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1,975,313

LUBRICATING DEVICE

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FIG. 2.

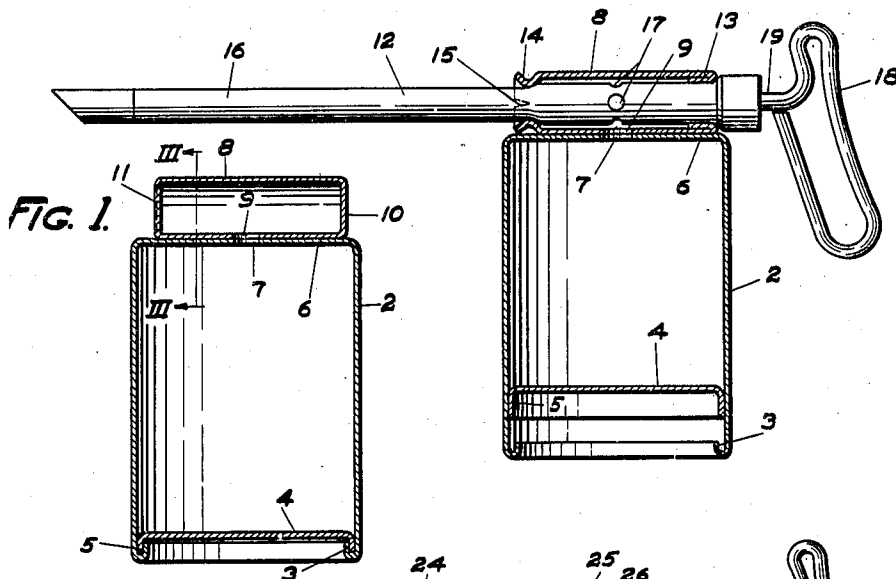


FIG. 5.

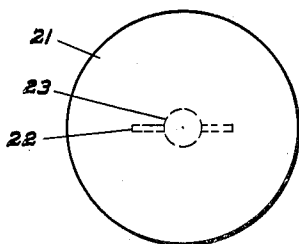


FIG. 4.

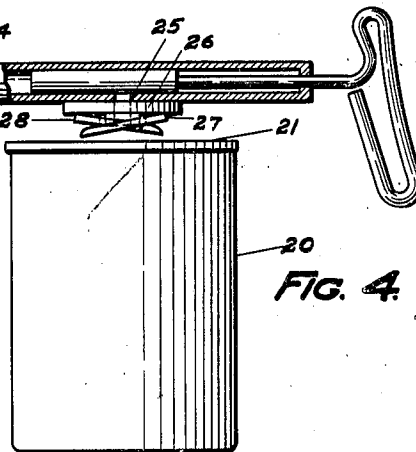


FIG. 6.

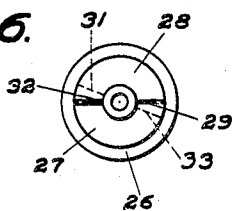
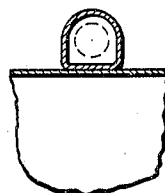


FIG. 3.



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LUBRICATING DEVICE

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14 Claims. (Cl. 221—47.4)

This invention relates to lubrication devices and more especially to a container adapted (1st) to transport lubricant from the factory to the place at which the lubricant is to be used, (2d) to hold the lubricant while it is being offered for sale, and (3rd) to cooperate with a pump or gun to supply the lubricant to the bearings to be serviced.

One of the objects of the invention is to provide a lubricant container or carton which when properly attached will form an operative part of a lubricating gun.

A further object of the invention is to provide in the construction of such a container means for attaching the container easily and conveniently to the gun to be used in combination therewith.

Further objects will be apparent from a reading of the subjoined specification and claims and from a consideration of the accompanying drawing.

In general the invention comprises a carton or cartridge having certain portions adapted to be easily punched out so that lubricant may be dispensed through the opening formed thereby, and especially constructed so that the carton may be easily attached to a gun of unique design adapted to cooperate therewith. This carton will serve to hold the lubricant while it is being transported from the factory. It will serve to hold it while it is being displayed for sale. It will serve as a convenient place for advertising matter, the placing of such matter upon the carton being relatively unobjectionable to the purchaser even though the placing of such advertising matter would be objectionable if on the gun and even though the carton forms for its life, a part of the gun.

In order to explain the invention more clearly I have shown two embodiments thereof in the attached drawing, in which:

Fig. 1 is a view in section of a carton constructed according to my invention;

Fig. 2 is a view in section of the carton shown in Fig. 1 attached to a gun adapted to cooperate therewith;

Fig. 3 is a fragmentary sectional view taken substantially on the line III—III of Fig. 1;

Fig. 4 is a view partly in elevation but having parts in section, showing a carton of modified design, and a gun adapted to cooperate therewith;

Fig. 5 is a top plan view of the carton shown in Fig. 4; and

Fig. 6 is a bottom plan view of the attaching portion of the gun shown in Fig. 4.

In general the carton or cartridge shown in Figs. 1, 2, and 3 forms a container and includes a cylinder formed of light metal or heavy paper such as cardboard, or of any other suitable material, having its upper end partially closed and its lower end open. While shown as a cylinder, the carton could, if desired, be of any other suitable shape. The edges of the carton at the lower end are returned to form the flange 3 while a closure 4 which has a downturned flange 5 fitting between the side wall of the carton and the flange 3 and which as will later be more fully described, closes this end and also serves as a follower or piston for the lubricant. The upper end of the carton is provided with a top 6 which has an opening 7 and to which a hood 8 is secured in any suitable manner as by soldering or welding with a lateral opening 9 aligned or in register with the opening 7 in the carton. As shown, the hood is cylindrical but it may be of any other suitable shape corresponding to the shape of the cooperating gun parts. The ends 10 and 11 of the hood are originally closed, but are formed of soft metal or paper so that a gun such as the gun 12 shown in Fig. 2 may be pushed through, causing the end to split and bend inward as shown at 13, and the end 11 to split and bend outward as shown at 14. The ends may be weakened in any desired manner. For example, they may be formed with a plurality of scored lines adapted to form slits such as that shown at 15, thus allowing the gun to pass through more readily, or the ends may be left open to be temporarily closed by removable plugs. The outlines of the weakened portions may be shaped as desired to conform to the outlines of the gun. The gun 12 may comprise a barrel 16 provided with openings 17 adapted to align with the openings 7 and 9, and provided with a plunger (not shown) carried by a plunger rod 19 to which is attached an operating handle 18.

In the operation of the device shown in Figs. 1, 2, and 3, the gun 12 is inserted through the softened portion 10 and said portion bent in at 13. If necessary, the gun may be revolved slightly during the insertion to aid in the process. The gun is then pushed further through the end 11 and that end is pushed out as at 14. Continuing, the gun is moved to the position shown in Fig. 2, in which the slots 17 register with the openings 7 and 9. Thereafter, by reciprocation of the handle 18, lubricant may be pumped by suction from the interior of the carton, the closure 4 moving up

to act as a follower for the lubricant as it is being pumped. It should, of course, be understood that it is preferable to make fairly tight frictional engagement between the hood or gun barrel receiving element, and the barrel of the gun at least a ring contact ahead of the openings 7 and 9 and behind them to prevent air from entering the grease and to hold the assembly together. The first purpose may be served by forming the parts so that a seal is obtained about the openings 7 and 9.

The container or carton 20 shown in Fig. 4 preferably has its lower end and sides formed similarly to the lower end and sides of the carton shown in Fig. 2, and is provided with a closure (similar to the closure 4) which also acts as a follower in the same manner as described above in connection with Fig. 2. The upper end of the carton, however, is not formed with a hood such as the hood 8 and in its unopened condition has no opening in the top corresponding to the hole 7. It is provided, however, with an upper end 21 formed of relatively thin metal or of cardboard, having the metal or cardboard scored. It may be scored as shown along the outlines of the dotted rectangles 22 and the dotted circle 23, or otherwise softened in such areas, or it may be scored along the outlines of a circle and along an intersecting line, short auxiliary perpendicular lines being added to the ends of the intersecting line. Thus the scored portion will form either a slot or a slit having a circle superimposed thereon. Thus it is possible with a screw driver or other similar tool to punch out the slot 22 and the circle 23 to allow the connection of the gun 24 which corresponds in some respects to the gun 12. However, the gun 24 unlike the gun 12 is provided with a tube 25 which leads downward from the interior of the barrel (in lieu of the slots 17) with a flange 26 which is adapted to make a tight contact with the top 21 of the cartridge or carton 20, and with one or more inclined plates such as the plates 27 and 28. Each of these plates may form (as shown) a portion of a circle slightly more than one-half of a circle. For instance, the plate 27 has one edge at 29 and the other at 31, while the plate 28 has one edge at 32 and the other at 33.

In the operation of the device shown in Figs. 4, 5, and 6, the slot 22 and the circle 23 are formed by removing the metal or cardboard within the scored outline or softened portion. In this process a screw driver or other similar tool may be used if desired. Thereafter, the gun 24 is inserted by inserting the ends 29 and 32 of the plates 27 and 28, respectively, into the slot 22, and then revolving the gun in a clockwise direction as it would appear in looking down on Fig. 4, so that the plates 27 and 28 dig down into the top of the carton and the flange 26 becomes pressed firmly upon the upper surface of the cover 21 and so that the tube 25 is moved down into the interior of the carton 20 and into contact with the lubricant. Thereafter, the gun may be operated by reciprocation of the handle, thus drawing lubricant out of the carton by suction and allowing the follower to move up on the lower surface of the lubricant. Instead of pushing out the dotted line parts of the carton, with a screw driver or the like, the top may be scored and the cartridge or carton connecting portion of the gun barrel may be used to cut out or push in or out the weakened portions while the parts are being connected.

It is to be understood that the above described embodiments of the invention are for the purpose of illustration only, and various changes may be

made therein without departing from the spirit and scope of the invention.

I claim:

1. In a lubrication device, a lubricant container having an opening formed in one end wall thereof, a lubricant gun having a cylindrical barrel provided with an inlet opening through the side wall of the barrel, and means permanently affixed to the container to surround and engage with the side walls of said cylindrical gun barrel detachably to secure the container to the gun and to maintain the inlet opening of the gun in registration with said opening in said container.

2. A lubricant container having an opening formed therein, a cylindrical hood having closed ends secured to said container and having an opening aligned with the opening in the container, one of the ends of said cylindrical hood being weakened.

3. A lubricant container having an opening formed therein, a cylindrical hood having closed ends secured to said container and having an opening aligned with the opening in the container, both of the ends of said cylindrical hood being weakened.

4. A cylindrical lubricant container having an opening formed in one end thereof, a substantially cylindrical hood secured by its side to said end of the container and having an opening in its side aligned with the opening in the container, and a lubricant pump detachably secured in said hood.

5. A lubricant container having an opening formed in one end thereof, a substantially cylindrical hood secured to said container and having an opening aligned with the opening in the container, and a follower positioned in said container adjacent to the end of said container opposite to said opening.

6. In a lubrication device, a cylindrical container formed with an end closure, said end closure having a scored portion forming the outline of an elongated slot.

7. In a lubrication device, a cylindrical container formed with an end closure, said end closure having a scored portion forming the outline of a circle superimposed upon an elongated slot.

8. A detachable lubricant container for a lubricant gun having a cylindrical barrel, comprising, a hollow lubricant containing body formed with a portion in communication with the interior of said hollow body adapted detachably to engage and surround an intermediate portion of said lubricant gun barrel whereby the container may be supported upon the gun.

9. A detachable lubricant container for a lubricant gun having a cylindrical barrel, comprising, a hollow lubricant containing body, said body having a portion in communication with the interior of said hollow body and adapted detachably to engage and surround an intermediate portion of said lubricant gun barrel whereby the container may be supported upon the gun, the axes of said gun barrel and said hollow body being perpendicular to one another when the container is fixed to the gun as described.

10. In combination, a lubricant gun having a barrel provided with an inlet port through its side wall, a lubricant container for supplying lubricant to said gun having a normally sealed opening of predetermined size and shape, and means including a portion of said container adjacent to said normally sealed opening in the container and a portion of said gun for securing said gun

and said container to one another and effective simultaneously to unseal said opening and to establish a lubricant connection between the inlet port of the gun and the said container opening.

5 11. The combination with a container as defined in claim 6, of a pump cylinder, a discharge nozzle connected with said cylinder, a piston in said cylinder, said cylinder having a lubricant inlet opening in one side thereof, and means on
10 said cylinder for interlocking engagement with the container, said means being adapted to pass through the opening formed in said end of said container by breaking through said scored portion.

15 12. A lubricant-gun pump adapted to be completed as a gun by the addition of a detachable reservoir comprising, a cylinder, a discharge nozzle connected with said cylinder, a piston in said cylinder, said cylinder having an inlet opening intermediate its ends, and means including a container perforating device secured to the cylinder
20 for interlockingly securing the pump to a reservoir and for establishing a lubricant connection between said inlet and the reservoir.

25 13. In a lubrication device, a lubricant container having an opening formed in one end wall

thereof, a lubricant gun having a cylindrical barrel provided with an inlet opening through the side wall of the barrel, and means including a cylindrical walled hood having frangible end walls permanently affixed to the container and enclosing said container opening, said hood being
80 adapted upon perforation of the end walls to surround and engage with the side walls of said cylindrical gun barrel detachably to secure the container to the gun and to maintain the inlet opening of the gun in registration with the opening in the container.

14. A detachable lubricant container for a lubricant gun having a cylindrical barrel provided with an inlet in its side wall, comprising, a hollow lubricant containing body, a cylindrical
90 walled hood fixed to said body and having a portion in communication with the interior of said hollow body, said hood being adapted to engage with and to surround an intermediate portion of said lubricant gun barrel whereby the container
95 may be operably supported upon the gun with the inlet of the gun in registration with the said portion of communication.

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