

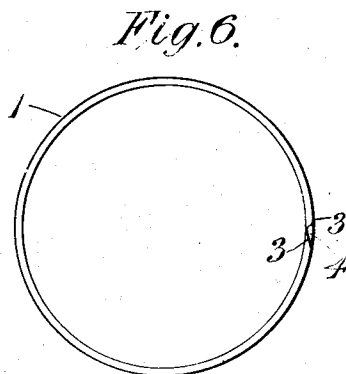
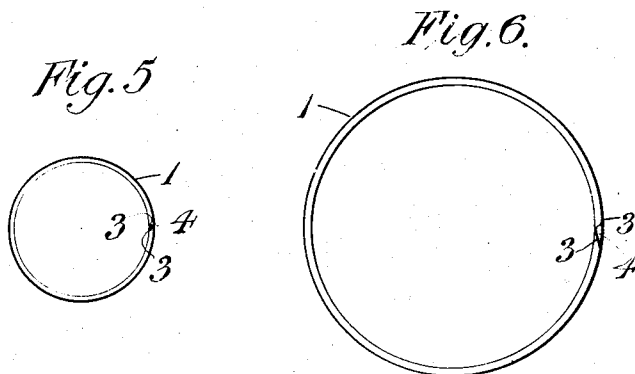
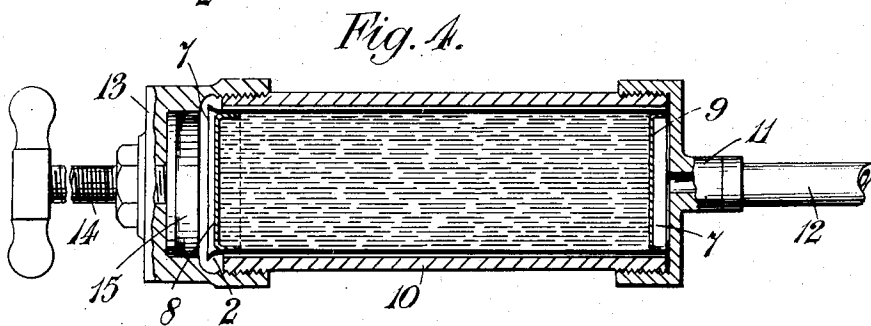
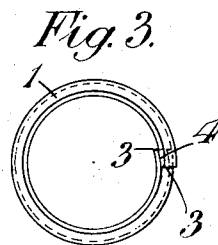
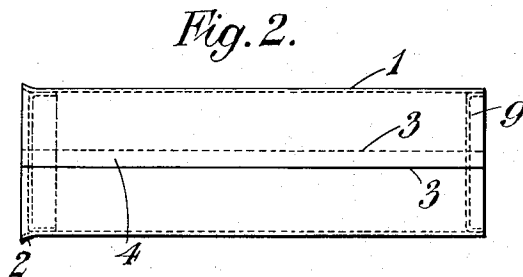
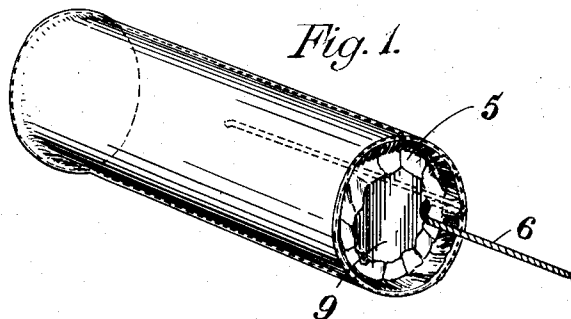
Nov. 17, 1925.

1,561,885

R. C. PORTWAY

GREASE CARTRIDGE

Filed March 6, 1925



Inventor
Robert C. Portway
per: *W. W. Bowler*
Attorney.

UNITED STATES PATENT OFFICE

ROBERT CORNELL PORTWAY, OF BECKENHAM, ENGLAND.

GREASE CARTRIDGE.

Application filed March 6, 1925. Serial No. 13,525.

To all whom it may concern:

Be it known that I, ROBERT CORNELL PORTWAY, a subject of the King of Great Britain and Ireland, residing at Beckenham, England, have invented certain new and useful Improvements in Grease Cartridges (for which I have filed application in England, No. 26,488/23 on October 23, 1923), of which the following is a specification.

10 This invention relates to grease cartridges for use in grease guns.

Heretofore grease for grease guns has been made up in tubes with removable closures at each end to form a grease cartridge, 15 the tube fitting into the barrel in the manner of a sleeve or lining.

Now it has been found in practice that the barrels of grease guns of different makers, though stipulated as of a standard size, 20 vary to a very slight degree, just sufficiently, however, to prevent the insertion of a cartridge of the same standard size, so that the person trying to charge the gun only succeeds in getting his hands greasy.

25 The object of the present invention is to provide a resilient cartridge which can be slightly reduced in diameter so as to readily enter a grease gun, the barrel of which is of slightly smaller diameter than that for 30 which the cartridge is designed; and further, to provide a cartridge which automatically expands to fit the barrel when the gun plunger enters the cartridge.

A still further object is to construct a resilient cartridge of variable diameter, as 35 above set forth, which can be packed and stored or handled without the grease exuding.

40 The accompanying drawings illustrate a preferred construction embodying the present invention, in which like reference numerals designate the same or similar parts.

Fig. 1 is a perspective view of the cartridge in a wrapper made up for storage.

45 Figs. 2 and 3 are longitudinal and end views respectively of the cartridge stripped of its wrapping.

Fig. 4 shows in longitudinal section a grease gun charged with a cartridge formed 50 as shown in Figs. 2 and 3.

Fig. 5 is a view similar to Fig. 3, showing how the overlap is reduced when the plunger of the gun enters the cartridge case; and

55 Fig. 6 is a similar view to Fig. 3, but to a larger scale, showing a modified form of overlap.

As shown in the drawings, the flexible cartridge consists of a longitudinal split tubular case 1, formed with an end 2 flared out to a diameter greater than that of the 60 plunger of the gun of the size for the cartridge, which case is made of thin sheet metal or other suitable springy material, so that its longitudinal edges 3 spring together and form a flexible longitudinal overlap 65 4; such split case being preferably secured by means of a paper or other suitable binding or wrapping 5, which wrapping may be provided with a tearing strip, such as 6, to facilitate the removal of the 70 wrapping.

The cartridge so formed is of variable diameter, and is filled with lubricating grease or the like in any convenient manner, so as to leave a small space 7 at each end of the 75 reception of a flanged paper or cardboard plug 8 and a frangible plug 9; the plug 8 which closes the flared end 2 of the cartridge, having its flange turned inwards, while the frangible plug 9 in the opposite 80 end is preferably of paper, and may be either reversed, as shown, or be disposed similarly to the plug 8; the ends so closed being sealed by dipping the same in molten paraffin or other suitable material. 85

The improved cartridges are made in various sizes to adapt them for use in various sizes and types of grease guns, in the manner indicated at Fig. 4; the split cartridge case being made slightly longer than the 90 barrel 10 of the grease gun, so that the flared end 2 of the cartridge case projects slightly beyond the end of the barrel of the grease gun when assembled therein.

Referring to Fig. 4: The grease gun illustrated is of known type, and comprises a 95 barrel 10 provided at the end away from the plunger with a removable cap including an outlet 11, to which a flexible pipe 12 is connected; the plunger end of the cartridge 100 being provided with a removable cap 13 which carries a screw threaded rod 14 on which a flexible cup leather or like plunger 15 is mounted.

To assemble the cartridge in the gun, the 105 cap 13 is detached from the barrel 10, and the paper wrapping 5 is then partly stripped back from the split cartridge case 1 by pulling the strip 6, the end of the cartridge thus uncovered is inserted in the barrel of 110 the grease gun. The remainder of the wrapping is then removed from the split car-

tridge case, and the latter pushed home into the barrel, the flared end 2 projecting, as stated, slightly beyond the barrel 10 at the plunger end, and being made slightly less
5 in diameter than the interior diameter of the cap 13, allows such cap to be replaced on the end of the barrel 10 after the plunger 15 has been drawn back into the cap.

The gun thus being charged, operating the
10 screw piston rod 14 of the grease gun will cause the plunger 15 to enter the projecting flared end 2 of the split cartridge case without catching the edge thereof as the end is
15 greater in diameter than the plunger, and then to be forced against the plug 8 in such end, the resulting pressure causing the contents to burst through the frangible paper plug 9 in the opposite end of the split cartridge case 1, and also expanding the latter
20 so that its overlapping longitudinal edges 3 are drawn apart and tend to form a butt joint, as indicated at Fig. 5. The plunger 15 also makes a close fit with the interior surface of the split cartridge, and prevents
25 the contents thereof escaping behind the plunger.

When the diameter of the cartridge is a little too large to enter the barrel of the grease gun, the end plugs 8 and 9 are re-
30 moved from the cartridge so that the split cartridge case 1 can be contracted sufficiently to enter the barrel of the grease gun; the end spaces 7 in the cartridge allowing for the longitudinal displacement of the
35 grease.

In the modification illustrated at Fig. 6, the overlapping longitudinal edges 3 of the split cartridge case 1 are bevelled off, as in-

dicated, to form a flexible scarf joint or seam 4 in order to avoid irregularity along
40 the flexible overlap of the split cartridge case, so that the plunger of the grease gun can make a sufficiently close fit to prevent grease escaping behind the plunger as the latter is operated. 45

I claim:—

1. A grease gun cartridge case of variable diameter, comprising a split tubular member having its longitudinal edges beveled and freely overlapping, said case being ini-
50 tially of less diameter than that of the barrel of the gun for which it is intended and said overlapping beveled edges being so proportioned as to abut against each other when the said case is diametrically expanded in
55 the gun barrel.

2. A grease cartridge comprising a resilient longitudinally split tube, into which the grease is filled so as to leave an unoccupied space at each end of the tube to allow of lon-
60 gitudinal displacement of the grease on contraction of the split tube, an outwardly flared end to said tube, a plug-like closure in said flared end slidable through said tube, and a frangible closure in the other end of
65 said tube, said split tube having its longitudinal edges beveled and freely overlapping and being initially of less diameter than that of the barrel of the gun for which it is
70 intended and said overlapping beveled edges being so proportioned as to abut against each other when said tube is diametrically expanded in the gun barrel.

In testimony whereof I affix my signature.

ROBERT CORNELL PORTWAY.