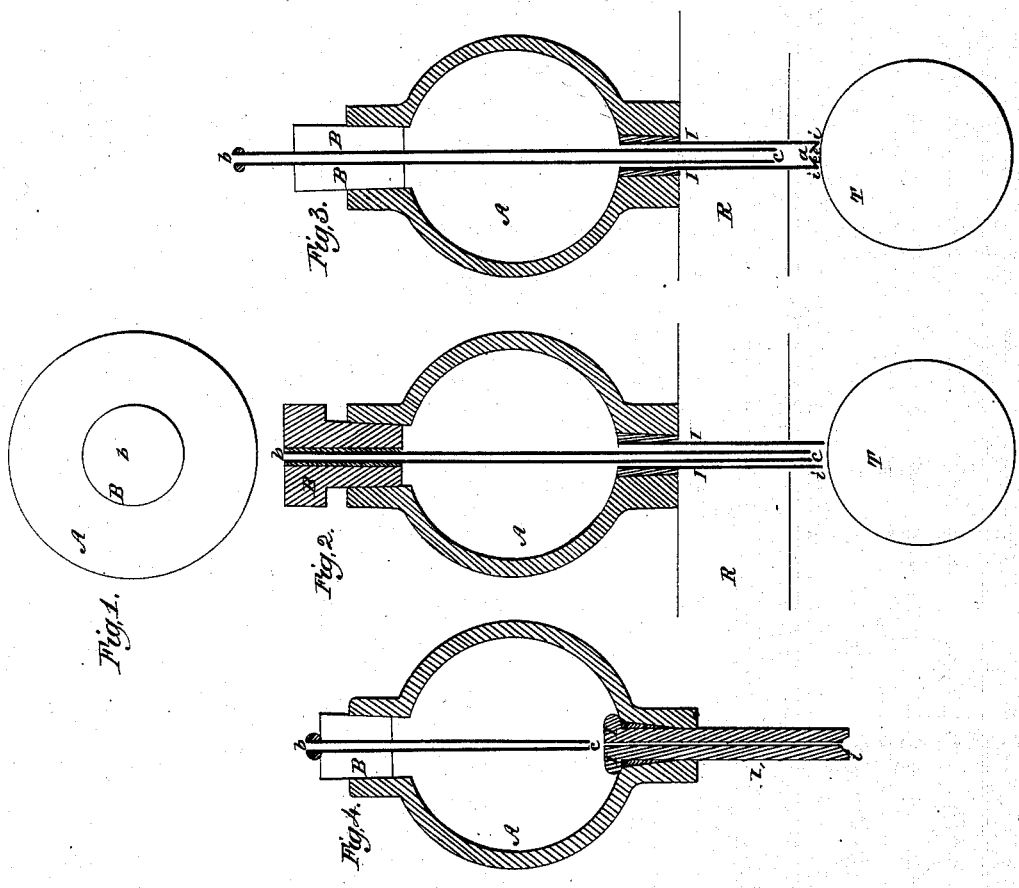
F. Bresson,

Lubricator.

No. 47,367. Patented Apr. 18, 1865.



Witnesses.
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UNITED STATES PATENT OFFICE.

FRANÇOIS BRESSON, OF PARIS, FRANCE.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. **47,367**, dated April 18, 1865.

To all whom it may concern:

Be it known that I, FRANÇOIS BRESSON, of the city of Paris, in the Empire of France, have invented certain new and useful Improvements in Lubricators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 represents a top view of said apparatus. Figs. 2 and 3 represent vertical central sections through the same.

The apparatus for which I ask Letters Patent of the United States serves to lubricate the turning shafts and other pieces of machinery in motion. It is founded on two principles of natural philosophy—first, uniform discharge of the liquid, though the level of the liquid in the reservoir be variable, (which is known in natural philosophy by the name of Mariotte's vessel;) second, removal of the liquid by adherence or attraction of oil to metal.

This apparatus, which I call "automatic lubricator," because it serves to lubricate shafts which are in motion without any person's attendance, is composed of a vessel, A, which serves as a reservoir for the oil or other lubricating-liquid. The vessel A may be made of glass, china, or metal, and its size should be in proportion to the diameter of the shaft to be lubricated, so that the lubricating-fluid may last a sufficient length of time. It is closed at its upper end by a stopper of glass, cork, india-rubber, or any other elastic material, or any material covered with an elastic material, and said vessel is filled with the lubricating material by removing the stopper B and pouring the same through the opening, after which the stopper is replaced. To the lower part of the vessel A is secured a brass tube, I, which is open at its lower end, and the lubricating-liquid escapes through said tube. The length of this tube is not important, but depends on the manner in which the lubricator is applied to the shaft T, which is to be lubricated. Usually in the shield R, which covers the turning shaft, I pierce a hole, into which I insert the tube I, and adjust it in such a manner that the lower end of the tube I is as close to the circumference of said shaft as it can be set without coming in contact with the same. Through the stopper B, I pass a small pipe, *b c*, of metal or glass, which extends down into the pipe I. Its lower end, *c*, extends to within one-eighth or a quarter of an inch to the lower end of the tube I. The pipe *b c* may be simply passed through the stopper B without securing it therein, so that its position can be better adjusted. When the pipe *b c* is raised, the discharge of the oil is increased, when it is depressed, the discharge is decreased, and when the lower end, *c*, of the pipe is even with the lower end, *i*, of the pipe I, the flow of the oil is altogether arrested. It is well known that the oil cannot escape from the reservoir A except when air is admitted to it; but the air can enter it by the pipe *b c*, only passing from the upper orifice, *b*, and escaping at the lower aperture, *c*, whence, passing through the oil, it rises to the surface of the oil in the vessel A. The liquid column that determines the amount of oil discharged is comprised between the two lower orifices, *c* and *i*; consequently, the more the length of this column is reduced the less oil will be discharged, and if *c* is even with *i* the discharge is stopped. In an automatic lubricating apparatus the flow of the oil should cease when the shaft which is lubricated is arrested in its motion, as otherwise there would be a waste of oil. I obtain this result by setting the end *i* of the tube I in such close a proximity to the circumference of the shaft to be lubricated that a drop of oil collecting at the former will be prevented from flowing when said shaft is at rest; but as soon as the latter turns, the oil, by reason of its adhesive nature, will be drawn out, and consequently lubricate the shaft, the pressure of the air being adjusted to such a degree that said adhesive power is greater than the former, and the operation of lubricating therefore continues as long as the shaft T is in motion.

Such is the automatic lubricator for which I ask a patent; and I here observe that in some cases I place at the lower orifice of the tube I a cap, *e*, provided with a small aperture, *a*, shown at Fig. 3. This cap is for the purpose of reducing the flow of oil and aiding in the formation of the drop in the cavity between the cap *e* and shaft T, for as soon as the shaft T stops said cavity becomes filled with oil, and thus its discharge is prevented.

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

1. The combination of the air-tight vessel A with pipes *b c* and I, substantially as and for the purposes specified.

2. The combination of the air-tight vessel A and stopper B and pipes *b c* and I, substantially as and for the purposes described.

3. In combination with the pipes *b c* and I, when applied to the vessel A, the concave cap *e*, substantially as and for the purposes described.

F. BRESSON.

Witnesses:
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