

H. C. SNYDER & C. REED.
 GREASE GUN.
 APPLICATION FILED APR. 18, 1912.

1,041,524.

Patented Oct. 15, 1912.

2 SHEETS—SHEET 1.

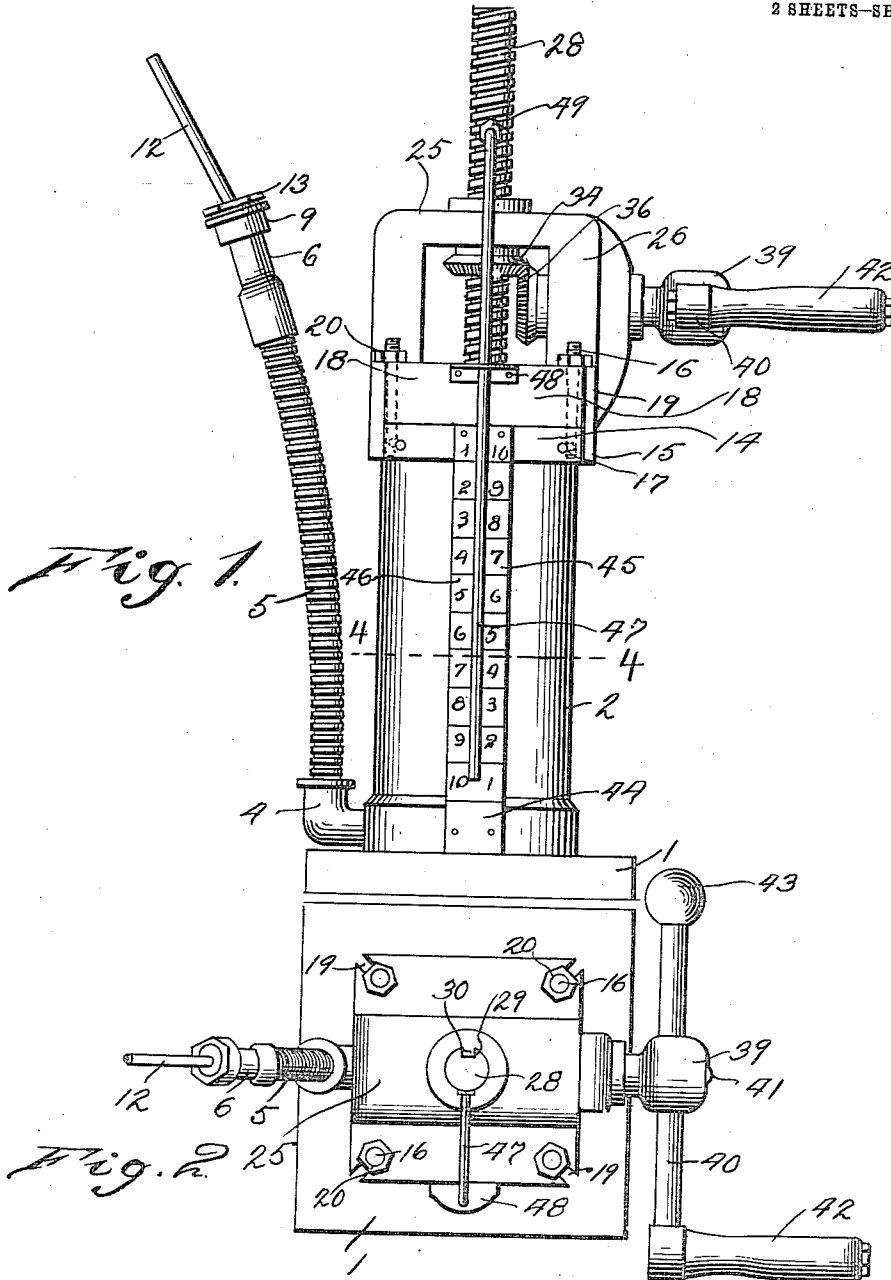


Fig. 1.

Fig. 2.

Witnesses

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334

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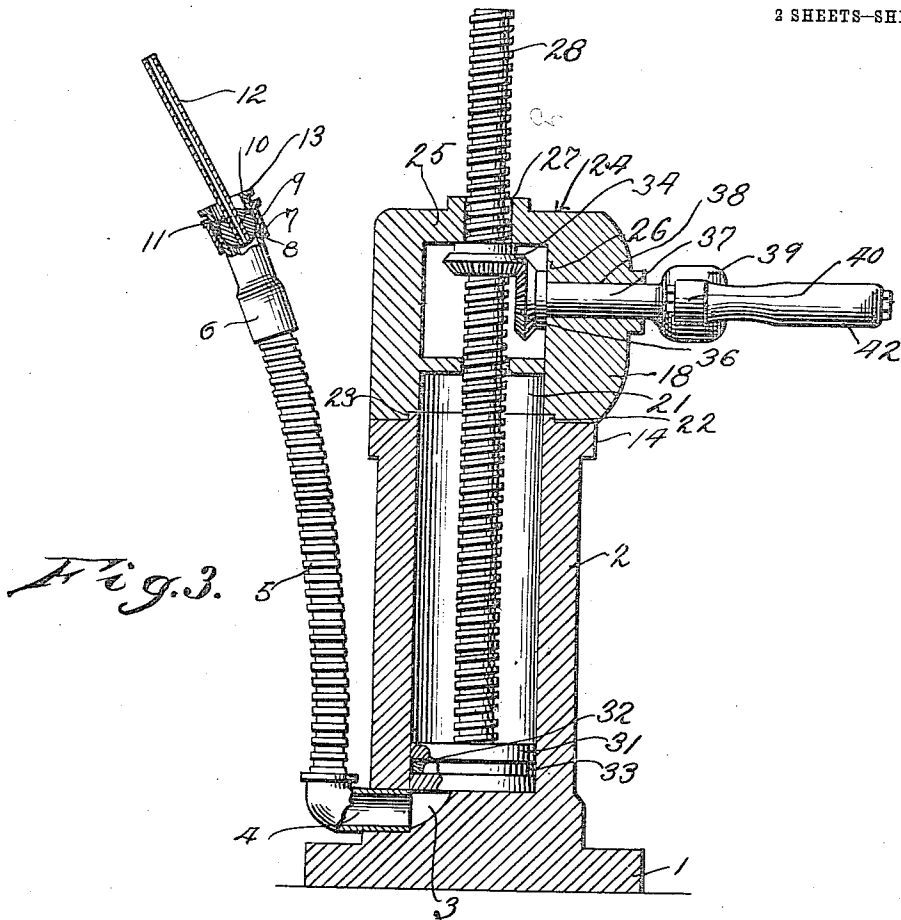


Fig. 3.

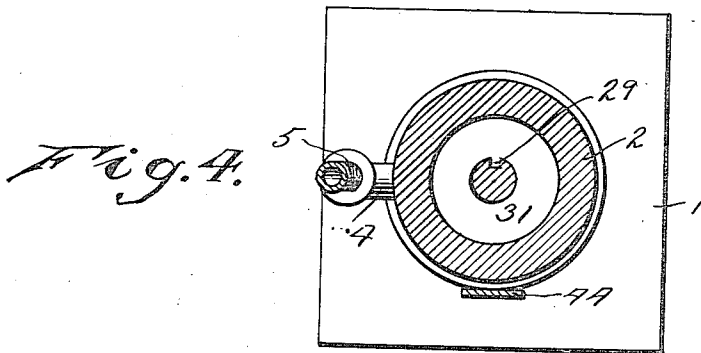


Fig. 4.

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UNITED STATES PATENT OFFICE.

HENRY C. SNYDER AND CHARLES REED, OF MINNEOLA, KANSAS.

GREASE-GUN.

1,041,524.

Specification of Letters Patent.

Patented Oct. 15, 1912.

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To all whom it may concern:

Be it known that we, HENRY C. SNYDER and CHARLES REED, citizens of the United States, residing at Minneola, in the county of Clark and State of Kansas, have invented certain new and useful Improvements in Grease-Guns, of which the following is a specification.

The present invention relates to a lubricator which may be aptly termed a grease gun, for supplying a non-fluid lubricant to different parts of machinery.

An important object of this invention is to provide a grease gun which is particularly adapted for use in connection with automobiles or the like for quickly and easily lubricating parts of the same which are ordinarily more or less inaccessible.

A further object of this invention is to provide a lubricator of the above mentioned character, which is well adapted for use in connection with a non-fluid lubricant, for enabling the operator to use the device without getting his hands soiled by the lubricant.

A further object of the invention is to provide a lubricator formed in separable parts, whereby it may be quickly and easily filled with the lubricant.

A further object of the invention is to provide a lubricator having manually operated means to compress the lubricant, and novel discharge means for conducting such compressed lubricant to the parts to which the same is to be applied.

A further object of the invention is to provide a device of the above mentioned character, having a flexible discharge conduit provided with a tip having swivel connection therewith, whereby the lubricant may be easily applied to parts of machinery which are ordinarily inaccessible.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a front elevation of the lubricator, Fig. 2 is a plan view of the same, Fig. 3 is a central vertical longitudinal sectional view through the same, and, Fig. 4 is a horizontal sectional view taken on line 4-4 of Fig. 1.

In the drawings wherein for the purpose of illustration, we have shown a preferred

embodiment of our invention, the numeral 1 designates a base upon which is formed a preferably cylindrical upstanding shell or casing 2, having its lower end in communication with a discharge port 3, which leads into a pipe coupling 4 or the like. Suitably connected with the pipe coupling 4 is a flexible metallic discharge pipe or conduit 5, to the upper end of which is secured a metallic sleeve 6, as shown. This metallic sleeve has its outer or upper end provided with an outwardly extending annular flange 7, to be engaged by an inwardly extending flange 8 carried by a collar 9. Disposed within the collar 9 is a ball 10, having a diametrically arranged opening 11 formed therethrough for receiving a tip or tube 12 which is soldered or otherwise rigidly connected with the ball 10 within the opening 11. The ball 10 is free to turn in all directions within the collar 9 and is held therein by a ring 13, which is externally screw-threaded to engage with internal screw-threads of the collar 9. It is thus seen that the tip or tube 12 has a universal or ball and socket connection with the flexible pipe 5, which enables the operator to supply lubricant to parts of machinery which are ordinarily more or less inaccessible.

The upstanding shell or casing 2 is provided at its upper end with a preferably rectangular horizontal outwardly extending flange 14, provided at its corners with slots 15, for receiving swinging clamping bolts 16, provided with apertured heads for receiving pins 17, serving to pivotally connect the clamping bolts with the flange 14. Adapted to be movably mounted upon the upper flanged end 14 of the shell or casing 2 is a preferably rectangular head 18, which is provided at its corners with slots 19, adapted to register with the slots 15 and to receive therein the clamping bolts 16. The clamping bolts carry on their screw threads nuts 20. It is thus seen that the head 18 is securely held upon the flanged end 14 of the shell or casing 2 and may be readily removed therefrom when desired. The head 18 has a preferably cylindrical opening or recess 21 formed therein, which is adapted to register with the opening of the shell or casing 2, as clearly shown in Fig. 3. At its upper end the shell or casing 2 is provided with an upwardly extending annular flange 22 fitting within an annular recess

23, formed in the head 18, whereby a proper connection is afforded between the head and shell or casing 2 to prevent any of the non-fluid lubricant from improperly escaping.

5 Formed upon the removable head 18 is a bracket 24, comprising horizontal and vertical portions 25 and 26, respectively. The horizontal portion 25 is provided with an opening 27 to receive an operating screw 28, which is provided with a longitudinal groove 29 to receive a fixed spline 30. It is thus seen that the operating screw 28 is capable of moving longitudinally through the opening 27 but cannot turn therein. At its lower end the operating screw has connection with a plunger 31, provided upon its periphery with an annular groove 32, for receiving a packing ring 33. Attention is called to the fact that when the shell or casing 2 is to be filled with the non-fluid lubricant, the operating screw 28 is moved outwardly sufficiently to bring the plunger 31 into the recess 21, subsequently to which the head 18 may be removed. The shell or casing 2 is then filled with the lubricant and the head 18 returned to its operative position. When the plunger 31 is moved downwardly to compress the lubricant, it is obvious that the packing ring 33 is not allowed to move out of its annular groove 32. Aside from this advantage, the plunger receiving space 21 of the removable head 18 allows the shell or casing 2 to be completely filled with the non-fluid lubricant.

35 The operating screw 28 is raised and lowered by means of a bevel gear 34, having a screw-threaded opening formed there-through for receiving the operating screw 28, such bevel-gear operating in slidable engagement with the horizontal portion 25 of the bracket 24. The bevel-gear 34 is rotated by a second bevel-gear 36, which is rigidly mounted upon a rotatable shaft 37, extending through an opening 38 formed in the vertical portion 26 of the bracket 24. The horizontal shaft 37 is provided at its outer end with an enlarged head 39, having an opening formed therethrough for receiving a crank-arm 40. The crank-arm 40 is longitudinally adjustable with relation to the head 39 and is clamped thereto in adjustment at desired positions by a screw 41 or the like. At one end the crank-arm 40 carries a freely rotatable handle 42 and at its opposite end it carries a head 43, as shown.

55 Mounted upon one side of the shell or casing 2 is a vertical plate 44, provided with two scales 45 and 46, having any desired graduations. The scale 45 is employed to indicate the amount of lubricant in the shell or casing 2, while the scale 46 is employed to indicate the amount of lubricant which has been removed from the shell or casing. Co-operating with these scales is a depending indicator-rod 47, passing through an aper-

tured guide bracket 48 and connected at its upper end with the operating screw 28, as shown at 49.

The operation of the device is as follows:—When it is desired to fill the shell or casing 2 with the non-fluid lubricant, the operator takes hold of the handle 42 and rotates the same, which rotation is imparted to the bevel-gear 36 and then to the bevel-gear 34, which in turn moves the operating screw 28 upwardly until the plunger 31 fits within the opening or recess 21. The nuts 20 are now turned so that the clamping bolts 16 may be swung downwardly out of the slots 19, whereby the head 18 may be removed from the flanged upper end 14 of the shell or casing 2. It is thus seen that all of the operating parts of the device are carried by this removable head 18. The shell or casing 2 may now be filled with the non-fluid lubricant. The head 18 may now be returned to its normal position and the clamping bolts 16 placed in the slots 19, subsequently to which the nuts 20 are turned to securely clamp the head 18 to the forward end 14. The tube or tip 12 is now placed in suitable proximity to the part or parts to be lubricated and the crank-arm 40 is turned, causing the plunger 31 to descend and compress the non-fluid lubricant, causing it to discharge through the flexible pipe and tube or tip 12. The scale 46 will indicate the amount of the lubricant that has been discharged from the casing or shell 2 while the scale 45 will indicate how much of the non-fluid lubricant remains.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that certain changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the sub-joined claims.

Having thus described our invention, we claim:—

1. In a device of the character described, a shell having one end formed closed and the other end open, a removable head to close the open end of the shell and provided with a recess to register with the opening of the shell, a plunger operating in the shell and adapted to be moved in the recess of the head, means to move the plunger, and discharge means connected with said shell.

2. In a device of the character described, a shell having an outwardly extending flange near one end thereof, a removable head to close one end of the shell, the flange and head being provided with openings adapted to be moved into registration, swinging clamping bolts to operate within registering openings, a plunger to force the lubricant from within the shell, and means mounted upon the removable head to move the plunger.

3. In a device of the character described,
a shell, a removable head to close one end
thereof and provided with an approximately
annular opening, an approximately annular
5 flange formed upon the shell near its open
end to fit within the approximately annular
opening of the head to form a proper joint
to prevent the escape of the lubricant, means
to force the lubricant from the shell, and dis-

charge means for receiving such lubricant 10
when thus forced from the shell.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

HENRY C. SNYDER.
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Witnesses:

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BRUCE GLAZE.