

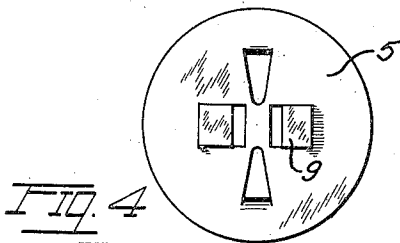
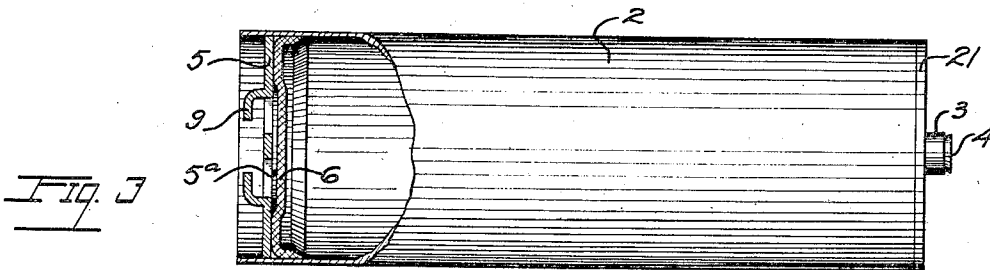
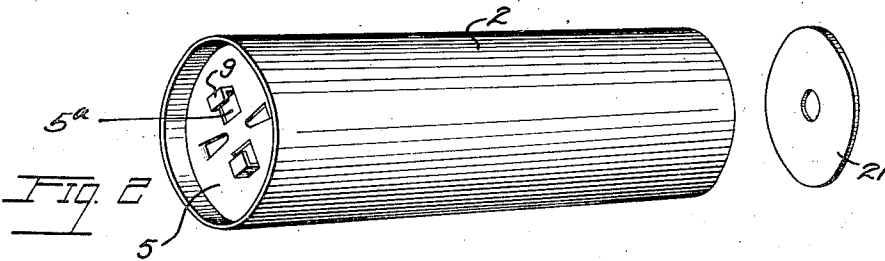
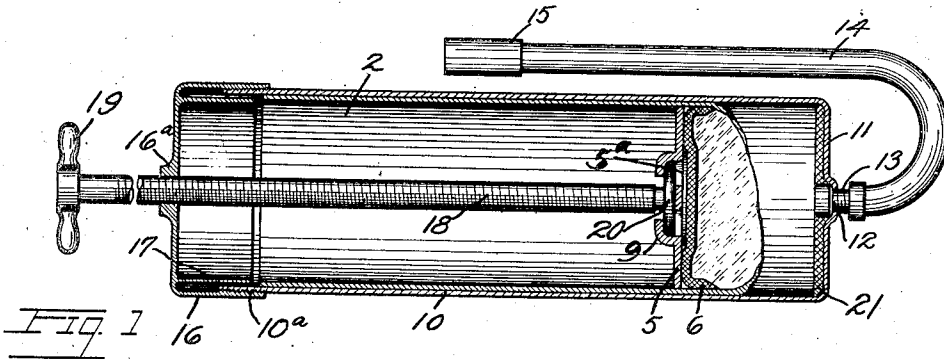
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1,489,262

C. W. MARTIN

GREASE GUN AND CARTRIDGE THEREFOR

Filed Sept. 13, 1921



WITNESS
A. E. Alberg

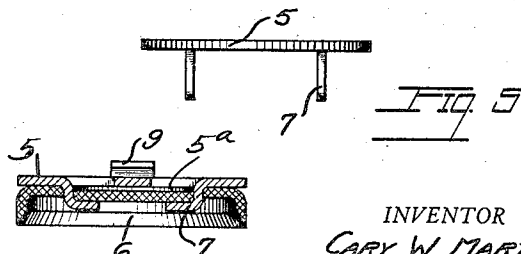


FIG. 6

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UNITED STATES PATENT OFFICE.

CARY W. MARTIN, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO OREN G. MYERS,
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GREASE GUN AND CARTRIDGE THEREFOR.

Application filed September 13, 1921. Serial No. 500,349.

To all whom it may concern:

Be it known that I, CARY W. MARTIN, a citizen of the United States, and a resident of the city and county of San Francisco, State of California, have invented a new and useful Grease Gun and Cartridge Therefor, of which the following is a specification.

This invention relates to lubricating apparatus and more particularly to that type of apparatus involving a grease gun by which a lubricant can be ejected with great pressure from the gun into grease receiving cavities and receptacles.

It is an object of the present invention to provide a cartridge-like container of such proportions and dimensions, that when loaded with a lubricant, it can be readily arranged within the barrel of a grease gun whereby, when the gun parts are properly manipulated, the lubricant can be forced from its cartridge. A further object of the invention is to provide a cartridge having a temporary stopper or closure in the discharge end of the cartridge, and to provide at the opposite end thereof a movable head or piston-like part which is firmly but movably mounted in its respective end of the cartridge shell to form the normal closure thereof. It is a further object to provide a movable end closure which, while normally having a substantially liquid-tight joint in its end of the shell, may be shifted bodily longitudinally in the shell of the cartridge to cause the expression of the liquid or lubricant therefrom.

Another object of the invention is to provide an improved grease gun having parts designed to co-operate with an inserted cartridge loaded with a lubricant or other substance to be ejected.

It is a further object to provide for a slight retraction of the piston part to relieve the apparatus of pressure when it is to be disconnected from the element that is being served with a lubricant.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be made manifest in the following description of the preferred form of the invention, which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood that it is not intended to limit the invention to the embodiment shown by the said

drawings and description, as variations may be adopted within the scope of the invention as set forth in the claims.

Fig. 1 is a central longitudinal section of the improved grease gun parts being shown in elevation, and in which is mounted the improved cartridge.

Fig. 2 is a perspective of the grease gun cartridge.

Fig. 3 is a sectional detail showing the movable head of the cartridge in the end closing position.

Fig. 4 is a plan of the outer side of the piston.

Fig. 5 is an edge view of the piston.

Fig. 6 is a section of the assembled piston and packing.

The device of the present invention consists of a cartridge having a shell of suitable proportions and of any desired kind of material and which shell is adapted to be mounted, when loaded, in the barrel of a grease gun of the type having a jackscrew operative to react against a movable head of the cartridge whereby, under the pressure of the screw against the head, the contents of the cartridge may be ejected through the discharge device or nozzle of the gun. From this it will be seen that it is entirely unnecessary to directly charge the grease into the gun barrel, as is usually the case, and, further, it will be seen that a charge of grease can be contained, in a given quantity, in a unit or cartridge-like device, therefore entirely overcoming the handling of the grease or other fluid in bulk condition and avoiding the usual waste incident thereto.

An embodiment of the invention is shown as including a cartridge in the form of a cylindrical shell 2, which may be of thin sheet metal or any other suitable material which is preferably impervious to the content of the cartridge. One end of the cartridge may be permanently closed and provided with a small nipple or neck 3 into which is inserted a simple stopper 4, which is to be removed and discarded when the cartridge is to be utilized, as is here designed. The opposite end of the cartridge is provided with a movable head in the form of a disc 5. The disc 5 is designed to be forced inwardly into the shell and when so pressed inwardly, forms a piston for ejecting the contents through the neck 3 of the

cartridge. If desired, the piston or head 5 may be provided with a cup washer 6, which, in the present instance, is shown as fastened by inwardly bent prongs 7 of the head 5; the washer thus forming a liquid-tight joint at the perimeter of the piston head 5.

The cartridge, when loaded, is designed to be introduced into a grease gun of the type having, for instance, a cylindrical barrel 10, having a fixed discharge head 11, which is centrally perforated, as at 12, to receive a threaded connection 13 of a flexible nozzle or tube 14, having a tip 15 to be applied to the part to be supplied with the lubricant, or other contents from the cartridge 2. The other end of the barrel 10 is shown as threaded as at 10^a, and receives a removable cap 16 interiorly threaded to fit the threads and which cap may be provided with an interior cylindrical wall 17 to extend slightly within the adjacent end of the barrel 10.

The gun is provided with a jack or pressure screw 18, having a suitable handle or wheel 19 and is threaded through the central boss 16^a of the cap 16. The inner end of the jack-screw 18 is provided with a head 20 or other suitable means designed to engage the contiguous face of the piston 5 of the cartridge. When the cartridge is inserted in the gun while its cap 16 is removed, the neck 3 of the cartridge bears against the end wall 11 and surrounds the outlet aperture 12 thereof.

It is desirable to provide means for slightly retracting, as well as pushing, the piston, so as to reduce pressure on the contents of the gun before the nozzle is disconnected from the part being charged with grease. To that end the screw head 20 is designed to interlock with the piston. This latter is provided with a complementary means, such as upset, opposite lugs 9. The head 20 of the screw can be slipped edge-wise between the lugs 9 and by turning the screw 18, the head 20 thereof, moves inwardly and engages the piston 5. After the head and piston are interlocked, the cap 16 is applied to the shell 10. Rotation of the screw and inward movement of the head 20 causes the latter to push the piston 5 from its end closing position in the cartridge, shown in Fig. 3. During such inward movement of the piston, the contents of the cartridge is ejected through its neck 3 into and from the discharge tube 14.

Since considerable pressure is developed in the gun when serving, it is desirable that

the piston be backed off slightly to lower pressure when the nozzle 15 is to be detached. It is therefore, only necessary to retract the screw-head 20 and thereby allow the piston to fall back a short distance. The piston may be pulled back by the screw and its head.

If the lugs 9 and the prongs 7 are punched up from the disc or piston 5, the holes are preferably covered by a guard plate 5^a, which prevents the packing 6 from bulging into the holes.

Preferably, there is a washer 21 introduced between the discharge end of the cartridge shell and the barrel of the gun so as to prevent the escape of the fluid under pressure from around the circumference of the shell.

What is claimed is:

1. A cartridge adapted to be inserted in a grease gun, comprising a shell, a movable end wall in the shell adapted to be moved by the pressure applying means of the gun to eject the grease from the cartridge and tongues on the end wall under which a foot on the pressure applying means is adapted to engage to transmit backward longitudinal movement of the pressure applying means to the end wall.

2. A cartridge adapted to be inserted in a grease gun, comprising a cylindrical shell entirely open at one end, an inwardly movable metallic piston closing said end, and tongues integral with said piston and disposed on the outer face thereof adapted to be engaged by a pressure applying means to move the piston outwardly.

3. A cartridge adapted to be inserted in a grease gun having a jack screw for ejecting grease from the gun, comprising a shell, an inwardly movable closure in one end of the shell and means on the outer face of the closure detachably engaging said screw whereby rotation of the screw in either direction causes longitudinal movement of the closure.

4. A cartridge adapted to be inserted in a grease gun having a headed jack screw for ejecting grease from the gun, comprising a shell, an inwardly movable closure in one end of the shell and means on the outer side of the closure under which the jack screw head is adapted to be slipped to detachably connect the closure to the screw, whereby rotation of the screw in either direction causes longitudinal movement of the closure.

In testimony whereof, I have hereunto set my hand.

CARY W. MARTIN.