(No Model.)

E. H. BENNERS.

GREASE CUP.

No. 425,484. Patented Apr. 15, 1890.

Fig. 2.

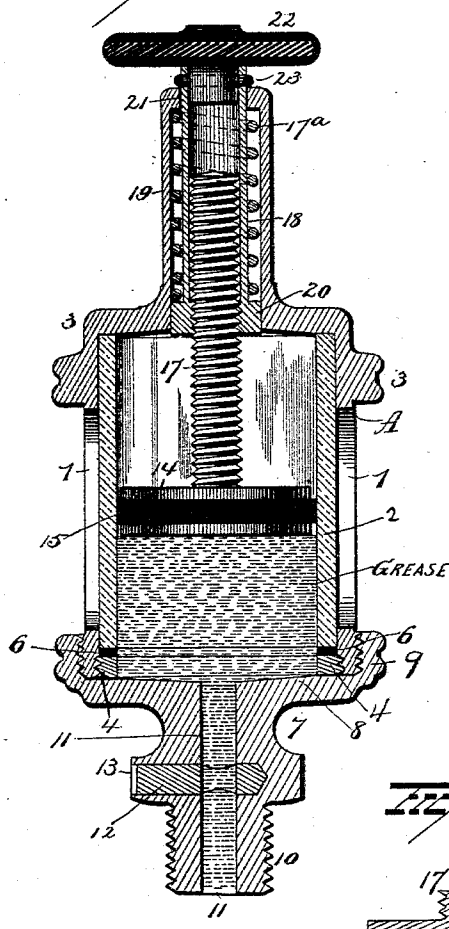


Fig. 1.

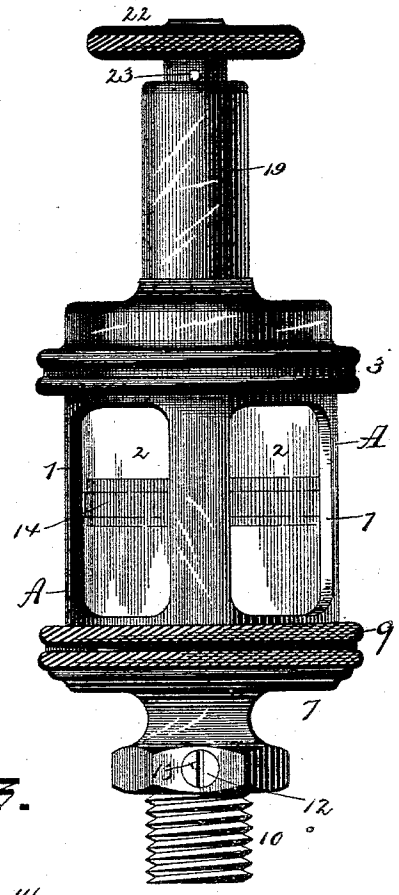
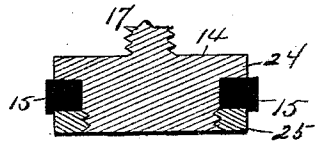


Fig. 3.



Witnesses
E. Whittingham
G. F. Downing

Inventor
Edwin H. Benners
By his Attorneys
H. A. Seymour

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWIN H. BENNERS, OF ELIZABETH, NEW JERSEY.

GREASE-CUP.

SPECIFICATION forming part of Letters Patent No. 425,484, dated April 15, 1890.

Application filed November 29, 1889. Serial No. 331,993. (No model.)

To all whom it may concern:

Be it known that I, EDWIN H. BENNERS, a resident of Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Grease-Cups; 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.

My invention relates to an improvement in grease-cups, the object being to provide a cup of simple and inexpensive construction, consisting of comparatively few parts, and so disposed that the pressure upon the grease may be regulated and varied, to the end that a uniform feed of the semi-soft lubricating compound is insured at all times.

A further object is to provide means whereby the amount of grease contained in the cup is constantly exposed to view, and the grease is prevented from working above the plunger without being detected, and, further, to provide for easily and quickly replenishing the cup.

With these ends in view my invention consists in certain novel features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 is a vertical sectional view. Fig. 3 is a view in section of the plunger.

A represents the barrel or body of the cup, which preferably has openings 1 1 in its sides, and is lined with a cylindrical glass container 2, in which the grease or other lubricating compound is contained. While a cylindrical metal container might be employed in lieu of the glass container, the latter is preferable, and when used great care is taken to make the glass exactly cylindrical in shape and true inside, so that the plunger will exactly fit its inner walls at every point. The glass cylinder fits well up into the head 3 at one end, and it is held in place by a threaded metal washer 4, which screws into the other end of the barrel back of the cylinder. Between this cylinder and metal washer a thin packing-ring 6, of leather or other soft material, is placed to form a grease-tight joint for prevention of the escape of grease.

A base 7, preferably having a slightly-conical bottom 8, is furnished with a threaded flange 9 at its edge, by which it is screwed onto the lower end of the barrel A. The usual screw-threaded stem or tap 10 projects from this base, by which it is affixed to the part of the machine to be oiled or greased. In this stem the aperture 11, for conducting the grease from the container to the machinery, is formed, and a small plug-valve 12, lying across this passage, may be turned to control the feed. Instead of the customary milled head on this valve by which to turn it, the plug is cut off about flush with the portion of the stem wherein it is located, and furnished with a slit 13, like a screw-head, so that it requires a screw-driver or other special instrument to turn it, the advantage derived being that all careless tampering with the valve is prevented.

A plunger 14 is fitted inside the container, and to insure a perfect fit for preventing the passage of grease above the plunger is provided with a packing-ring 15, of fiber, leather, or their equivalents. A convenient means for attaching this packing-ring is that shown, in which the plunger is provided with a flange 24, fixed on the body of the plunger, and ring 25, adapted to screw on the body of the plunger a certain distance and hold the packing-ring tightly in place in a recess formed for it between the flange and the removable ring. The object of this special arrangement is to facilitate the removal and renewal of the packing-ring in case one becomes worn with use. However, this is seldom necessary, especially when a glass container is used, for the reason that its interior is so smooth that the wear is comparatively slight.

The plunger-stem is extensible, made so in order that the plunger may be lowered in the container as fast as the lubricating compound is displaced and be raised again when it is to be refilled. The stem is made extensible through the medium of the threaded shank 17 on the plunger and the sleeve 18, into which the tap screws. This sleeve extends loosely through a larger sleeve 19 on the head 3 of the barrel, and a strong spiral spring 17^a encircles the sleeve 18 of the stem, and is confined between the annular boss 20 on the lower end of sleeve 18 and the annulus 21 in

the outer end of sleeve 19. A milled head 22, or similar device, is secured to this inner sleeve 18 by a pin 23, or by screw-threads or equivalent means. As the plunger fits tightly within the container, it cannot turn, and hence the effect of turning the head 22 is to raise or lower the plunger, due to the action of the screw-threads of the extensible stem.

The operation is readily understood. The head 22 is turned in one direction until the plunger is raised as far as possible. Then the container is filled with grease and placed on the base 7, and then attached to the machine. The milled head is now turned the opposite way until the plunger bears upon the grease and until the spring is somewhat contracted, so that more or less of its pressure is also exerted upon the grease in order to force it through the aperture in the bottom. Thus the tendency of the spring is to force the plunger down as fast as displacement takes place in the container, resulting from the discharge of the grease. When at last the spring again assumes its normal shape, the head 22 is again turned to contract the spring as before, and so the action of the cup continues until the grease is entirely exhausted, when the container is again filled.

When pressure is applied, the sleeve 18 rises out of the sleeve 19, and this serves to indicate the amount of lubricating compound that is displaced from time to time.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention. Hence I do not wish to limit myself to the exact construction herein set forth; but,

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

1. The combination, with a grease-container, a plunger fitted therein, and an extensible spring-actuated stem on said plunger, of a base into which the container is screwed, and a valve in the stem of the cup, said valve having a head located within a recess in the part carrying the valve, the said head being made to receive a removable instrument whereby it is turned, substantially as set forth.

2. The combination, with a barrel having a lining fitted therein, a screw-threaded washer for holding the lining within the barrel, a packing between the lining and washer, and a base into which the barrel is screwed, of a plunger fitted within the lining, substantially as set forth.

3. The combination, with a skeleton barrel and a spring-actuated plunger carried thereby, of a transparent lining fitted within the barrel, a washer removably secured to the skeleton barrel for securing the lining within the barrel, a packing interposed between the lining and washer, and a base to which the barrel is removably secured, substantially as set forth.

4. The combination, with an open barrel having a sleeve and a base to which the barrel is secured, said base having a stem with a grease-orifice and a valve for controlling the passage of grease through the orifice, of a glass container held in the barrel, a washer for holding the glass within the barrel, a plunger fitted within the container, a screw-threaded shank, a sleeve into which said shank screws, and a spring surrounding the sleeve for forcing the plunger down, substantially as set forth.

5. The combination, with a barrel having a sleeve thereon, of a movable sleeve, a spring forming a bearing for said movable sleeve, a wheel or head removably secured to the outer end of said movable sleeve, and a plunger carried by said movable sleeve, substantially as set forth.

6. The combination, with a container having an upwardly-projecting rigid sleeve, a removable sleeve located with said rigid sleeve, and a spring seated against the latter and forming a bearing for the movable sleeve, of a plunger having a rigid stem, the latter being attached by screw-threads to the movable sleeve, substantially as set forth.

7. The combination, with the skeleton barrel, lining, and washer secured to the barrel and holding the lining in place, of a yielding extensible stem carried by the barrel, and a plunger rigidly secured to the lower end of the stem, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EDWIN H. BENNERS.

Witnesses:
GEO. F. DOWNING,
C. P. DRURY.