W. E. SIDNEY.

AUTOMATIC DISCHARGE LUBRICATOR.

APPLICATION FILED SEPT. 24, 1908.

975,646. Patented Nov. 15, 1910.

Fig. 1.

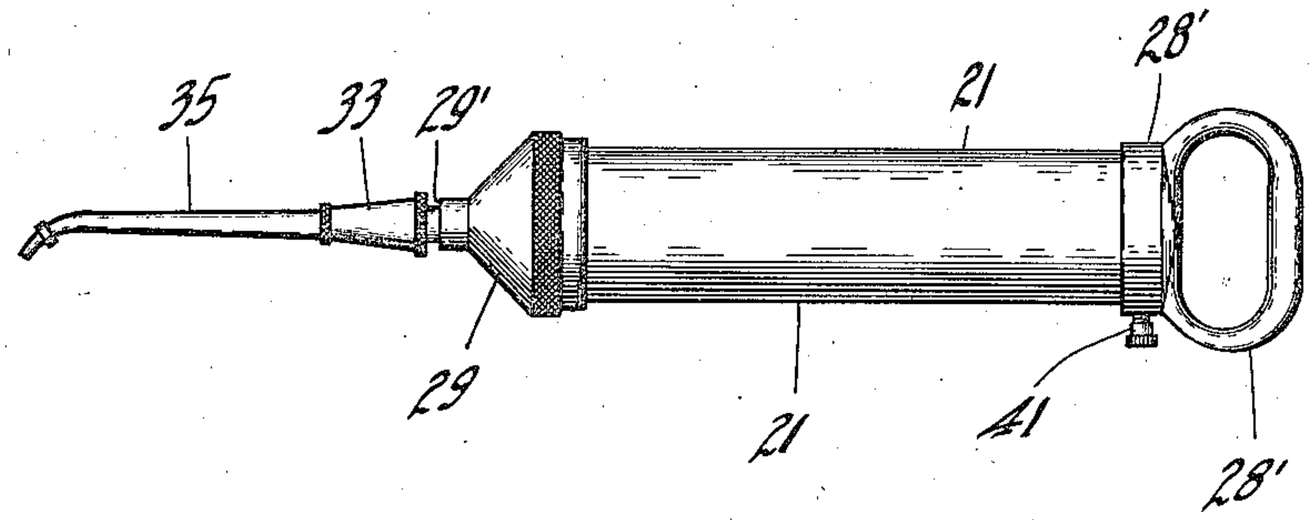


Fig. 2.

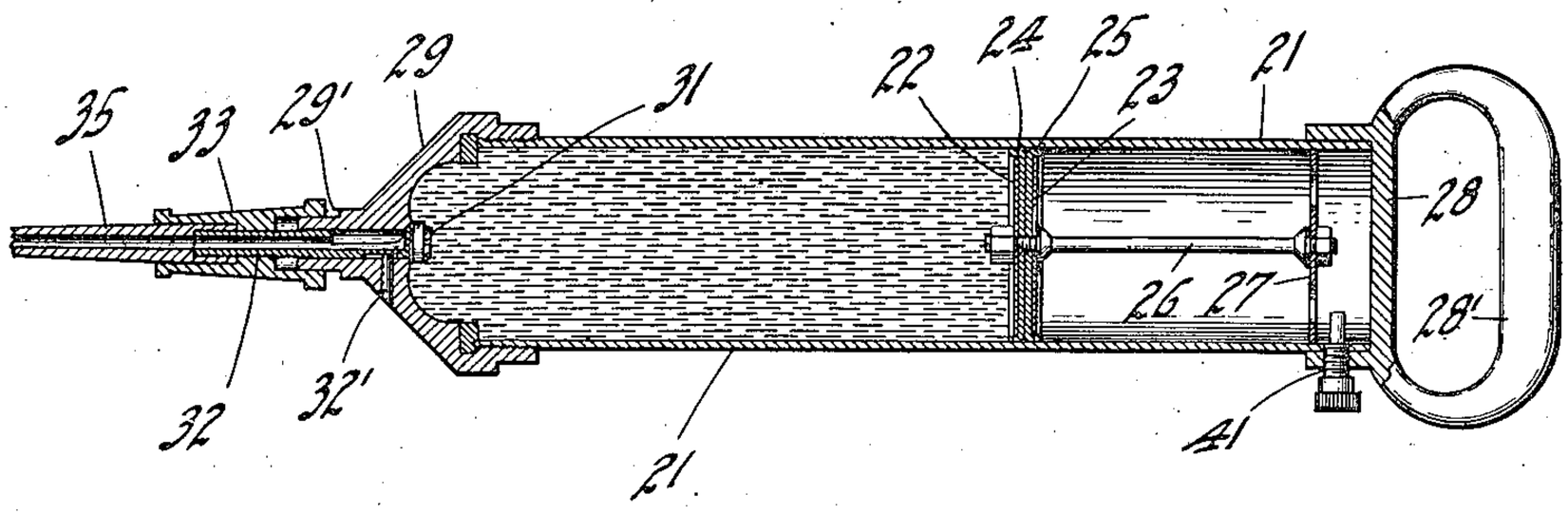


Fig. 3.

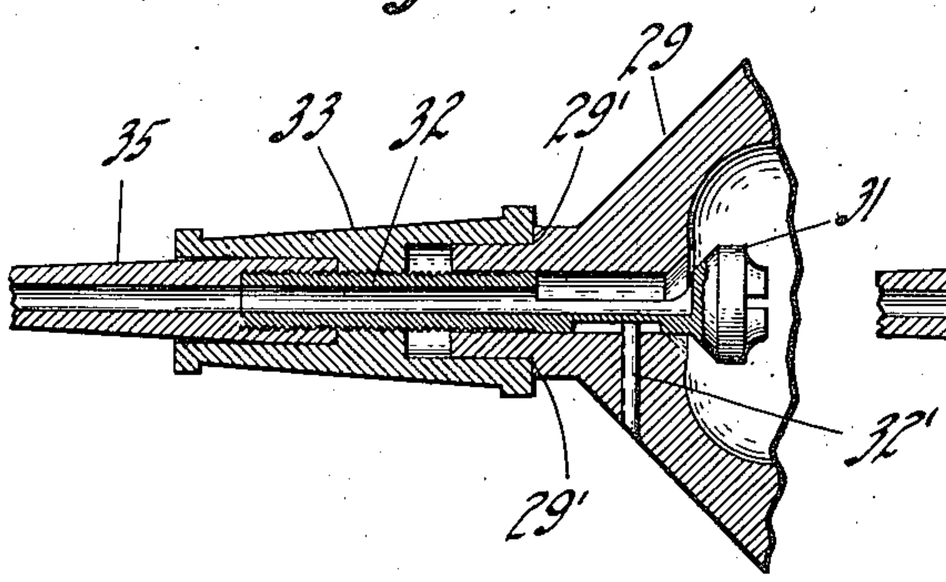
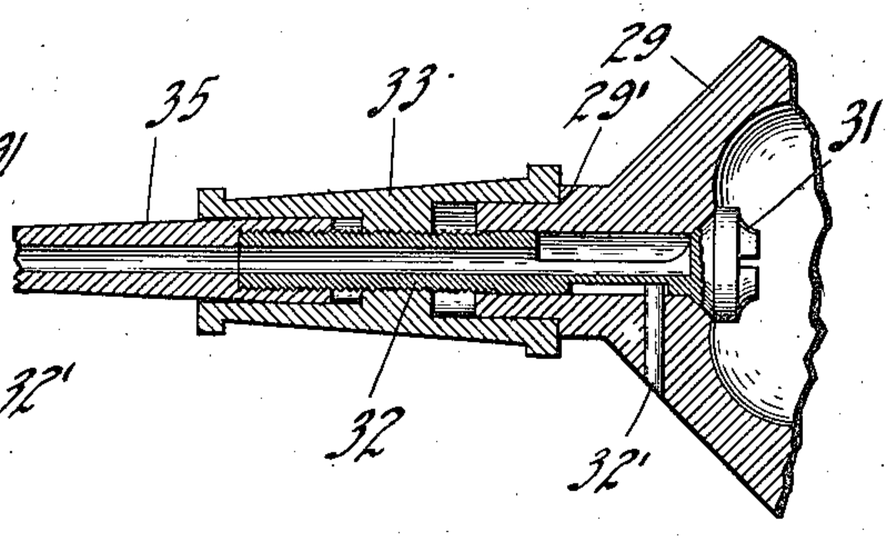


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM E. SIDNEY, OF KOKOMO, INDIANA, ASSIGNOR OF ONE-THIRD TO WILLIAM J. GOLIGHTLY AND ONE-THIRD TO FREDERICK W. JACKSON, OF KOKOMO, INDIANA.

AUTOMATIC-DISCHARGE LUBRICATOR.

975,646. Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed September 24, 1908. Serial No. 454,635.

To all whom it may concern:

Be it known that I, WILLIAM E. SIDNEY, a citizen of the United States, residing at Kokomo, in the county of Howard and State of Indiana, have invented certain new and useful Improvements in Automatic-Discharge Lubricators, of which the following is a specification.

The object of my invention is to provide an apparatus for conveniently and efficiently storing, carrying and applying substances of a fluid or semi-fluid nature in such manner that upon the opening of a valve the substance will be automatically discharged.

Said invention consists in a suitable receptacle divided into two chambers by means of a movable piston, one of the chambers being for the reception and storing of the substance in question, while the other is for the reception of a charge of air or equivalent compressible gas, each of said chambers being provided with a suitable valve.

While this appliance may be used for many purposes, I have especially designed it (in the form illustrated) as a lubricator; and one purpose for which such a lubricator is especially well adapted is the lubrication of the working parts of motor vehicles, particularly when on the road—it being only necessary, as will be presently more fully explained, when lubrication of any such part is necessary, for the driver to bring the nozzle of the lubricator to the vicinity of such part, and cause the discharge valve to be opened, when the lubricant will be automatically discharged onto or into the part in question.

Referring to the accompanying drawings, which are made a part hereof, and on which similar reference characters indicate similar parts, Figure 1 is a side elevation of a device of the character in question embodying my said invention; Fig. 2 a longitudinal sectional view thereof on an enlarged scale the parts being adjusted ready for operation; Fig. 3 a detail sectional view on a still further enlarged scale similar to a portion of Fig. 2 except that the parts are in the relative positions which they occupy when the discharge valve is open, and Fig. 4 a view similar to Fig. 3 except that the parts are so adjusted as to hold the discharge valve tightly closed.

In the form shown the receptacle 21 is in the form of a cylinder and contains a piston-like movable wall by which it is divided into two chambers. This wall I prefer to construct as shown, of two plates 22 and 23 clamping two cup leathers 24 and 25 which form the packing. The plates are mounted on a stem 26, which carries on the opposite end a guide member 27 by means of which the piston is held in proper position. The receptacle has, at one end, a head 28, which in this form of the apparatus embodies a handle 28′; and, at the other end, a head 29 to which the nozzle and valve are connected, and which embodies a valve seat for the discharge valve.

In the preferred form shown the discharge valve 31 has a tubular, exteriorly screw-threaded valve stem 32, through the side of which an opening is cut just below the head or valve proper. This valve rests on the valve seat within the cylinder head 29, and its stem 32 extends out through a suitable opening provided therefor leading outwardly from said valve seat. It is prevented from revolving by a stud 32′ which passes in through the surrounding wall and engages with a slot therein. Surrounding the valve stem, and also the tubular extension on the head 29 is an interiorly screw-threaded sleeve 33 engaging with the screw-threaded tubular stem of the valve. This sleeve may be adjusted, as shown in Fig. 2, so that pressure thereon will move it and the valve stem backwardly until the sleeve strikes a shoulder 29′ on the head 29, as shown in Fig. 3, which will move the valve off its seat, and permit the lubricant (or other fluid or semi-fluid substance) contained within the chamber to flow out; or said sleeve may be screwed onto the valve stem until its end and the shoulder 29′ come tightly together, as shown in Fig. 4, in which condition of the parts the valve is tightly closed and locked. For convenience I also apply a suitable nozzle to this device. Such a nozzle 35 is shown in Fig. 1, and a fragment thereof in Figs. 2, 3 and 4. The form which I have selected for illustration is that of the nozzle of an ordinary oiler, and it is shown as having an enlarged perforation at its inner end which is interiorly screw-threaded, and fits over the outer end of the tubular screw-threaded valve stem, and forms substantially a prolongation thereof. As will be readily understood, when the parts are adjusted to the re-

lations shown in Fig. 2, it is only necessary to press the point of the nozzle against the part to be lubricated to push the nozzle and valve backwardly to the position shown in Fig. 3, when the fluid or semi-fluid substance is free to be discharged through the opening in the side of the tubular valve-stem below the head or valve proper, and thence through the nozzle to the part to which the substance is to be applied. At the opposite end of this structure, at or near the head 28, I provide an ordinary check valve 41 adapted to have a tube or pipe leading from an air compressor or other source from which air or gas under pressure may be supplied connected thereto. In preparing this apparatus for use, I first fill the chamber nearest the discharge valve with the fluid or semi-fluid substance,—generally by removing the head 29, and thus leaving the containing chamber open, then reapplying the head, and closing the valve. I then, through the valve 41, charge the air chamber with air or gas under sufficient pressure so that when the discharge valve is opened the expansion of the compressed air or gas will be sufficient to force the piston toward the discharge valve, and thus discharge the contents of the containing chamber. When a sufficient pressure of air or gas is obtained, the air compressor is uncoupled, and the device is ready for use.

The great convenience of an appliance of this sort for such purposes as have been described will be readily understood. Many parts of a motor vehicle which need occasionally to be lubricated while in use are quite difficult of ordinary access, and the advantages of an apparatus by means of which it is only necessary to bring its discharge nozzle to the vicinity of such parts, whereupon, by a slight pressure, the lubricant is caused to be automatically discharged, are obvious. Many other uses for an apparatus embodying these features will readily suggest themselves; and, of course, the apparatus may be made of any size or shape to suit the particular requirements.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is:—

1. The combination of a container, and a discharge valve thereto, said discharge valve having a tubular exteriorly screw-threaded valve-stem with an opening thereinto below the valve head, and an interiorly screw-threaded sleeve surrounding and engaging said valve-stem whereby the movement thereof may be adjustably controlled.

2. The combination of a container, a discharge valve thereto, said discharge valve having a tubular exteriorly screw-threaded valve-stem with an opening thereinto below the valve head, a stud engaging a groove in said valve-stem whereby it is prevented from turning, and an interiorly screw-threaded sleeve surrounding and engaging said valve-stem whereby the movement thereof may be adjustably controlled.

In witness whereof, I, have hereunto set my hand and seal at Indianapolis, Indiana, this twenty-second day of September, A. D. one thousand nine hundred and eight.

WILLIAM E. SIDNEY. [L. S.]

Witnesses:

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