

L. J. CRECELIUS.
Lubricator.

No. 216,943.

Patented July 1, 1879.

Fig. 1.

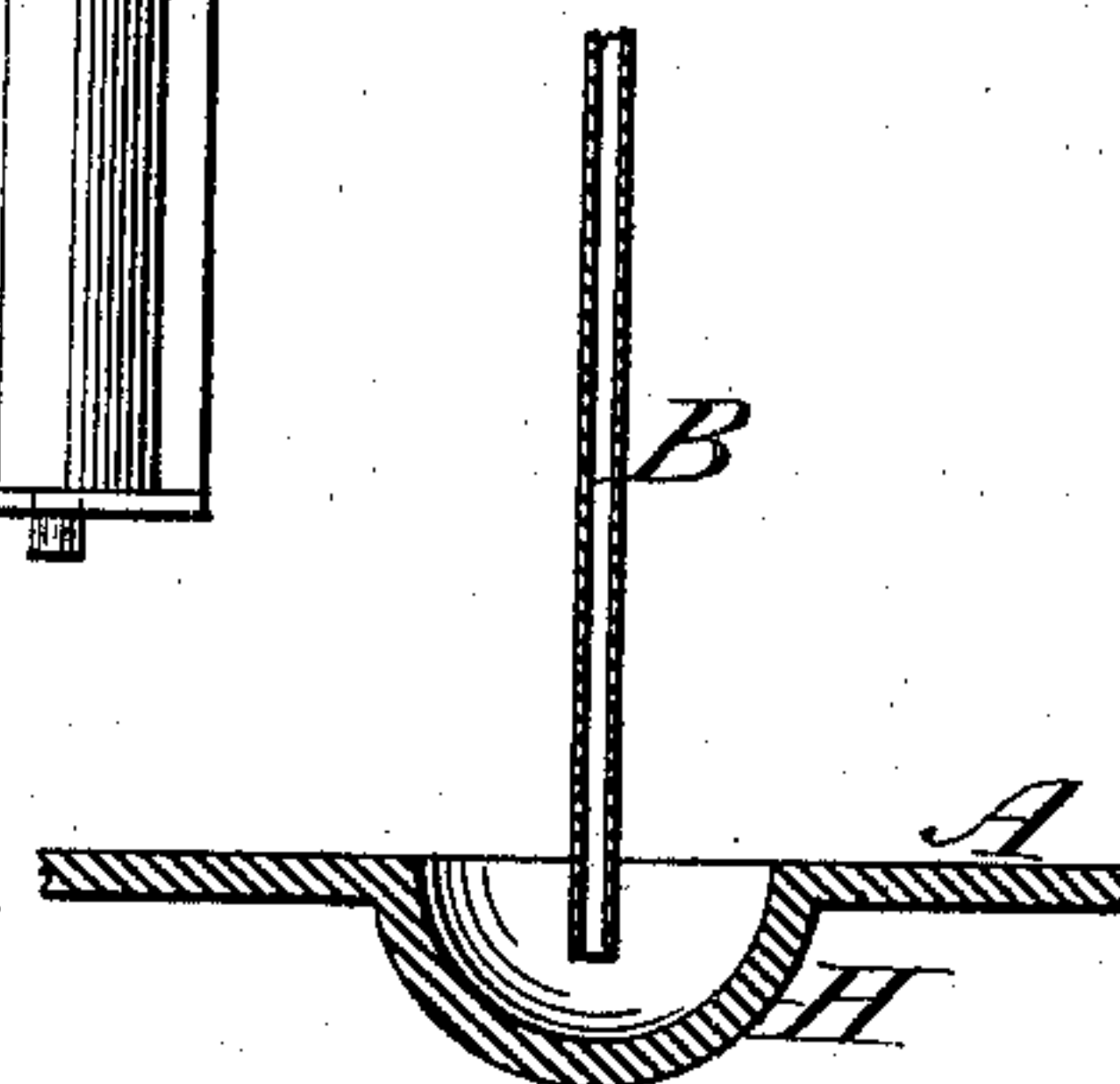
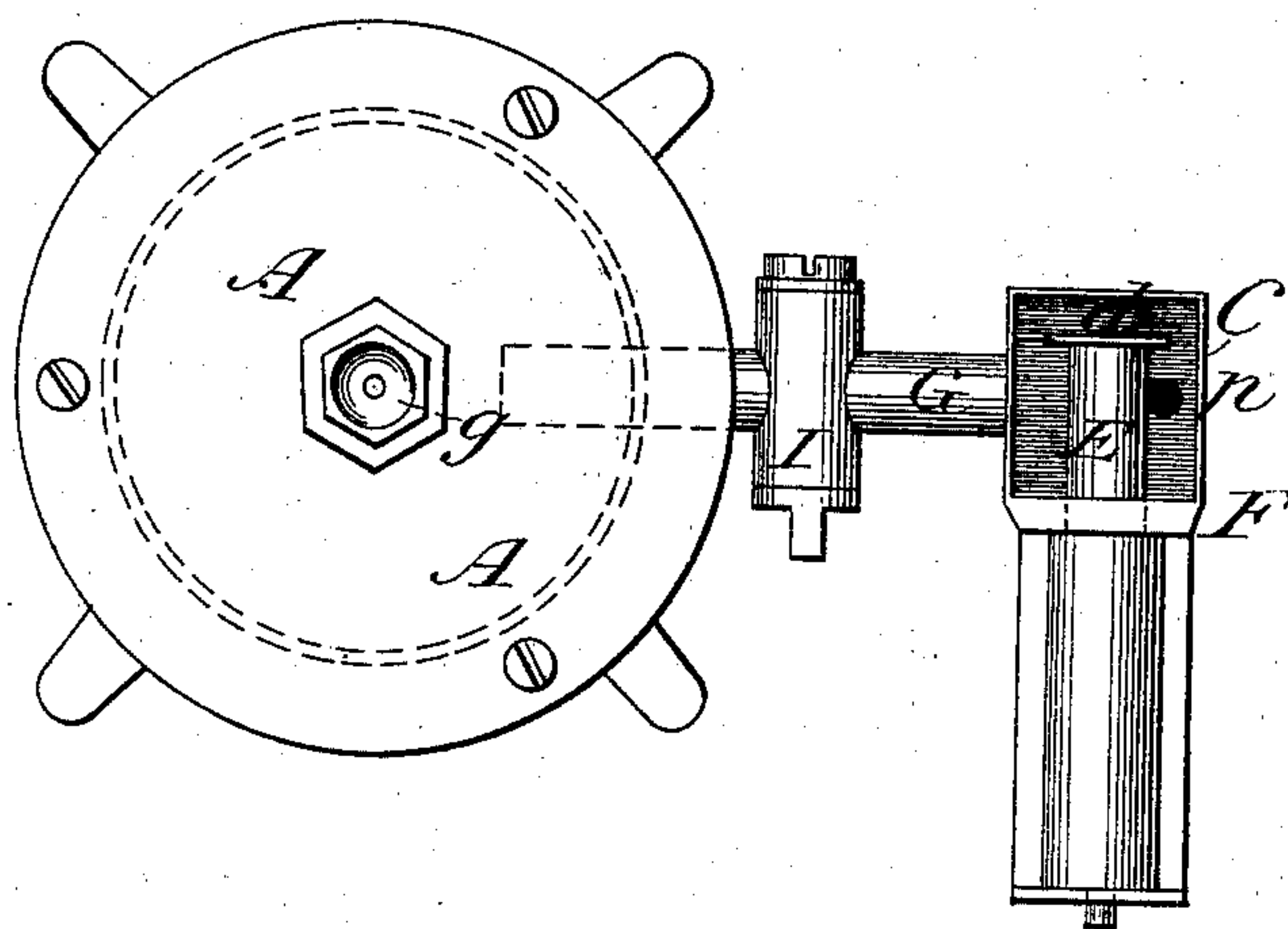
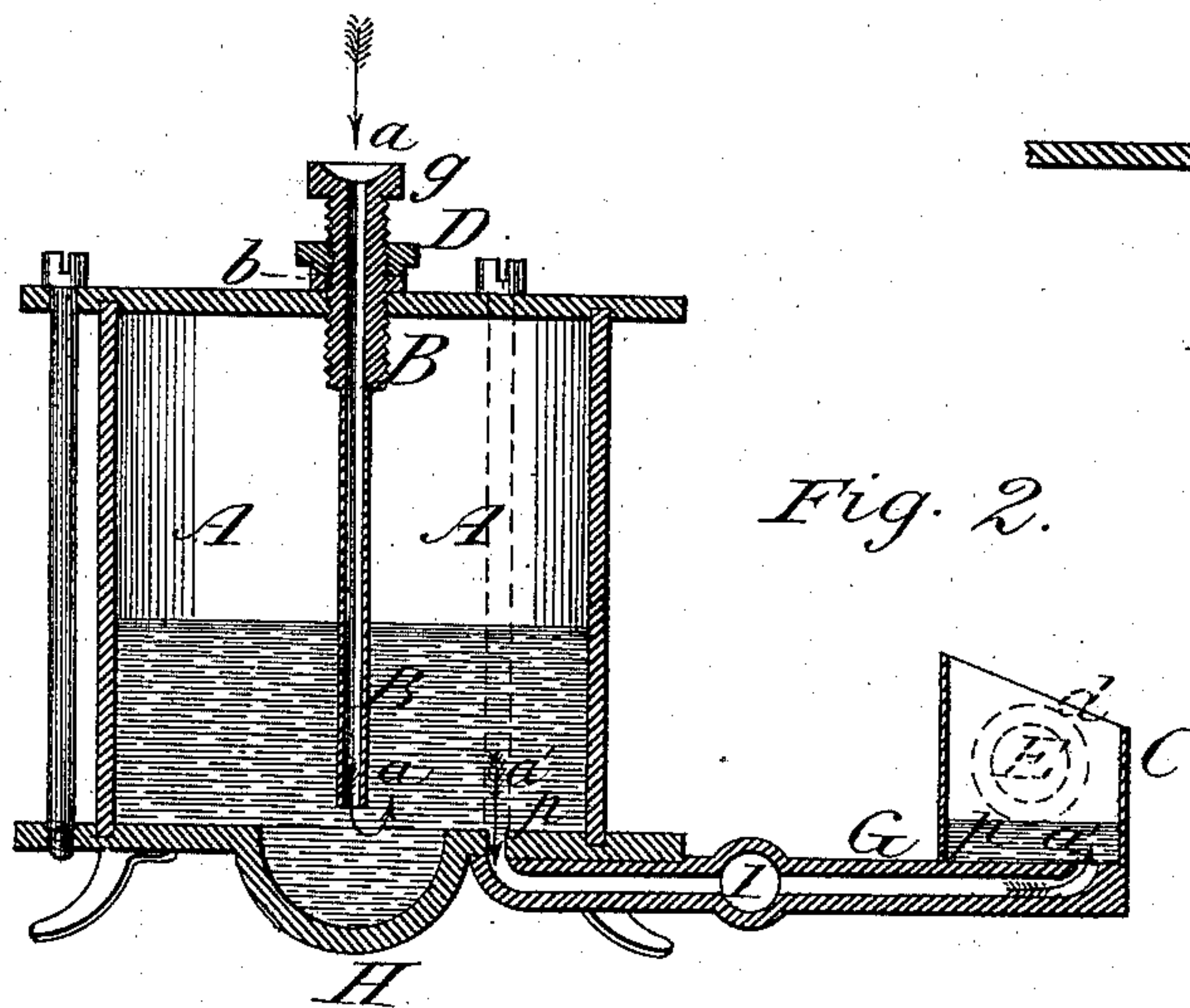


Fig. 3.

Fig. 2.



Attest:

Inventor:

*John Bennett
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L. J. Creelius

UNITED STATES PATENT OFFICE.

LOUIS J. CRECELIUS, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF HIS
RIGHT TO GEORGE H. SHIELDS, OF SAME PLACE.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. **216,943**, dated July 1, 1879; application filed
August 19, 1878.

To all whom it may concern:

Be it known that I, LOUIS J. CRECELIUS, of the city of St. Louis, of the State of Missouri, have invented a new and useful Improvement in Automatic Lubricators for Oiling Journals in Locomotive, Car, and other Axles, and for bearings in machinery-shafting, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a plane or top view of the device. Fig. 2 is an elevation section thereof. Fig. 3 is a sectional view of the lower part of the reservoir, showing regulating air-tube extending therein.

The object of my invention is to furnish a device by which a large quantity of oil from a reservoir can be fed as needed automatically to the journals or shafting-bearings of any kind of machinery or axles requiring lubrication, furnishing just enough oil to lubricate the same, and no more, to save oil, and to do away with heating for want of lubrication.

In all the figures the different letters represent the same thing.

A A is an air-tight reservoir for holding the oil; B B, an air-tube regulating the flow of the oil to the bearing; D, the set-nut to hold tube at required height; b, packing-ring around set-nut; g, regulating-screw on the upper end of regulating air-tube; C, journal-box; E, journal; F, bearing; G, pipe connecting reservoir with journal-box; I, stop-cock in connecting-pipe, to stop the flow while filling the reservoir; p p, oil-ports; a a, arrows showing the direction of atmospheric pressure on the lubricant, and a' a' arrows indicating the direction of the flow of oil when the device is working; H, a cup in the bottom of the reservoir.

The device consists of an air-tight reservoir of any required size, with a hole at the top thereof, through which runs a regulating air-tube, having on the upper end thereof a long screw or thread, cut so that by turning the same the tube can be raised or lowered to any height required to furnish oil to bearing, and also a set-nut to hold it in place when adjusted, making an air-tight joint by means of the packing; said reservoir having a depression

at the bottom into which the lower end of the air-tube extends, and so constructed as to prevent the lower end of the air-tube from being uncovered by the oil in jostling, shaking, or tilting the reservoir in movable machinery; said reservoir also having a port or ports, with a pipe-connection, through which the lubricating-fluid is transmitted to the journal box or bearing, which said transmitting-tube is provided with a stop-cock, by which the flow of the lubricating-fluid from the reservoir to the journal-box can be stopped when filling the reservoir, or when not in use.

It is evident that this transmitting-tube can be of any length or material, and that there can be more than one transmitting-tube from the reservoir to different bearings.

The operation of the device is as follows: First, close the stop-cock I; then unscrew and take out the regulating air-tube B B; fill the reservoir A A with oil or other lubricating-fluid; then screw in the regulating air-tube B B until the lower side of said tube is on the same level with the lower side of journal or shafting E, as shown in Fig. 2; then open the stop-cock I, and the lubricating-fluid will flow through the ports p p in the direction shown by the arrows a' a' until it reaches in the journal-box C the level of the lower end of the tube B B and establishes a fluid-level in the tube and journal-box, and the oil will be furnished to the bearing F as the journal or shafting revolves. As the lubricating-fluid is used up the equilibrium of the fluid-level is destroyed. Immediately the greater weight of the higher column of fluid in the regulating-tube forces the lubricating-fluid through the ports p p in the direction of the arrows a' a' until it reaches the fluid-level in the journal-box, and the air following the falling fluid escapes below the lower end of the tube and rises in bubbles to top of reservoir till the equilibrium is restored, thus continuously and automatically furnishing the lubricating-fluid to the journal or bearing as fast as the same is used, so long as any oil remains in the reservoir.

It is evident that, instead of allowing the lubricating-fluid to touch the lower side of the journal E, the journal-box can be filled with wool, flax, hemp, sponge, rags, or other mate-

rial, which will carry it to the bearings; and that the fluid need not then rise so high, as the capillary attraction of substances will carry it to the journal, and, being always supplied on the under side, will never become dry or fail to furnish the same to the journal or bearing, thus absolutely preventing heating from friction for want of oil.

By raising or lowering the tube B B by means of the regulating-screw on the upper end thereof, more or less fluid, as required, can be supplied in the journal boxes or bearings. Thus the machine regulates the flow of the fluid automatically to any height.

It is evident that the regulating air-tube may be raised or lowered by any means; but a screw, as proposed, is preferable. The air-tube may also be made immovable; but in that case the quantity of fluid in the journal-box could not be increased.

This method of oiling bearings is applicable not only to stationary machinery wherever lubricating-fluid is needed, but also to axles of movable machinery, such as locomotives, cars, &c. In its use on locomotives, cars, and other movable machinery, in order to avoid the jostling and shaking thereof when the fluid in the reservoir is low, causing the lower end of the air-tube to become uncovered by the fluid, and thus destroying the equilibrium, a cup can be formed at the bottom of the reservoir, as shown in Fig. 3, into which the regulating air-tube extends, and this being always filled with fluid, the exposure of the lower end of the tube is avoided.

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

1. The air-tight reservoir A A, having a port, *p*, through which the lubricating-fluid flows to the journal or bearing, in combination with a regulating air-tube, B B, substantially as described, and for the purposes mentioned.

2. An air-tight reservoir, A A, having an oil-port, *p*, through which the lubricating-fluid flows to the journal or bearing, in combination with an adjustable regulating air-tube, B B, which can be lowered or raised at pleasure, substantially as described, and for the purposes mentioned.

3. An air-tight reservoir, A A, having a port, *p*, in combination with the air-tube B B, having a regulating screw or thread, *g*, cut on the upper end thereof, and a set-nut, D, with the packing *b*, and the transmitting-tube G, having a stop-cock, I, substantially as described, and for the purposes mentioned.

4. An air-tight reservoir, A A, with a cup, H, in the bottom thereof, having a port, *p*, in combination with a regulating air-tube, B B, extending into said cup, substantially as described, for the purposes mentioned.

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Witnesses:

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