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GREASE PACKAGE

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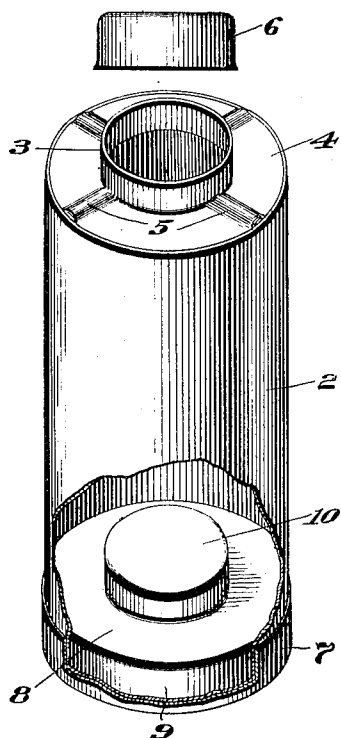


*Fig. 1*

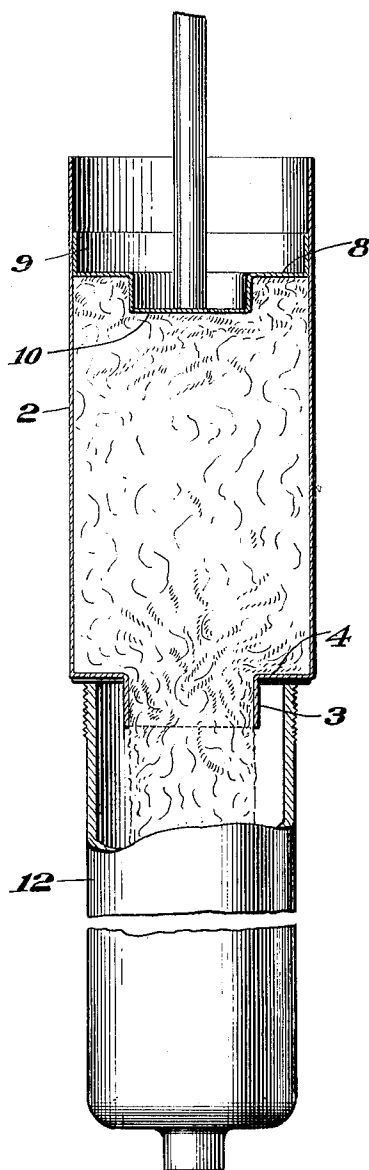


*Fig. 2*

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# UNITED STATES PATENT OFFICE.

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## GREASE PACKAGE.

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This invention relates to the filling of grease guns and to packages of grease designed to be used for this purpose and known as "refill packages".

Grease guns are now used very generally in the lubrication of machinery and motor vehicles. When the supply of grease in a gun has become exhausted it is then necessary to refill the gun, and the present invention aims to devise a package with the aid of which this operation can be performed quickly and easily. It is also an object of the invention to devise a package of this character which can be manufactured economically and can be used conveniently in the filling of a variety of sizes and makes of grease guns.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawings, and the novel features will be particularly pointed out in the appended claims.

Referring now to the drawings,

Figure 1 is a perspective view of a grease container constructed in accordance with this invention, some of the parts being broken away in order to illustrate the interior construction; and

Fig. 2 is a central, vertical, cross-sectional view of a grease package embodying this invention, but illustrating the process of filling the grease gun with the aid of this package.

The package shown comprises a tubular shell 2 preferably made of sheet metal and of approximately cylindrical form. This shell is open for its entire diameter at one end, but at its opposite end it is provided with a short nozzle 3, somewhat smaller in diameter than the body of the shell, and connected to the body of the shell by an annular shoulder 4. This shoulder preferably is not smooth and flat but is roughened, or has corrugations, such as those indicated at 5, formed therein, so that when the nozzle 3 is inserted in the open end of a grease gun the end wall of the gun will bear against the ridges or corrugations 5. For the purpose of closing the nozzle 3, a cover 6 is provided and the opposite end of the shell 2 is closed by another cover 7. Located in the latter end of the shell is a plunger 8 by means of which the grease is ejected from the shell. In order to guide this plunger it is provided with a rearwardly extending marginal

flange or sleeve 9 that fits snugly within the shell, and it also includes a central offset 10 adapted to fit within the nozzle 3 when the plunger reaches the end of its discharge stroke and thus complete the ejection of the grease from the shell. This offset also is useful in roughly centering the implement used to force the plunger through the shell.

This container is filled with grease at the refinery, or at any other convenient wholesaling plant, and it may be distributed and merchandised as are the present grease packages.

In filling a grease gun with the aid of this package the cap at one end of the grease gun body and the piston are removed from the gun. A grease gun body of an ordinary commercial construction is shown in Fig. 2 at 12. The caps 6 and 7 are removed from the grease package, and the nozzle 3 is inserted in the open end of the grease gun 12, as shown in Fig. 2. The plunger 8 is next forced downwardly to eject the grease, a rod, the grease gun plunger, or any other convenient implement being used to push the plunger 8 through the shell. As the grease is forced into the grease gun, the air in the gun which is displaced by the incoming grease can escape freely between the raised parts of the corrugations 5, the shoulder and discharge opening being proportioned to permit the feeding of the grease without trapping the air therein, as will be obvious from the drawings. In other words, these corrugations prevent the end of the grease gun from fitting flatly against the shoulder 4 where it would prevent the escape of air, particularly as the open end of the grease gun usually is smeared with grease that helps to form an air seal where the end of the gun abuts against the metal surfaces of the can. Any such action is effectually prevented by the construction provided by this invention, and this difficulty which has proved a serious handicap to the use of prior grease packages thus is effectually overcome. The peculiar construction of plunger permits it to eject practically all of the grease from the shell 2. When this operation has been completed the shell is thrown away, the cap and piston of the grease gun are replaced in their operative positions, and the gun is then ready for use.

It will thus be evident that the grease package provided by this invention enables the refilling or reloading of a grease gun to be

performed quickly, conveniently and neatly. Furthermore, the grease gun can be filled completely in the manner described since a free exit is provided for the air that otherwise would be pocketed within the gun. The container for the grease can be manufactured economically, and the package thus provided can be used to refill a great variety of makes of grease guns.

10 Having thus described my invention, what I desire to claim as new is:

1. A refill package for grease guns comprising a container filled with grease adapted to be expelled therefrom under pressure, 15 said container having a discharge opening therein smaller in diameter than the body of the container and separated from said body by a shoulder against which the open end of a grease gun may abut during the 20 filling thereof, said shoulder having ventilating means to permit the escape of air during filling of the gun, the shoulder and discharge opening being proportioned to cause feeding of grease into the gun without trapping the air therein.

2. A refill package for grease guns comprising a tubular shell filled with grease and open at both ends, one end of said shell having a short discharge nozzle projecting 30 therefrom and somewhat smaller in diameter than the body of the shell and connect-

ed with said body by a shoulder against which the open end of a grease gun may abut during the filling thereof, said shoulder having corrugations formed therein to 35 engage the end of the gun and prevent it from seating flatly on the shoulder, whereby to permit the escape of air as it is displaced by the grease, said shoulder and discharge opening being proportioned to prevent trapping of air in the gun as grease is fed therein and a plunger in the shell for expelling grease therefrom.

3. A refill package for grease guns comprising a container filled with grease, said 45 container having a short discharge nozzle projecting therefrom smaller in diameter than the body of the shell and separated from said body by a shoulder against which the open end of a grease gun may abut during the filling thereof, said shoulder having 50 ventilating means to permit the escape of air during the filling of the gun, the shoulder and discharge opening being proportioned to cause feeding of grease into the 55 gun without trapping the air therein; a plunger in the container for forcing grease therefrom, said plunger having central offset portions of substantially the same length as the nozzle and fitting therein.

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