(No Model.)

E. LUNKENHEIMER.

LUBRICATOR.

No. 464,306. Patented Dec. 1, 1891.

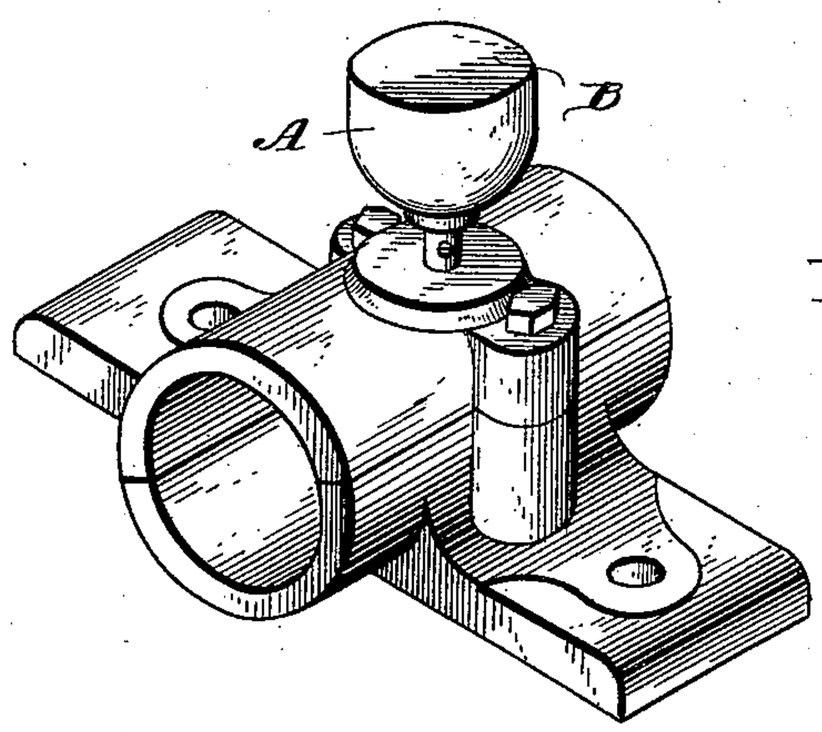


Fig. 1.

Fig. 2.

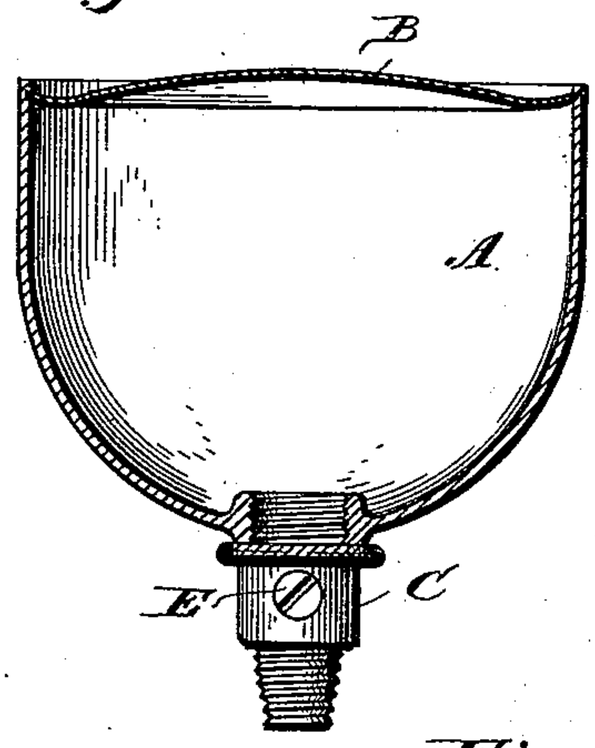


Fig. 3.

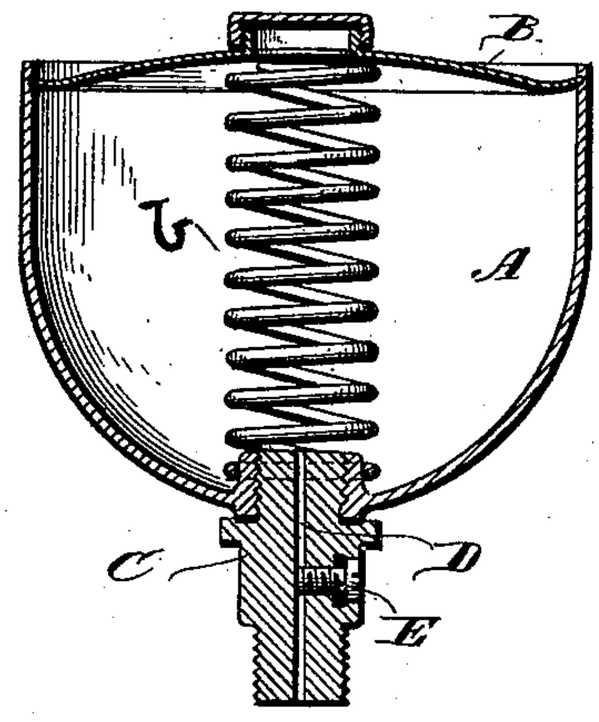


Fig. 4.

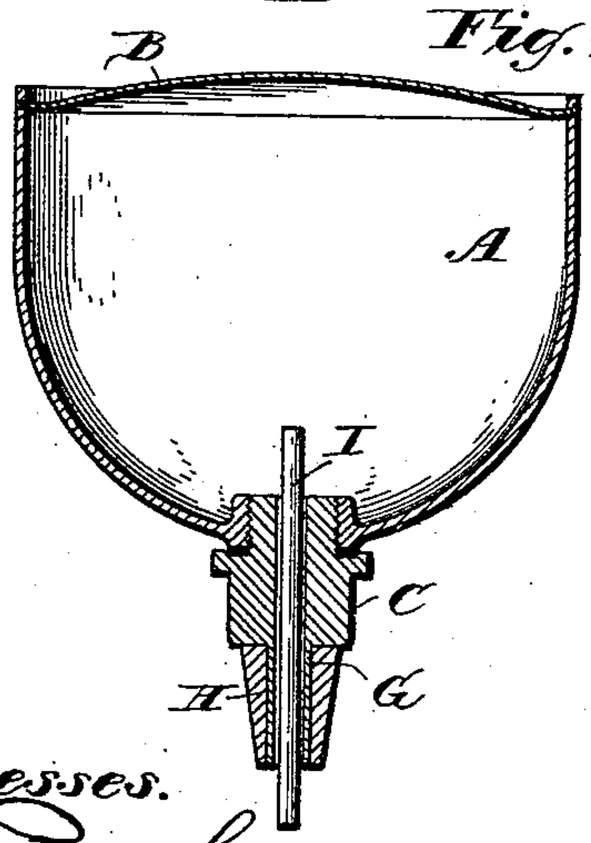
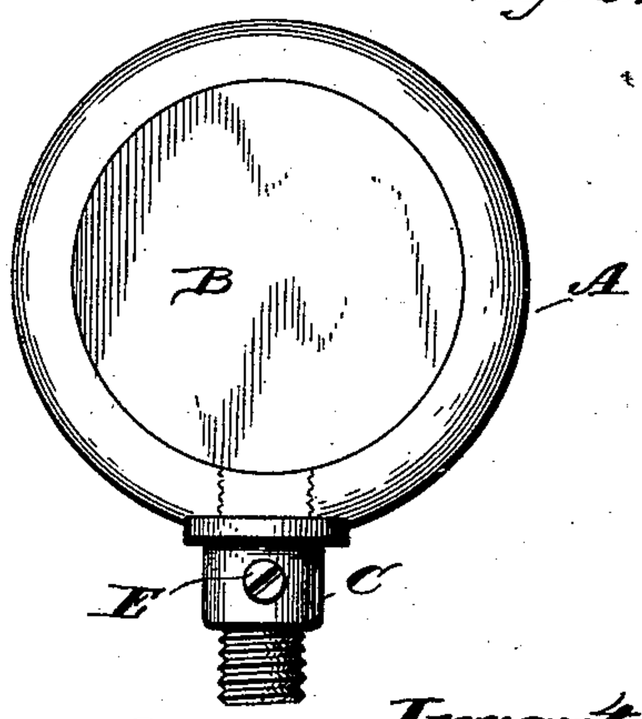


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDMUND LUNKENHEIMER, OF CINCINNATI, OHIO.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 464,306, dated December 1, 1891.

Application filed December 12, 1890. Serial No. 374,420. (No model.)

To all whom it may concern:

Be it known that I, EDMUND LUNKENHEIMER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Shafting-Oilers, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My improved oiler is chiefly designed to take the place of what are known as "air-tight shafting-oilers," which are applied to journal boxes and bearings of various kinds to lubricate the shaft or other part moving therein. The reservoir of such oilers is substantially air-tight and the oil-discharge orifice is very minute, and has combined with it a regulator to adjust the feed of the oil. Owing to the fact that the reservoir is air-tight and the oil-discharge orifice is exceedingly small, the oil is not fed from such oilers, excepting when the part within the bearing is in motion, at which time the oil is drawn from the reservoir by the partial vacuum created at the mouth of the discharge-orifice. In such oilers as heretofore constructed after the regulator applied to the discharge-orifice is adjusted to a given rate of feed there is no way to increase the rate of feed, even temporarily, except by readjusting the regulator. There is also considerable difficulty experienced with these oilers by reason of their minute discharge-orifices becoming clogged by impurities or foreign matter in the oil. The reservoirs of this class of oilers have heretofore been generally made of heavy glass, so that the connection of the reservoirs to the metal shank or stem which contains the regulator and by which the oiler is attached to the bearing to be lubricated involved much trouble and expense.

It is the object of my present invention to simplify and cheapen the construction of these oilers and to provide them with means whereby, with the feed permanently adjusted at a given rate, they may yet be made to furnish an extra supply of oil to the bearing whenever desired, and whereby their discharge-orifices may be readily cleared of clogging matter.

In the accompanying drawings, Figure 1 is a perspective view of an ordinary journal-box having one of my improved oilers attached to it. Fig. 2 is a side elevation of the oiler with the reservoir in section. Fig. 3 is a central vertical section through one of my improved oilers, provided with a filling-hole opposite the attaching-shank and with an auxiliary spring for the top. Fig. 4 is a vertical central section through one of my improved oilers with a modified form of attaching-shank. Fig. 5 is a side elevation of an oiler with a modified form of reservoir.

The same letters of reference are used to indicate identical parts in all the figures.

The body of the reservoir A, Fig. 2, is composed of sheet metal—such as brass or zinc—spun into proper shape, and has a spring-top B, in this respect resembling the inverted reservoir of an ordinary hand oil-can. Into a threaded opening in the bottom of the reservoir is screwed the upper threaded end of the attaching-shank C, containing the regulator, and having its lower end exteriorly threaded for attachment to the bearing. Drilled vertically through this shank is the oil-discharge orifice D. (Shown in the sectional view of the shank in Fig. 3.)

Tapped through the side of the shank C into the orifice D is the threaded hole which receives the adjustable regulating-screw E. By turning this screw it may be made to close the passage through the orifice D to a greater or less extent and diminish or increase the rate of feed, as desired; but when adjusted to any given rate an extra quantity of oil may be instantly and repeatedly supplied to the bearing without changing the adjustment of the screw by simply pressing inward the spring-top B of the reservoir, the construction of the latter being such that the top B will spring outward again as soon as pressure is removed from it, as in the case of a hand oil-can. This forcing of the oil through the discharge-orifice by thus pressing upon the spring-top of the reservoir clears and cleanses the orifice. In this manner I provide an oiler having the desired air-tight reservoir, the necessary adjustable regulator in its shank, and at the same time render it capable of instantly furnishing an increased supply of oil to the

bearing as often as desired without changing the adjustment of its regulator, and while accomplishing these desirable results I simplify and greatly cheapen the construction of this class of oilers.

The oiler shown in Fig. 1 is refilled by first unscrewing the shank C from the bearing and then unscrewing it from the reservoir; but in Fig. 3 I have shown the top of the reservoir provided with a filling-hole surrounded by an upwardly-projecting screw-threaded flange with a cap screwed thereon and a packing-ring interposed between the flange and cap to make an air-tight joint. I have also shown in this figure a spiral spring J within the reservoir, compressed between the top and bottom thereof, to spring the former outward. This is either auxiliary to or instead of the spring action in the top itself.

In Fig. 4 I have shown a modified form of attaching-shank and regulator. The metal shank instead of being screwed into the bearing has fitted upon its pendent tube G a tapering wooden plug H, which is driven into the hole in the bearing to attach the oiler thereto. The feed-adjusting device consists of a wire I, passing through the tube G and coincident hole in the shank C, which constitutes the oil-discharge orifice. The lower end of this wire rests upon the shaft or other movable part in the bearing. The wire being originally of such size as to nearly fill the discharge-orifice, to permit a minimum rate of feed, the feed is increased to the extent desired by filing off the side of the wire to increase the size of the passage.

In Fig. 5 the shank C is substantially the same as that in Figs. 2 and 3. The reservoir is of a circular shape in side elevation and has spring sides, instead of a spring-top B, as in Figs. 2 and 3, for the same purpose.

The novelty of my invention does not reside in the forms of the feed-regulating devices, as they are old, and any other suitable ones may be substituted for them.

I am also aware that shafting-oilers of a different construction from mine have heretofore been provided with regulators in their shanks and with means for forcing the lubricant through the discharge-orifice in their shanks; but in none of them was the oil-reservoir composed of sheet or spun metal and provided with a compressible-spring diaphragm. The novel construction I employ is much simpler and cheaper than any prior construction of such devices with which I am familiar.

Having thus fully described my invention, I claim—

1. The combination, with the shaft and its bearing, of the oiler consisting of the closed reservoir, from which the oil is adapted to be drawn by suction against atmospheric pressure, said reservoir being secured rigidly to the bearing by an intermediate shank and provided with a yielding spring-top, whereby the supply of oil may be increased or started by compressing the spring-top, and the regulator located in the shank and controlling the oil-supply, substantially as described.

2. The herein-described oiler for application to shaft-bearings and from which the oil is drawn by suction against atmospheric pressure, consisting of the thin metal reservoir having the yielding spring-top secured permanently thereon, the filling-orifice in said spring-top, the air-tight closure for said orifice, the shank provided with means for attachment to the shaft-bearing secured in the bottom of the reservoir, and the regulator in said shank, substantially as described.

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