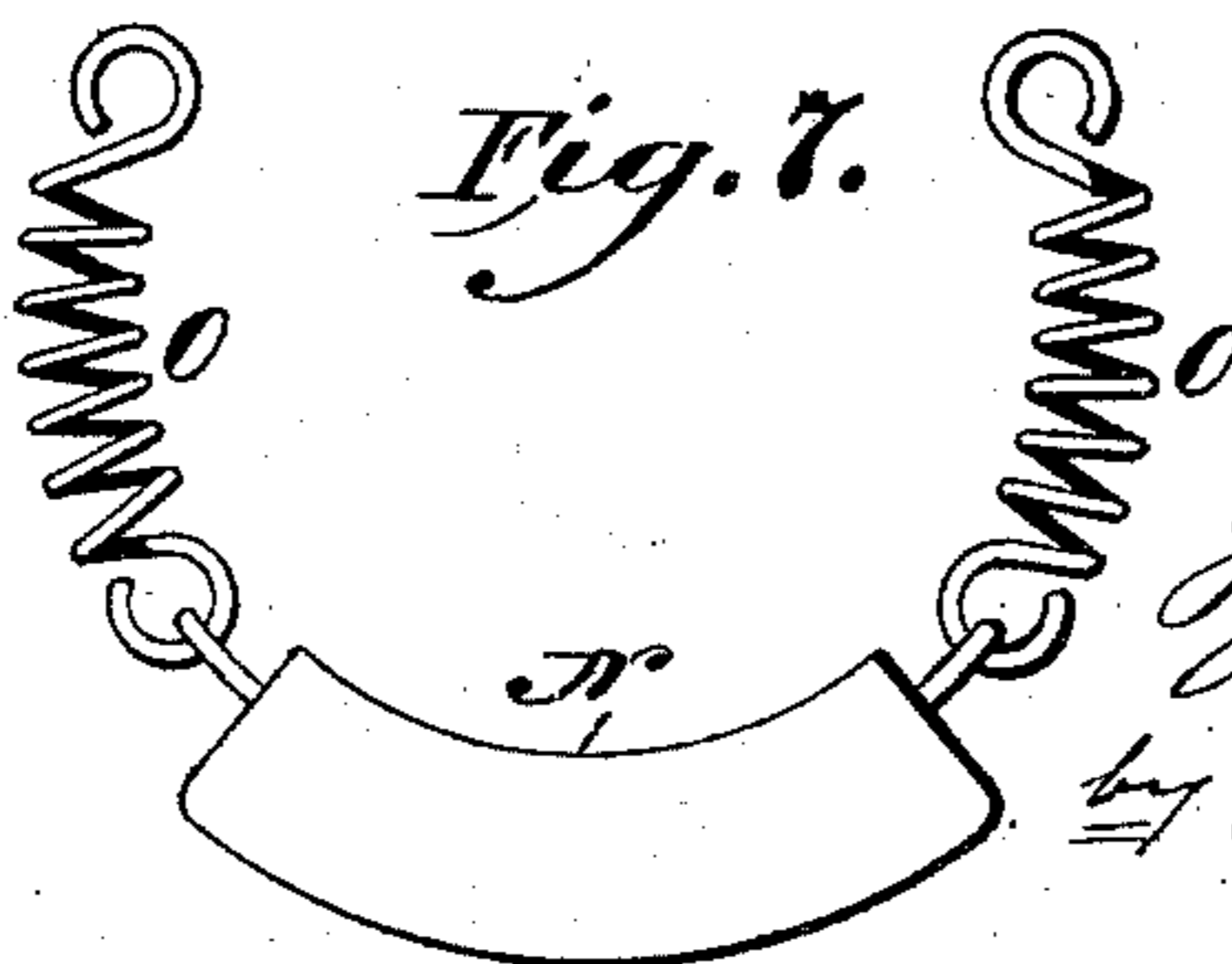
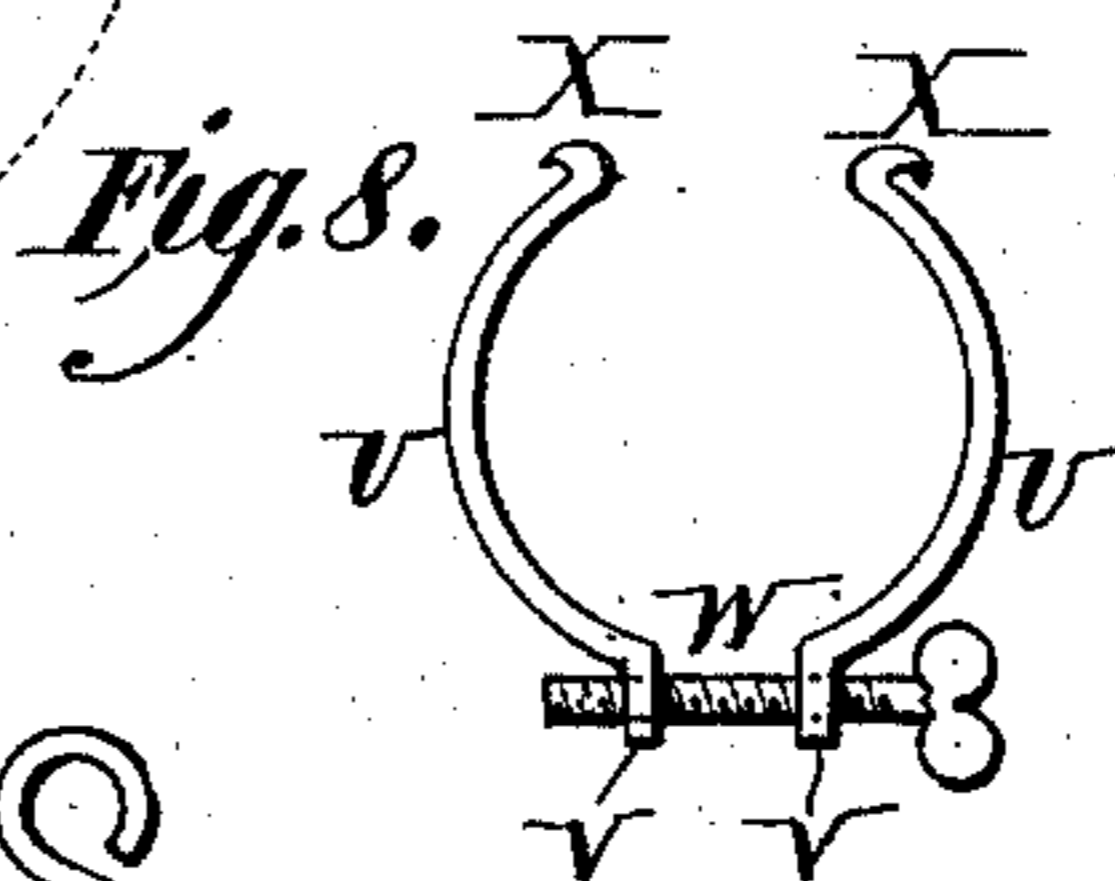
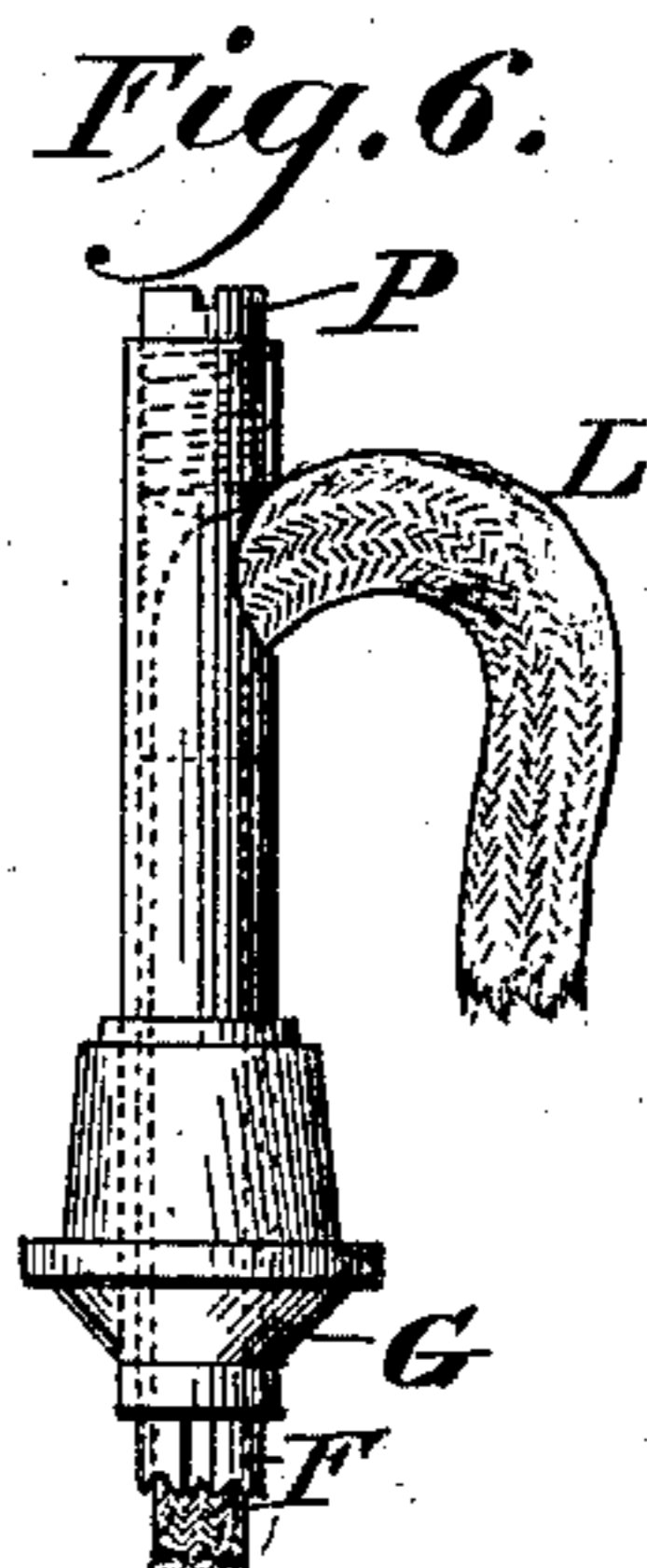
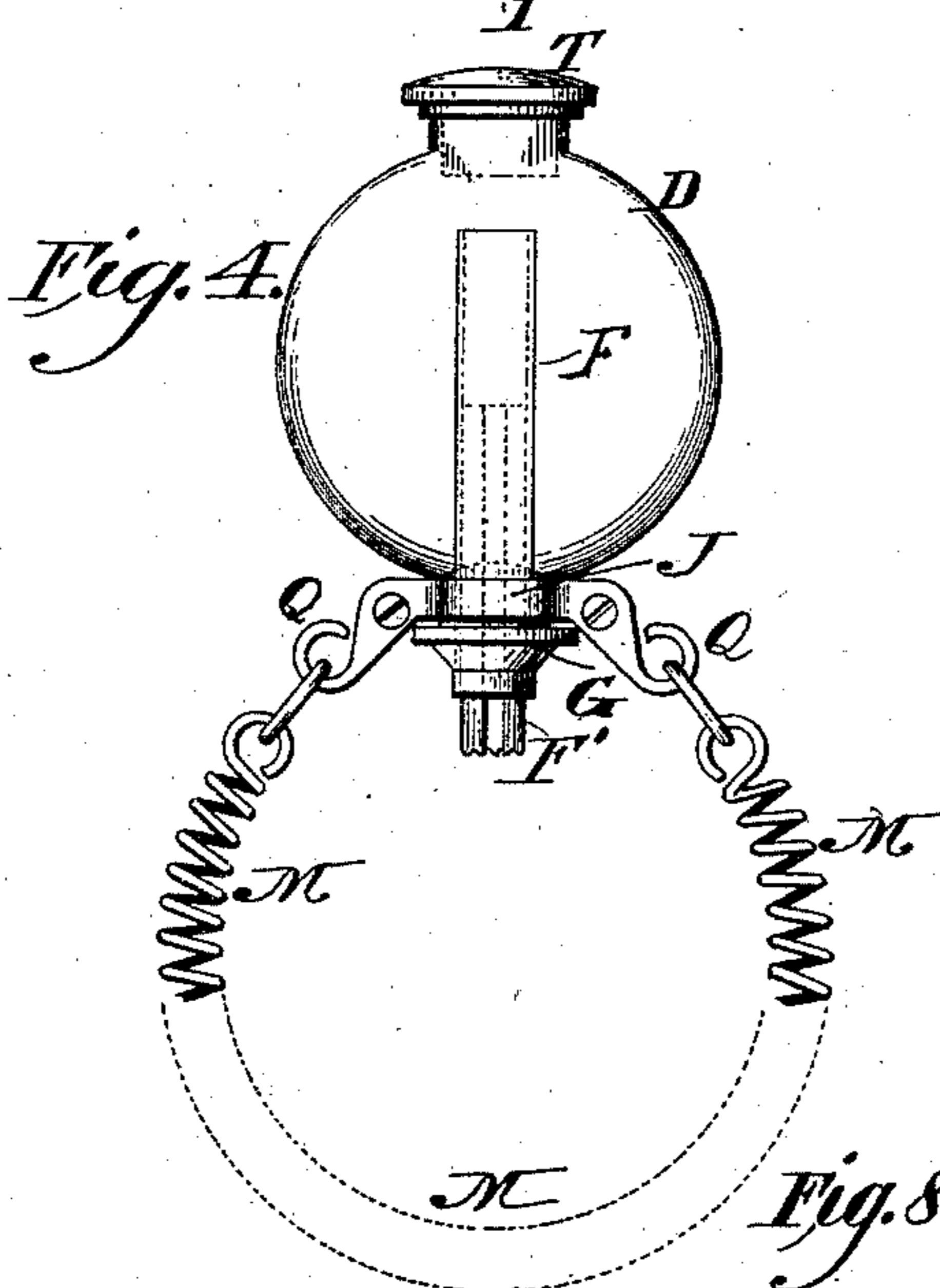
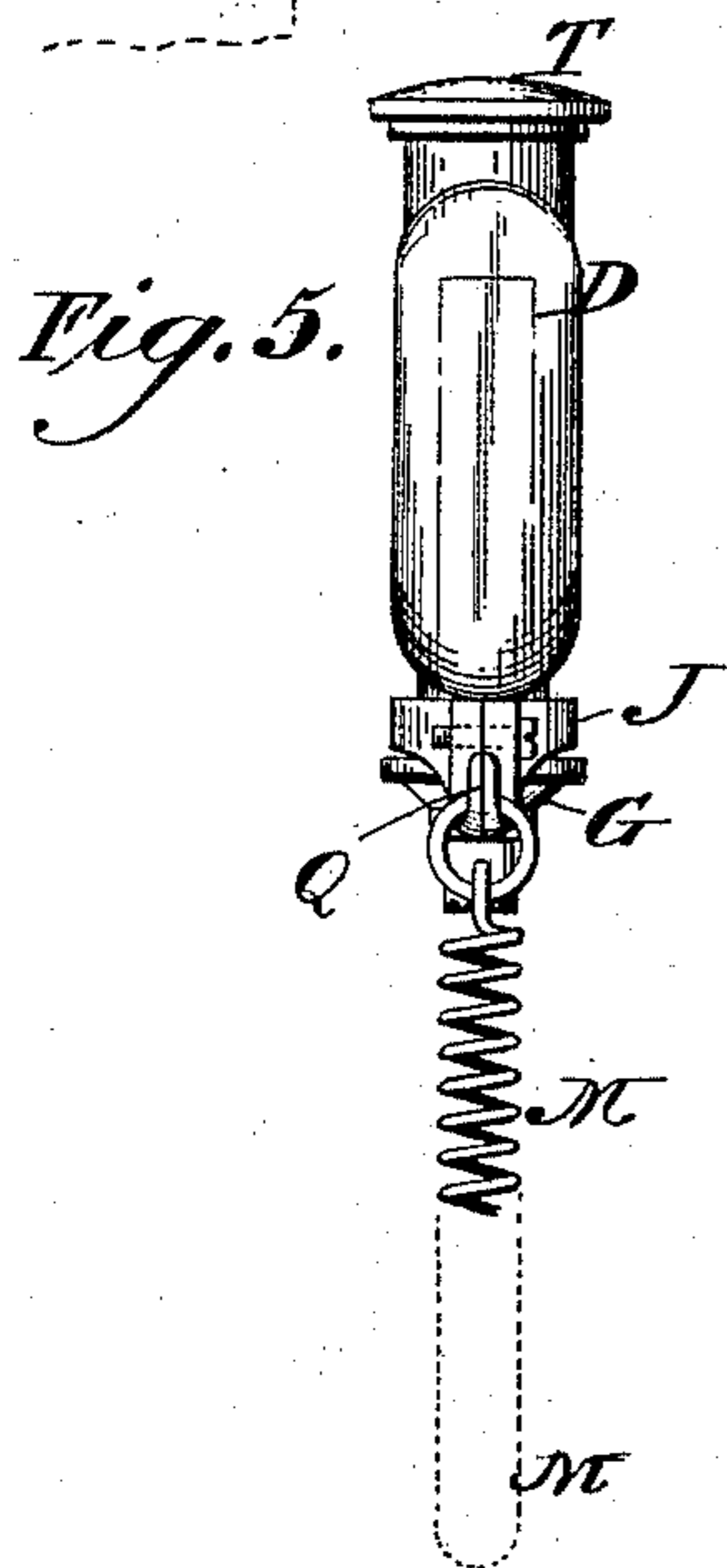
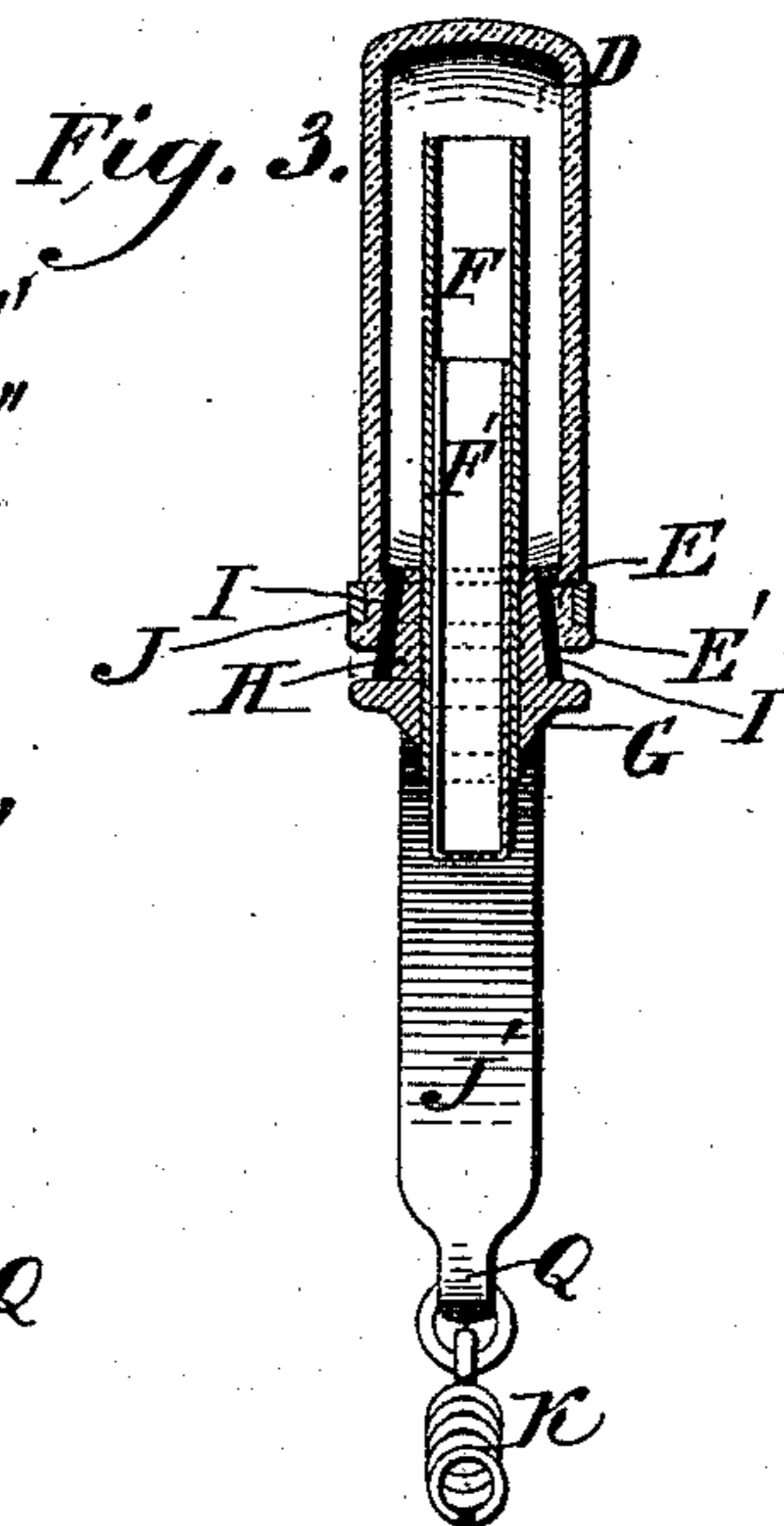
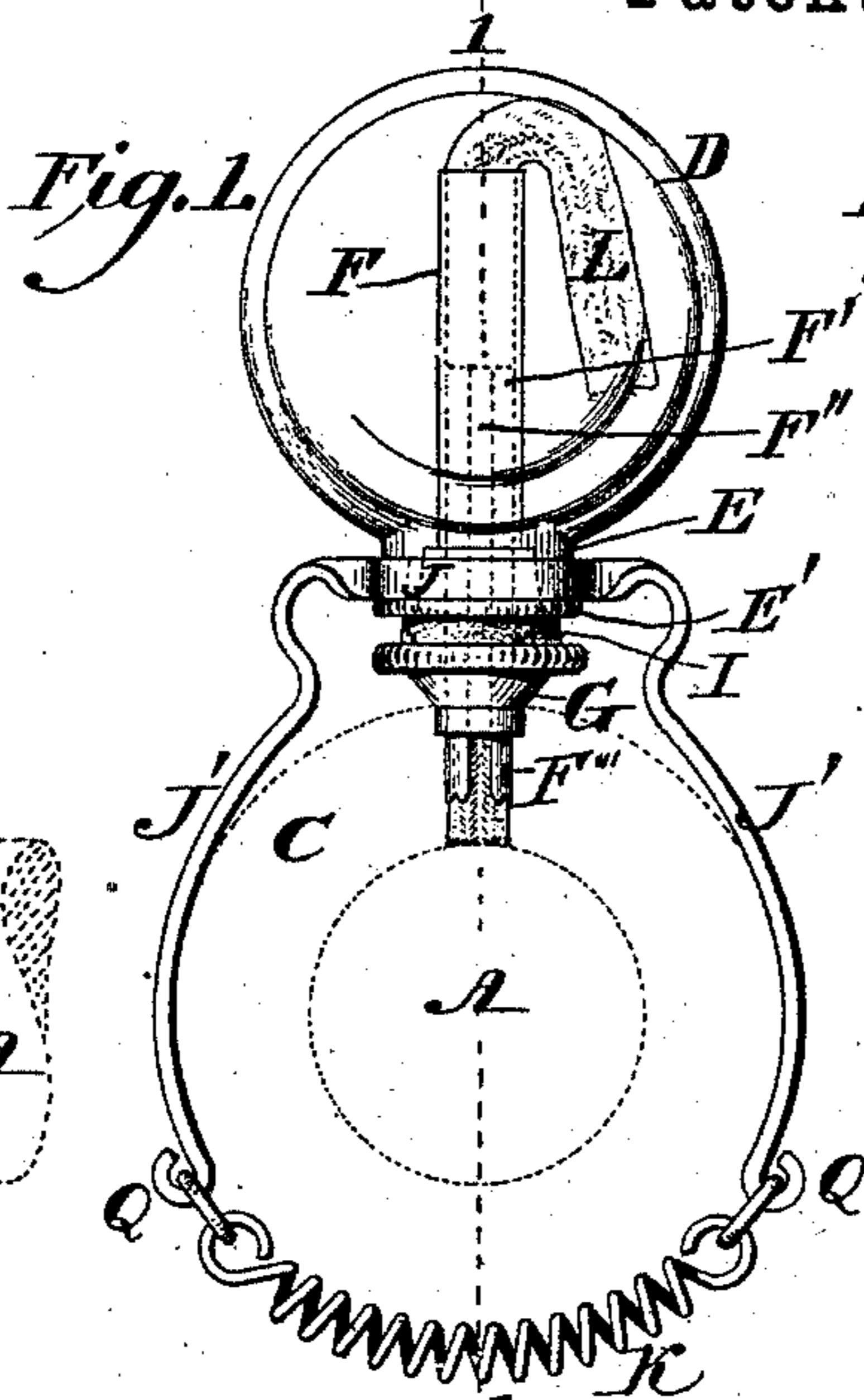
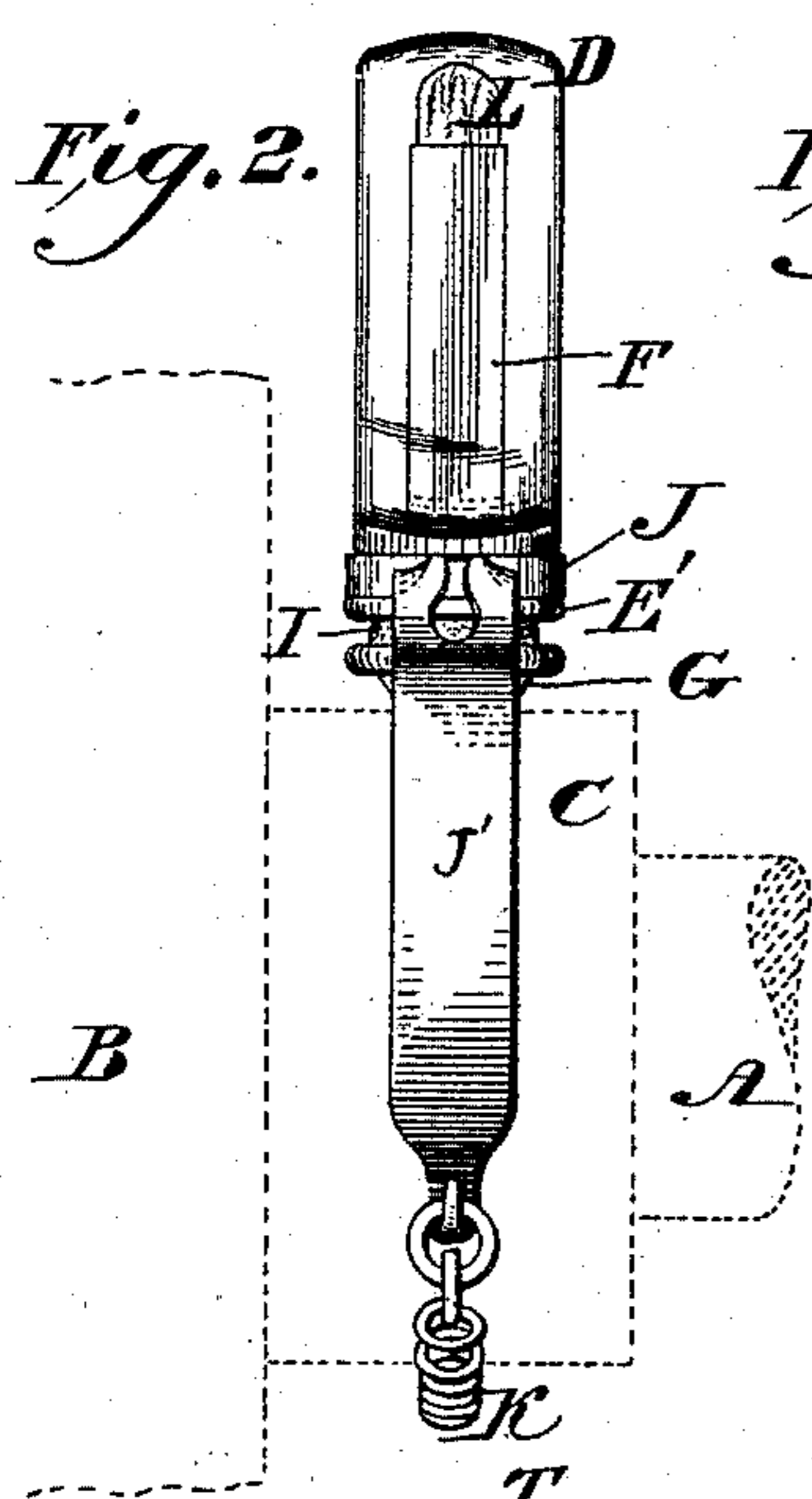


(No Model.)

J. H. RICHARDS & A. W. BURR.  
LOOSE PULLEY OILER.

No. 476,173.

Patented May 31, 1892.



*Witnesses:*  
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*Inventors:*  
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*their attorney*

# UNITED STATES PATENT OFFICE.

JOSIAS H. RICHARDS AND AUGUSTUS W. BURR, OF PHILADELPHIA,  
PENNSYLVANIA.

## LOOSE-PULLEY OILER.

SPECIFICATION forming part of Letters Patent No. 476,173, dated May 31, 1892.

Application filed October 26, 1891. Serial No. 409,762. (No model.)

*To all whom it may concern.*

Be it known that we, JOSIAS H. RICHARDS and AUGUSTUS W. BURR, both citizens of the United States, and residents of Philadelphia, Pennsylvania, have jointly invented a certain new and Improved Oiler for the Hubs of Loose Pulleys and Shafts, of which the following is a description, reference being had to the annexed drawings, making parthereof.

10 The nature of our invention will appear from the following specification and claims.

In the drawings, Figure 1 is a front elevation of our device; Fig. 2, a side elevation of the same, showing part of the loose pulley and its shaft in dotted lines; Fig. 3, a vertical cross-sectional view of the same on the line 1 of Fig. 1; Fig. 4, a front elevation of a modification of our device, showing a continuous spiral spring (partly in dotted lines) to envelop the hub of the pulley; Fig. 5, a side elevation of the same; Fig. 6, a detached elevation of the oil-tube, showing the wick entering the side thereof and a set-screw to compress the same and regulate the flow of

20 oil through the wick; Fig. 7, a detached front elevation of a clamp for the oil-cup, provided with a block to counterbalance the weight of the latter. Fig. 8 shows one modification of the clasp joined beneath by a thumb-screw.

30 A is the shaft on which the loose pulley B is mounted; C, the hub of the latter; D, a glass oil cup or bulb provided with a neck E and flange E'.

F is the oil-tube passing from the interior of the cup and adapted to engage beneath in a countersunk opening of corresponding size in the hub C.

F' is an inner tube, split as shown at F''. (See dotted lines, Fig. 1.) This inner tube carries the wick from main tube F to the point where the wick impinges against the shaft. The split in this inner tube is designed to permit a spring to be given to it, so that by compression it will be adapted to enter the main tube, and thus by its spring will be retained there. The lower edge of the tube F'' is provided with serrations F''', whereby when the cup is removed the wick will draw up tube F'' with it. The wick will pass freely downward, but will catch the tube in being drawn back.

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G is a packing consisting of a block of soft metal, cork, or other suitable material set around the tube F, tapering downward and adapted to engage in the countersunk outer portion of the hole in hub C and to engage in holes of varying diameters. The tube F is surrounded by an annular enlargement H, tapering upward and provided with a cork or other suitable packing I to engage in the neck E and prevent the waste of oil.

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J is a collar setting around the neck E and above flange E'. This collar is provided on two sides with clasp-bands J' J', the lower ends of which latter are joined or linked together by a spiral spring K to draw the bands against the hub.

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L is a wick, of cotton or other suitable material, setting down into the interior of the oil-cup and entering the oil-tube F therein, and thence passing down through the tube, so as to impinge against the shaft A to conduct the oil by capillary attraction from the interior of the cup through the hub to the shaft, thus constantly lubricating the hub as it revolves.

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In Figs. 4 and 5 the clasp-band is shown to be composed of a continuous spiral spring M, while in Fig. 7 a balancing weight or block N is interposed between two short sections O O of spiral springs. This weight is designed to counterbalance the weight of the cup on the opposite side of the hub and prevent the cup from being thrown violently around when the pulley is suddenly started or stopped.

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P in Fig. 6 is a set-screw, which may be constructed like an ordinary thumb-screw. In this construction the wick L enters tube F through an orifice in the side of the latter, and thence passes downward, as described above. The lower end of the set-screw is designed to act against the wick within the tube to compress it or release it to regulate its capacity for carrying the oil, whereby the supply may be governed.

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Whenever it is desired to release the cup for refilling and replenishing the wick, the clasp around the hub may be unhooked from collar J, (to which it is attached by hooks Q Q,) and the cup may be drawn off the block I around the oil-tube. One form of cup is shown in Figs. 4 and 5 provided with an ordinary screw-cap T, by the removal of which

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the oil may be replenished; but we do not claim the form of oil-cup which may be used.

It will be observed that by the use of our device the oil-cup may be attached to hubs 5 of greatly-varying diameters and also that that part of our oil-tube which is within the cup extends to near the upper or outward part of the interior of the latter—that is, to the part farthest removed from the hub, where- 10 by as the oil is thrown outward by the centrifugal force created by the rapid revolution of the pulley the wick will be kept in contact with the fluid and the feed of the oil will be continuous.

15 Tubes F and F' practically constitute one tube or conduit for the wick and oil. It will be observed that our clasp, though in the form of a spring, forms an annular clasp to surround the hub of a pulley.

20 In Fig. 8 a modification of our clasping device is shown consisting of two arms U U, provided with ears V V, through which a thumb-screw W is passed. The ring J can easily be adapted to receive the hooks X X 25 on the device shown in Fig. 8, though we have shown no such adaptation. Hooks Q Q can be bent sidewise to receive hooks X X.

If at any time the cup or bulb D is broken, it can be replaced by any small bottle which

has a flange at the end of its neck, and these 30 are easily procurable.

What we claim as new is—

1. In an oil-cup for loose pulleys and shafts, the combination of oil-cup D, open inner double tube F F', the portion F' being split, 35 as shown at F'', to set firmly and spring against the interior of portion F and projecting outwardly and adapted to enter a corresponding hole in a pulley-hub, said cup being provided with a clasp adapted to surround 40 the hub of a pulley to hold the cup in place, all operating substantially as described.

2. In an oil-cup for loose pulleys and shafts, the combination of oil-cup D, interior open tube F F', projecting through the neck of 45 the same, said cup being provided with a clasp adapted to surround the hub of a pulley to hold the cup in place, and being also provided on the side opposite the cup with a balance-weight N, substantially as and for 50 the purpose described.

In witness that the above is our joint invention we have hereunto set our hands.

JOSIAS H. RICHARDS.

AUGUSTUS W. BURR.

Witnesses:

GEORGE E. BUCKLEY,

H. V. BUCKLEY.