

No. 695,603.

Patented Mar. 18, 1902.

G. FISHER.  
LUBRICATOR.

(Application filed May 26, 1900.)

(No Model.)

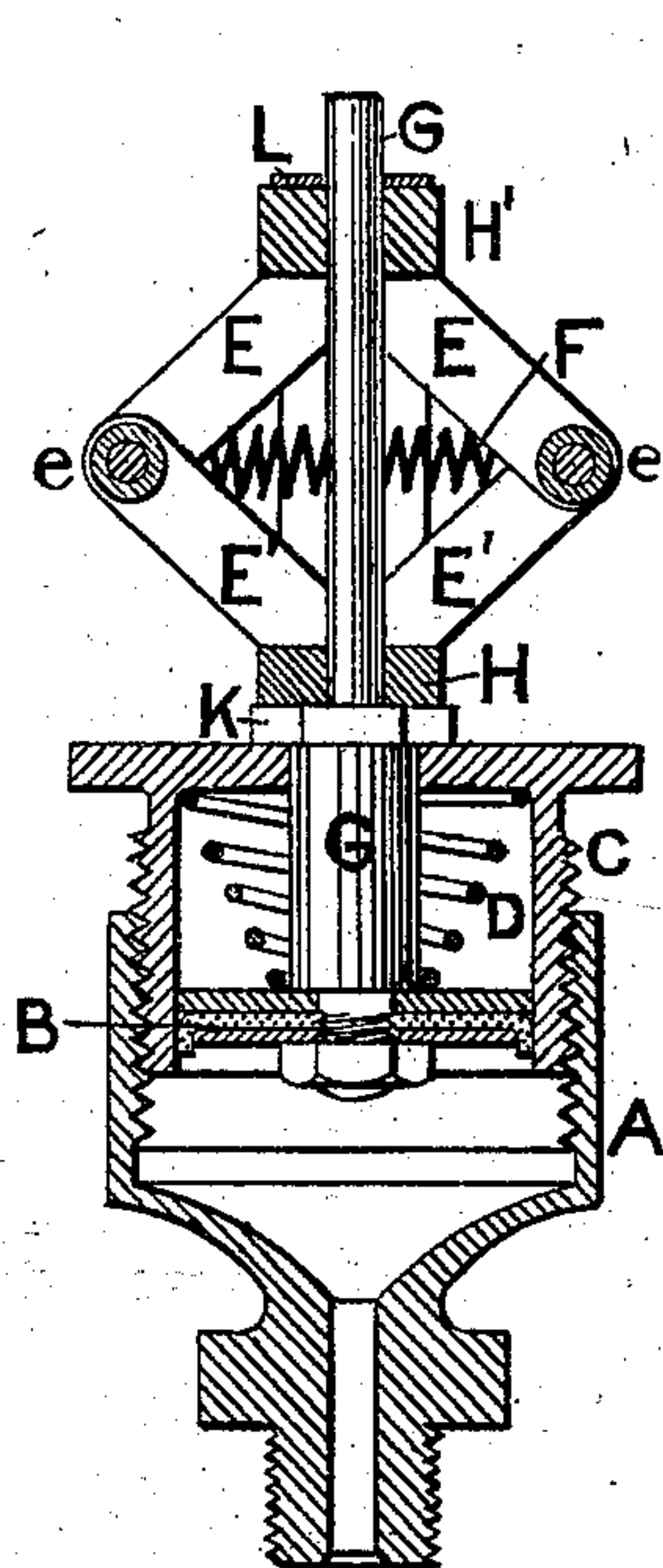


FIG. 3.

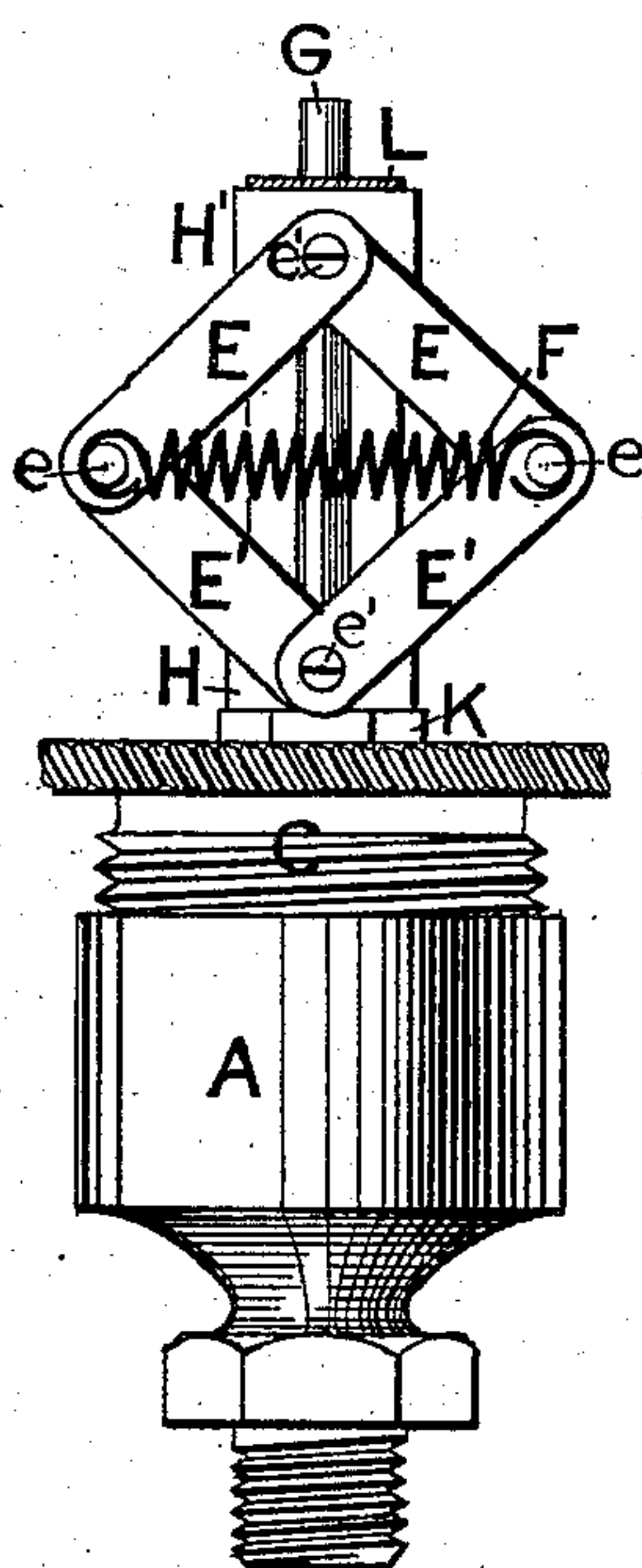


FIG. 2.

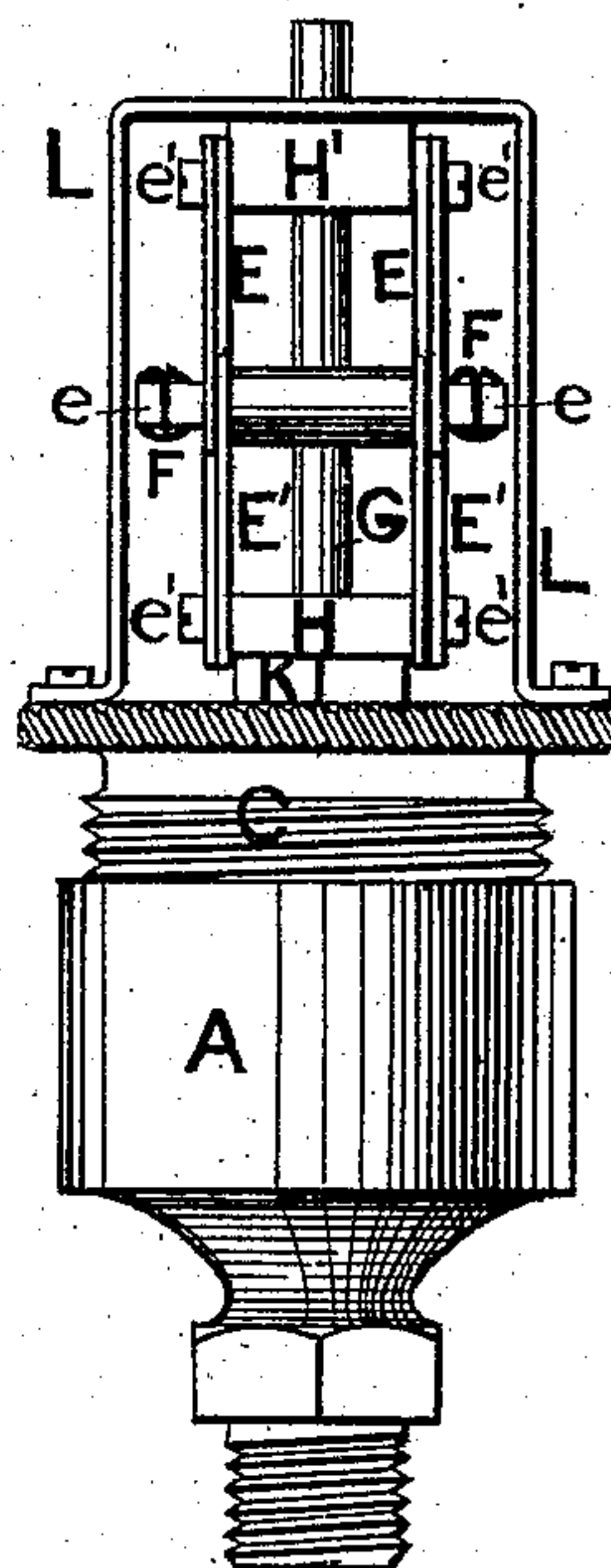


FIG. 1.

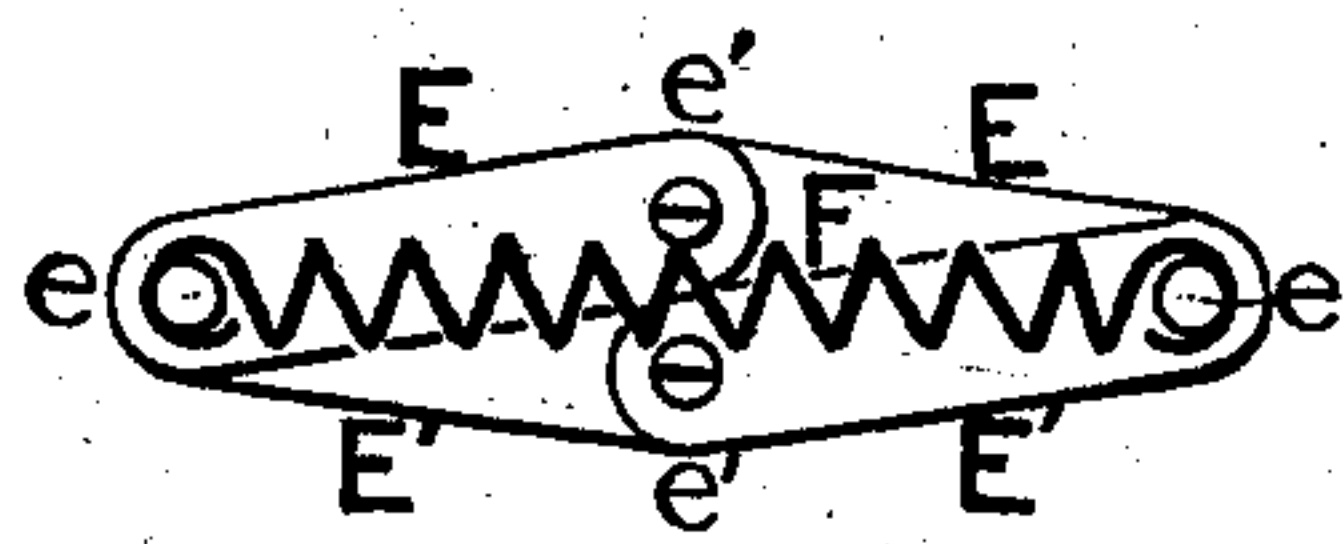


FIG. 5.

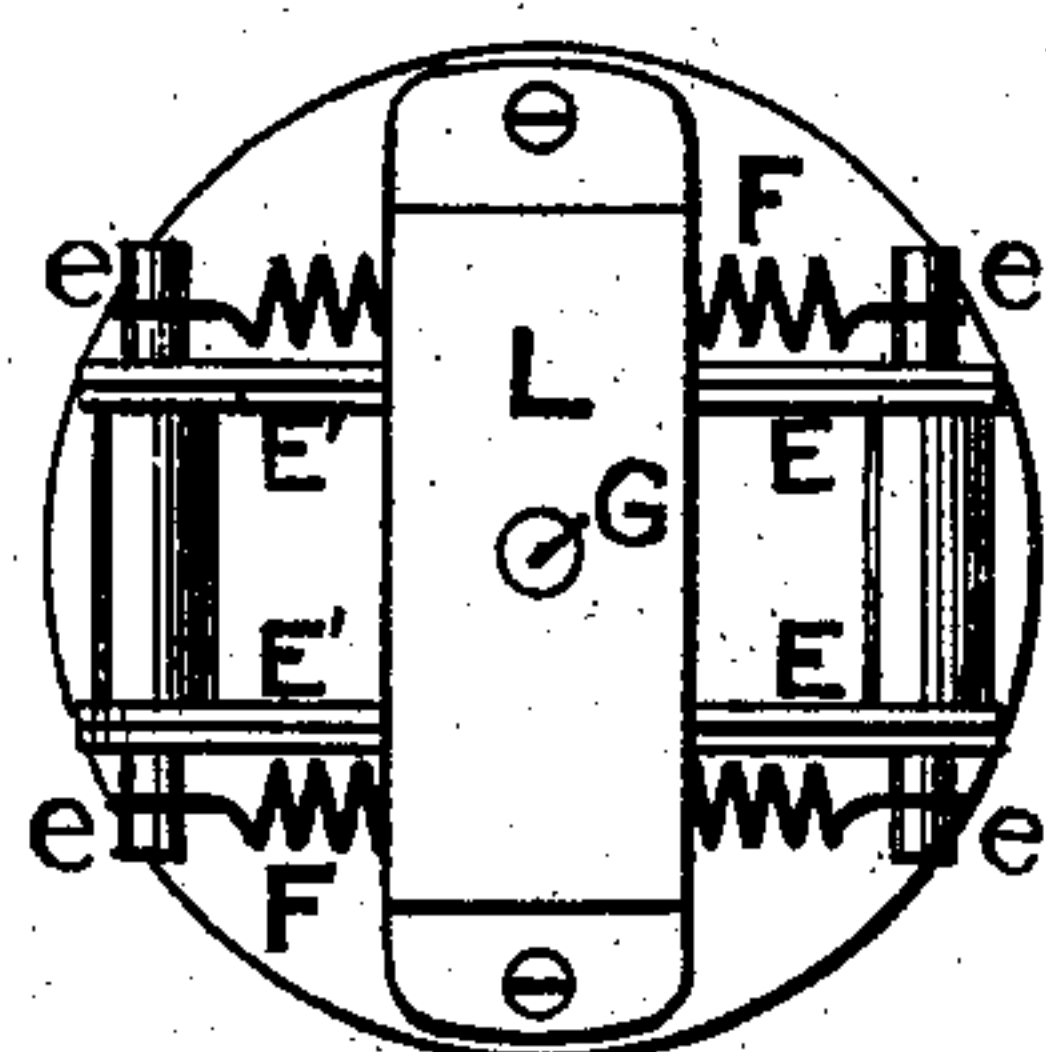


FIG. 4.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

GREEVZ FISHER, OF LEEDS, ENGLAND.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 695,603, dated March 18, 1902.

Application filed May 26, 1900. Serial No. 18,152. (No model.)

*To all whom it may concern:*

Be it known that I, GREEVZ FISHER, a British subject, residing at Leeds, in the county of York, England, have invented certain new and useful Improvements in Lubricators, of which the following is a specification.

This invention relates to spring-controlled or spring-actuated lubricators in which a stiff lubricant is discharged by the action of a piston operated by a spring and is designed to reduce the variation of pressure consequent upon direct-acting spiral compression-springs. By this invention I employ the combination of springs arranged so that the pressure produced by them is approximately constant upon the grease in the cup, the springs being attached or connected to levers so placed that when the spring is exerting its maximum force the leverage will be least and as the force or tension of the spring is gradually relaxed the leverage will increase.

The invention will be fully described with reference to the accompanying drawings, in which, as an example, one form of piston-lubricator is illustrated.

Figure 1 is a front elevation of the invention applied to the piston-rod. Fig. 2 is a side elevation of same. Fig. 3 is a transverse section. Fig. 4 is a plan. Fig. 5 is a detail of parts showing relative positions of levers and spring when latter is extended.

The lubricator-cup A, the piston B, the piston-cup C, and the spring D are of the ordinary construction.

The piston B has hitherto been forced by the spring D, and I now apply the levers E E' and springs F to the piston-rod G in addition to the spring D.

Above the piston B, by which the lubricant is discharged, I mount a double pair of levers E E', pivoted together at their ends by the pivots or pins e e'. There are thus four levers with four pivots pivoting or connecting them together. The levers E E' are arranged in two sets, one set at one side of the piston-rod G and the other set placed at the other side of the piston-rod, (see Fig. 1,) the two sets being connected together by the

cross-blocks H, which are formed with holes which fit over and slide upon the piston-rod 50 or through which the piston-rod is free to slide.

The levers E E' are connected to the cross-blocks H H' by the top and bottom pins e' e', and between the pins or pivots e e are stretched the springs F. The two side pivots are thus drawn together by the spiral springs F, the action of the springs and the levers forcing the top and bottom pivots e' e' apart. When the two cross-blocks H H' are brought nearly close together, (see Fig. 5,) the two pivots e are at their farthest distance apart and the springs F are exerting their greatest force, but as the levers E E' are nearly in a straight line the force of the springs is exerted to the least effect to force the pivots e' e' apart. 65

The lower cross-block H rests upon a nut shoulder or projection K on the piston-rod or may be attached thereto, and the upper cross-block H' rests against a bracket L, rigidly attached to the lubricator-top, so that the force of the springs F is directed to force the piston-rod and piston downward. 70

Instead of duplicating the parts of the apparatus a single spring may be placed in a central position, but for practical purposes the apparatus is better arranged as shown. 75

It will thus be seen that the levers act at an increasingly disadvantageous leverage as the two central pivots e' e' are brought together and the force exerted by the springs F is increased. I find that a much greater effective pressure is exerted thereby when in the position shown in Fig. 2 than when in the position shown in Fig. 5, and this is counteracted and a uniform pressure obtained by the internal spring D, which in the position shown in Fig. 2 is exerting less pressure than in the position shown in Fig. 5. 80 85 90

What I claim as my invention, and desire to protect by Letters Patent, is—

1. A lubricator for forcing stiff lubricants comprising in its construction a piston, levers attached to same, one set of springs to actuate the piston attached to the levers which

act at an increasingly disadvantageous leverage as the force of the spring is increased in combination with a direct-acting spring, compressed between the piston and the oil-  
5 cup lid, substantially as described.

2. In a lubricator for stiff lubricants the combination with the lubricator-cup A, the piston B, and the direct-acting spring D compressed between the piston and the oil-cup  
10 lid, of the levers E E' pivoted together and

the springs F placed between them, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GREEVZ FISHER.

Witnesses:

WALTER FOSTER,  
STEPHEN G. ATKINSON.