

(No Model.)

J. POWELL.

LUBRICATOR.

No. 326,518.

Patented Sept. 15, 1885.

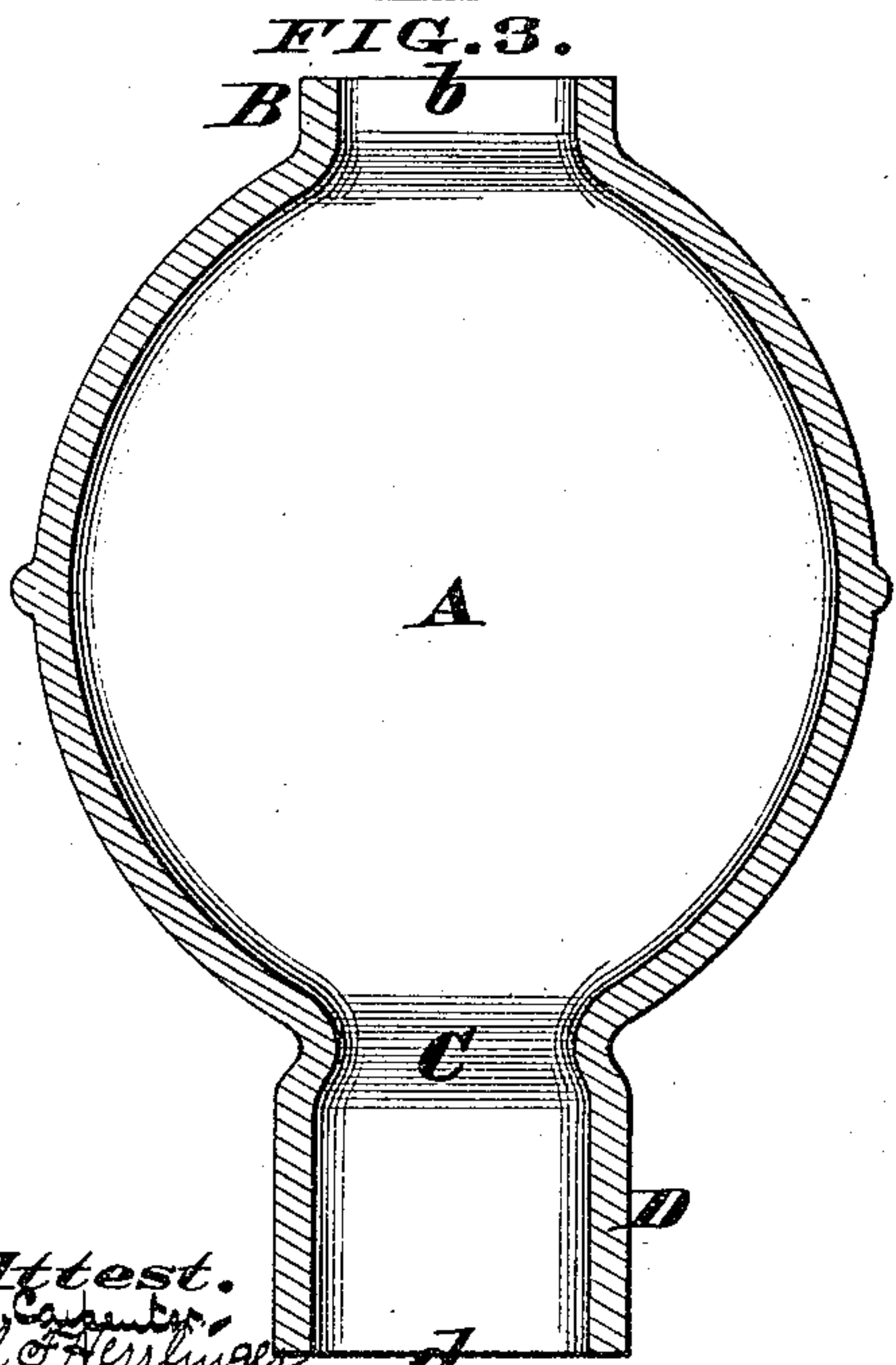
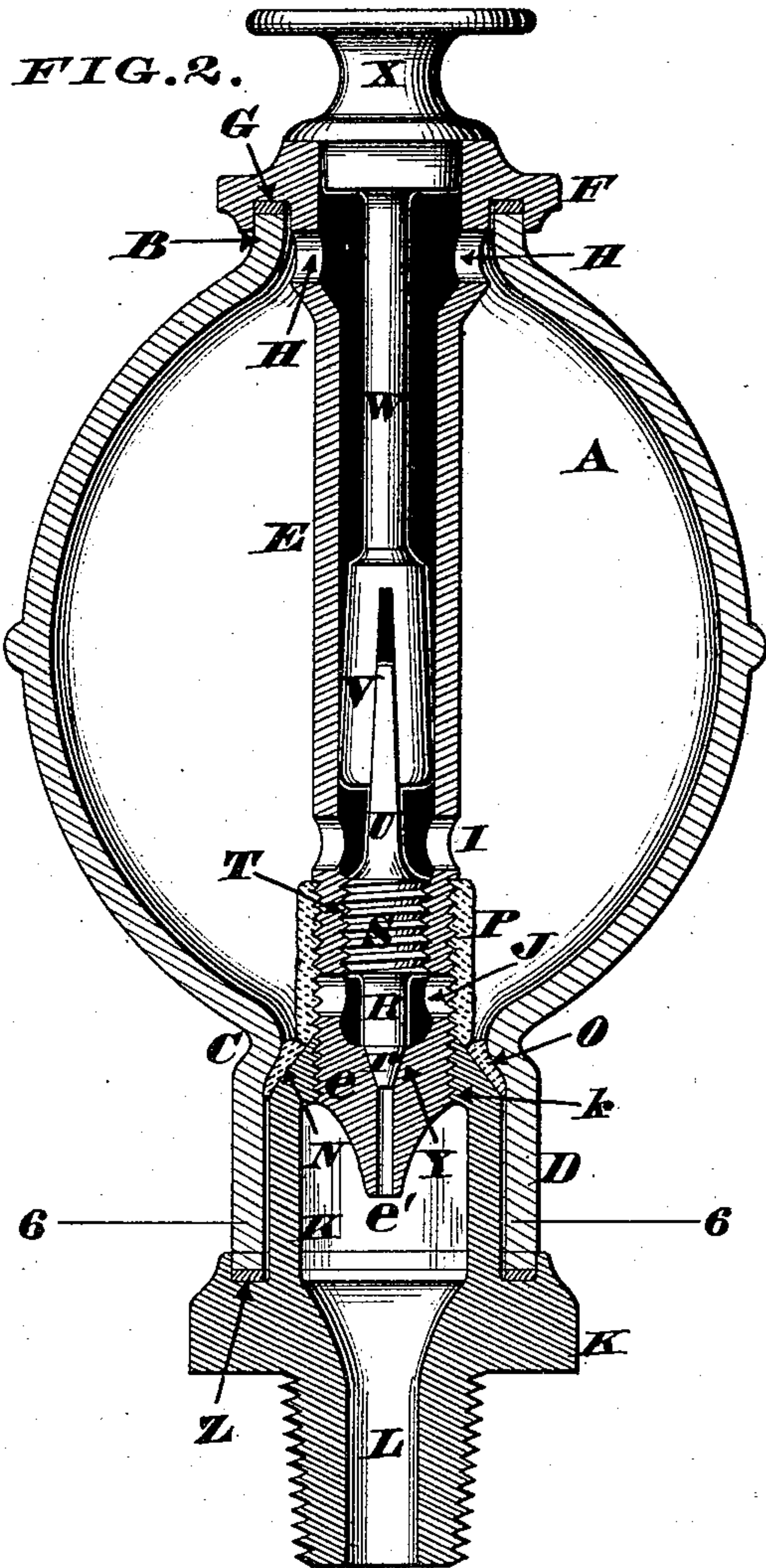
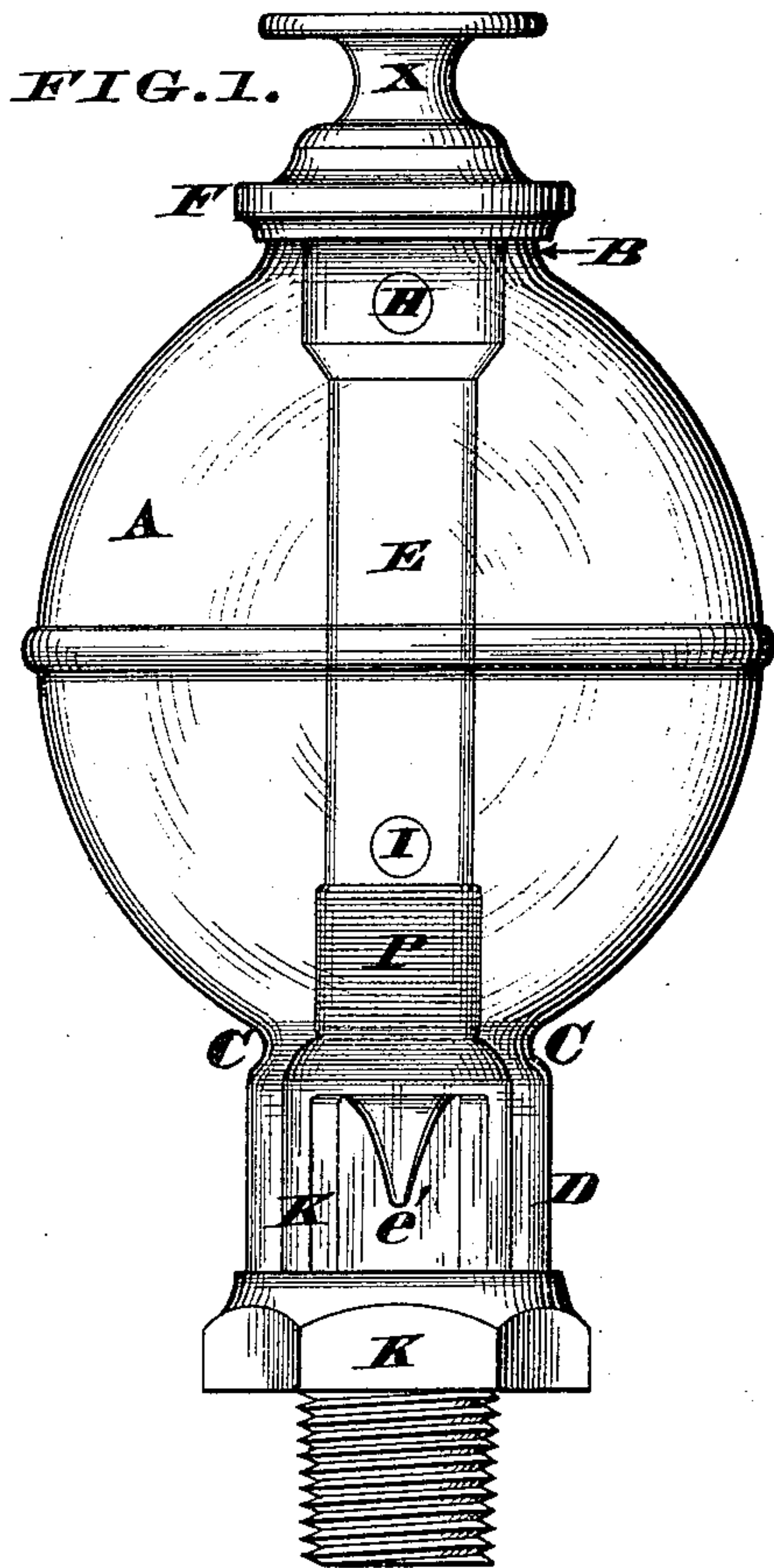


FIG. 4.

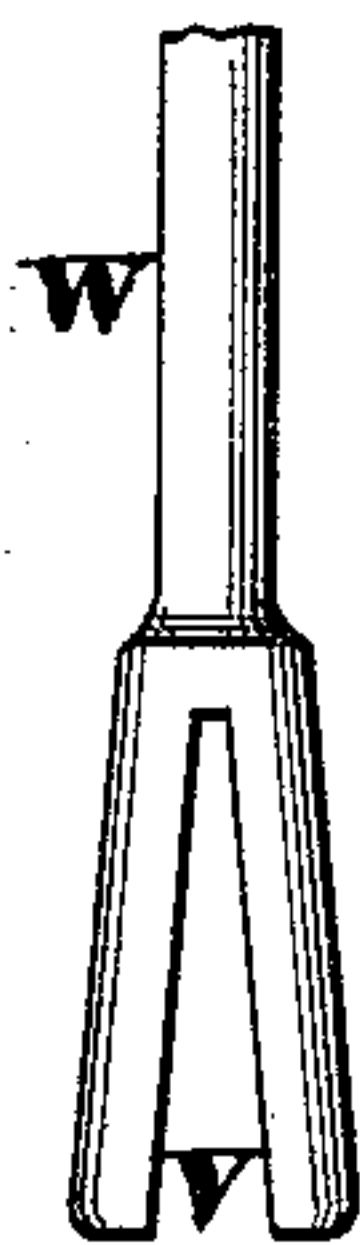
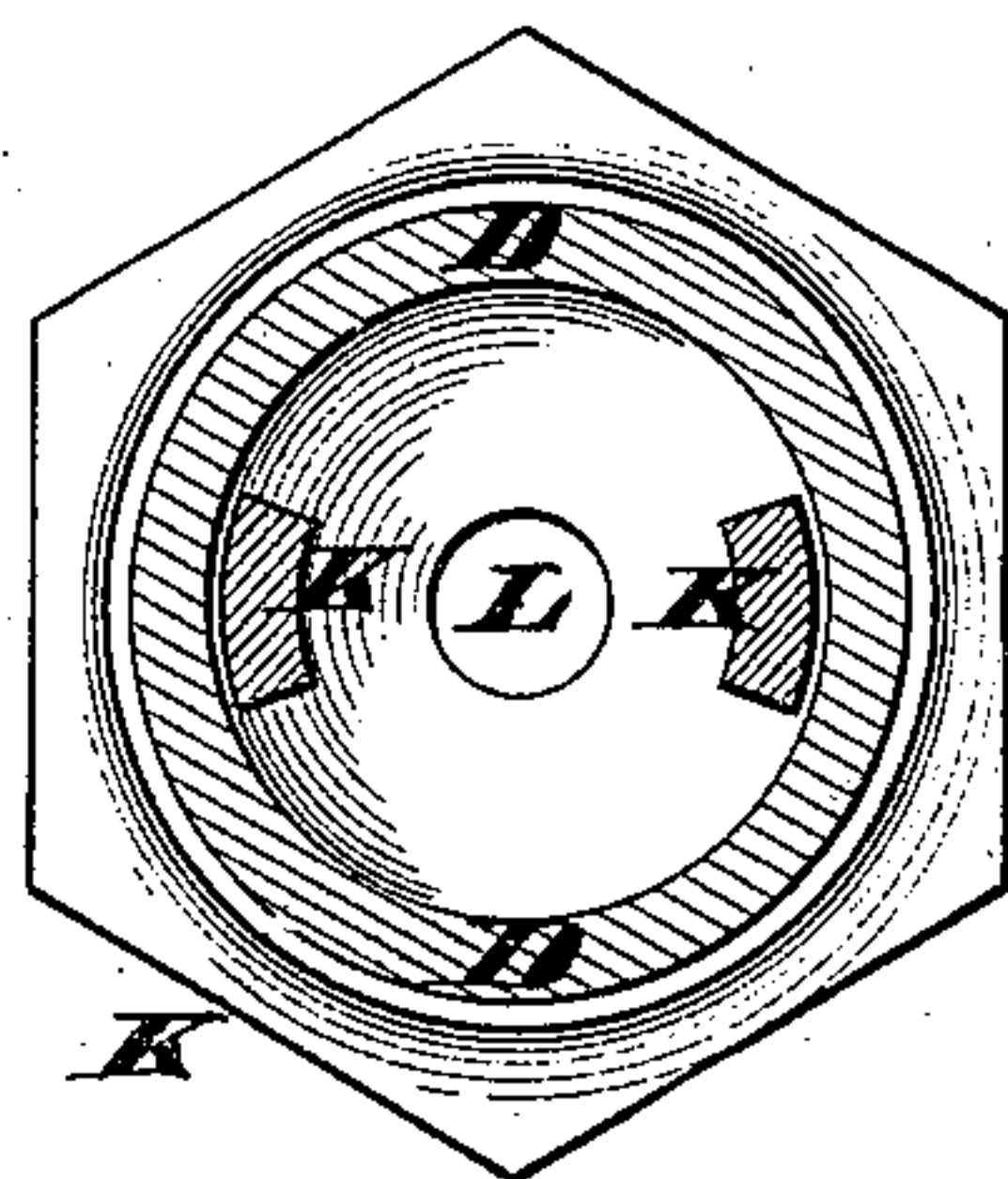


FIG. 5.



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JAMES POWELL, OF CINCINNATI, OHIO.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 326,518, dated September 15, 1885.

Application filed April 6, 1885. (No model.)

To all whom it may concern:

Be it known that I, JAMES POWELL, 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 Lubricators, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to those lubricators or oilers which have glass founts, globes, or reservoirs that contain the lubricating-fluid; and the first part of my improvement consists in imparting a special shape to such reservoirs. This special shape includes a globular or spheroidal fount, a neck which is preferably cylindrical, and a contracted waist, the latter being located at the junction of said fount and neck. The fount has an opening at top which is covered by a head or cap of the axial tube that contains the valve and its seat, said tube being screwed into a lower section or cage that fits within the cylindrical portion or sight-chamber of said fount, the upper end of said cage having a bearing that retains a gasket or packing-ring within the contracted waist. By this arrangement the axial tube serves to clamp all the members of the device securely in place and prevents leakage at the various joints of the same, as hereinafter more fully described.

The second part of my invention consists in fitting a pull-plug within the aforesaid axial tube, the lower portion of said plug being provided with an expanding slotted fork that grasps a tongue or tenon on the upper end of the valve-stem. By this means the regulating-valve can be controlled by simply turning said plug in either direction, and the latter can be readily withdrawn at any time by exerting sufficient force to overcome the friction incidental to the expansion of the fork within the tube. This friction, however, is sufficient to prevent any accidental turning or displacement of said pull-plug, as hereinafter more fully described.

The third part of my improvements consists in applying a filtering medium around the lower portion of the tube, so as to cover the outlet-passages of the same, and thereby prevent sediment entering said passages, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a side

elevation of my improved lubricator or oiler.

Fig. 2 is an enlarged axial section of the same.

Fig. 3 is an axial section of the glass fount or reservoir. Fig. 4 is an elevation of the lower or forked end of the pull-plug. Fig. 5 is a horizontal section of the device, taken at the line 6 6 of Fig. 2.

The fount or reservoir proper consists of a glass vessel, A, of any desired capacity, said vessel being, preferably, globular or spheroidal in shape, and having a short neck, B, whose top is open at *b*, as seen in Fig. 3. Joined to the bottom of this reservoir by a contracted waist, C, is a relatively longer neck, D, that is preferably cylindrical, although it may be of any desired polygonal form, said neck being opened at its lower end, as seen at *d*. This portion D of the glass lubricator constitutes what is generally known as the "sight-chamber," because it enables the delivery of oil to be apparent at a glance.

Adapted to occupy an axial position within the fount A is a tube, E, having at top a head or cap, F, whose margin surrounds the short neck B and incloses a packing-ring or gasket, G. The tube E is pierced below this cap, as at H, to permit the escape of air when the fount is filled, other openings, I, being provided farther down to allow the lubricant to flow into said fount. Below these openings another set of holes or slots, J, is located, these holes being provided to allow the oil to escape from the fount and flow into the tube E. Situated below these outlets J is the seat Y, for the regulating-valve, to be hereinafter described. The lower portion of the tube E is threaded externally at *e*, to engage with the internal thread, *k*, of the lower section or cage, K, the latter being cut away so as to interfere as little as possible with the interior of the sight-chamber D. This cage K is provided with a discharge-passage, L, and has at its upper end a suitable bearing, N, that retains a packing-ring, O, firmly within the waist C. Located above this packing-ring O, and surrounding the tube E, is a filtering medium, P, that prevents sediment entering the openings J, said medium being composed of any material that will allow the oil to flow through readily, and yet arrest any impurities that may be contained therein.

e' is the discharge-passage of the tube E,

said passage being so located as to permit the escaping oil to be visible at the sight-chamber D.

The controlling-valve *r*, previously alluded to, is situated at the lower end of a stem, R, that is threaded at S to engage with an interior thread, T, of the tube E. Furthermore, the forked end V is adapted to spring outwardly and bear against the interior of said tube with considerable force.

Z is a packing-ring interposed between the section K and the lower end of the sight-chamber D.

Before charging the reservoir A the plug W is first turned so as to screw the valve *r* down firmly upon its seat Y, after which act a sudden jerk on the cap X draws said plug out of the tube E. The oil can now be readily poured into this tube, and, not being able to escape through the passage *e'* of the same, it flows out at the opening or openings, I I, and gradually fills the fount A, the air in the upper portion thereof escaping at the ventages H H. As soon as the reservoir is filled the lower end of the pull-plug is compressed, so as to readily enter the mouth of the tube E, and said plug is forced down until its cap X rests on the head F, care being taken to have the tenon or tongue U of the valve-stem to enter the fork V. Said plug is then turned so as to raise the valve *r* a sufficient distance from off of its seat Y to insure the desired flow of oil, the exact quantity delivered being clearly discernible through the sight-chamber D.

The friction produced by the expansible fork V is not only sufficient to prevent the pull-plug W being jolted out by the concussions incidental to machinery, engines, &c., but it holds said plug in place against a moderate exertion of force. It also prevents the plug being accidentally turned by any slight contact with the cap X; hence there is no danger of the feed becoming irregular, and thereby injuring the machine or engine to which the lubricator is applied.

It will be observed that by simply screwing the tube E into the lower section, K, the packing-rings G, O, and Z are firmly clamped to their respective bearings, thus rendering it impossible for the oil to escape either at the top or bottom of the device, or for it to run from the reservoir A into the sight-chamber D. It will also be noticed that the withdrawal of this tube carries the filtering medium along

with it, thereby facilitating the cleansing, repairing, or renewing of said medium.

In two other applications, filed in the Patent Office April 6, 1835, which applications are numbered, respectively, 161,411 and 161,413, I have shown different combinations of the bodily-detachable tube and inclosed valve-stem. Therefore I expressly disclaim in this application the features shown and claimed in the cases above referred to.

I claim as my invention—

1. As a new article of manufacture, a transparent oil-reservoir consisting of a vessel A, open at top and bottom, and joined by a contraction or annular bearing C to the sight-chamber D, said members A, C, and D being composed of a single piece of material, and the contraction C being of less diameter than said vessel A and sight-chamber D, as herein described.

2. The combination, in an oil-cup or lubricator, of the tube E, into which is screwed the valve-stem R, provided with a tongue, U, that enters the expansible fork V of pull-plug W, which latter traverses said tube and carries at its upper end a cap or stopper, X, for the purpose specified.

3. In combination with a bodily-detachable tube screwed into the lower head of the lubricator, bearing upon the upper head of the same and inclosing the valve-stem, as herein described, the filtering medium P, applied externally to the inlets of said tube, for the purpose described.

4. The combination, in an oiler or lubricator, of the fount A, waist C, sight-chamber D, and gasket O, said gasket being retained in place by the tube E, screwed into the lower section, K, which latter is located within said chamber D, substantially as herein described.

5. The pull-plug W, having an expansible fork, V, at its lower end, and a cap or stopper, X, at its upper end, in combination with a valve-stem, R, provided with a projection, U, that enters said fork, the plug W being wholly detachable from the inclosing-tube E, for the purpose of filling the fount, as herein described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES POWELL.

Witnesses:

JAMES H. LAYMAN,
SAML. S. CARPENTER.