F. W. SHIELDS.

GREASE GUN.

APPLICATION FILED JAN. 14, 1915.

1,259,146. Patented Mar. 12, 1918.

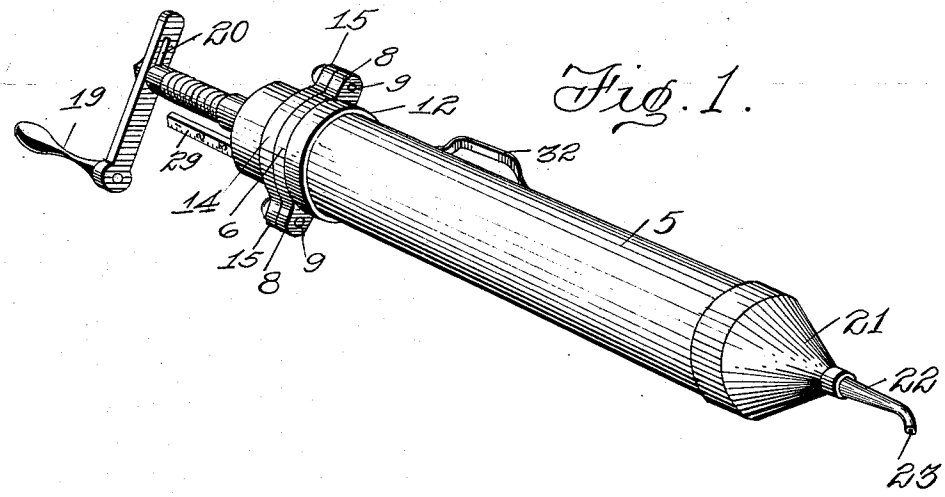


Fig. 1.

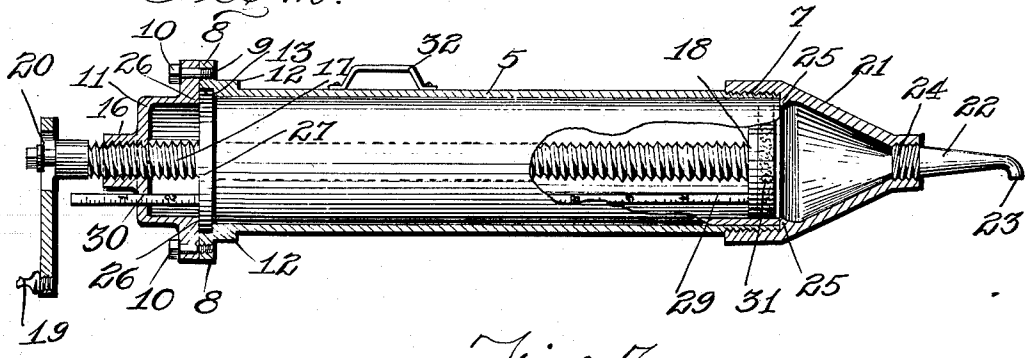


Fig. 2.

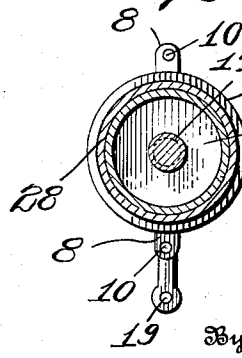


Fig. 3.

Witnesses

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GREASE-GUN.

1,259,146. Specification of Letters Patent. **Patented Mar. 12, 1918.**

Application filed January 14, 1915. Serial No. 2,220.

To all whom it may concern:

Be it known that I, FERDINAND W. SHIELDS, a citizen of the United States, residing at Vicksburg, in the county of Warren and State of Mississippi, have invented certain new and useful Improvements in Grease-Guns, of which the following is a specification.

This invention relates to the class of dispensing cans, and more particularly relates to a device of this character intended to be used in the distribution of a lubricant such as grease, ordinarily difficult to handle in this manner.

As a principal object, it is contemplated by this invention to provide dispensing means for viscous oils or greases including manually operable forcing means for the ejection of the contained grease or oil, means directing the flow of the ejected substance in order to more easily reach points of application otherwise inaccessible, and means for measuring and indicating at a glance the amount of the substance still remaining in the container, such means to be connected to said forcing means.

An object of equal importance with the foregoing is to provide a container fitted with the previously mentioned ejecting, flow-directing and measuring means which shall be fitted to receive successive cartons in which the grease is furnished the consumer and to thoroughly empty each of these cartons before the same need be removed.

The above and additional objects which will become apparent as this explanatory description proceeds, are accomplished by such means as are illustrated in the accompanying drawings, described in the following specification, and then more particularly pointed out in the claims which are appended hereto and form a part of this application.

With reference to the drawings, wherein there is illustrated the preferred embodiment of this invention as it is reduced to practice, and throughout the several views of which like characters of reference designate similar parts:

Figure 1 is a perspective view of the grease dispensing container comprehended by this invention,

Fig. 2 is a longitudinal sectional view through said container showing a carton positioned therein, parts of the latter being broken away, and

Fig. 3 is a transverse sectional view, of the matter shown in Fig. 2.

Upon reference to the drawings, there will be seen illustrated a grease gun or dispensing container including a central cylindrical body portion 5 preferably formed of some light yet durable metal and provided at one extremity with an annular offset flange 6 while furnished at the other extremity with the threaded portion 7.

The flange 6 has formed integrally therewith the diametrically opposed securing lugs 8, each of which has extending therethrough an aperture 9 to threadingly receive suitable securing means 10 whereby a head 11 is rigidly maintained with respect to the body cylinder 5. A reinforcing flange 12 integrally formed between the flange 6 and the cylinder 5 permits the formation of an annular groove 13 interiorly of the cylinder and extending into the said flange in the manner illustrated in Fig. 2.

The head portion 11 is also formed with a flange 14 similar to the flange 6 which it is designed to abut when permitting ears 15 to be secured by the means 10 to the first mentioned ears 8 and is further formed with the threaded boss 16 which serves as a bearing for the threaded operating shank 17 of the ejecting plunger 18 adapted to reciprocate within the cylinder 5, although said plunger is of comparatively less diameter for a purpose to be directly set forth. Handle means 19 adjustably connected with the threaded plunger rod 17 in the manner indicated by the numeral 20 permit of the manual operation of this plunger while at the opposite extremity of the body cylinder is removably carried a funnel shaped portion 21 upon the screw threads 7 to direct the flow of the discharging grease into the spout or ejection nozzle 22, the outer tip of which is preferably formed in the arcuately bent manner indicated at 23 and the taper-

ing body of which is removably associated with the funnel 21 in the manner denoted by the numeral 24. A shoulder 25 is formed upon the interior of the funnel portion 21 to abut the edge of the cylinder 5 and to extend inwardly therebeyond while a shoulder 26 on the head 11 similarly abuts the opposite extremity of the cylinder 5 and extends over the groove 13.

The grease containing carton which is adapted to be furnished as a filler for the grease gun of this invention is also of a simple cylindrical formation and may be constructed of a light metal if it is desired to render these cartons permanent or of some other material suitable to the desires of the manufacturer. A positioning flange 27 is formed upon one end of this carton 28 while simple lids or covers (not shown) may be provided for use therewith when the carton is being shipped or stored *per se*, although of course such closures must be removed before the carton can be placed within a grease gun for proper operation.

The automatically indicating means showing the quantity of grease or oil remaining in one of these grease guns consists of a scale rod 29, one end of which is secured to the piston 18 while the other end is slidably inserted through an aperture 30 formed in the head 11 in such wise as to permit of this scale rod being always parallelly maintained with respect to the threaded plunger rod 17. This scale rod is of course graduated and preferably in units so commensurate with successive and equal cross sectional areas of the cylinder 5 as to readily denote the total area thereof in pounds and fractions of pounds. The plunger 18 which has been stated to be of less diameter than the cylinder 5 thus permits the walls of the carton to be interposed between this cylinder and itself and a sure contact between the plunger and the carton is obtained by means of a flexible washer strip 31 of leather or the like. A handle 32 is secured to the cylinder body for obvious use in the transportation of the same or for holding it when in use.

When a new carton is to be positioned within the gun the head 11 is removed by a withdrawal of the fastening means 10, the piston and its scale being also removed and the funnel 21 is unscrewed from the opposite extremity of the cylinder 5 in order to push outwardly the empty carton, if such remains within the cylinder. The new carton after having its covers stripped off is slid into the cylinder after the manner of a cartridge until the flange 27 thereof engages snugly in the groove 13 when the funnel cap 21 and the head 11 may be re-secured upon the cylinder, the latter of course when the plunger 18 has been withdrawn by the handle means to its outermost limit of movement. The shoulders 25 and 26 thus securely position the carton in the same place occupied by its predecessors so that the scale rod 29 is equally accurate for each. It will be obvious that a quantity of the viscid oil or grease will remain in the funnel 21 and nozzle 22 even after the carton has been completely emptied and this oil will be ejected by the first operation of the gun after a new carton has been inserted in the cylinder.

While in the foregoing however, there has thus been illustrated in the drawings and described in the specification, such combination and arrangement of elements as constitute the preferred embodiment of this invention, it is desired to emphasize the fact that such minor changes in the matters of proportion and degree may be made in later adaptations of this device as shall not alter the spirit of the invention as defined in the appended claims.

What is claimed is:

1. In a grease gun, the combination with a cylindrical body open at both ends having an external thread on one end and an outwardly projecting flange on the opposite end, the flanged end being formed with an internal recess, of a head removably connected to the flanged end of said body and having a chamber therein, means comprising a piston attached to a threaded rod working through said head and extending into said body for forcibly ejecting a substance contained in said body, said piston adapted to enter the chamber in the head when withdrawn from the body, a removable carton fitting within said cylinder formed with a flange to enter said recess in the body and be held in position by said head, and a removable ejecting funnel screwed on the other end of the cylinder.

2. In a grease gun, the combination with a cylindrical body having a shouldered recess at one end, a removable head for said end of the cylinder having a chamber therein, the walls of which overhang said recess to bear upon the flange on the end of a carton adapted to be inserted in the cylinder and secure the carton in place, a removable ejecting funnel on the other extremity of the cylinder having an overhanging shoulder adapted to sustain the opposite end of the carton, a piston fitted to work within said carton, and a piston rod threaded in said head.

3. In a grease gun, the combination with a cylindrical body open at one end and having a shouldered recess within said end adapted to support the flange on the end of a carton insertible within the body, a removable head for said body having a cham-

ber therein of slightly less diameter than the cylindrical bore of the body and serving when secured in place to hold the carton immovable, a piston movable longitudinally of the carton to force the contents of the same from its opposite end and adapted when withdrawn from the carton to enter the recess in said head, and a screw threaded piston rod engaging said head for advancing or retracting the piston.

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

FERDINAND W. SHIELDS.

Witnesses:

JAMES W. MAGILL,

GEO. B. SHAEFFER.