

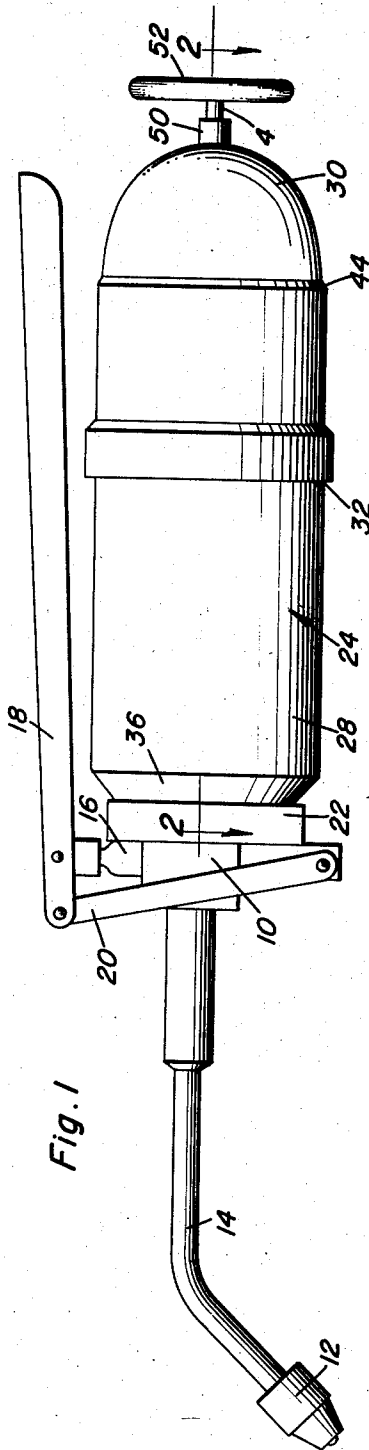
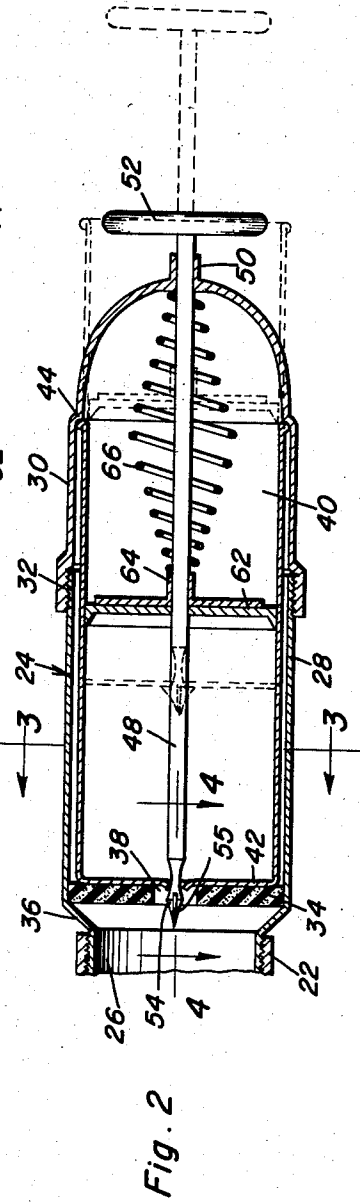
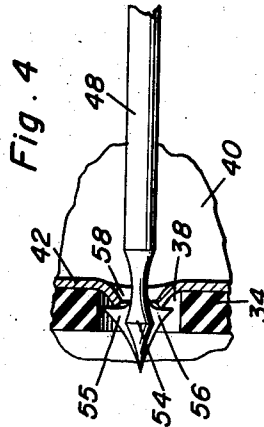
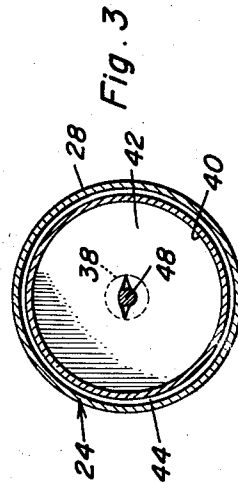
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2,858,962

HAND OPERATED GREASE GUN

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2,858,962

## HAND OPERATED GREASE GUN

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5 Claims. (Cl. 222—82)

This invention relates to hand operated grease guns and particularly to a grease gun wherein an ordinary can of grease is inserted and functions as a cartridge from which the grease is used.

An object of the present invention is to provide an attachment for the nozzle and valve end of a grease gun, the attachment being especially constructed to accommodate an ordinary can of grease and being fitted with means to pierce the bottom of the can and to push the grease through the hole that is so formed in the bottom of the can, whereby it may be applied through the standard valve and grease gun nozzle.

A further object of the present invention is to provide a practical device of this nature wherein the means for piercing the bottom of the can are so constructed that they function as a device for withdrawing the can from the grease gun attachment in an easy and effective manner. Should the user fail to take advantage of this, the device is so constructed that upon opening of the casing, the end of the grease can protrudes outwardly providing a hand grip for manual removal of the grease can.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is an elevational view of a grease gun attachment made in accordance with the principles of the invention;

Figure 2 is a sectional view on the line 2—2 of Figure 1;

Figure 3 is a transverse sectional view taken on the line 3—3 of Figure 2; and

Figure 4 is a sectional view taken on the line 4—4 of Figure 2.

In practicing the invention; there is a standard hand operated grease gun valve body 10 provided with an ordinary nozzle 12 at the end of a tube 14 which operatively connects to the valve body 10. The nozzle 12 is adapted to fit on grease fittings of motor vehicles, but could be substituted in favor of any standard tip. The valve body has a valve stem 16 protruding therefrom, this valve stem being operated by a lever 18 that is mounted on link 20. The valve operating linkage merely typifies one standard valve operating mechanism which may be adopted. An internally threaded collar 22 is on the valve body 10 and is customarily threaded onto the body of the grease gun.

Attachment 24 which exemplifies the invention, has a neck 26 that is externally threaded in order to fit into the collar 22 and to attach thereto. The attachment comprises a casing that is made of an inner cylindrical part 28 and an outer cap or closure 30 threaded as at 32 onto the open outer end of the inner part 28. Yieldable seat, as rubber or plastic pad 34 is located in a reduced

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part 36 of the casing near the neck 26. There is a central passage 38 in the seat 34, and the seat functions to support the can 40. This can is a standard container within which grease is stored and from which it is used.

5 It has a cylindrical side wall, a closure that is removed before inserting in the casing 28 and a bottom wall 42. This bottom wall is adapted to be pierced in the use of the attachment.

10 The outer end part 30 of the casing has a shoulder 44 on which the rim of the can 40 seats when the two parts of the casing are threaded together. This seating arrangement pushes the can firmly and properly on the resilient seat 34.

15 A rod 48 is slidably mounted in a bushing 50 formed at the outer extremity of the casing. An operating handle 52 is on the outer extremity of the rod 48, while the opposite end of the rod has a piercing point 54 on which barbs 55 and 56 are secured. These barbs protrude laterally of the piercing point. The function of the 20 piercing point is to form a hole 58 in the bottom 42 of the can of grease. This is accomplished by pushing the handle 52 inwardly after placing the can 40 in the attachment. Then after the hole is pushed in the can, 25 the handle 52 is rotated, preferably 90°, so that the barbs 55 and 56 are turned at right angles to the slit formed as lateral extensions of the hole 58 by barbs 55 and 56. This makes the task of removing the empty can from the attachment quite simple inasmuch as it is only necessary to detach part 30 from part 28 of the casing and 30 pull on the handle 52. This withdraws the can from the part 28 of the casing.

Piston 62 is mounted for sliding movement on the rod 48 and has a guide 64 through the bore of which rod 38 48 extends. A spring 66 seats on the piston and on the inner surface of the part 30 of the casing. This spring is under a compression load when the can of grease is placed in the attachment and the part 30 of the casing threaded onto the part 28. Then, when the can bottom 40 is pierced in the manner described previously the grease in the can rushes through the hole 58 and into the valve body 10. Upon opening the valve 10 the grease issues through nozzle 12, thereby releasing a small part of the load from spring 66. Continued operation of the valve 45 depletes the supply of grease in the same manner, the piston 62 advancing in the can until the grease is used and the can becomes emptied. Thereafter the can is withdrawn from the attachment in the manner described and the attachment is ready to receive another such container of grease.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

60 1. For use with a grease gun valve that has means to attach a body thereto, an attachment comprising a casing in which to accommodate a can of grease, a piston in said casing and operable in the can of grease to urge the grease towards the bottom of the can, a rod in said 65 casing and having a pointed end with barbs extending radially a greater distance than the diameter of said rod with which to pierce the bottom of the can and after rotation to withdraw the can from the casing upon depletion of the supply of grease therein, and resilient means biasing said piston in said casing in one direction.

2. For use with a grease gun valve that has means to attach a body thereto, an attachment comprising a casing

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in which to accommodate a can of grease, a piston in said casing and operable in the can of grease to urge the grease towards the bottom of the can, a rod in said casing and having a pointed end with barbs extending radially a greater distance than the diameter of said rod with which to pierce the bottom of the can and after rotation to withdraw the can from the casing upon depletion of the supply of grease therein, and resilient means biasing said piston in said casing in one direction, said casing having a reduced part, a resilient seat for the can in said reduced part and having a passage through which the grease is adapted to pass.

3. The attachment of claim 2 wherein said casing is made of two parts that are separably connected together, and one of said parts having a shoulder against which the open end of the can of grease is adapted to seat.

4. In combination with a valve having a valve body, an attachment to supply said valve body with grease under pressure, said attachment comprising a casing, a resilient seat in said casing and having a passage for the grease, said seat being adapted to support the bottom of a can of grease, means in said casing for holding the can of grease seated firmly on said resilient seat, a rod reciprocably carried in said casing, means on the end of said rod for piercing a hole in the bottom of the can and for withdrawing the can from the casing, the last mentioned means being operable in the grease passage, and resiliently biased means in said casing and adapted to move into the can of grease for applying pressure in a

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direction to force it through said hole in the bottom of the can.

5. In combination with a valve having a valve body, an attachment to supply said valve body with grease under pressure, said attachment comprising a casing, a resilient seat in said casing and having a passage for the grease, said seat being adapted to support the bottom of a can of grease, means in said casing for holding the can of grease seated firmly on said resilient seat, a rod reciprocably carried in said casing, means on the end of said rod for piercing a hole in the bottom of the can and for withdrawing the can from the casing, the last mentioned means being operable in the grease passage, and resiliently biased means in said casing and adapted to move into the can of grease for applying pressure in a direction to force it through said hole in the bottom of the can, the last mentioned means including a piston that has a central aperture through which said rod is passed, and a spring reacting on said piston and a part of said casing constantly biasing said piston in one direction in said casing.

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