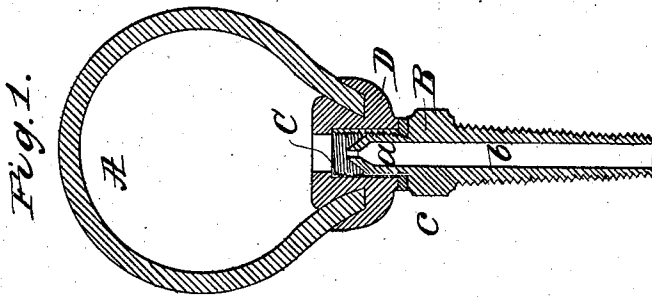
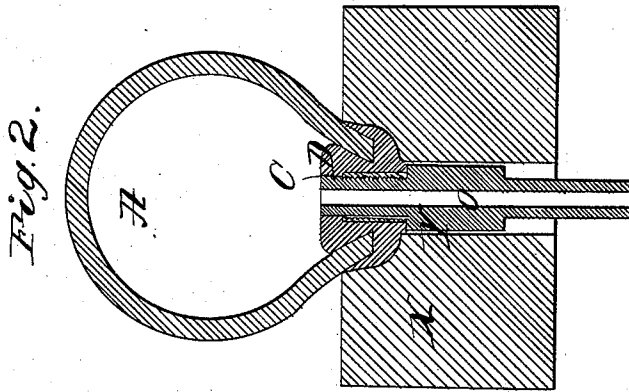


*G. Waters,
Lubricator.*

N^o 79,167.

Patented June 23, 1868.



*J. G. Clayton,
V. Clayton*

*Gardner Waters
by atty,
J. C. Clayton*

United States Patent Office.

GARDNER WATERS, OF CINCINNATI, OHIO.

Letters Patent No. 79,167, dated June 23, 1868; antedated March 31, 1868.

IMPROVEMENT IN LUBRICATOR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GARDNER WATERS, of Cincinnati, in the county of Hamilton, and in the State of Ohio, have invented certain new and useful Improvements in "Automatic Lubricators;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification.

Figure 1 is a vertical section, showing the formation of my improved lubricator.

Figure 2 is a similar section, showing the mode of casting the guard upon and within the opening of the reservoir.

My invention principally consists in providing an automatic lubricator with a guard of easily-fused metal, cast around and within the opening in the lower part of the reservoir, as hereinafter shown.

In the drawings, A represents a glass reservoir, of a form nearly spheroidal, but slightly ovoid by preference, having a single opening at its lower and smaller portion. This opening should be, after the tube and guard are attached, about one-fourth of an inch in diameter, so as to admit of being easily filled by pouring in through the opening, and yet so small as to forbid the escape of the oil by its own gravity when the reservoir is inverted.

B is the discharge-tube, formed of a single piece of metal, and perforated by drilling, so as to form a tube of two diameters, *a b*. Near the upper end of this tube is formed a square or hexagonal shoulder, so as to make it easy to turn the tube tightly into the desired journal-box. *e*, elastizing packing, between bottom of guard D and shoulder of tube B.

C is a small brass tube, tapped on the inside, to correspond with the screw on the outside of the upper end of tube B, and (in figs. 1 and 2) is secured in the opening of the reservoir by means of the guard D.

D is what I term the "guard," for protecting and strengthening the opening in the reservoir, and for receiving the tube B, or for securing the hard-metal tube C, which receives the tube B. It will be seen that this guard D figs. 1 and 2, surrounds the outside of the lower portion of reservoir, and at the same time extends up in cylindrical form through the opening, and then expands in button-form within the reservoir, so as to be most closely attached to and both internally and externally surround the opening of the reservoir, thus thoroughly protecting the same. It will be well to describe one mode of making the guard D in this form which I have satisfactorily practised.

In fig. 2, X represents a solid metallic mould, conforming to the desired exterior shape of the guard D. Y is a metallic tubular core, which fits tightly (but not too tightly) in the centre of the mould. The opening *o* in the core is for the necessary escape of air. The mould and its core being in place, as shown in fig. 2, the tube C is then slipped down over the core, resting on the bottom of the mould, as shown. The mould and the reservoir are then heated. The mould is then filled with some suitable easily-fused metal, (such as common solder.) The reservoir is then quickly and centrally put over the core, and forced down to the bottom of the mould, thus displacing a portion of the metal, and forcing it up into the reservoir through the annular space between the tube C and sides of the opening in the reservoir, thus forming the guard, as shown in the drawing.

Although I prefer using the tube C of hard metal, I may dispense with it by making the guard itself of some easily-fusible hard alloy.

Having thus fully described my said invention, I desire to have it understood that I do not claim, in this patent, forming the socket or guard upon and around the stem of the bulb, by casting solder or other fusible metal, nor do I claim casting within the cylindrical portion of the neck such solder or fusible metal; but

What I claim, is—

An automatic lubricator, the glass bulb of which is provided with a soft-metal socket or guard, cast not only around but also within the lower portion of said bulb or reservoir, so that the metal shall form a button against the enlarged or bulging part of the reservoir, substantially as and for the purposes herein set forth.

In testimony that I claim the above-described invention, I have hereunto signed my name, this 27th day of March, 1868.

G. WATERS.

Witnesses:

Jo. C. CLAYTON,
V. C. CLAYTON.