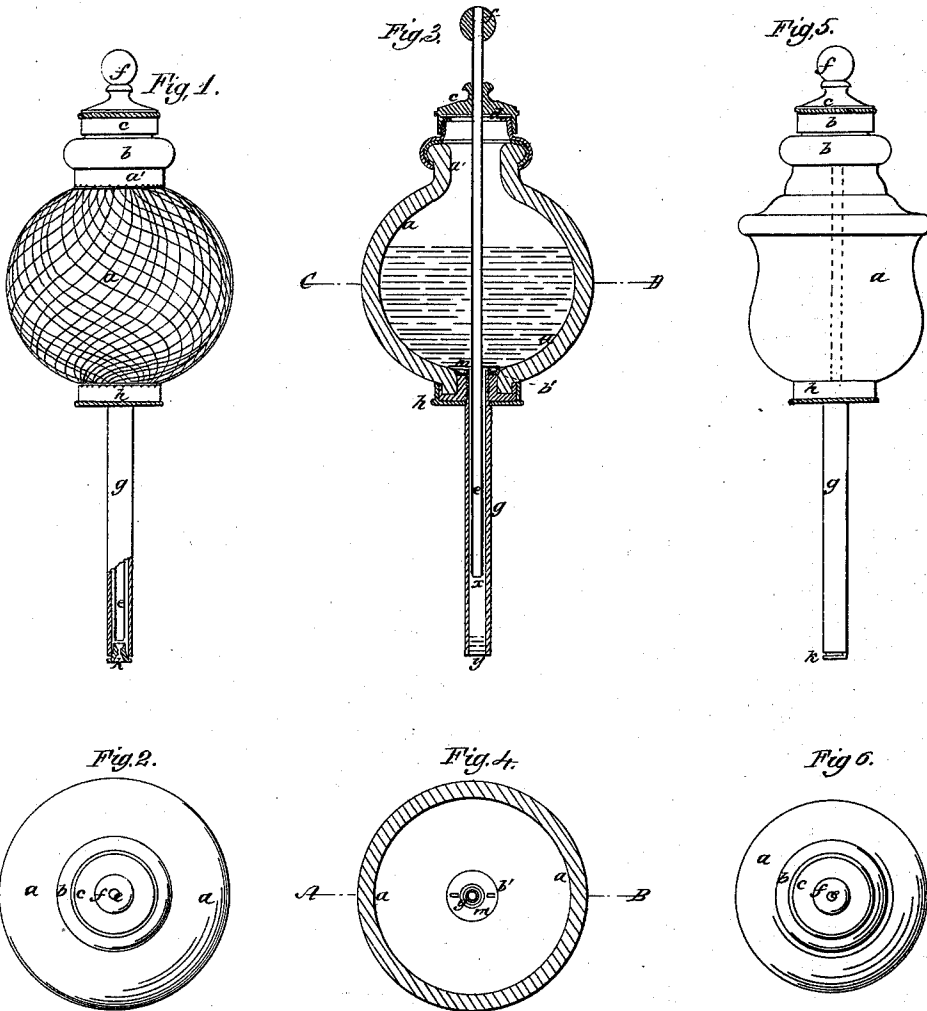


J. L. Courcier,

Lubricator.

N^o 62,013.

Patented Feb. 12, 1867.



Witnesses.
J. W. Coombs,
G. W. Reed.

J. L. Courcier, Inventor.
Wm. Brown Coombs & Co.

United States Patent Office.

JULIEN L. COURCIER, OF PARIS, FRANCE.

Letters Patent No. 62,013, dated February 12, 1867.

IMPROVEMENT IN LUBRICATORS.

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, JULIEN LOUIS COURCIER, of Paris, in the Empire of France, have invented a new and useful Improvement in Automatic Lubricators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation constructed according to my invention.

Figure 2 is a plan view of the same.

Figure 3 is a central vertical section.

Figure 4 is a horizontal section, taken in the line C D of fig. 3.

Figure 5 is a side elevation of the lubricator made of a different form or pattern.

Figure 6 is a plan view of the same.

Similar letters of reference indicate corresponding parts in all the figures.

This invention consists in a novel construction of an automatic lubricator for oiling the journals of machinery, whereby the lubricator may be manufactured at a much less cost than those heretofore devised, and whereby a constant and continuous flow or supply of the oil, or other lubricating material, to the journal is secured, and by which, furthermore, the said flow of the lubricating material may be readily and conveniently adjusted to any desired degree.

To enable others to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

a represents a vessel, which constitutes the reservoir in which the oil or other lubricating material is placed, and which may be of any suitable form. This reservoir *a* may be made of metal or porcelain when desired, but it is preferred to make it of glass, in order that the quantity of oil contained therein may be ascertained at a glance without opening or uncovering the same. When thus constructed of glass, this reservoir may be covered by a net-work of wire, as represented in fig. 1, in order to prevent it from being broken from accidental causes. Formed upon the upper side of the reservoir *a*, is a tubular neck, *a'*, through which the oil is poured into the reservoir, and which has an annular rim formed upon the outer circumference of its upper end, by means of which the metallic collar *b* is secured upon the said neck *a'*, the lower portion of the said collar being bent closely around the said rim, with a suitable-shaped piece of leather, or other similar packing material, placed between them to form a sufficiently tight joint between the said collar and rim. The cylindrical upper end of the collar *b* has a screw-thread formed on its exterior, upon which is screwed the cap *c*, a packing ring of leather or other like material being interposed between the top of the collar *b*, and the said cap, as shown at *d* in the said figure, in order to perfectly close the joint. In the bottom of the reservoir *a*, immediately under the tubular neck *a'*, is an opening, around the outer end of which is a short downwardly projecting flange, *b'*. *m* is a metallic disk which is placed over the inner end of the aforesaid opening, and has a circular hole in its centre in which a female screw is formed. *h* represents an inverted metallic cap which is placed over the lower or outer end of the opening just mentioned, with its sides surrounding the flange *b'*, but not quite in contact therewith. A central hole, also provided with an internal screw-thread, is formed in the cap *h*, and the upper end of a tube, *g*, is screwed into the said hole in the cap *h*, and into the hole in the disk *m*, in such manner that the said disk *m* and cap *h* are closely pressed against the opposite sides of the bottom of the reservoir *a*, covering both ends of the opening in the said bottom. The space between the disk *m* and the cap *h*, surrounding the upper end of the tube *g*, and also the flange *b'*, is then filled with mastic or cement, which is impervious to oil, and thus effectually closes the joint around the said upper end of the tube *g*, the said end being open and communicating with the interior of the reservoir *a*, as shown more clearly in fig. 3. Formed in the centre of the cap *o* is a cylindrical hole, through which is passed a vertical tube, *e*, the tube fitting snugly in the said hole and being open at both ends, and the diameter of which is less than the internal diameter of the tube *g*. This tube *e* extends downward through the reservoir *a* into the tube *g*, as shown in the aforesaid fig. 3, and may be furnished with a knob, *f*, at its upper end, by means of which it is moved up and down when desired. The lower end of the tube *g* is open, and is firmly fixed in the cap, or upper portion of the box or bearing of the

journal which it is designed to lubricate, the said tube being in a vertical position, with its lower end nearly or quite in contact with the said journal.

The lubricator being thus fixed in proper position, with reference to the journal, and a suitable quantity of oil or other liquid lubricating substance being placed in the reservoir *a*, the operation of the invention is as follows: The oil descends through the space or passage between the outer tube *g* and the inner tube *e*, to the lower end of the said tube *g*, where it forms a short column of oil below the lower end of the tube *e*, and in contact with the rotating journal of the shaft, so that the oil adheres to the surface of the said journal as it revolves, and thus lubricates the same. The oil as it thus flows downward from the reservoir *a*, is replaced by an equal quantity of air which passes down through the inner or central tube *e*, and out through the open lower end thereof, into the tube *g*, whence it bubbles up through the oil between the tubes *e* and *g*, into the reservoir *a*, to fill the vacuum created by the flow of oil therefrom. Inasmuch as the oil is wiped, as it were, from the open end of the tube *g* by the surface of the journal, it follows that the quantity of oil adhering to the said surface is to a certain extent proportioned to the velocity of the journal, and as the downward pressure of the oil upon the journal depends upon the weight of the column of oil below the tube *e*, the flow of oil to the journal may also be regulated by raising or lowering the tube *e*, and thus increasing or diminishing the height of the said column. By this means the oil is supplied in any desired quantity to the journal, and in proportion to the velocity thereof.

What I claim as new, and desire to secure by Letters Patent, is—

The tube *e*, in combination with the closed reservoir *a* and tube *g*, substantially as herein set forth, for the purpose specified.

COURCIER.

Witnesses:

JNO. G. NICOLAY,
A. G. GILL.