

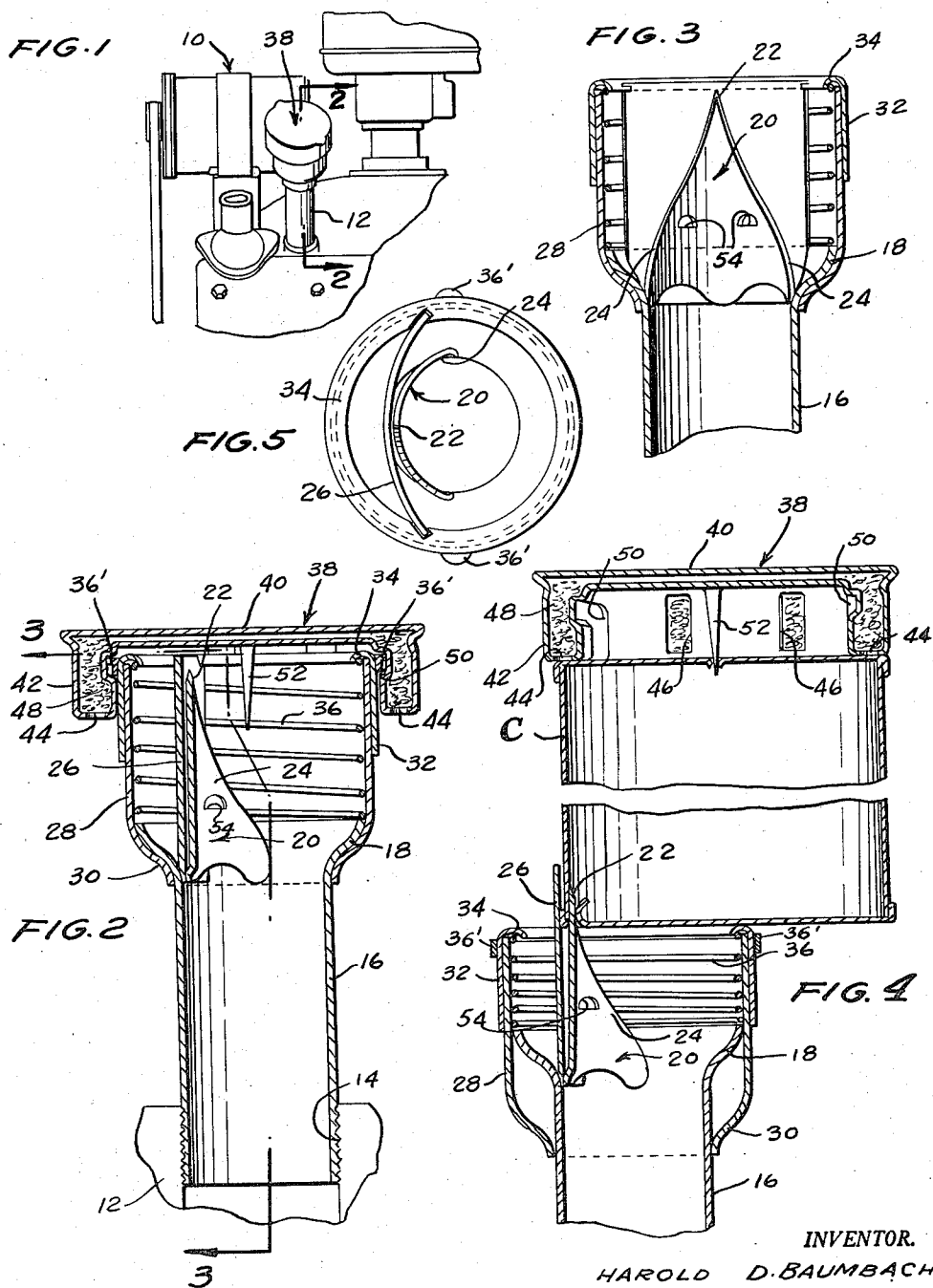
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H. D. BAUMBACH

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CAN OPENER

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CAN OPENER

Harold D. Baumbach, Delta, Colo.

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This invention relates to a can opener and more particularly to a can opener adapted to be attached to the filler pipe of a conventional internal combustion engine.

The primary object of the invention is to facilitate the introduction of canned lubricant into the crank case of the engine and avoid the spilling of the lubricant on and about the engine.

Another object is to perforate the container in which the lubricant is sealed in an end thereof which is disposed directly above the filler pipe and in the opposite end to provide an air vent which will permit the drainage of the contents of the can into the filler pipe.

A further object is to protect the can opener and filler pipe from the accumulation of dust and dirt during the periods that the can opener is not in use.

The above and other objects may be attained by employing this invention which embodies among its features a nipple carried by a filler pipe and extending upwardly therefrom in registration therewith, can end cutting and perforating means carried by the nipple and projecting upwardly therefrom adjacent one side thereof, a head carried by a nipple for movement longitudinally thereon, and yielding means carried by the nipple and engaging the head for holding the head upwardly under yielding pressure and in encircling relation to the can end cutting and perforating means, and a cap removably carried by the head for closing the end thereof remote from the nipple to exclude dust and dirt from the interior of the device.

Other features include a can perforating prong carried by the cap and adapted upon the exertion of downward pressure on the cap with the latter seated on a can to perforate the can with an air vent.

In the drawings:

Figure 1 is a fragmentary side view of an internal combustion engine showing the filler pipe equipped with this improved can opener;

Figure 2 is a fragmentary enlarged sectional view taken substantially on the line 2-2 of Figure 1;

Figure 3 is a vertical sectional view taken substantially on the line 3-3 of Figure 2;

Figure 4 is a fragmentary view similar to Figure 2, showing the device in use preparatory to emptying the contents of a lubricant containing can into the filler pipe; and

Figure 5 is a top plan view of the can opener with the cover removed.

Referring to the drawings in details, a conventional combustion engine designated generally 10 is equipped with a conventional filler pipe 12 having formed adjacent its upper end internal screw threads 14. Threadedly engaged with the threads 14 in the filler pipe 12 is a nipple 16 carrying at its end remote from the filler pipe 12 an outstanding annular flange 18 defining a funnel through which the lubricant passes on its way to the filler pipe 12. Carried by and extending upwardly beyond the upper end of the nipple 16 is an arcuate can end cutting and perforating blade 20 having a sharpened upper end 22 and laterally and outwardly extending side wings 24 which serve to curl up the metal forming the end of a can C as the sharpened end 22 is entered into said can.

Carried by the nipple 16 and extending upwardly therefrom beyond the flange 18 in concentric spaced relation to the blade 20 is a can guide 26, the upper end of which projects slightly above the upper sharpened end 22 of the blade 20. It will thus be seen that as a can C is moved downwardly against the blade 20, it will be

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guided in its downward movement by the guide 26 so that the perforation formed in the can will lie against one side wall thereof and as the can is moved downwardly along the blade, the wings 24 will curl the portion cut from the can bottom back upon itself, as suggested in Figure 4.

While the opener, as above disclosed, will function perfectly in emptying the contents of the can C into the filler pipe 12, I find it desirable to protect the interior of the nipple 16, flange 18 and the blade 20 and guard 26 from the accumulation of dust and dirt, and to this end I employ the structure hereinafter described.

Mounted for longitudinal sliding movement on the nipple 16 is a head 28 having adjacent its lower end an inwardly extending flange 30 which, when the head 28 is elevated, engages the flange 18, as suggested in Figures 2 and 3, so that the head 28 forms a continuation of the funnel-like flange 18. Carried by the head 28 adjacent its end remote from the flange 30 is an annular reinforcing ring 32 carrying at its end remote from the flange 30 an internally extending annular flange 34 which overlies the upper end of the head 28 and forms a stop for a purpose to be more fully hereinafter described.

Seated on the flange 18 and extending upwardly therefrom is a compression coil spring 36, the upper end of which engages the flange 34 to yieldingly hold the head 28 upwardly, as shown in Figures 2 and 3, to encircle the blade 20 and guide 22. Carried by and extending outwardly from the reinforcing ring 32 adjacent the flange 30 are circumferentially spaced lugs 36' which removably secure the cover or cap designated generally 38 in closing relation with the upper open end of the head 28.

The cover or cap 38 comprises a hollow body 40 having a depending flange 42 having vent openings 44 extending through the end thereof remote from the body 40 and interior vent openings 46. The spaces between the walls of the body 40 and the flange 42 are filled with a fibrous substance 48 which serves to keep dust and dirt from entering the pipe 16 when the cover is in closing relation to the head 28. The inner wall of the flange 42 is provided with circumferentially spaced L-shaped bayonet type grooves 50 for cooperation with the lugs 36' in retaining the cap in place on the head 28 and carried by the cap and projecting downwardly therefrom below the lower end of the flange 42 is a sharpened prong 52 which, when the cap is used to press the can C downwardly, perforates the end wall of the can C remote from that when engages the head 28.

In use with the can opener coupled to the filler pipe 12, as suggested in the drawings, the cap 38 is rotated to permit the lugs 36' to pass through the L-shaped slots 50 so that the cap may be lifted from the head 28. With the cap thus removed, the user will place a can C containing the selected lubricant substantially in the position illustrated in Figure 4 on top of the flange 34 of the head 28 with the lower bead adjacent one side of the can aligning with the space between the blade 20 and the guide 26. The cap 38 is then placed on the can above the nipple 16 substantially as shown in Figure 4 and upon exerting downward pressure on the cap, the prong 52 will perforate the end of the can remote from the nipple 16 and the sharpened point 22 of the blade 20 will perforate the opposite end of the can so that upon further downward pressure, the wings 24 of the blade 20 will cause the perforated portion of the lower end of the can to be curled back upon itself substantially, as suggested in Figure 4, so that the contents of the can will be drained into the nipple 16 and directed into the filler pipe 12. By forming recesses 54 in the blade 20 only slightly above the upper edge of the flange 18, part of the contents of the can C will pass into the space between the blade 20 and guide 26 to assure complete drainage of the can C.

From the above, it will be obvious that when the device is in closed position, as illustrated in Figure 2, the cover 38 being removably locked in place on the head 28 will effectively protect the blade 20, spring 36, guide 26 and interior of the head 28 and flange 18 from the accumulation of dust and dirt and at the same time no interference with the free flow of air through the pipe 16 will be experienced. Moreover, upon the removal of the cap from the head 28, the device is ready for instant use in

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introducing lubricant into the filler pipe 12 from a sealed can C such as is commonly employed in the dispensing of lubricating oil. Because of the fact that the can guide 26 projects slightly above the pointed end 22 of the blade 20, it will be evident that the can C will be guided into proper position over the nipple 16 before any cutting of the can end by the blade 20 can take place.

Obviously, bulk oil may be introduced into the engine through the head 28 and pipe 16 by the simple removal of the cap 38 and if so desired the cap 38 may be provided with outwardly extending finger grips to facilitate the handling thereof.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What is claimed is:

1. A can opener comprising a nipple carried by a filler pipe and extending upwardly therefrom in registration therewith, can end cutting and perforating means carried by the nipple and projecting upwardly therefrom adjacent one side thereof, a head carried by the nipple for movement longitudinally thereon, and yielding means carried by the nipple and engaging the head for holding the head upwardly under yielding pressure and in encircling relation to the can end cutting and perforating means.

2. A can opener comprising a nipple carried by a filler pipe and extending upwardly therefrom in registration therewith, can end cutting and perforating means carried by the nipple and projecting upwardly therefrom adjacent one side thereof, a head carried by the nipple for movement longitudinally thereon, yielding means carried by the nipple and engaging the head for holding the head upwardly under yielding pressure and in encircling relation to the can end cutting and perforating means, a cap removably carried by the head for closing the end thereof remote from the nipple, and a can perforating prong carried by the cap and projecting outwardly therefrom.

3. A can opener comprising a nipple carried by a filler pipe and extending upwardly therefrom in registration therewith, an arcuate can end cutting and perforating blade carried by and projecting upwardly therefrom beyond the upper end and adjacent one side thereof, a can guide carried by the nipple and projecting upwardly therefrom in spaced concentric relation to the blade, a head carried by the nipple for movement longi-

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tudinally thereon, and yielding means carried by the nipple and engaging the head for holding the head upwardly under yielding pressure and in encircling relation to the can end cutting blade and guide.

4. A can opener comprising a nipple carried by a filler pipe and extending upwardly therefrom in registration therewith, an arcuate can end cutting and perforating blade carried by and projecting upwardly therefrom beyond the upper end and adjacent one side thereof, a can guide carried by the nipple and projecting upwardly therefrom in spaced concentric relation to the blade, a head carried by the nipple for movement longitudinally thereon, yielding means carried by the nipple and engaging the head for holding the head upwardly under yielding pressure and in encircling relation to the can end cutting blade and guide, a cap removably carried by the head for closing the end thereof remote from the nipple, and a can perforating prong carried by the cap and projecting outwardly therefrom.

5. A can opener comprising a nipple carried by a filler pipe and extending upwardly therefrom in registration therewith, an arcuate can end cutting and perforating blade carried by and projecting upwardly therefrom beyond the upper end and adjacent one side thereof, a can guide carried by the nipple and projecting upwardly therefrom in spaced concentric relation to the blade, an annular flange carried by the nipple and extending outwardly and upwardly therefrom adjacent the upper end thereof, a head carried by the nipple in encircling relation thereto for movement longitudinally thereon, a spring carried by the nipple and engaging the head for holding the head under yielding pressure against the flange and in encircling relation to the blade and can guide, a cap detachably connected to the head remote from the nipple, and a can perforating prong carried by and projecting outwardly from the cap.

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