

W. P. MILLER.
GREASE GUN.
APPLICATION FILED NOV. 23, 1911.

1,041,840.

Patented Oct. 22, 1912.

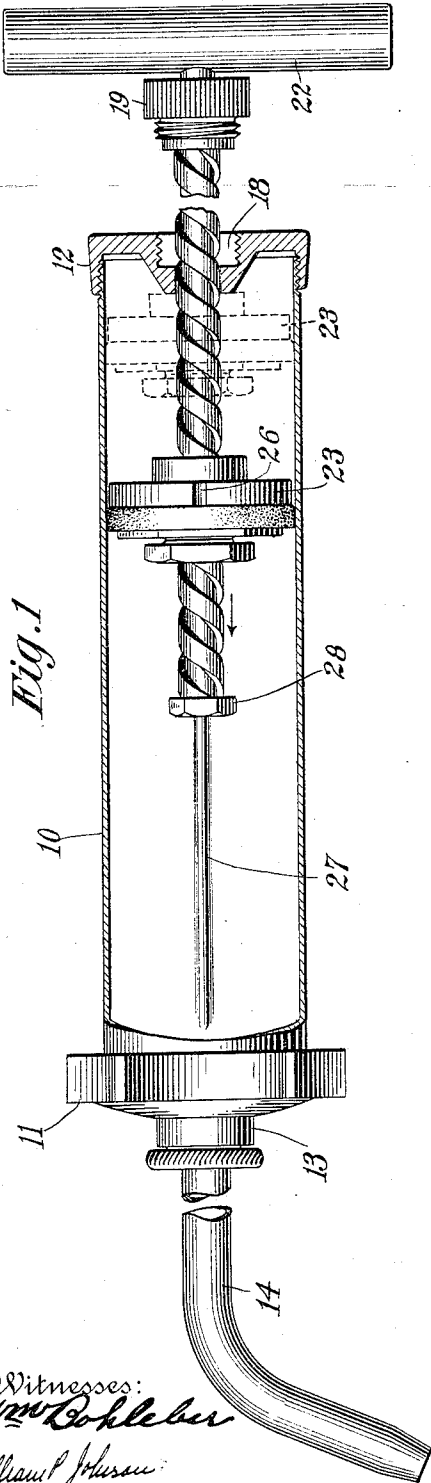


Fig. 1

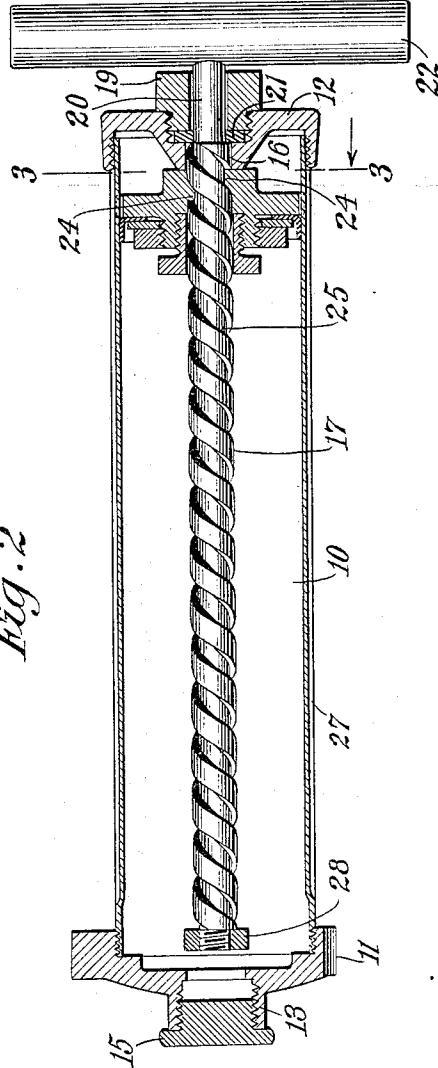


Fig. 2

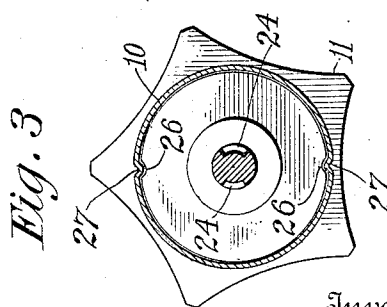


Fig. 3

Witnesses:
Wm. Kohler
William J. Huser

Inventor
William P. Miller
By *Attorneys*
Kerr, Day & Cooper, New York

UNITED STATES PATENT OFFICE.

WILLIAM P. MILLER, OF FREEPORT, NEW YORK.

GREASE-GUN.

1,041,840.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Application filed November 23, 1911. Serial No. 661,949.

To all whom it may concern:

Be it known that I, WILLIAM P. MILLER, a citizen of the United States, residing at Freeport, in the county of Nassau and State of New York, have invented certain new and useful Improvements in Grease-Guns, of which the following is a full, clear, and exact description.

The invention, which forms the subject matter of this application, relates to a grease gun and is essentially an improvement upon my Patent No. 983,636 dated February 7, 1911.

In my patent above referred to I show a grease gun which comprises a barrel in which the grease is contained and having a piston or plunger therein connected to a shank provided with a spiral groove. The barrel is provided with means thereon for engaging the groove and causing the plunger to be reciprocated in said barrel as the shank is rotated. The pitch of the groove on the shank is such that when a liquid or fluent oil is used the plunger can be reciprocated by longitudinal pressure on the shank but where a heavy non-fluent grease is used it is forced out by turning a handle mounted upon one end of the shank.

My present invention contemplates improvements upon certain defects in my prior device in common with other known devices of this particular type.

More specifically it consists of a gun having a barrel with a plunger therein a shank so related to the plunger that the latter can reciprocate independently of the reciprocation of the shank or vice versa, that is, the shank may be made to reciprocate independently of the reciprocation of the piston. The net result of such a construction is that the plunger is readily movable to the lower end of the barrel by either a reciprocating or rotary motion imparted to the shank relative to the barrel and the latter may be withdrawn from the barrel proper either as a result of reciprocating it or by a combination of a rotary and reciprocating movement. When the shank is removed from the body of the barrel the filling of the latter with grease which is usually done by means of a paddle or a similar tool, is greatly facilitated as the shank does not in any way avoid the insertion of said paddle or tool. Furthermore when the barrel is filled the shank can be run therein without the necessitating of movement of the piston which is

now in the bottom of the barrel, hence the size of the tool chest in which the device is usually carried can be made very small as the device is so made as to utilize the minimum amount of space.

Further objects and advantages of the invention will appear from the detailed description below in which,

Figure 1 is a longitudinal section of my invention with the parts in one position. Fig. 2 is a section similar to that of Fig. 1 showing parts in a different position. Fig. 3 is a cross section on the line 3—3 of Fig. 2 showing the configuration of the barrel, the plunger cooperating with said barrel and the shank by which the plunger is reciprocated.

Referring to the drawing in detail wherein like characters refer to the same parts throughout 10 designates the barrel of my grease gun having the screw threaded cap 11 fitted on one end thereof and a corresponding cap 12 fitted on the opposite end. The cap 11 is provided centrally thereof with a sleeve 13 preferably internally screw-threaded, into which the ordinary discharge spout 14 is connected, or when it is desired, as for example in shipping or storing the device, a plug 15 is utilized to close the opening produced by this sleeve, as clearly shown in Fig. 2. The cap 12 is provided with a central perforation 16 through which the shank 17 is adapted to pass and whose internal diameter is slightly larger than the external diameter of said shank. An internally screw-threaded socket 18 is provided (see Fig. 1) to receive the externally screw-threaded and centrally perforated plug 19. The plug 19 is fitted over the reduced portion 20 of the shank the upper portion of the spirals of said shank constituting a shoulder for a washer 21 upon which the said plug normally rests and which washer engages with the bottom of the socket 18 when the plug is screwed into position in said socket. The plug 19 is placed upon said reduced portion in any convenient way, as for example by slipping the same over the upper end thereof before the handle 22 is fixed thereto.

At 23 I show a conventional form of piston capable of use with my machine having the usual parts and in addition has the spiral lugs 24 (see Fig. 3) adapted to engage with the spiral grooves 25 on the shank. The piston is further provided with grooves

26 into which corresponding ribs or projections 27 on the barrel are adapted to enter. The ribs owing to their engagement with the said grooves allow only a longitudinal movement of the piston with respect to the casing. The movement of the piston is limited in one direction by means of the cap 12 and in the other direction by means of the removable stop 28.

The operation is as follows: Suppose the barrel 10 is filled with grease and in the position shown in Fig. 2. The plug 19, which is now secured into the socket 16 of the cap 12, prevents any longitudinal movement of the shank 17. On turning the handle to the right the piston begins to move from the position shown toward the opposite end of the barrel this movement continuing until the piston impinges against the stop 28. This longitudinal movement is a result of the spirals on the shank and plunger and from the fact that the longitudinal ribs 27 prevent rotary movement of the piston. It is clearly apparent that a reverse movement of the operating handle will tend to move the piston in an opposite direction. Suppose however the grease has been exhausted from the barrel and the piston is resting against the stop 28 and it is desired to fill the gun. In this case it is only necessary to unscrew the plug 19 from the cap 12 when the piston may be moved bodily with the shank to the opposite end of the barrel. It is now in prime condition for filling with any suitable paddle capable of insertion into the barrel as the shank will not obstruct its use. It is understood that the cap 11 has been removed for this purpose. If, however, the piston is in the position shown in Fig. 2 when it is desired to fill the same, it is only necessary to remove plug 19 and turn the handle 22 to the left. In fact, after the plug is removed owing to the pitch of the spiral, it is only necessary to invert the gun after which the shank will move from the barrel by gravity. After the barrel has been filled with grease and the cap 11 replaced into position, the handle 22 is turned to the left when the shank will be moved in the direction indicated by the arrow in Fig. 1 the piston itself remaining in the bottom of the barrel as indicated in dotted lines. This movement is continued until the plug 19 engages with the socket of the cap 12 after which it can be readily secured therein by a slight manipulation of it with the fingers.

It will be seen from the above description taken in connection with the accompanying drawings that many advantages are inherent in my device not possessed by grease guns heretofore in use. The piston or plunger being movable longitudinally of the barrel by a rotary motion imparted to the shank a more uniform and regulated flow of grease from the gun is obtained.

Owing to the fact that the handle 22 has relative longitudinal movement and is located adjacent one end of the barrel a minimum amount of space is utilized without ejecting the grease therefrom after each use; whereas in the older devices, in which the shank itself is reciprocated, and to one end of which the plunger was secured, it is impossible to insert the device in a tool box whose longitudinal length is substantially equal to the length of the barrel without ejecting the grease therefrom.

It is to be understood that I do not limit myself to the specific details of construction described herein and shown in the accompanying drawing as it is obvious that a variety of changes can be made therein without involving any material variations from my invention. It is very apparent that the specific form of caps for the barrel and their connection with it may be changed at will. The plug 19 instead of having a screw-threaded connection with the cap 12 may be secured thereto by a bayonet connection and be equally effective. Any form of barrel may be used having any number of longitudinal beads; and it is also clear that any other means, regardless of those specifically mentioned, may be used for preventing rotary motion of the plunger. Any form of handle 22 may be used.

It is further understood that I am not limited to a spiral or spirals on the shank and plunger as it is equally apparent that a screw-threaded shank and a piston correspondingly made would for all intents and purposes, come within the scope of my invention.

In other words it will at once be seen from the disclosure that my invention is capable of use for purposes not specifically mentioned and may be made into other embodiments without deviating in any manner or form from the true spirit and scope of my invention.

What I claim is:

1. In a device of the class described, a grease gun comprising a casing, a plunger in said casing, a head on one end of said casing projecting over the interior thereof to prevent the withdrawal of said plunger from said barrel, a shank for said plunger passing through said head, and means associated with said shank and head to permit either the shank or the plunger to move longitudinally in said casing independently of the other.

2. In a device of the class described, a grease gun comprising a barrel having a head substantially closing one end thereof, a plunger in said barrel, a shank for said plunger passing through said head, anchoring means in said head to allow rotary movement only of said shank but removable therefrom to permit a longitudinal move-

ment of said shank and plunger, said head adapted to prevent withdrawal of said plunger from the barrel when the anchoring means is removed, and means on said shank 5 for moving the plunger longitudinally on imparting a rotary motion to said shank.

3. In a device of the class described, a grease gun comprising a barrel, a plunger in said barrel, a shank for said plunger, 10 anchoring means for said shank in one end of the barrel, and means on said shank for reciprocating the plunger on imparting a rotary motion to said shank, said anchoring

means adapted to be removed from said barrel to allow a longitudinal movement of 15 either the shank or both the shank and plunger, and means on said barrel to prevent the withdrawal of the plunger when the anchoring means is removed.

In testimony whereof I affix my signature 20 in the presence of two subscribing witnesses.

WILLIAM P. MILLER.

Witnesses:

WM. BOHLEBER,

M. LAWSON DYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
