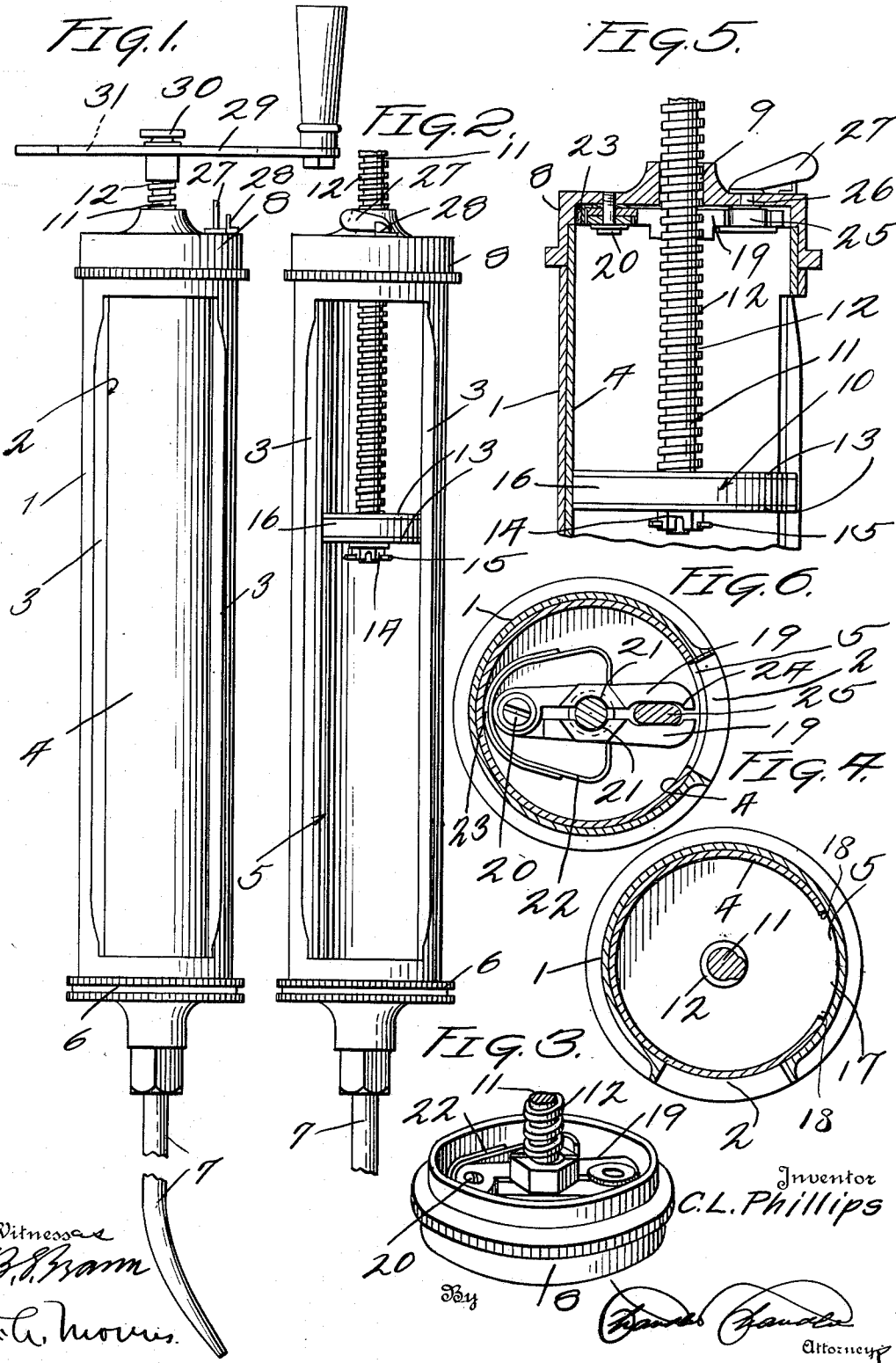


C. L. PHILLIPS.
GREASE GUN.
APPLICATION FILED JUNE 26, 1916.

1,255,786.

Patented Feb. 5, 1918.



UNITED STATES PATENT OFFICE.

CHARLES LEE PHILLIPS, OF SAN FRANCISCO, CALIFORNIA.

GREASE-GUN.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES L. PHILLIPS, a citizen of the United States, residing at San Francisco, in the county of San Francisco, State of California, have invented certain new and useful Improvements in Grease-Guns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a grease gun.

An object of the invention resides in the provision of an improved construction of a grease gun so that the grease may be very readily and quickly placed therein.

A further object of the invention resides in the provision of a gun into which the grease may be placed without necessitating the operation or removal of the plunger.

A still further object of the invention resides in so constructing the device that during the operation of the plunger the possibility of the grease escaping from the gun other than by way of the nozzle is entirely obviated.

A still further object of the invention resides in the provision of an improved mechanism for permitting the plunger to slide freely in one direction and for feeding it in the opposite direction under the influence of a screw thread.

With these and other objects in view, such as will appear as my description progresses, my invention comprises the combination and arrangement of parts as set forth in and falling within the scope of the appended claim.

In the drawing:

Figure 1 is an elevational view of a gun constructed in accordance with my invention showing the opening in the outer tube closed by the inner tube;

Fig. 2 is a similar view showing the inner tube in such position that access may be had to the interior thereof through the opening in the outer tube;

Fig. 3 is a perspective view of the top portion of the gun;

Fig. 4 is a transverse sectional view through the gun showing the opening in the outer tube closed by the inner tube;

Fig. 5 is a longitudinal sectional view, and

Fig. 6 is a detail sectional view showing the plunger rod engaging mechanism.

The embodiment of my invention illustrated in the drawing includes a barrel which comprises an outer tube 1 which is open at both ends and which is provided with a longitudinally extending slot 2 in its face, which slot extends within a short distance of each end of the tube. Formed along each edge of the slot is a flange 3 which acts as a finger hold in a manner later to be described. Rotatably mounted in the tube 1 is a second tube 4 which is likewise provided with a longitudinally extending slot 5 which is adapted to be brought into registration with the slot 2 by the turning of the inner tube within the outer tube. A cap 6 is brazed on one end of the inner tube 4 and is provided with a nozzle 7 which extends therefrom. A knurled cap 8 is mounted on the opposite end of the tube 4 and is provided with a centrally located opening 9. The caps 6 and 8 are so disposed that the ends of the tube 1 abut loosely thereagainst and the tube 4 is therefore prevented from having longitudinal movement with relation to the tube 1. A plunger 10 is slidably mounted within the inner tube 4 and is provided with a rod 11 which extends through the opening 9 in the cap 8 and which is provided with a helical thread 12. This plunger 10 includes a pair of spaced disks 13 which are maintained upon the rod 11 by a crown nut 14 and a cotter pin 15 and between which a resilient washer 16 is disposed, which washer is made preferably of felt. A projection 17 is formed on each of the disks 13, providing shoulders 18. These shoulders 18 bear against the edges of the slot in the inner tube 4 and the projections 17 fill the space formed by the cutting of the slot in the inner tube so that upon the actuation of the plunger all of the grease may be forced from the nozzle, that is to say, the grease which is within the tube 4 and also that which is disposed between this tube and the outer tube 1 in the space formed by the slot in the inner tube.

In order that the plunger may move freely in one direction, that is to say, away from the nozzle 7 and under the influence of a screw thread in the other direction, I have pivoted a pair of jaws 19, at 20, on the inner face of the cap 8, each of which is provided with a semi-circular threaded recess 21, which recesses, when the jaws are in contact with each other, form a threaded opening in which the threads engage the

threads 12 on the plunger rod 11. These jaws are normally forced together by the ends of a leaf spring 22 which is secured to the cap 8, at 23. Thus when the plunger rod 11 is rotated the plunger, in which the rod rotates, will be advanced toward the nozzle end of the barrel, the rotative movement of the plunger being prevented by the engagement of the shoulders 18 with the edges of the slot 5 in the tube 4. Each of the jaws 19 is provided with a recess 24 into which a cam 25 of elliptical form extends, which cam is mounted on a pin 26. This pin extends through the cap 8 and has a thumb piece or trigger 27 secured thereto, the movement of which is limited in one direction by a shoulder 28 on the cap 8. When this trigger is turned so that the long axis of the cam 25 will extend longitudinally of the jaws, the latter will be in contact with each other and the threads 21 in engagement with the threads 12 on the rod 11 so that the plunger may be advanced under the influence of the screw threads. When, however, the trigger is operated so that the axis of the cam extends transversely of the jaws the rod 11 will be disengaged and the plunger may slide freely in the barrel. The latter movement of the trigger is limited so that the cam will be arrested in the proper position by the shoulder 28. A crank handle 29 is mounted on the end of the plunger rod 11 and is held in position by a set screw 30 which extends through a slot 31 in the crank handle so that the effective length of the handle may be varied at the will of the operator.

Now it will be seen that when it is desired to fill the barrel with grease the slot 5 in the tube 4 is turned into registration with the slot 2 in the tube 1 and the plunger is drawn to the end of the barrel remote from the nozzle. After the tube 4 has been

filled with grease it is rotated so that the slot in the tube 1 will be covered by the unbroken portion of the tube 4. The plunger may be then advanced under the influence of the screw thread to feed the grease from the nozzle 7, being guided in its movement and prevented from rotating by the engagement of the shoulders 18 with the edges of the slot 5 and forcing the grease from the space within this slot by the extension 17.

While I have illustrated and described a particular embodiment of my invention, it has merely been for the sake of convenience and I do not wish to be limited to that particular embodiment as it is obvious that numerous changes may be made in the details of construction without departing from the spirit of the invention or exceeding the scope of the appended claim.

What I claim is:—

A grease gun comprising a body portion, a plunger movable longitudinally therein, a cap for said body portion, a threaded rod for operating said plunger and extending through said cap, a pair of opposed jaws pivoted to said cap on one side of said rod and adjustable into engagement with said rod whereby the plunger is moved longitudinally when said rod is rotated, a leaf spring secured to said cap and having its ends engaging said jaws for normally retaining the same in engagement with said rod, and a cam also carried by said cap and interposed between said jaws on the opposite side of said rod from the pivot of said jaws and operable to force said jaws apart and from engagement with said rod.

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

CHARLES LEE PHILLIPS.

Witnesses:

J. E. CUDDY,

ERIC J. ROSENSTINE.