H. M. BOE.

GREASE GUN.

APPLICATION FILED JAN. 22, 1915.

1,209,805. Patented Dec. 26, 1916.

Fig. 1,

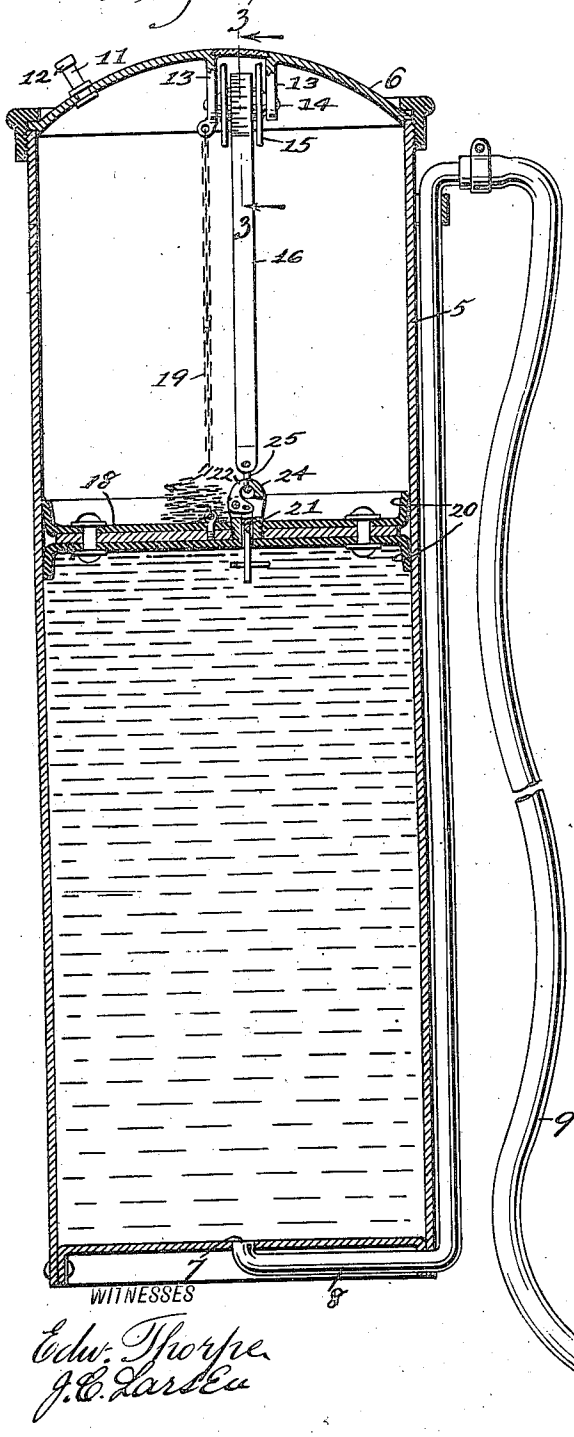


Fig. 2,

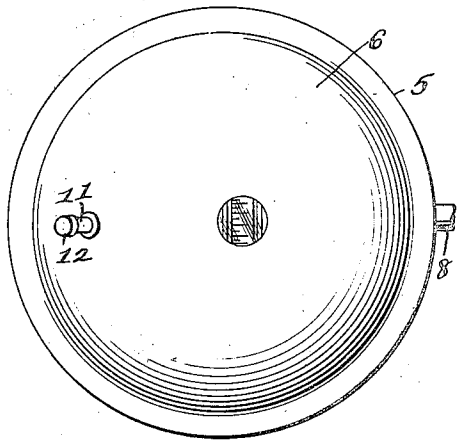


Fig. 3,

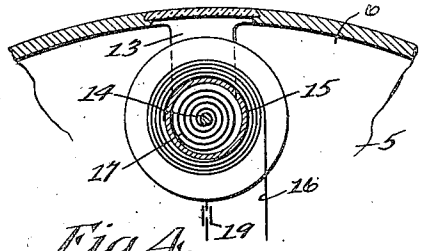
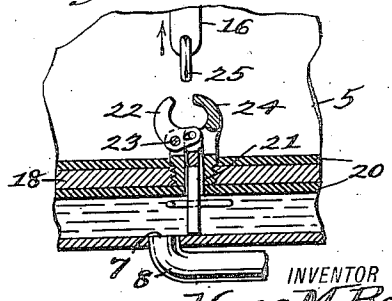


Fig. 4.



WITNESSES

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GREASE-GUN.

1,209,805. Specification of Letters Patent. Patented Dec. 26, 1916.

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To all whom it may concern:

Be it known that I, HANS M. BOE, a citizen of the United States, and a resident of Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Grease-Guns, of which the following is a specification.

My invention relates to containers for grease in paste or semi-fluid form, although it may also be used for liquids, and the main objects thereof are to provide such devices from which the grease may be applied to a point of use through a flexible hose by means of air under pressure, wherein the exact amount of grease dispensed may be accurately measured, which may be quickly and easily re-charged, which is light, compact, and readily portable if desired, and which is simple in construction and use and comparatively inexpensive.

My invention is fully described in the following specification, of which the accompanying drawings form a part, in which like reference characters are used to designate like parts in each of the views, and in which:—

Figure 1 is a central, vertical, section taken through a grease gun constructed in accordance with my invention; Fig. 2 is a plan view thereof; Fig. 3 is a section taken on the line 3—3 of Fig. 1; and Fig. 4 is an enlarged view of a detail shown in Fig. 1.

In the drawings forming a part of this application I have shown a present preferred form of embodiment of my invention, comprising a cylindrical container 5 having a removable cover 6 held in place by a collar threaded onto said container, the latter being air-tight with the exception of an outlet 7 in which is arranged a pipe 8 preferably carried upwardly on the exterior of the container and having a flexible tube 9 connected therewith in turn provided with a control valve 10.

The cover 6 is provided with a nipple 11 adapted for connection with a hose leading to a compressed air reservoir or, preferably, with an air-pump such as are employed for inflating pneumatic tires, and I have shown a cap 12 for said nipple after air under pressure has been forced into the container. Said cover also carries two hangers 13 serving as supports for a fixed shaft 14 on which is arranged a revoluble drum 15 for a measuring tape 16, a coiled spring 17 being interposed between said shaft and drum whereby said tape is rewound on the drum after having been unwound therefrom, in the manner of an ordinary pocket tape measure.

The container is provided with a piston 18 freely movable therein and connected, by means of a chain 19, with one of the hangers 13, whereby said piston may be drawn upwardly out of the container to re-fill the latter with grease, said piston being of any desired form but being shown as provided with flexible cup flanges 20. Said piston is provided with a bore adjacent the center thereof for a vertically movable rod 21 in operative connection with a jaw 22 pivoted at 23 and operating, in conjunction with a fixed complemental jaw 24, to engage a ring 25 on the end of the tape 16. In practice, the container is almost filled with the grease or other material to be dispensed, the tape 16 connected with the jaws 22 and 24, the piston 18 placed therein, the cover 6 placed in position, the valve 10 closed, and air under pressure forced through the nipple 11.

The free end of the flexible tube 9 may be carried to a point of use, such as the grease cups on an automobile in a garage, and the valve 10 operated to supply the desired quantity of grease, the tube 9 being of sufficient length to enable the operator to reach all the parts of an automobile requiring lubricant, but I prefer to maintain the container in a relatively fixed position, as on a shelf or hanging on a wall, post, or the like.

As the grease escapes from the container, through the valve 10, the piston 18 descends, both by its own weight and by means of the air pressure thereover, and this tends to unwind the tape 16 from its drum, the exact degree of such unwinding being readable because of the graduations on the tape, a window being provided adjacent said drum to enable the operator to read the tape. I may graduate the tape by linear divisions, by cubic measure divisions, or by divisions of liquid measure, or even by divisions of weight, in order to accurately determine the quantity of grease dispensed, in the manner of gasolene pumps now in common use whereby the amount of gasolene pumped is clearly indicated on a dial.

When the grease is practically emptied from the container, the piston 18 is close to the bottom thereof, and the rod 21 is raised and opens the jaw 22 to release the tape 16, which is immediately re-wound on its drum by means of the spiral spring 17. The cover may now be removed, the piston drawn upwardly out of the container, and the container re-filled, after which the foregoing operation may be repeated. The lower end of the rod 21 is preferably flattened so as to allow air to pass through the piston to enable the latter to be easily withdrawn from the container, although the same purpose would be served by opening the valve 10.

It will thus be seen that I may dispense the grease at any desired point, within the radius of action of the tube 9, and may accurately measure the amount so dispensed; I avoid the necessity for carrying the container around to the different points of use, and the grease is forced out of the container by air under pressure produced by any suitable means.

While I have shown certain preferred details of construction, I do not limit myself thereto, but may make changes thereover, within the scope of the following claims, without departing from the spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. A device of the class described, comprising a container provided with a removable cover, a discharge valve, a piston, means for admitting air under pressure thereto, means connected with said piston for indicating the quantity of contents forced from said container, and means for releasing said measuring means from said piston when the latter reaches the bottom of said container.

2. A device of the class described, comprising a container provided with a removable cover, a discharge valve, a piston, means for admitting air under pressure thereto, a tape connected with said cover and with said piston for indicating the quantity of contents forced from said container, and means for releasing said tape from said piston when the latter reaches the bottom of said container.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HANS M. BOE.

Witnesses:
H. M. McFARLAND,
E. E. ROREM.