadedly fit the corresponding sizes and diameters of oil containers above referred to.

In actual dispensing practice, the oil container A and the funnel spout dispenser B may be manipulated as follows:

When a unit charge of oil of a certain requested brand is to be dispensed into the crank case of an automobile at a filling station, the attendant selects a filled, sealed and labeled oil container A of the desired size and brand and opens it (preferably in full view of the purchaser) by prying up the panel 14 along the score line 15 by means of any handy, sharp instrument or tool, such as a screw driver or knife, so that a substantial pouring opening is provided (see Fig. 1). If preferred, the entire panel 14 may be thus removed.

The attendant then selects the proper size funnel spout dispenser B and inverts the wide, open end of the spout over the top of the opened container A, with the three sets of threads 24 and lugs 25 located between the seam projections or threads 26 of the container, until the top edge of the seam 13 engages the gasket or packing 20 in the shoulder recess 22. He then rotates the funnel B upon the container A in a clockwise direction, when the inclined thread 24 catches under the nearest seam projection 26 and slides upon it until the latter engages the stop lug 25. By this time, the somewhat resilient gasket 24 has been tightly drawn down against the seam 13 and forms with the latter a liquid tight seal which effectively prevents the escape of any oil between such seal.

The container and funnel are then tilted to pouring position, as illustrated in Fig. 3, where reference letter C denotes the filling neck of an automobile crank case. The oil is thus readily transferred from the container A, through the funnel B, and into the filling opening of the crank case.

Instead of merely resting the part 18 upon the part C, the funnel neck 18 may be projected into the filling opening of the crank case a sufficient distance to hold the funnel B and attached container A in fully inverted, substantially vertical pouring position without other support. The attendant may then leave the device in this position while he goes for another container and funnel. In order to permit the rapid draining of the oil, an air vent hole 27 is provided in the body 17 of the funnel spout B.

The funnel neck 18 is of such diameter and taper that it will readily fit the filling hole of any standard motor car from the smallest to the largest make.

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. The combination in a liquid dispensing device, of a liquid holding container sealed by means of a double seam and having a frangible wall adapted to be fractured to open the container and dispense the contents, and a pouring funnel adapted to lockingly engage the double seam of said container and to deliver the contents to a place of deposit, the container being sealed irrespective of said funnel.

2. The combination in a liquid dispensing device, of a sealed, liquid holding container having a wall adapted to be fractured to open the container, and a pouring funnel shaped spout adapted to be inverted over and to threadedly engage directly with the top part of said opened container during dispensation of said liquid through said spout to a place of deposit, said threaded engagement being effected by spaced projections provided on said container and said funnel.

3. The combination in a liquid dispensing device, of a sealed, liquid holding container having a frangible wall adapted to be fractured to open the container and dispense the contents, and a gasket lined pouring funnel adapted to sealingly interlock directly with said container and to deliver the contents to a place of deposit, the lower part of said funnel being bent inward and downward and thence upward, outward and downward to provide a recess for said gasket and a shoulder

for the support of the funnel and a depending flange to surround the container.

4. The combination in a liquid dispensing device, of a sealed, liquid holding container having a tear away area in a wall thereof defined by a score line, and with a plurality of spaced projections, and a pouring funnel having a plurality of spaced projections and adapted to be inverted over and rotated to cause said projections to interlock and effect a sealing engagement of said funnel with said container.

5. The combination in a liquid dispensing device, of a sealed liquid holding container having a weakened wall and adapted to be opened by breaking through said wall, and a pouring funnel adapted to sealingly interlock with said container by an interrupted thread connection to deliver the contents to a place of deposit.

6. The combination in an oil dispensing device, of a sealed, non-refillable oil container having a scored end adapted to be readily broken to open the container and dispense the oil, and a tubular pouring spout adapted to sealingly interlock by an interrupted thread connection directly with said container about said opened end and to be handled as a unit with said container to deliver the oil to a place of deposit.

7. The combination in an oil dispensing device, of a sealed, non-refillable oil container having a scored end adapted to be readily broken to open the container and dispense the oil and a tubular pouring spout having a sealing gasket, said spout being provided with locking means of the interrupted thread type whereby it is adapted to be removably interlocked with said container and to deliver the oil to a place of deposit.

8. An oil delivery device, comprising a body adapted to receive the opened end of an oil container, a container engaging member provided with locking means of the interrupted thread type whereby it is adapted to make locking engagement with a wall of said container, said body terminating in a tapered delivery pouring spout adapted to fit the filling holes of automobile crank cases of different dimensions.

9. An oil delivery device, comprising a funnel shaped pouring body adapted to telescopingly receive the opened end of an oil container, said body being provided with a threaded element whereby it is adapted to make liquid tight sealing and locking engagement with a correspondingly threaded container when said body and container are rotated relative to one another.

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