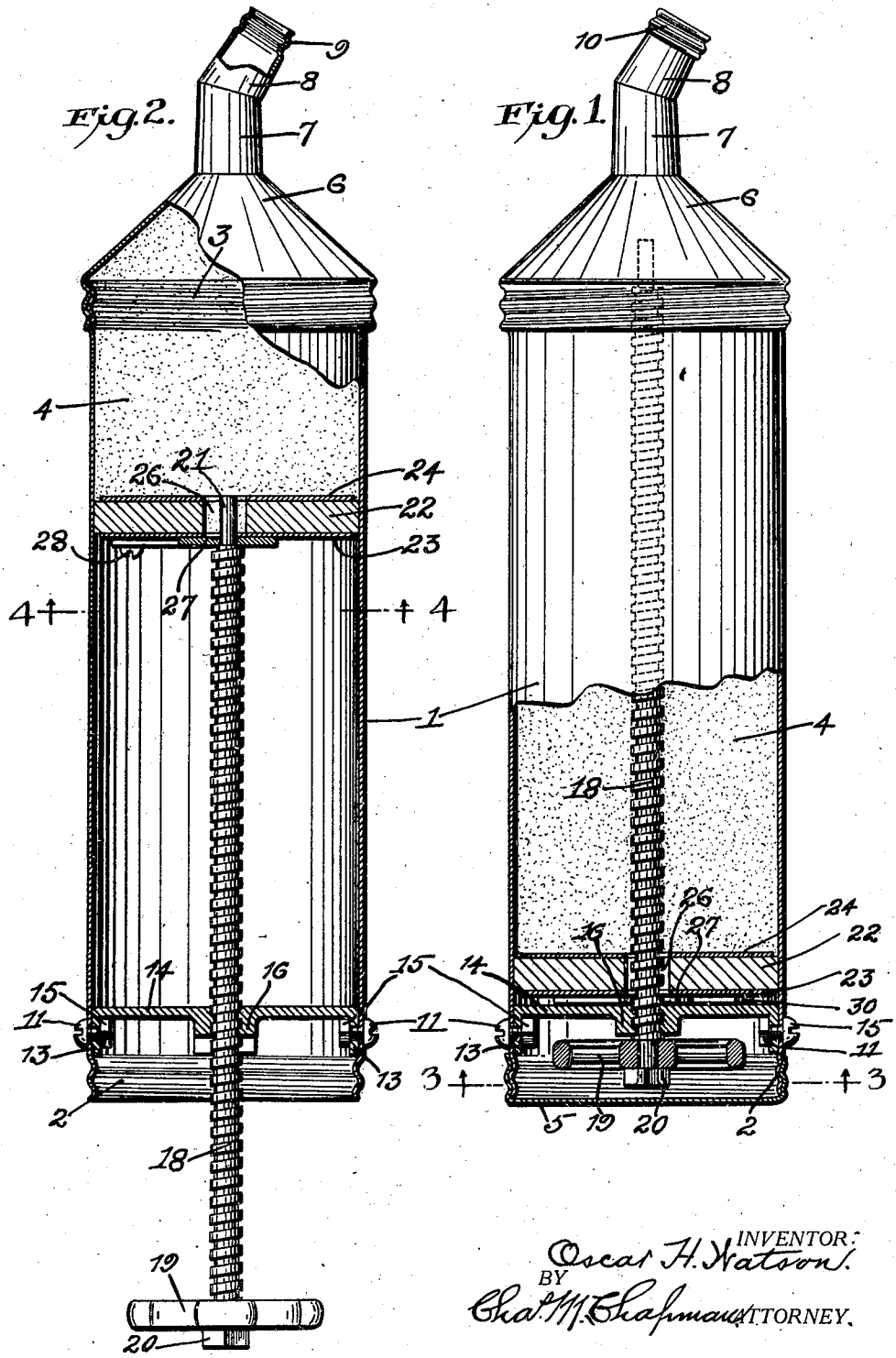
Nov. 27, 1923 1,475,417

O. H. WATSON

GREASE GUN AND CARTON

Filed Feb. 23, 1922 2 Sheets-Sheet 1



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Fig. 3.

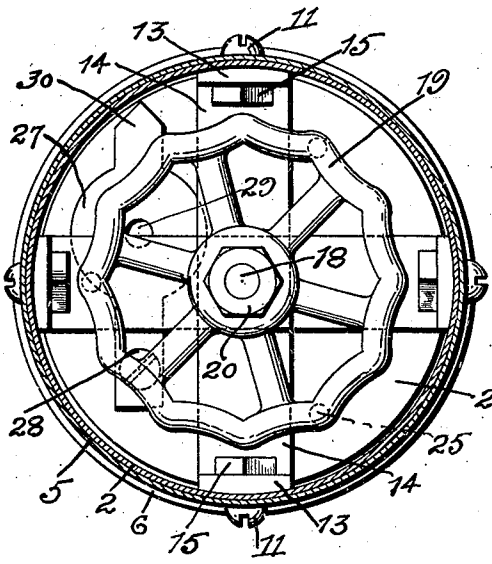


Fig. 4.

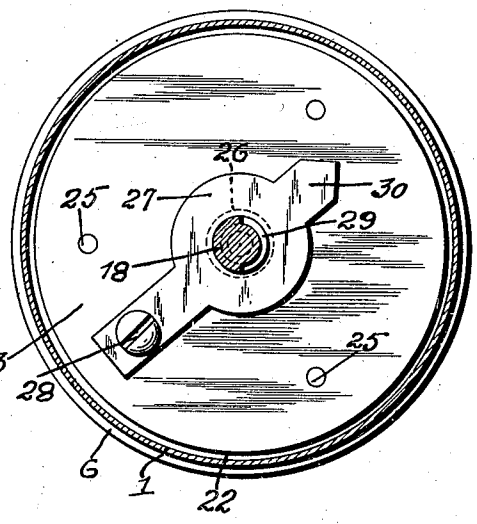


Fig. 5.

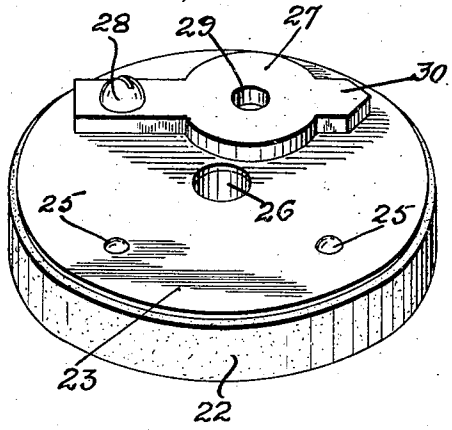
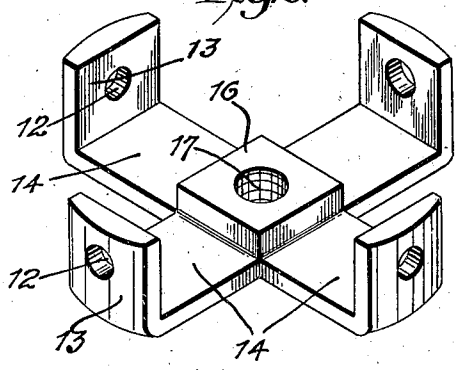


Fig. 6.



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UNITED STATES PATENT OFFICE.

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GREASE GUN AND CARTON.

Application filed February 23, 1922. Serial No. 538,452.

To all whom it may concern:

Be it known that I, OSCAR H. WATSON, a citizen of the United States, residing in Brentwood, county of Suffolk, and State of New York, have invented a new and useful Improvement in Grease Guns and Cartons, of which the following is a description.

This invention relates to devices commonly known as grease guns, and particularly relates to a device adapted to hold large quantities of grease, or other lubricating substances of a pasty or semi-solid nature, and having means for ejecting said grease or lubricant therefrom.

Among the objects of my invention may be noted the following: to provide a container for grease or other lubricant capable of holding a large quantity, such as five pounds or more, and also constructed to contain or house the ejecting means; to provide a container for grease or other lubricant capable of holding the same in large quantities, and which can be used as a grease gun by the application of suitable mechanism thereto, or as a carton, holder or container for the lubricant and equipped so as to be used as a grease gun; to provide a container for grease or other lubricant of a semi-solid nature so constructed as to contain and conceal both the lubricant and the mechanical means for ejecting the same; to provide a container, for the purpose described, having ejecting means which may be entirely inclosed in the container when the latter is not in use, and which container may be converted into a grease gun by certain manipulations of the ejecting means after removing the cover of the container; to provide a container for grease or other semi-solid lubricant which can be used as a carton and converted into a grease gun when required; to provide a construction of carton and grease gun all the essential parts of which are inclosed within a container which may be entirely closed at both ends, thus adapting it for packing, storage, transportation and also display purposes; to provide a construction adapted to be used as set forth in the foregoing which is simple, compact, quickly converted, and economical to construct, and which can be used with facility, when required, as a grease gun.

In order that my invention may be clearly understood, I have provided drawings wherein:

Figure 1 is a sectional elevation of my combined carton and grease gun ready for transportation, storage, or display;

Figure 2 is a sectional elevation of my combined carton and grease gun showing the same ready for use;

Figure 3 is a cross-section substantially on the line 3—3 of Figure 1, the view being enlarged in order to show the details of construction in one end of the container;

Figure 4 is a cross-section substantially on the line 4—4 of Figure 2 showing the position of the latch for cooperating with the screw-threaded rod when the apparatus is in use as a grease gun;

Figure 5 is a perspective view of the piston showing the pivotally mounted latch thereof swung aside out of position so that it will not cooperate with the screw-threaded rod; and

Figure 6 is a perspective view of the spider or brace which is rigidly supported in one end of the container, as shown in Figures 1, 2 and 3.

Referring to the drawings the numeral 1 indicates the carton or container, which is of cylindrical form and the opposite ends of which are screw-threaded, as at 2 and 3. This container is in practice made of very large size capable of carrying at least five pounds of grease 4, or other lubricating substance, thus obviating the necessity for frequently filling the grease gun, as is the common practice at present, it being understood that ordinarily large quantities of grease or other lubricant are sold in pails containing five pounds and upwards and that the grease guns ordinarily are only large enough to hold about one-quarter to a half pound. In such cases, the gun has to be frequently refilled and thereby become greasy, dirty, picks up grit, dust, and, in the course of time, becomes very objectionable to handle. Moreover, it is a great nuisance to frequently fill the grease guns from a pail, and can only be done with great difficulty and frequently with the result of smearing the grease all over the gun and losing a quantity of it by wastage, etc. To overcome all these objections, it is a part of my invention that the container 1 shall be of ample size to hold at least five pounds of grease, or similar lubricating substance; and it is also a part of my invention, and one of its important features, that the container shall be a carton which may be converted into a grease gun when required. With this

idea in mind, when the container is primarily merely a carton containing an extra quantity of lubricant, and is supplemental to a grease gun, which has previously been purchased, it will be understood that any number of the cartons, without the screw-rod or means for manipulating the piston, can be purchased independently of the mechanism for converting it into a grease gun. This will more fully appear in the following description.

The screw-threaded end 2 of the container 1 is provided with a screw-threaded closure 5 which is simply a cap for that end of the container. The other end of the container is provided with a screw-threaded closure, the body of which is conical, as at 6, the small end being extended into a tubular spout 7, supplemented by a bent, tubular nozzle 8, the outer, reduced end 9 of which is screw-threaded to receive a cap 10. The screw-threaded end 2 of the container, just beyond the screw-threads, is provided with a plurality of apertures for receiving screws 11, which pass through apertures 12 in the angular ends 13 of the arms 14 of the spider or brace, the screws 11 securing the said spider firmly in position and their ends being provided with nuts 15 operating to clamp the angular ends 13 firmly against the inner surface of the container or cylinder. The spider is provided with a central nut-like member 16 provided with a central, screw-threaded aperture 17 for receiving the screw-threaded rod 18, which is adapted to operate the piston as presently described. The outer end of the rod 18 is reduced and has a manipulating wheel or handle 19 secured thereto by the nut 20, and the inner end of the rod 18 is reduced and smooth, as indicated at 21.

The piston, as shown in Figures 1, 2 and 5, is composed of three disks, the middle disk 22 being of cork or other similar grease-proof and anti-frictional material, and the two outer disks 23 and 24 being composed of metal or other similar rigid material, the three disks or plates being firmly secured together, as by rivets 25. The piston thus composed has a large central aperture 26, through which the screw-threaded rod 18 may freely pass, as clearly shown in Figure 1. The piston on one side is provided with a latch 27 pivotally mounted at 28 and having an aperture 29 and a finger or extension 30 by which the latch may be readily manipulated by extending the end of the rod 18 or similar device to it within the cylinder and shifting it on its pivot 28, so that its aperture 29 may register with the aperture 26 in the piston. The aperture 29 in the latch is sufficiently large to permit the reduced end 21 of the rod 18 to pass therethrough, but is too small for the screw-threaded portion of the rod to pass therethrough. Hence, the shoulder between the reduced end 21 and the screw-threads of the rod 18 will abut against the surface of the latch surrounding the aperture 29 and, in consequence, the rod may operate upon the piston to push the latter against the mass of grease or other lubricant within the container 1 so as to cause said lubricant to be forced out of the nozzle 8 after the cap 10 has been removed therefrom.

Figure 1 shows the ready-for-transportation and display condition of the device, all the parts being housed within the container which can be stood upright on its closure 5, while Figure 2 shows the ready-for-use condition of the device; and by reference to said two figures it will be seen that, when the container 1 is full of grease 4, the piston with its latch 27 is close against the inner surface of the spider or brace at the operating end of the container. With the latch shifted aside, as shown in Figure 5, the screw-threaded portion of the rod may pass freely through the aperture 26 in the piston and be extended practically the full length of the container within the mass of grease thereof. In this condition, as shown in Figure 1, the manipulating wheel 19 is well within the screw-threaded end 2 of the container. Hence, when the closure 5 is applied and screwed down tight, there is no interference whatever with the closure, and all the operating mechanism of the device is entirely within the container 1. In this condition, of course, the closure 6 is screwed onto the cylinder at the opposite end and the nozzle cap 10 is likewise screwed in place. Thus conditioned, the grease gun is ready for packing, transportation and display, and for display purposes the same may be set upon the flat end of the closure 5. For functional purposes, the closure 5 is first removed from the container. The screw-threaded rod 18 is then turned until it is entirely withdrawn from the piston and is out of the way of the latch 27, or it may be entirely withdrawn from the spider. In either event, an implement may be used to shift the latch 27 into the position shown in Figure 4, with apertures 26 and 29 in register, or, the end of the rod may be used to shift the latch. The rod is now screwed down into the spider until its reduced end 21 passes through the latch and into the position as shown in Figure 2, and then the shoulder at the end of the screw-threads of the rod will engage the surface about the aperture 29 of the latch and, by continuing the rotation of the screw-threaded rod, the piston will be forced inwardly along the container. Of course, the nozzle cap 10 should be removed so that the lubricant may be delivered from the executive end of the device. In operation, when the screw-threaded rod has been turned to its inward

limit, the piston will have reached the outer end of the screw-threaded portion 3 of the cylinder, and there remains but a small portion of the lubricant in the closure 6. The cylinder 1, with its piston and spider may now be exchanged for another carton filled with grease and provided with a piston set against the spider, as shown in Figure 1, but devoid of the screw-threaded rod, which, as will be understood, is the expensive part of the gun. Any number of the supply cartons can thus be provided and sold independently of the gun provided with a rod so that, with any number of cartons or cylinders filled with grease and provided with a spider and a piston, but one rod may be employed.

When the grease is exhausted, the rod 18 can be removed from the cylinder and used for another cylinder. The cylinders filled with grease, ready for use in connection with the rod, can be kept on hand in storage and purchased in any quantity desired. The retailer can have any number of cartons thus prepared and ready for use and can exchange them for empty cylinders for a small sum additional to cover the cost of the grease or contents of the cylinder. As long as the cylinders remain in good condition, exchanges can be made in this manner, thus avoiding the necessity of purchasing a new carton or container and entire outfit, including operating rod, every time the cylinder is emptied.

It will be understood that one of the important features of my invention is the compact arrangement of all the parts of the gun and carton, and the fact that, when the carton has its two closures 5 and 6 in place, all its operating mechanism is entirely inclosed and covered and is out of harm's way and contamination. Thus my invention contemplates the idea of means of a combination grease gun and carton, or container for an unusually large quantity of lubricant. The disks 23 and 24 of the piston in diameter are slightly less than the interior diameter of the container 1, while the member 22 of the piston is approximately the same in diameter as the interior diameter of the container 1, the piston thus snugly fitting within the carton and operating to clear the inner walls thereof of all grease and to prevent grease from getting behind the piston into the space where the spider is located.

The spider may be a casting, the members thereof in such case being integral with one another, or the spider may be made up of two independent plates soldered together in any usual way. The spider is, of course, removable at will from the cylinder, and all the parts of the device are readily assembled and taken apart for any purpose whatsoever.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A carton, cylindrical in form, having closures at its opposite ends, and in one end, under one of said closures, having a piston, a rod for operating said piston, a latch carried by the piston for cooperating with the rod, and a spider for supporting the rod, the rod and spider having interacting means enabling the rod to be shifted relatively to the spider.

2. A carton, cylindrical in form, having closures at its opposite ends, and in one end, under one of said closures, having a spider fixed against movement, a piston normally at rest against said spider, and a latch on said piston movable laterally relatively thereto into and out of operative position, the spider, latch and piston having registering apertures adapted to cooperate with an operating rod.

3. A combined carton and grease gun comprising a cylindrical container having at one end a closure provided with a delivery spout, and within the opposite end a spider having a screw-threaded aperture adapted to receive an operating rod, a piston having a latch, said piston and latch having registering apertures one larger than the other, the smaller aperture adapted to prevent the passage of the rod and cause the latter to force the piston inwardly, and a screw-threaded rod cooperating with the spider and latch for forcing the piston inwardly.

4. A grease gun having at one end a delivery spout, and at its other end a spider, a piston and a latch on the piston, an operating rod screw-threaded approximately its entire length and adapted to pass through the spider and freely through the piston, and interacting means on the latch and rod for causing the latter when rotated to drive the piston inwardly, and a closure for the end of the grease gun beyond the spider for covering and concealing all said cooperating parts.

5. A grease gun having within the same near one end a spider provided with a screw-threaded aperture, a piston lying normally adjacent said spider and having an aperture, a laterally shiftable latch mounted on said piston having an aperture, the several apertures being adapted to register, and a screw-threaded rod for cooperating with the spider, piston and latch, the several apertures being of a size such that the rod may pass inoperatively through the piston, may pass cooperatively through the spider, and may engage the surface around the latch aperture when the latch is in operative position.

6. A combined grease gun and carton comprising a cylindrical container having

at one end a closure provided with a delivery spout, within the opposite end a spider provided with a screw-threaded aperture adapted to receive an operating rod, an operating rod threadedly engaged with said spider, a piston provided with an aperture of greater diameter than the rod, and, mounted on said piston, a movable latch provided with an aperture of smaller diameter than the rod, whereby the rod is prevented from passing through the piston when said apertures are in register.

OSCAR H. WATSON.