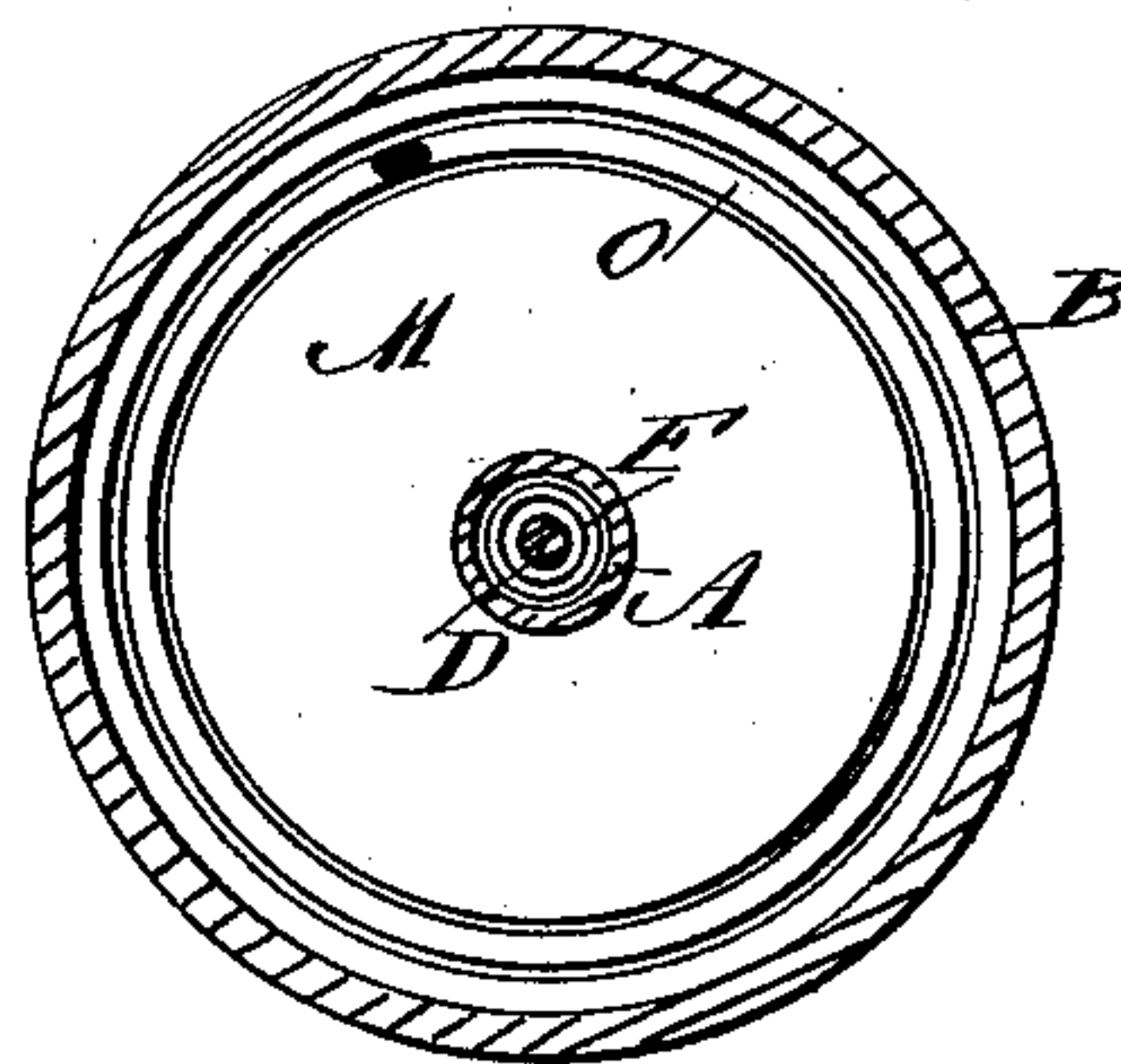
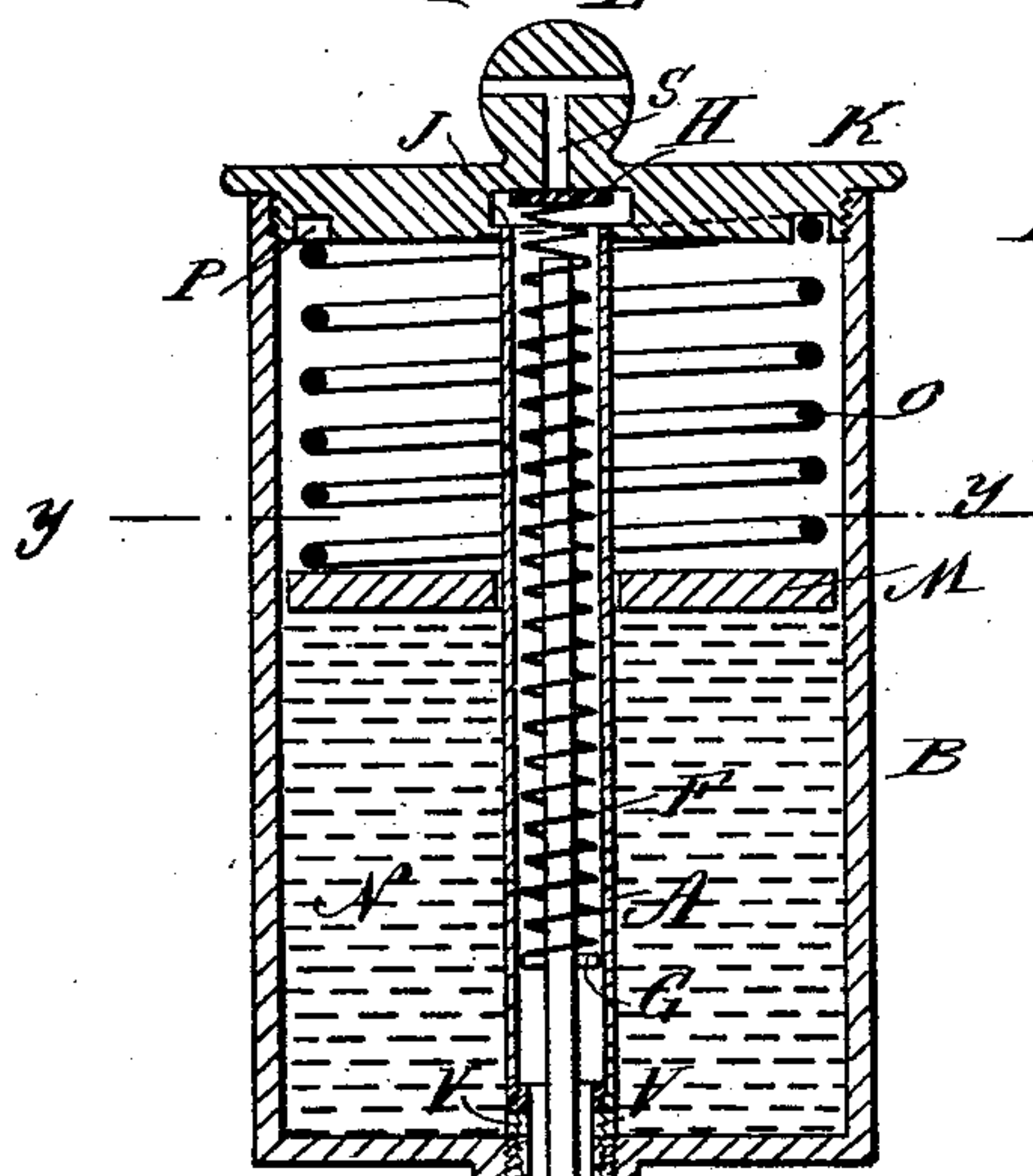
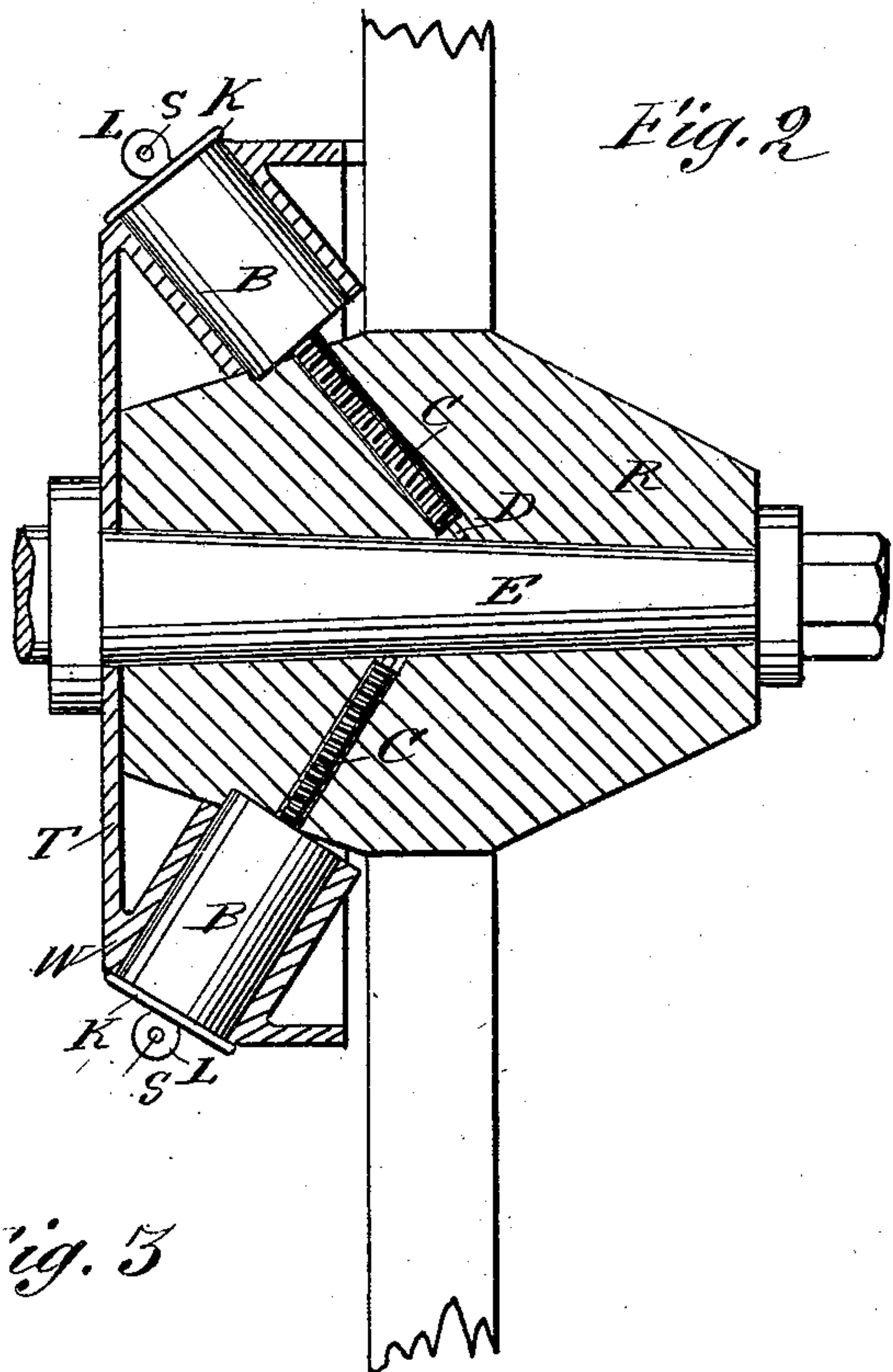
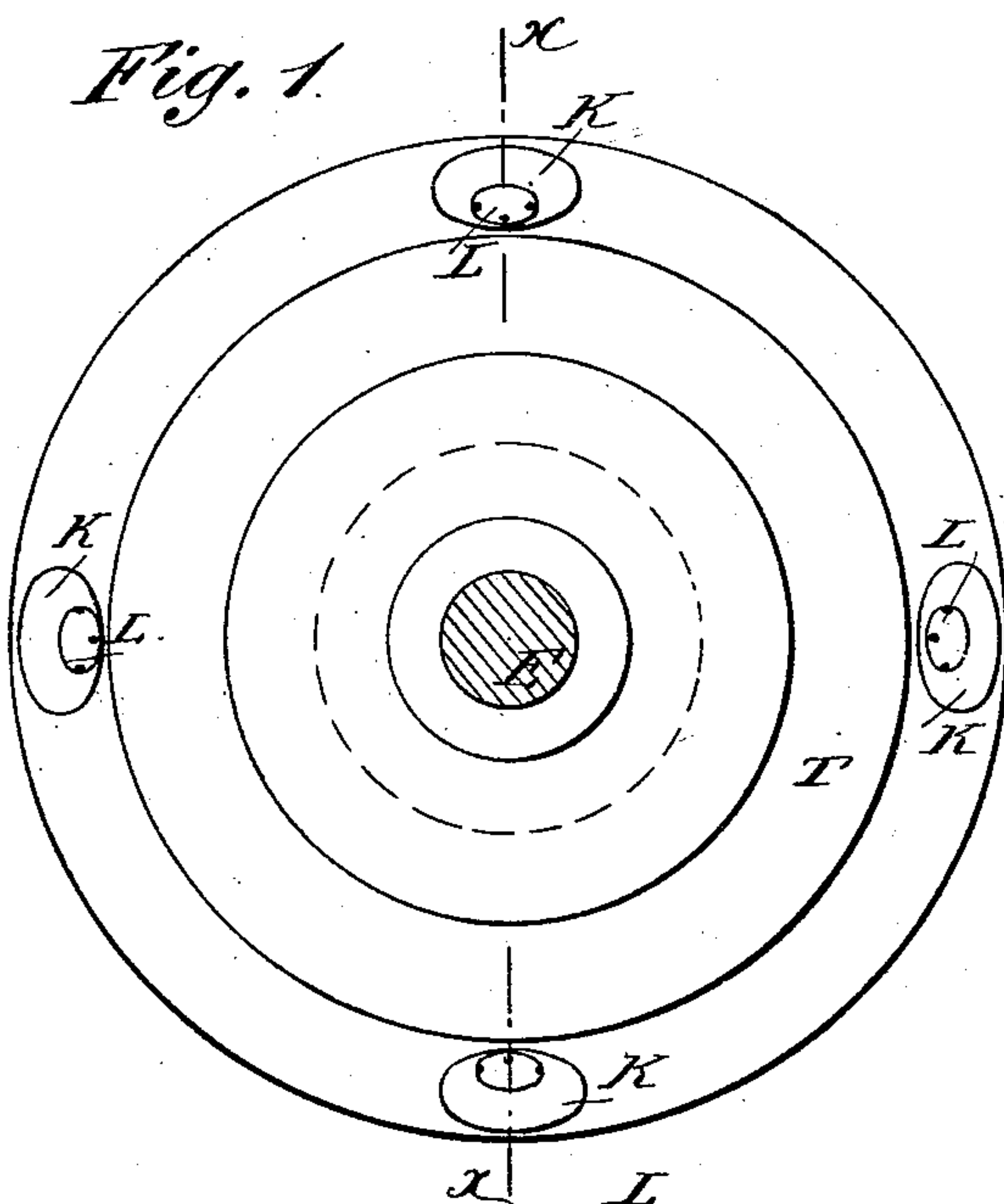


(No Model.)

F. A. DE BREMON.
Axle Lubricator.

No. 243,523.

Patented June 28, 1881.



WITNESSES:

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UNITED STATES PATENT OFFICE.

FRANCIS A. DE BREMON, OF CLIFTON, NEW JERSEY.

AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 243,523, dated June 28, 1881.

Application filed April 14, 1881. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS A. DE BREMON, of Clifton, in the county of Passaic and State of New Jersey, have invented a new and Improved Axle-Lubricator, of which the following is a specification.

The object of my invention is to provide a new and improved device for furnishing a continual supply of lubricating substance to the shaft or axle of a wheel.

The invention consists in a box containing the lubricant and provided with a follower and a spring for pressing this lubricant to the inner end of the box, from where it flows to the axle through a tube and along a wire contained in this tube and pressed against the axle by a spiral spring, whereby the axle is furnished with a constant supply of the lubricant. A series of these grease boxes are contained in an annular box on the hub, the tubes of these grease-boxes extending through the hub to the axle or shaft.

In the accompanying drawings, Figure 1 is an elevation of the inner end of the box on the axle, showing the axle in section. Fig. 2 is a longitudinal sectional elevation of the same on the line *x x*, Fig. 1. Fig. 3 is a longitudinal sectional elevation of the box containing the lubricant. Fig. 4 is a cross-sectional elevation of the same on the line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts.

A tube, A, passes longitudinally through the cylindrical box B, and an externally-threaded tube, C, is screwed into an aperture extending diagonally through the hub R, from the outer surface of the same to the axle E, and the end of this tube C is screwed into the lower internally-threaded end of the tube A. A wire, D, passes through the tubes A and C, and its inner end is pressed against the axle E by a spiral spring, F, surrounding the wire D and resting against a short transverse rod, G, of the wire D and against a leather valve, H, contained in a recess, J, in the under side of the lid K, screwed on the top of the box B. This valve closes the inner end of an aperture, S, in

a knob, L, of the lid K. An annular follower, M, fitting closely against the sides of the box and of the tube A, which passes through this follower, rests upon the lubricant N and is pressed toward the bottom of the box B by a spiral spring, O, one end of which rests in an annular groove, P, in the under side of the lid K. A series of the above-described boxes B are contained in radial inclined recesses in an annular box, T, on the inner end of the hub R. The tube A is provided with a series of apertures, V, at the lower end.

The operation is as follows: The follower M and the spring O press the lubricant N toward the inner end of the box, and thus prevent it from being thrown toward the other end by the centrifugal force. The lubricant, which may be of any desired kind, flows through the apertures V and through the tube C to the axle E. The wire D is heated by its friction on the axle, and if the lubricant does not flow easily the heat of the wire D will cause it to flow more freely. If a vacuum is formed in the box B the air can enter through the aperture or channel S.

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

1. In an axle-lubricator, the combination, with the boxes B, arranged in a frame about and obliquely to the axis of hub, of the tubes A C, passing through box B to the axle-hole of the hub, the wire D, passing through the tubes A C to the axle and pressed thereto by a spring, F, and the spring-pressed follower M, which forces the liquid lubricant through apertures V in the tube C, as described.

2. In an axle-lubricator, the combination, with the box B, of the tubes A and C, the follower M, and the spring O, substantially as herein shown and described, and for the purpose set forth.

FRANCIS A. DE BREMON.

Witnesses:

H. C. WHITEWORTH,
JNO. MORISSEY, Jr.