A J WOOD.

GREASE GUN FOR BARRELS AND THE LIKE.

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1,382,705. Patented June 28, 1921.

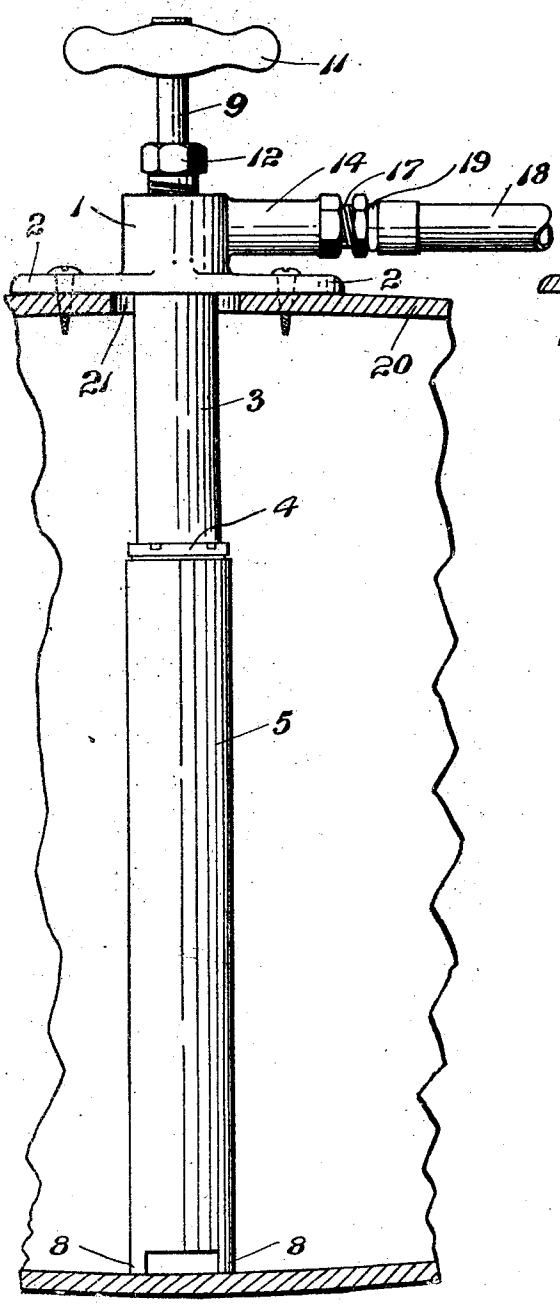


Fig. 1.

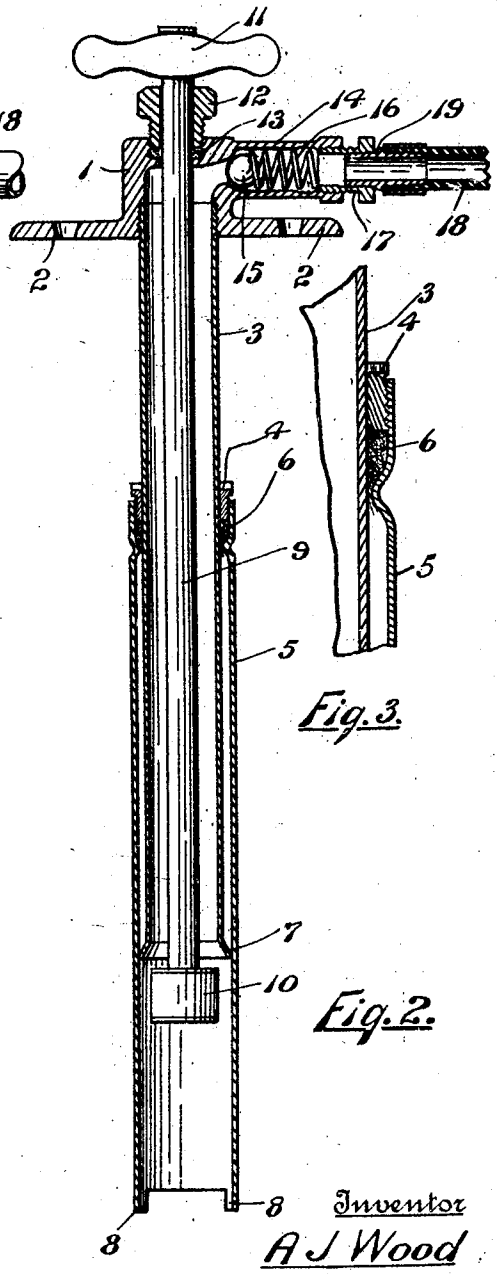


Fig. 3.

Fig. 2.

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GREASE-GUN FOR BARRELS AND THE LIKE.

1,382,705. Specification of Letters Patent. Patented June 28, 1921.

Application filed February 24, 1920. Serial No. 360,864.

To all whom it may concern:

Be it known that I, A J WOOD, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Grease-Guns for Barrels and the like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to a grease gun adapted to be used in withdrawing lubricating grease from barrels, casks or the like, said grease gun being designed to deliver the grease taken to any desired point outside of the barrel, cask or the like. It is an object and purpose of the invention to construct a grease gun which may be inserted through the bung hole of a barrel or cask and which may then be securely attached thereto, thereafter being ready for operation to dispense grease as long as there is any left in the barrel, cask or the like. A further object of the invention is to make a grease gun which may be applied to different sizes of barrels or similar containers of grease, the gun being quickly adjustable for the different sizes with which it works so as to reach, in all cases, to the lower side of the container of grease, so that all of the grease may be removed. A still further object of the invention is to construct the grease gun in a particularly simple and economical manner, this tending to the greater efficiency and durability of the device; and furthermore, to construct it so that it enters the relatively small bung hole of a barrel when the bung is removed, without there being any necessity of enlarging the opening to receive the device, and no need to mutilate or deface the barrels in any particular. Various other objects and purposes, together with novel constructions for attaining the same will appear fully and in detail as understanding of the invention is had from the following description, taken in connection with the accompanying drawings, in which,

Figure 1 is a side elevation of the grease gun, the same being indicated as in working connection to a barrel which is shown, fragmentarily, in longitudinal section, and

Fig. 2 is a vertical section through the grease gun.

Fig. 3 is a fragmentary enlarged section showing the packing connection between the telescoping parts of the device.

Like reference characters refer to like parts in the different figures of the drawing.

In the construction of the grease gun, a head 1 is provided from which attaching feet 2 extend. This head has a passage through it opening in the under side of the head and a tube 3 of sheet metal is threaded into said head at such opening. Any other suitable way of making a permanent connection may be resorted to as is obvious. The tube 3 passes through a cap 4 into which the upper end of a second tube 5 threads. Tube 5 is somewhat larger in diameter than the tube 3 and the lower end of said tube 3 is flared outwardly as indicated at 7 so that the lower edges of said flared out portion substantially contact with the inner sides of the tube 5 for a purpose later appearing. A suitable packing 6 is interposed between the cap 4 and tube 5 around the smaller inner tube 3 making an air tight joint at this point. The lower end of the outer tube 5 has portions cut away leaving feet 8 with open spaces between them as shown.

A piston rod 9 equipped at its lower end with a valveless piston 10 is located lengthwise of the tube 3, extending at its upper end through the head 1 and having an operating handle 11 secured to its upper end above the head. A nut 12 is threaded into the upper side of the head 1, the piston rod 10 passing therethrough and said nut serving to hold packing 13 in place, there being an air tight stuffing box made which does not permit the passage of air into the tube 3 around the piston rod.

The head has an integral lateral extension 14 which has a passage therethrough communicating with the passage in the main portion of the head. Adjacent its inner end a ball valve 15 is located in said passage and is pressed against a suitable seat by a spring 16 which is compressed by the member 17 which threads into the open outer end of extension 14. Said member 17 also has a longitudinal opening through it. A length of hose or other suitable equivalent flexible grease carrying member 18 is attached to the member 17 by means of the coupling 19

so that there is a free passage from the tube 3 through head 1 and the various interposed members to the hose 18 except for the ball valve 15.

This grease gun is adapted to be applied to barrels in which large quantities of lubricating grease are held. The barrel, illustrated at 20 usually has an opening or bung hole 21 in a side which is normally closed by a suitable bung. This bung is removed in using my invention and the lower end of the tube 5 inserted through said opening and the grease gun pushed into the grease until the lower side of the barrel is reached by the projections 8 at the end of the outer tube 5. In practice, the tube 3 may be drawn out of tube 5 for a distance and after the lower end of tube 5 is stopped by striking the lower side of the barrel, the tube 3 is forced inward until the attaching feet 2 come against the barrel. Screws are passed through said feet to hold the appliance in rigid relation to the barrel. The diameter of the cap 4 is very slightly less than that of the bung hole 21 and the entire grease gun below the head 1 inserts into the barrel, only the head and parts attached thereto and the operating handle showing above the barrel. The piston rod 9 is of such length that when the handle 11 is in its lowest position substantially against the head 1, the piston 10 extends a short distance below the lower end of the inner tube 3 as indicated in Fig. 2.

To withdraw grease from the barrel, the operating handle 11 is grasped and the piston 10 is moved up and down in the tube 3. With the piston at or near the upper end of the tube 3, when a downward stroke is made, the ball 15 seats against its seat in the extension 14, precluding the entrance of any air or the return of any grease from the hose 18 to the tube 3, while air cannot enter around the piston rod 9 where it passes through the head 1. The piston fits snugly in tube 3. Accordingly, it is evident that by the time the piston has reached the lower end of the tube 3, a vacuum has been made in the tube and as soon as the piston passes beyond the lower end of said tube 3, grease will flow around the piston and over the same into the tube 3 being forced in by atmospheric pressure. The flared out lower end of tube 3 facilitates the entrance of the grease and it also serves as a guide for the piston on the up stroke thereof. On the up stroke the grease in tube 3 above the piston is forced out past the ball valve 15 and into the hose 18 and out of the same. The hose being flexible may be moved to different positions and the grease delivered from the outer end thereof to any desired point within the range of movement of the hose.

The construction is very simple in structure and operation, is durable and particularly efficient. The grease passes from the barrel into the outer tube 5 through the openings at the lower end between the projections 8 and it is evident that practically all of the grease can be taken from the barrel with this appliance as all of it is taken into the appliance at the extreme lower end thereof which is located against the lower side of the barrel. One very practical feature of my invention is its ready application to barrels containing grease without the necessity of changing the barrel in any way, such as enlarging the bung hole, or making any additional openings; while its attachment consists in merely driving attaching screws through the attaching feet 2, the removal consisting in removing said screws. Economy of manufacture, simplicity and effectiveness of operation and readiness of application to and removal from the grease containing receptacles all combine to make the present invention one of value.

I claim:

1. In a device of the character described, a head having a passage therethrough, attaching ears projecting from the head, a lateral extension to the head having a passage communicating with the passage in the head, a flexible conduit attached to the end of said extension, a spring actuated valve located in the extension and normally closing the passage from the head to said extension, a tube connected to and depending from the head, said tube having a flared out lower end, a second tube into which the first tube telescopically inserts, said second tube having parts cut away at its lower end, a bushing at the upper end of the second tube through which the first tube passes, a piston rod located lengthwise of the first tube and passing through the head, a valveless piston at the lower end of the rod, and an operating handle at the upper end of the rod, said rod being of such length that the piston extends below the first tube when in lower position.

2. In a device of the character described, a head provided with a lateral extension, said head and extension having communicating passages therethrough, a spring actuated valve located in said extension and normally closing the passage from the head to the extension, attaching feet on the head, a tube attached to and depending from the head, a second tube into which the first tube telescopes, said second tube having portions cut away at its lower end, a piston rod positioned lengthwise of the first tube and extending through the head, an operating handle at the upper end of the rod, and a piston at the lower end of the rod, said rod being of such length that the piston passes below the lower end of the first tube when in lower position.

3. In a device of the character described,

a head having a passage therethrough, a spring actuated valve normally closing the passage, attaching feet extending from the head, a tube connected to and depending from the head, a second larger tube into which the first tube extends, a piston rod having a piston at its lower end located lengthwise of the first tube and passing through the head, and means to move the rod and attached piston back and forth in said first tube, said rod being of such length that the piston extends below the lower end of the first tube and into the second tube when in lowermost position.

4. In a device of the character described, a head having a passage therethrough, a spring actuated valve in said passage normally closing the same, a tube connected to and depending below the head, a piston rod located lengthwise of the tube, a piston attached to the lower end of the rod, and a handle at the upper end of the rod above the head, said rod passing through the head and being of such length that the piston passes below the lower end of the tube in lowermost position, and a larger tube extending below the lower end of the first tube, substantially as described.

5. In combination, a head having a passage therethrough, a tube depending from the head and provided with a flared-out lower end, a piston rod located lengthwise of the tube and passing through the head, a piston at the lower end of the rod, means attached to the upper end of the rod whereby it may be manually moved back and forth in the tube, said rod being of such length that the piston passes below the lower end of the tube in lowermost position, means in the head permitting passage of grease or the like from the tube through the head but preventing return thereof, and a larger tube at the lower end of the first tube and extending below the same into which the piston passes at its lowermost position of movement, substantially as described.

6. In combination with a barrel or similar container having a relatively small opening in a side thereof, a head attached to said barrel over said opening, a tube depending from said head through the opening, a tube of larger diameter around the first tube and movable thereon so that, its lower end contacts with the lower side of the barrel, said larger tube having portions removed at its lower end, a piston rod passing through the head into the first tube, a piston on the lower end of the rod, an operating means on the upper end of the rod, said rod being of a length such that the piston passes below the lower end of the first tube in lowermost position, and said head having a passage therethrough communicating with the first tube, and check valve means in said passage substantially as and for the purpose described.

In testimony whereof I affix my signature.

A. J. WOOD.