E. R. THOMPSON.

GREASE GUN.

APPLICATION FILED NOV. 15, 1915. RENEWED JUNE 12, 1917.

1,236,232. Patented Aug. 7, 1917.

Fig. 1.

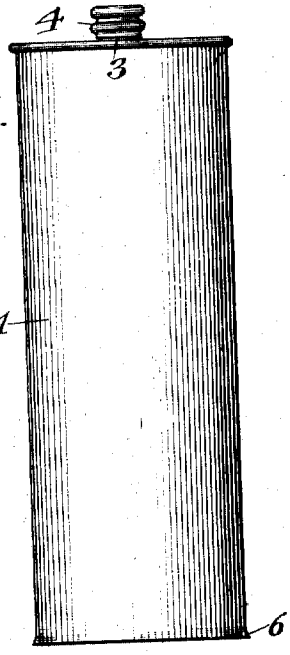


Fig. 2.

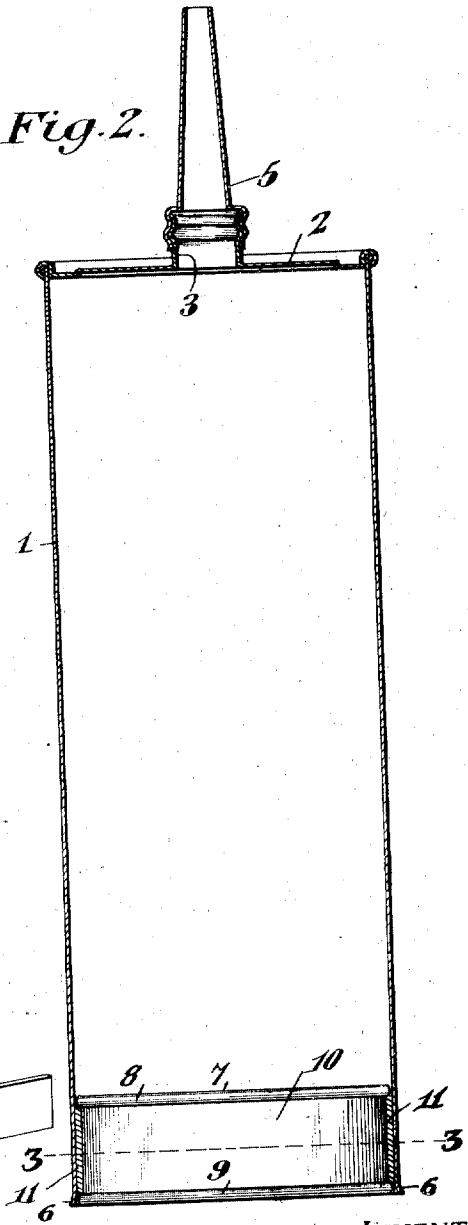


Fig. 3.

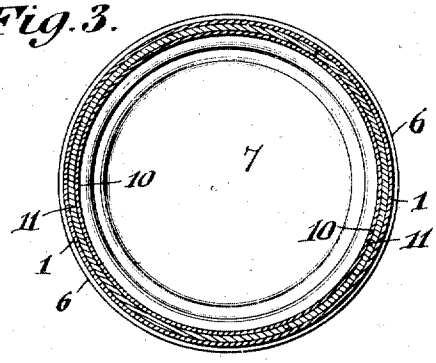
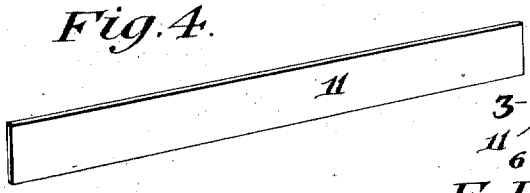


Fig. 4.



WITNESSES:

Jas. K. McCathran

F. T. Chapman

E. R. Thompson, INVENTOR

BY E. G. Siggers

Attorney

UNITED STATES PATENT OFFICE.

EDWARD RAWSE THOMPSON, OF ST. LOUIS, MISSOURI, ASSIGNOR TO ST. LOUIS TIN & SHEET METAL WORKING CO., OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

GREASE-GUN.

1,236,232. Specification of Letters Patent. Patented Aug. 7, 1917.

Application filed November 15, 1915, Serial No. 61,591. Renewed June 12, 1917. Serial No. 174,408.

To all whom it may concern:

Be it known that I, EDWARD R. THOMPSON, a citizen of the United States, residing in St. Louis and State of Missouri, have invented a new and useful Grease-Gun, of which the following is a specification.

This invention has reference to grease guns and its object is to provide a grease gun of such simple and inexpensive construction that each gun charged with grease may be sold in the charged condition with the gun constituting the container for the grease and after the expulsion of the grease the gun may be discarded.

In accordance with the present invention there is provided an elongated cylindrical container or casing of some sheet metal, such as sheet iron, with one end permanently closed by a head, except for a small outlet normally closed by a cap and designed to receive a nozzle. The other end of the container is provided with a plunger in the form of a hollow metal box permanently closed throughout and snugly yet freely fitting the casing and provided with a peripheral groove or seat for packing which may be in the form of a pasteboard strip. Such a head fits the casing sufficiently tight to hold the grease in the casing during transportation, and when it is desired to expel the grease and the cap at the other end of the gun has been replaced by a nozzle, pressure is applied to the plunger to force it toward the nozzle end of the casing, thus expelling the grease.

While in general action the container of the present invention is similar to an ordinary grease gun, its construction and operation allow the manufacture of the container at such a slight cost as to permit the discarding of the gun after it has been emptied.

The invention will be best understood from a consideration of the following detailed description, taken in connection with the accompanying drawings forming part of this specification, with the further understanding that while the drawings show a practical form of the invention, the latter is not confined to any strict conformity with the showing of the drawings, but may be changed and modified so long as such changes and modifications come within the scope of the appended claim.

In the drawings:—

Figure 1 is an elevation of a grease gun constructed in accordance with the present invention.

Fig. 2 is a longitudinal, diametric section of the grease gun on a larger scale than Fig. 1, showing the plunger in elevation and the outlet nozzle in place.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a perspective view of a packing strip for the plunger.

Referring to the drawings there is shown a casing or elongated can 1 which in practical form may be about nine inches long and three inches in diameter, such a can when supplied with parts to be described holding two pounds of lubricating grease. Of course, the dimensions may be varied as desired, since particular sizes have nothing to do with the present invention.

One end of the casing or can 1, which is cylindrical throughout, is permanently closed by a head 2 provided with a central nipple 3 suitably threaded for the reception of a screw cap 4, or a screw nipple 5, the cap and nipple being interchangeable, and the nipple being used only when it is desired to expel the contents of the can.

That end of the can remote from the head 2 is open for the full diameter of the can and its margins slightly flare, as shown at 6.

There is also provided a plunger 7 in the form of a cylinder about an inch in axial thickness, although any exact dimensions are immaterial. The plunger 7 may be made of sheet metal, such as tin, of which metal the head 2 may be made. The plunger 7 is in the form of a shallow box with both heads in place and where joining the sides of the box the heads are beaded circumferentially, as indicated at 8, 9, respectively, which beads fit the interior of the can 1 snugly, yet freely, and may even be made so as to not actually contact with the interior of the can, although in this respect it is not material whether the beads actually engage the can or not. The side wall of the plunger between the beads, which side wall is indicated at 10, is of less diameter than the interior of the can or casing 1 by a distance equal to the radial projection of the beads beyond such side wall. Adapted to the circumferential channel thus defined

between the beads is a strip 11 of suitable packing material. In practice the paper material known as pasteboard or cardboard, or pulp-board of suitable thickness has been found to fully answer the requirements, and as certain forms of pasteboard are quite hard and smooth and may be obtained in the proper thickness the strip 11 may be formed of pasteboard of a length to have its ends meet when extending about the plunger 7 in the channel 10 with the width of the strip 11 about equal to the distance between the beads 8 and 9. Under these circumstances the pasteboard in its normal condition projects to a slight radial extent beyond the edges of the beads and tightly engages the inner walls of the casing or can 1, the slight flare 6 of the entering end of the can facilitating the introduction of the plunger.

With the cap 4 in place and the plunger 7 removed the can 1 is readily filled with grease, two pounds of grease filling a can of the size hereinbefore mentioned to the proper extent. Now the plunger 7 with a packing strip 11 thereon is forced into the open end of the can, which end may be then uppermost, until the plunger has entered the can to an extent that its outer face is about flush with that end of the can remote from the head 2. The packing strip 11 effectively prevents any escape of grease and the frictional contact of the packing with the plunger and with the inner wall of the can is sufficient to hold the plunger in place during ordinary conditions of handling.

A gun constructed in the manner described is producible at an expense slightly greater than an ordinary container from which the grease must be removed to be laboriously inserted in a differential gear casing or the transmission gear casing of an automobile, such casings representing the receptacle into which the grease is customarily delivered from a grease gun.

In order to discharge the grease from the gun the nozzle 5 is screwed upon the nipple 3 after the removal of the cap 4, and then by pressure of the fingers of the manipulator upon the plunger 7 the latter is slowly forced into the casing or can 1 constituting the barrel of the gun, thus ejecting the grease through the nozzle 5 and by way of the latter into the gear casing. The fingers of the hand can push the plunger but a few inches into the can and then by means of any tool which may be handy such as a wrench, hammer, or screw driver, the movement of the plunger into the can may be continued until ultimately the plunger reaches the head 2 and the grease is all discharged from the can. This is accomplished without any grease leaking back around the plunger, since such leakage is effectively prevented with the material employed, and under the pressures due to the presence of the packing strip 11.

The whole structure costs so little to manufacture that it may be thrown away like any ordinary can after being emptied of its contents, and, moreover, the gun is utilizable as a container for the grease in the same manner as an ordinary can, thus doing away with the necessity of using a container for the storage, transportation and sale of the grease and a gun for the injection of the grease into the gear casing.

What is claimed is:—

In a container and gun for lubricating grease, a plunger constituting a closure for one end of the gun and movable toward the other end thereof to expel grease therefrom, said plunger comprising a sheet metal cylinder with heads at the ends completely closing the cylinder, the heads and the body of the plunger where joining being formed into circumferential beads of greater radial extent than the cylindrical walls of the plunger to define a channel between them, and a strip of packing material lodged in the channel for engagement with the inner wall of the gun.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDWARD RAWSE THOMPSON.

Witnesses:

ADELE SCHREINER,
H. D. BILLINGS.