

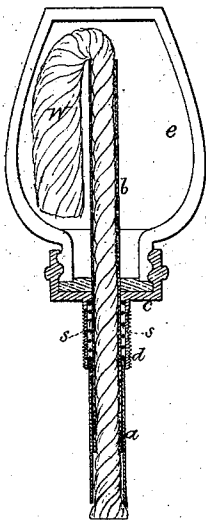
S. HUTCHINSON, Jr.

Lubricators.

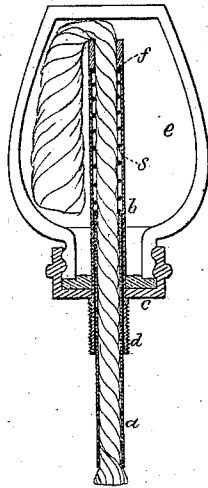
No. 133,316.

Patented Nov. 26, 1872

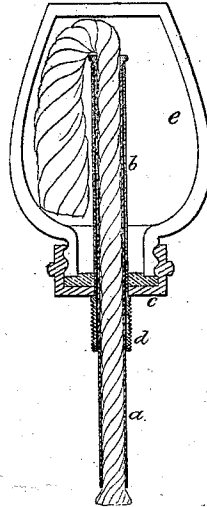
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses.

*S. W. Piper*  
*L. N. Höller.*

Samuel Hutchinson, Jr.

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# UNITED STATES PATENT OFFICE.

SAMUEL HUTCHINSON, JR., OF SALEM, MASSACHUSETTS.

## IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. 133,316, dated November 26, 1872.

*To all whom it may concern:*

Be it known that I, SAMUEL HUTCHINSON, Jr., of Salem, of the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Machine-Oilers or Automatic Lubricators; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figures 1, 2, and 3 exhibit vertical sections of lubricators, comprising my invention under different constructions.

The main objects secured by the improvement in the capillary oiler are, a wick closely fitting into a wick-tube, and such tube having a freedom of vertical motion, such as will enable it to adjust or accommodate itself to be adjusted to the rotary journal-bearing surface.

In capillary oilers, as generally constructed, the oil has either been supplied from them from wicks fitting loosely in their carrying-tubes, or else by covered wires (such as skirt-wires) fitting loosely in such tubes. In all these there will be a continuous feeding of the oil, whether the journal or part to be lubricated be at rest or in motion, such continuous feeding being due to the wick fitting loosely in its tube, so as to allow air to pass up the tube into the vessel for holding the oil.

Thus one part of my automatic oiler is the tight-fitting wick, or, in other words, a wick-tube and a wick fitting it sufficiently to nearly if not entirely prevent waste of the oil while the journal or surface to be lubricated may be at rest, the wick, at its lower end, being in contact with such surface, in order that when the latter may be in motion it may abstract oil from the wick. In this way I am enabled not only to obtain a self-acting oiler from which the oil will not flow except the surface to be oiled be in motion, but an oiler which will not become clogged. Furthermore, by my improvement I obtain an oiler possessing such advantages and the additional one of ready adaptation or adjustment to the surface to be oiled, as will appear from the explanation hereinafter given.

It is well known that journals and their bearings frequently become worn so as not to be truly cylindrical, in which case, unless the oiler could adapt itself to the irregularity or irregularities of the journal, the wick would be

in contact with the journal only for a part of its revolution. With my improvement the wick can be adjusted or will adapt itself to the journal as circumstances may require.

In the drawing, *a* denotes the auxiliary wick-supporter; *b*, the wick-tube; *c*, the screw-cap; *d*, the screw-neck; *e*, the oil-receiver; *s*, a helical spring; and *W*, the wick.

In Fig. 1 the supporter *a* is represented as encompassing that part of the wick-tube which extends out of the oil-vessel. It slides vertically on such wick-tube, and has the wick going through it and the wick-tube and fitted closely on the latter, the wick-tube being fixed rigidly to the cap *c*. The part *a* is also shown as resting against a helical spring, *s*, encompassing the wick-tube and arranged within the screw-neck *d*, such spring serving to depress the part *a* in case its weight should at any time not suffice to do this or overcome any adhesion of the tubes *a* and *b*.

In Figs. 2 and 3 the part *a* or auxiliary wick-supporter is shown as extended up within the wick-tube, and to slide therein; the spring *s* being represented in Fig. 2 as in the wick-tube and resting against a shoulder, *f*, at the top, the upper part thereof, the wick being fitted closely to the upper part of the wick-tube, or that part of the bore thereof which is above the shoulder. In Fig. 3 the tube *a*, carrying the wick, has no depressing-spring, but extends entirely through the tube *b* and slides therein, it depending on its weight to effect its depression.

From the above it will be seen that while the oil-reservoir may be stationary the part *a*, with the wick contained in it, will be free to rise and fall independently of the part *b*, whereby the wick will be maintained in contact with the surface to be oiled, and will rise and fall with or accommodate itself to it. The auxiliary tubular part *a* thus prevents upward strain on the tube *b*, tending to loosen its connection with the cap *c*.

Thus the part *a*, formed as shown, or otherwise properly made separate from the wick-tube or part *b*, rigidly fixed to the cap and projecting above it, or above and below it, as shown, may slide on or in the said tube *b*, the oil-receiver being fixed to the bearing by the screw-neck *d*. Sometimes I dispense with the screw-neck, using in the place thereof other

suitable means of supporting the oil-reservoir, the slide *a* being arranged in the bearing and the wick-tube extended up into the reservoir being arranged to properly support the wick.

I make no claim to an oiler constructed as shown and described in Letters Patent No. 70,058, dated October 22, 1867, reissued December 5, 1871. My oiler, though being in some respects analogous to such, differs materially from it, as no part of my oiler consists of wire covered with a fibrous material and arranged loosely in the wick-tube, with an air space or passage about such wire or capillary device. The wick-supporter or supporters of my oiler is or are tubular, with the wick fastened or arranged closely or tightly therein, whereby a different result or new effect takes place in the operation of the oiler.

Furthermore, I make no claim to an oiler as described in the United States Patent No. 77,974, dated May 19, 1868, and granted to E. F. Gerdon and C. W. Schindler, as this latter differs from my oiler in many important particulars, the said patented oiler having no "tight-fitting wick" and no main and auxiliary tubes for supporting a wick, nor any spring applied to such tubes, as in my oiler. The whole operation of the patented oiler differs from that of my oiler. Besides, with my oiler the receiver or its screw-cap, when in use, is not free to rise in the bearing, as is the case with the grease-reservoir and its neck of the said patented oiler; the reservoir of my oiler, as represented, being firmly fixed to the bearing,

so as to be stationary relatively thereto, and the auxiliary wick-tube being free to adapt the wick to the journal to be lubricated. In the patented oiler the whole weight of the oiler and its charge of grease operates to force the educt against the journal; whereas in my oiler, constructed as represented in the drawing, the wick-carrying tube only or its wick bears upon the journal, the whole weight of the reservoir and its charge being borne by the bearing.

I claim, in the capillary oiler, as my invention, as follows, viz:

1. The combination of the auxiliary tubular slide *a*, the main wick-tube or tube *b* extending up into the oiler, the tight-fitting wick *W*, the cap *c*, and the reservoir *e*, the oiler being provided with the screw-neck *d* or other suitable means of fixing or applying it to the bearing of the journal or surface to be lubricated.

2. Also, the combination of the spring *s*, auxiliary wick-supporter or tubular slide *a*, the tube *b*, the cap *c*, the tight-fitting wick *W*, and the oil-reservoir *e*, such tube *b* being provided with the tight-fitting wick and extended up into the reservoir, and serving to support the wick or its supporter *a*, and also to prevent oil from escaping from the reservoir except through the wick by the capillary attraction thereof.

SAML. HUTCHINSON, JR.

Witnesses:

R. H. EDDY,  
J. R. SNOW.