

(No Model.)

T. G. LEWIS.  
LUBRICATOR.

No. 545,598.

Patented Sept. 3, 1895.

Fig. 1.

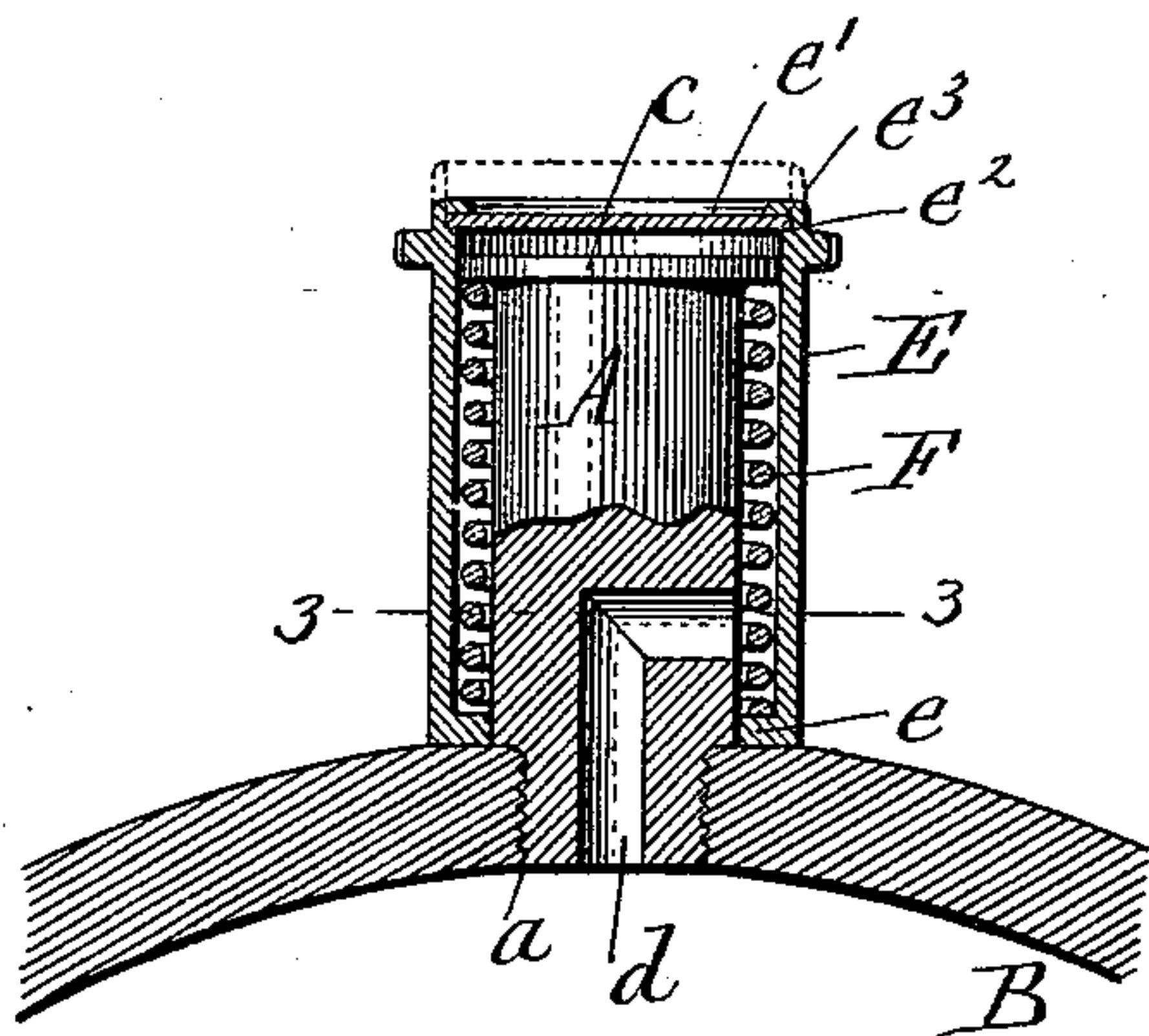


Fig. 2.

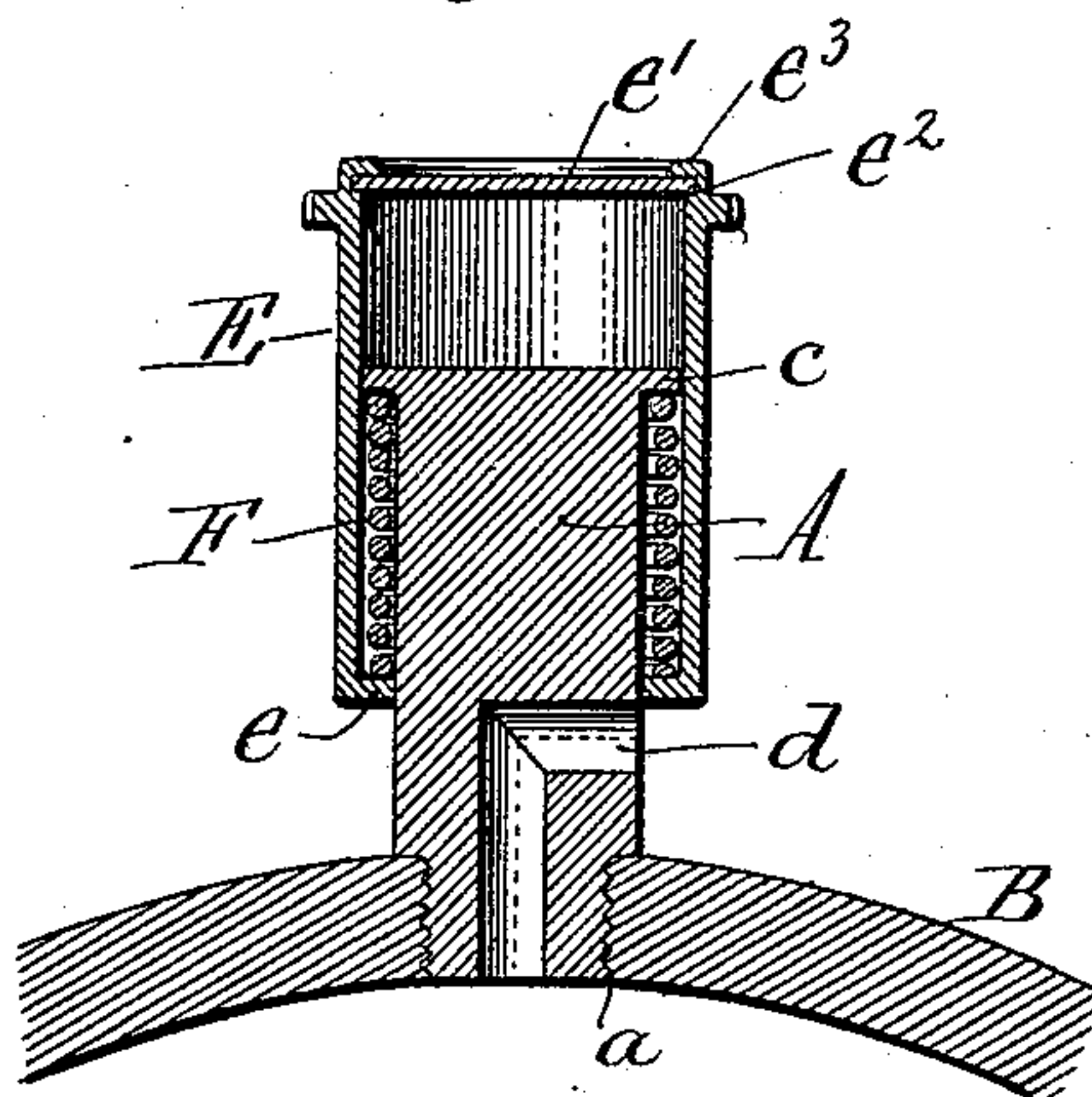


Fig. 3.

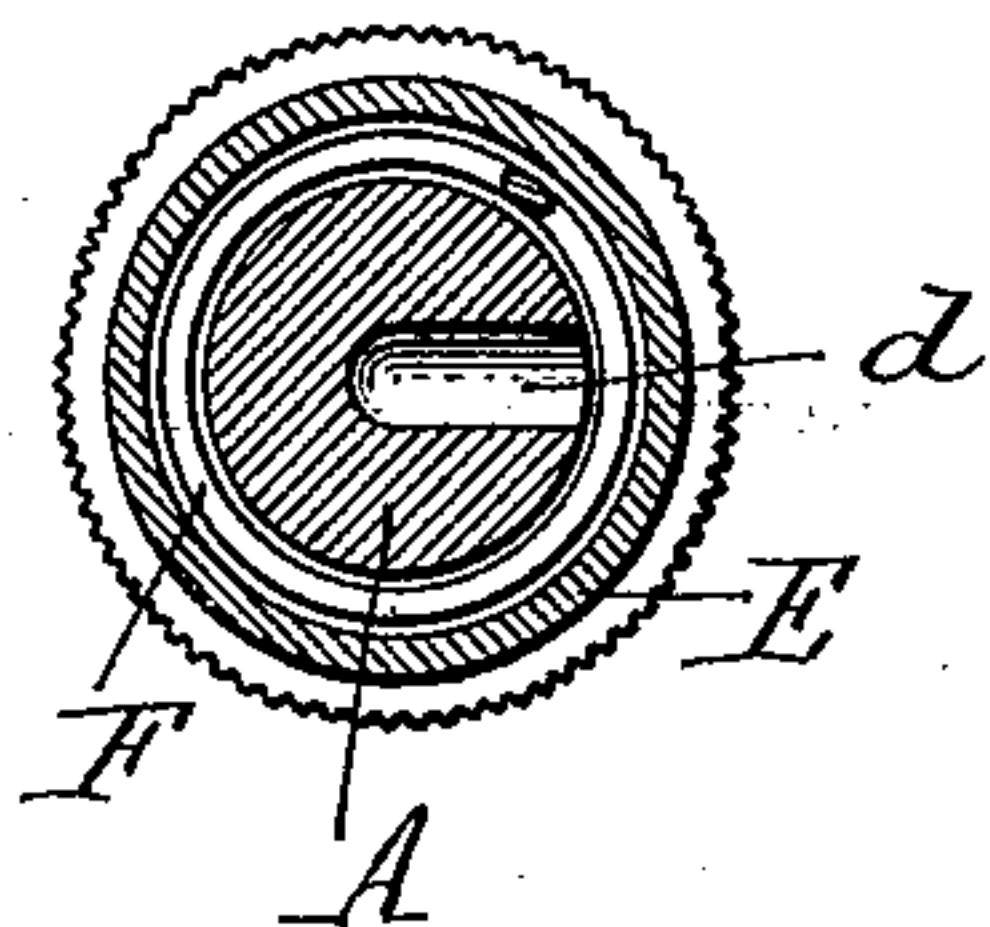
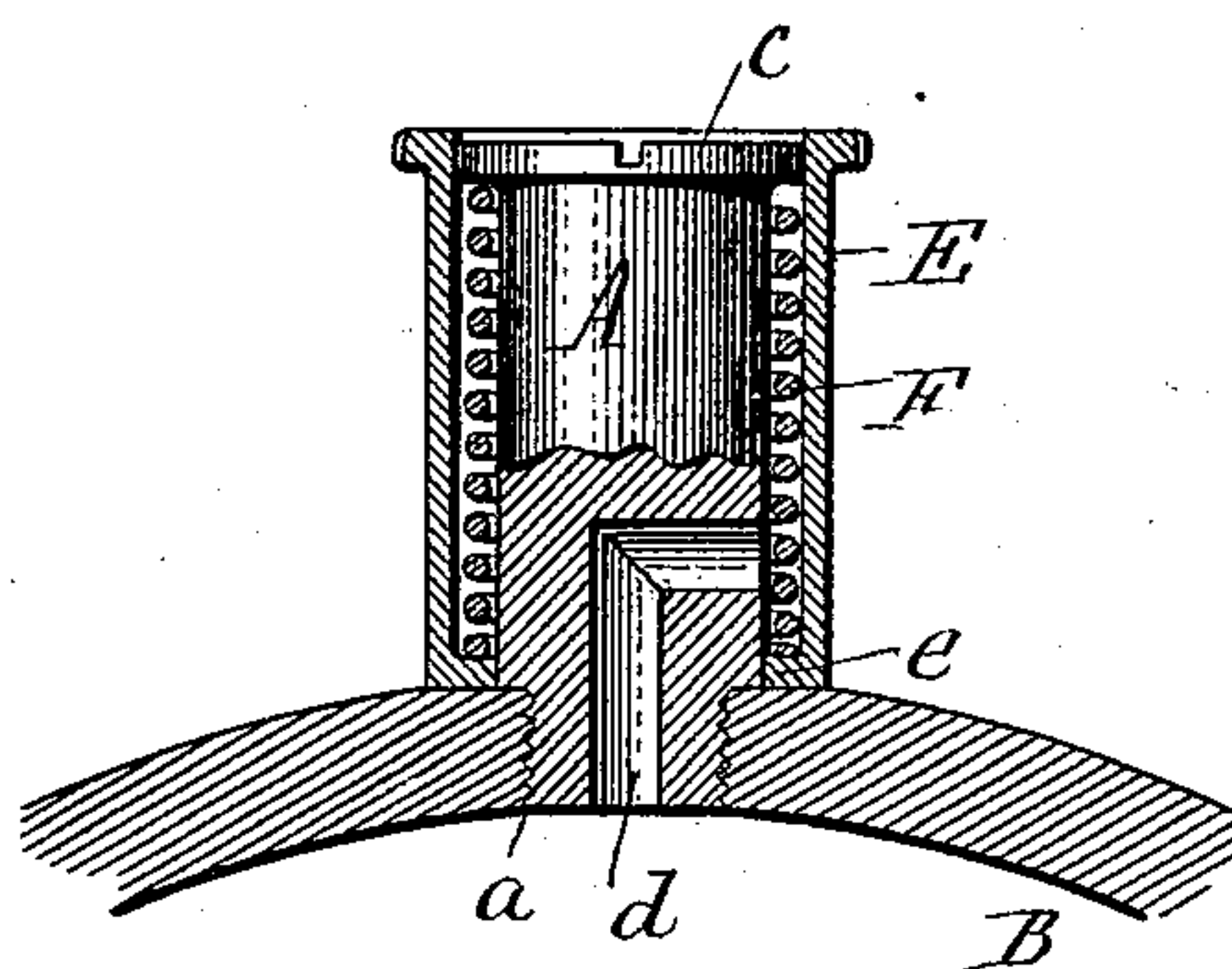


Fig. 4.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 545,598, dated September 3, 1895.

Application filed February 4, 1895. Serial No. 537,152. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE G. LEWIS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Lubricators, of which the following is a specification.

This invention relates to that class of lubricators which consist, essentially, of a screw-threaded stem having an oil-duct and a cap or cylinder inclosing the stem.

My invention has for its object to produce a lubricator of this kind in which dust and grit are effectually excluded from the oil-duct, and which comprises a minimum number of parts, so that it can be manufactured at small cost.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved lubricator on an enlarged scale, showing the cap depressed for covering the oil-duct. Fig. 2 is a similar view showing the cap raised for exposing the oil-duct. Fig. 3 is a cross-section of the lubricator in line 3 3, Fig. 1, looking upward. Fig. 4 is a sectional elevation of a modified construction of the lubricator.

Like letters of reference refer to like parts in the several figures.

A is a cylindrical stem or stud which is provided at its lower end with an external screw-thread *a* for attaching it to a bearing B or other part to be lubricated. This stem is formed at its upper end with a flange or head *c*, and in its lower portion with an oil duct or passage *d*, which extends upward from the inner end of the stem, and thence laterally to the surface thereof.

E is a cap or cylinder which surrounds the stem, and which is longitudinally movable thereon, so that it may be raised for exposing the inlet end of the oil-duct. The bore of this cap is of about the same diameter as the flange of the stem, so as to leave an annular space between the cap and the stem below said flange. F is a spiral spring arranged in this annular space around the stem A, and bearing at its upper end against the flange of the stem and at its lower end against an annular flange *e*, projecting inwardly from the lower end of the cap E. This spring tends to de-

press the cap to the position in which it covers the outer end of the oil-duct. When it is desired to oil the bearing or other part, the cap is raised against the pressure of the spring until the oil-duct is uncovered, as shown in Fig. 2, and after supplying the oil the cap is released, when the compressed spring reacts and returns the cap to its depressed position, as shown in Fig. 1, in which position the cap wholly incloses the stem, so that no dust or grit can enter the oil-duct or accumulate on the stem and be wiped into the duct by the movements of the cap. The cap is preferably closed at its upper end by a disk *e'*, which rests upon an internal annular shoulder *e''*, formed near the upper end of the cap, and which is confined in place against said shoulder by a lip *e'''*, formed by bending the upper edge of the cap inward over the disk, as shown in Fig. 1. This lip may be formed by bur-

In assembling the parts of the lubricator the spring is first placed upon the stem, and these parts are then placed into the cap through its open top, after which the disk is inserted in the upper end of the cap and secured in place. If desired, the cap may consist of a cylinder open at both ends, as shown in Fig. 4. In this case the upper end of the cap is closed by the flanged upper end of the stem when depressed, and is open when raised to uncover the oil-duct.

In my improved lubricator the spring is subjected to compression strain, and it is therefore not liable to become set or overstrained.

The peculiar construction of the lubricator enables it to be made of very small dimensions, rendering it especially advantageous for bicycles and other machines in which a small and light lubricator is desired.

I claim as my invention—

1. The combination with a stud or stem provided at its upper portion with a projecting flange and in its lower portion with an oil duct, of a cap or cylinder inclosing said stem and provided at its lower portion with an inwardly extending flange, and a spring arranged be-

tween the cap and the stem and bearing at its ends against the flanges of the cap and stem, respectively, substantially as set forth.

2. The combination with a stud or stem provided at its upper end with a head or flange and in its lower portion with an oil duct, of a cylinder surrounding said stem and provided at its lower end with an inwardly extending flange, in its upper portion with an internal shoulder and above said shoulder with an inwardly-turned lip, a disk closing the upper

end of said cylinder and confined between said shoulder and said lip, and a spring surrounding the stem between the flanges of the cap and the stem, substantially as set forth. 15

Witness my hand this 1st day of February, 1895.

THEODORE G. LEWIS.

Witnesses:

JNO. J. BONNER,  
KATHRYN ELMORE.