J. G. MacGREGOR.

GREASE GUN.

APPLICATION FILED DEC. 31, 1917.

**1,275,455.** **Patented Aug. 13, 1918.**

Fig. 1.

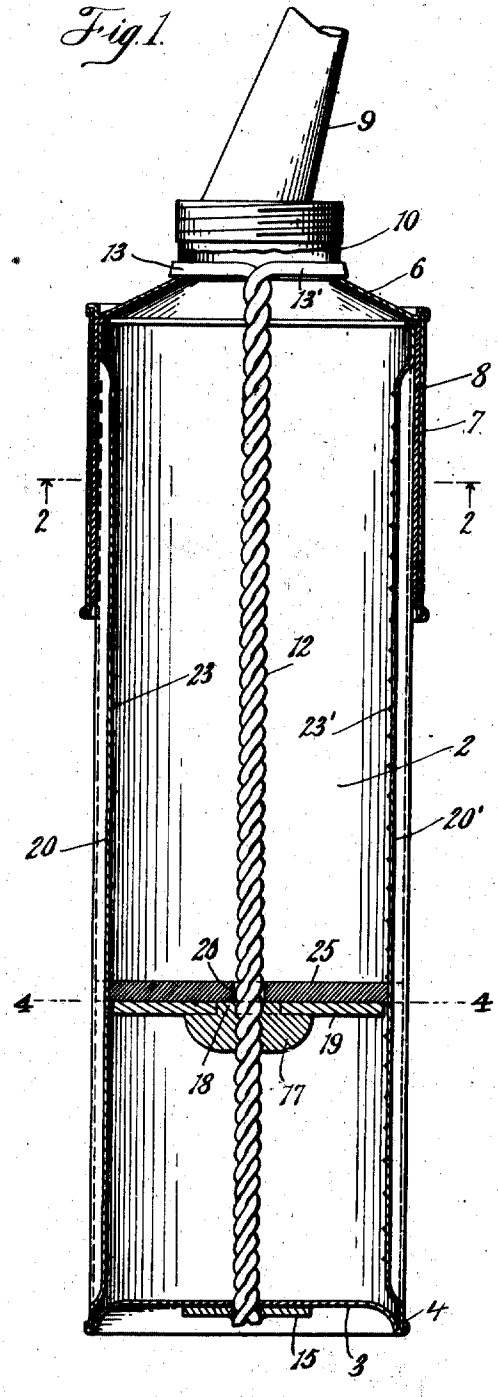



Fig. 2.

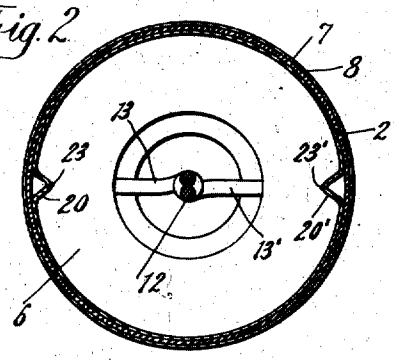



Fig. 3.

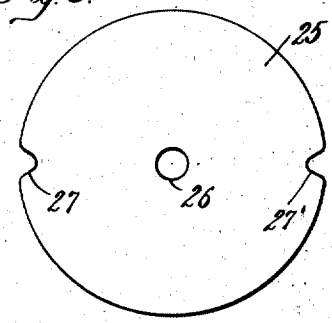
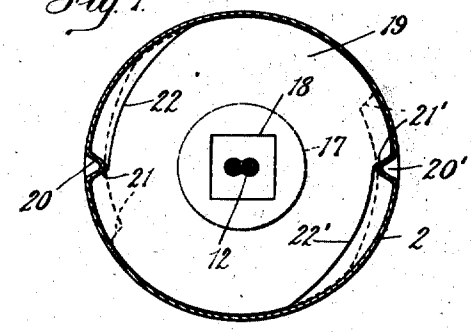



Fig. 4.




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## GREASE-GUN.

1,275,455 Specification of Letters Patent. Patented Aug. 13, 1918.

Application filed December 31, 1917. Serial No. 209,635.

*To all whom it may concern:*

Be it known that JOHN G. MacGREGOR, a citizen of the United States, and resident of the city, county, and State of New York, has invented certain new and useful Improvements in Grease-Guns, of which the following is a specification.

This invention relates to that class of devices which are commonly known as grease guns and which comprise a receptacle adapted to hold grease, or other material of a pasty or semi-solid nature, and are provided with ejecting means whereby the material may be forced from the receptacle as desired.

The invention has for an object to provide a grease gun of a non-refillable type, and further to provide a non-refillable grease gun which will be of simple construction and inexpensive to manufacture.

Other objects relate to the provision of a simple and conveniently operated grease gun generally.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly pointed out.

In the accompanying drawings, in which I have illustrated a preferred embodiment of the invention:

Figure 1 is an axial sectional view of a grease gun embodying the invention.

Fig. 2 is a horizontal section on the line 2—2 of Fig. 1.

Fig. 3 is a detail face view of one of the piston members.

Fig. 4 is a horizontal section on the line 4—4 of Fig. 1.

It is to be understood that in describing my device as a grease gun throughout the specification and claims, I employ this term for convenience in nomenclature and not in any way in a limiting sense.

As here shown, my improved grease gun comprises a cylindrical receptacle 2 whose rear end is closed by a fixed non-removable head 3 secured thereto in any suitable manner, as indicated at 4.

The forward, or discharge, end of the receptacle is closed by a relatively rotatable cap 6 to which is secured a barrel 7 which freely incloses the forward end of the gun.

A sleeve-washer 8, of paper or like material, is preferably interposed between the barrel 7 and the wall of the receptacle.

The cap 6 is provided with a discharge nozzle 9, which may be screwed upon the neck 10 of the cap 6.

Extending axially through the receptacle from end to end thereof is a helix 12 which is fixed at one end to the cap 6 and at its opposite end has a swivel connection with the head 3. As a simple and inexpensive way of forming this helix and securing it in place I preferably construct it of a pair of wires twisted together, and separated adjacent the forward end of the gun into the oppositely pointing horizonal portions 13 whose ends project through suitable lateral openings in the neck 10 and may be secured in place by soldering or otherwise. This helix serves the purpose both of advancing the follower or piston, to be presently referred to, and of securing the cap 6 rotatably on the forward end of the cylinder. This latter function is accomplished by passing the end of the helix freely through an opening in the head 3 and soldering thereon a washer 15.

The piston or follower is here shown as comprising a nut 17 threaded on the helix 12 and having on one side a square boss 18 over which fits a metallic disk 19. Formed in the wall of the receptacle 2 and extending longitudinally thereof are diametrically opposed in-pressed ribs 20, while the disk 19 is cut out on opposite sides to form shoulders 21 and wedge surfaces 22, shown in Fig. 4, whose purpose is to prevent rotation and, consequently, to cause advancement of the piston when the helix is rotated in one direction and prevent retraction of the piston when the helix is rotated in an opposite direction. Formed on the ribs 20 are a series of inwardly pointing projections 23. These projections assist in preventing the retraction of the piston when the wedge surfaces 22 are brought into engagement with the ribs 20 beneath one of the projections 23. The cut-out portions of the disk 19 at the points adjacent the shoulders 21 clears these projections 23, when the shoulders 21 are in engagement with the ribs 20, as shown in Fig. 4.

On the upper side of the metallic disk 19, forming a part of the piston, is a second disk 25, which may be made of paper or other like material, having a central open-

ing 26 through which the helix passes freely and peripheral notches 27 to accommodate the ribs 20, as shown in Fig. 3.

The manner of using my improved grease gun is as follows: The receptacle 2 may be filled by removing the nozzle 9 or after the cap 6 has been slipped on the forward end, with the helix 12 projecting through the receptacle, but before the piston is placed on the helix or the head 3 secured in place. In the latter case, after filling, the piston is placed on the helix, the disks 25 and 19 placed on the end of the helix and the nut 17 then drawn into position by rotating the helix through the medium of the cap 6 and barrel 7. The head 3 is then fixed in place and the washer 15 soldered on the projecting end of the helix.

To discharge the material, the helix 12 is rotated (by rotating the barrel 7 relatively to the cylindrical receptacle 2) and the piston is moved forwardly on the helix, causing the contents of the gun to be gradually ejected through the nozzle 9. It will be apparent that the rotation of the piston with the helix will be prevented by the engagement of the shoulders 21 on the disk 19 with the ribs 20 on the receptacle.

If it is attempted to rotate the helix in an opposite direction, either after the contents have been discharged or at any intermediate point, the wedge surface 22 on the disk 19 will be moved into engagement with ribs 20 and movement of the piston rearwardly will be prevented by the wedging action and also by engagement of the latter with the projections 23 on the ribs. It will thus be obvious that refilling of the receptacle will be impossible without rupturing some part thereof and also that operation of the piston in the proper direction to discharge the contents is always insured.

It may also be desirable to provide the wedge surfaces 22 on the disk 19 with knife edges so that if rotated in a reverse direction the same will cut into the ribs 20, thus effectually preventing the retraction of the piston.

As a further provision and protection against refilling, it will be noted that the ribs 20 do not extend to the extreme top of the receptacle 2, so that when the piston has been advanced to the upper or forward end of the receptacle, in which position the contents are practically all discharged, the piston is released from engagement with the ribs 20 and is free to rotate with the helix 12 without being advanced or retracted by further rotation of the helix in either direction.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention designed without departing from the scope of the appended claims, I intend that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative merely of an operative embodiment of my invention and not in a limiting sense.

What I claim is:

1. A grease gun comprising a completely closed receptacle, a helix extending longitudinally therethrough, a follower adapted to be advanced in said receptacle by rotation of said helix, and co-acting devices provided on said follower and said receptacle whereby retraction of said follower by said helix is prevented.

2. A grease gun comprising a cylindrical receptacle closed at both ends by means non-removable except by rupture, a piston in said cylindrical receptacle, a follower, means for advancing said follower in said receptacle, and co-acting devices provided on said follower and receptacle whereby retraction of the follower is prevented.

3. A grease gun comprising a cylindrical receptacle, a piston therein, a rotatable cap closing one end of said receptacle, and a helix secured at one end to said cap and in threaded engagement with said piston, said helix serving to prevent displacement of the cap from the receptacle and comprising a pair of twisted wires secured at one end to said cap.

4. A grease gun comprising a receptacle having a helix extending therethrough, a piston device in threaded engagement with said helix, said piston device presenting a shoulder and a wedge member, and co-acting means on said receptacle adapted to be engaged respectively by said shoulder and wedge member upon rotation of the helix in opposite directions, for the purpose set forth.

5. A grease gun comprising a receptacle having a helix extending therethrough, a piston device in threaded engagement with said helix, said piston device presenting a shoulder, and wedge member, and co-acting means on said receptacle adapted to be engaged respectively by said shoulder and wedge member upon rotation of the helix in opposite directions, for the purpose set forth, said means comprising a rib extending longitudinally of the receptacle on the wall thereof and having formed thereon a series of spaced projections.

6. In a grease gun, in combination, a receptacle, a piston movable longitudinally therein, means for moving said piston in one direction longitudinally in said receptacle, and means comprising a series of longitudinally spaced projections on said receptacle adapted to be engaged by said piston to prevent longitudinal movement thereof in an opposite direction.

7. In a grease gun, in combination, a receptacle, a piston movable longitudinally

therein, said piston being provided with a knife edge portion, means for moving said piston in one direction longitudinally in said receptacle, and means adapted to cause said knife edge portion of said piston to engage a portion of said receptacle and to prevent retraction of said piston in the receptacle.

8. In a grease gun, in combination, a receptacle provided with longitudinal ribs, a piston movable longitudinally therein, said piston being provided with knife edge portions, means for moving said piston in one direction longitudinally in said receptacle, said means being adapted to cause said knife edge portions of said piston to engage said ribs and prevent retraction of said piston in said receptacle.

9. In a grease gun, in combination, a receptacle provided with longitudinal ribs with a series of spaced projections, a piston movable longitudinally therein, said piston being provided with wedge shaped knife edge portions, means for moving said piston in one direction longitudinally in said receptacle, said means being adapted to cause said wedge shaped knife edge portions of said piston to engage said ribs and projections and prevent retraction of said piston in said receptacle.

10. In a grease gun, in combination, a receptacle, a piston positioned therein, piston operating means adapted to move said piston longitudinally in said receptacle, and means adapted to render said piston operating means inoperative to move said piston longitudinally in said receptacle when said piston has been moved to one end of its travel in said receptacle.

11. In a grease gun, in combination, a receptacle having a rib extending longitudinally thereof from one end to a point adjacent the opposite end, a piston positioned in said receptacle and adapted to be moved longitudinally therein in engagement with said rib, a helix operatively engaging said piston and adapted to move said piston longitudinally in said receptacle while said piston is in engagement with said rib but rendered inoperative to move said piston in either direction longitudinally when the piston passes out of engagement with said rib.

Signed at the city, county and State of New York, this 29th day of Dec., 1917.

JOHN G. MacGREGOR.