

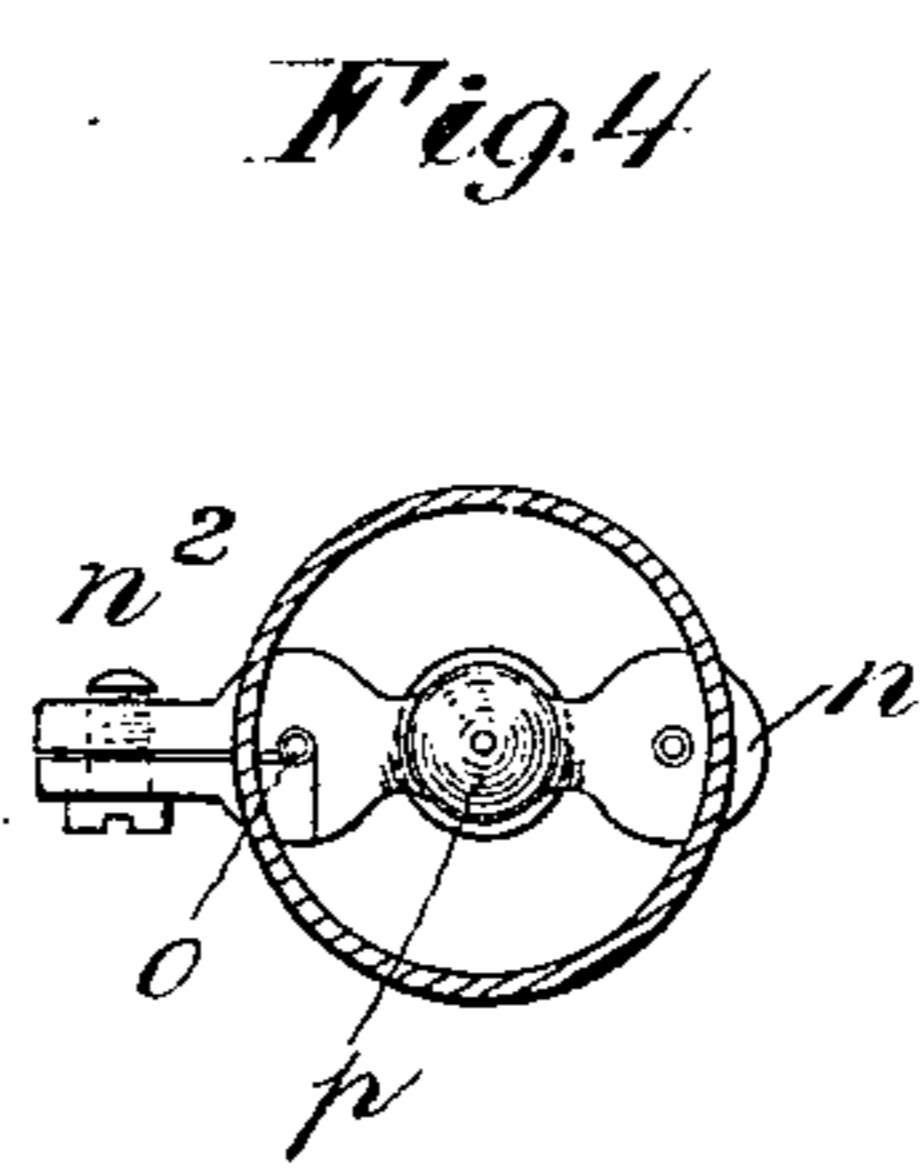
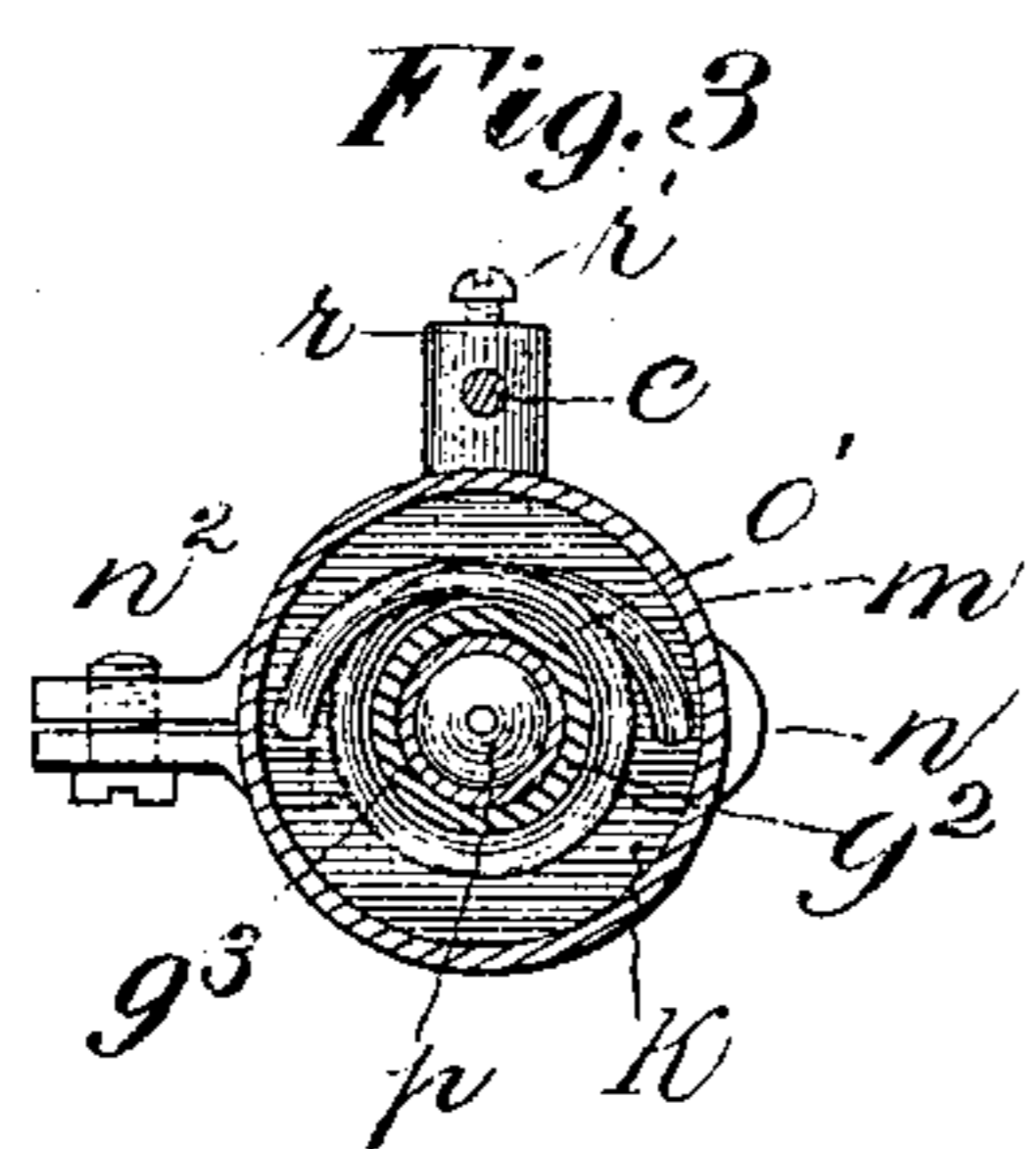
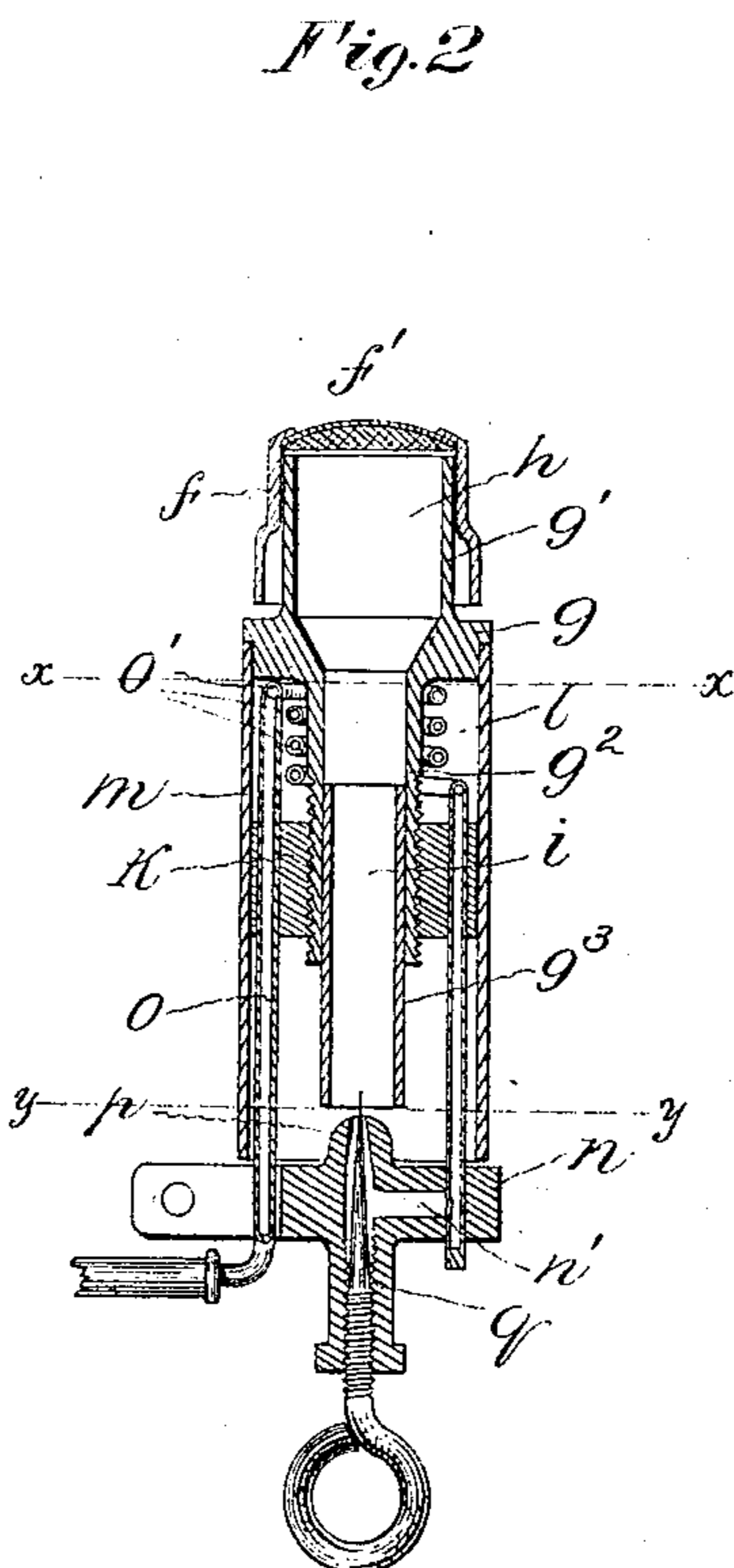
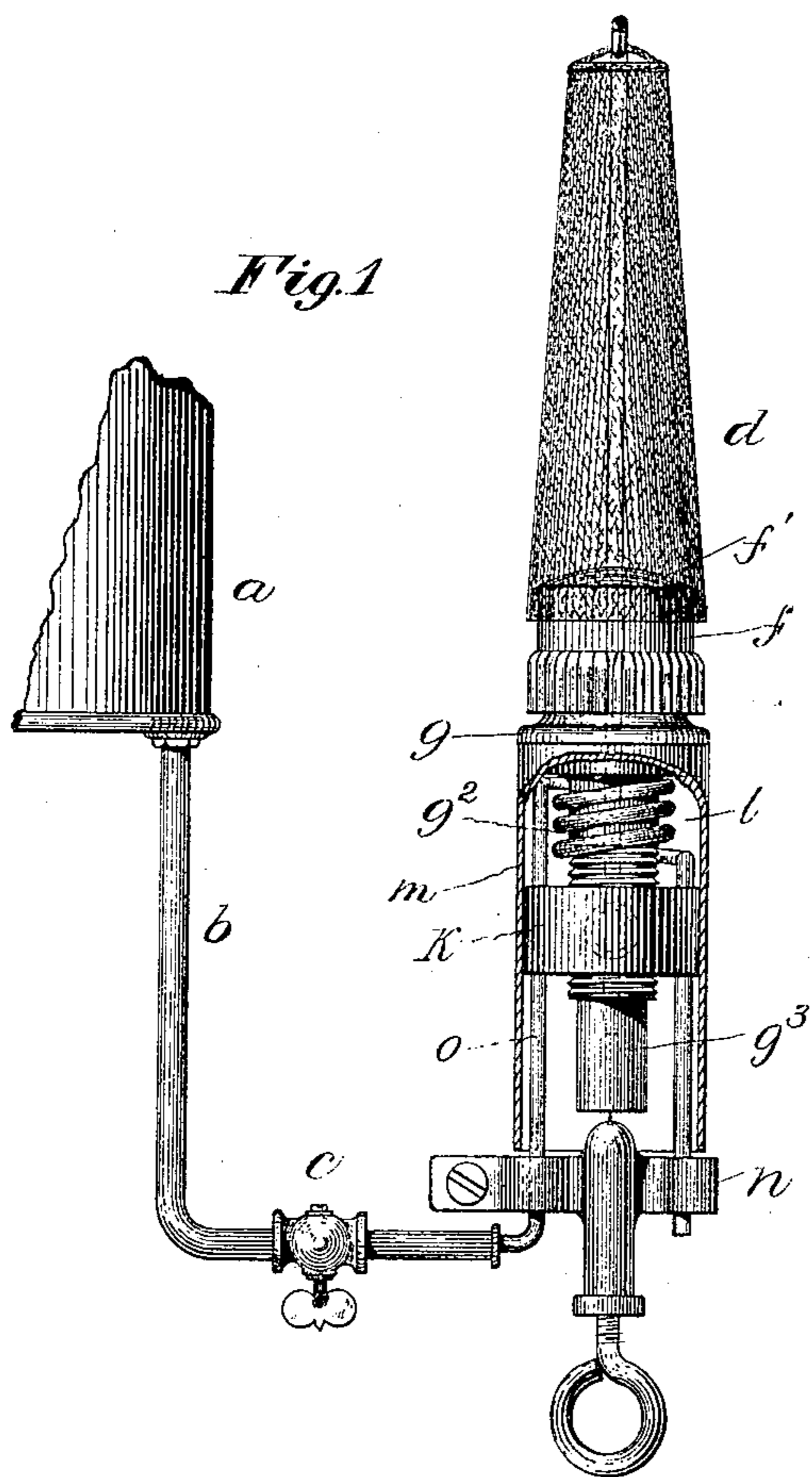
No. 629,432.

Patented July 25, 1899.

F. A. CORTIS.
INCANDESCENT VAPOR BURNER.

(Application filed Feb. 1, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

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INCANDESCENT VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 629,432, dated July 25, 1899.

Application filed February 1, 1899. Serial No. 704,128. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. CORTIS, a citizen of the United States, and a resident of Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Lamp-Burners, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

My invention relates to the class of devices used for producing an incandescent light from hydrocarbon oil; and the object of my invention is to provide a device of this class extremely simple and cheap of construction and effective in operation.

To this end my invention consists in the device as a whole, in the combination of parts, and in the details and their combination, as hereinafter described, and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a view in side elevation of a device embodying my invention with parts cut away to show construction. Fig. 2 is a detail view, in central vertical section, through the burner. Fig. 3 is a detail view in cross-section through the same on a plane above the generating-coil. Fig. 4 is a view in cross-section of the same on a plane located immediately below the edge of the jacket.

In the accompanying drawings the letter *a* denotes a reservoir or like source of supply for a hydrocarbon fluid, and *b* a supply-pipe leading therefrom and having a valve *c*, by means of which the flow of fluid may be controlled.

The letter *d* denotes a mantle common to the class of devices for producing an incandescent light and supported on a rod *e*, the lower end of the mantle embracing a collar *f*, mounted on the burner-tube, all of these parts being of ordinary construction and forming no part of the present invention.

The letter *g* denotes the body part of the burner, having an upward extension forming a burner-tip *g'*, within which is a chamber *h*, and a shank *g''*, forming a mixing-chamber *i*. The collar *f* is supported on the extension *g'*, and a netting *f'* overlies the mouth of the burner, as is common in devices of this class.

In the form of the device shown a tube *g''* is secured within the shank *g''* of the body part, forming an extension of the mixing-chamber; but it is obvious that the shank *g''* may be formed of one piece of the required length. A nut *k* is located on the screw-threaded shank *g''* at some distance below the body part *g*, the space between this nut and the body part forming a heating-chamber *l*, that is inclosed by the walls of a jacket *m*. This jacket extends from the body part *g* downward to a point adjacent to a bridge *n*, a space, however, being left between the bridge and the jacket for the entrance of air to support combustion.

A vaporizing-tube *o* extends from the supply-pipe *b* upward through the bridge and through the nut *k* into the heating-chamber *l*. This vaporizing-pipe is preferably coiled about the shank *g''* of the body part, forming a vaporizing-chamber *o'*. The pipe then extends downward through the nut *k* on the opposite side from that through which it passed upward and into the bridge *n*. An opening in the side of the pipe communicates with a passage *n'* in the bridge, which leads to the nozzle *p*, opening into the mixing-chamber, the opening through this nozzle being controlled by the ordinary needle-valve *q*. The bridge *n* is cut lengthwise into the opening through which the vaporizing-tube *o* is located, a clamp-screw *n''* being used to draw the parts of the bridge together and clamp the tube in position.

A support *r* for the rod *e* is secured to the body part *g*, preferably by being screwed into the same, and this support may be used as a means of holding the jacket *m* in position, a clamp-screw *r'* serving as a means for adjusting the rod *e* vertically.

By my improved device an extremely-simple means of constructing a vaporizing-chamber is provided, the area of the heating-chamber being easily varied to graduate the heat therein by simply rotating the body part *g* of the burner.

I claim as my invention—

1. In combination with a fluid-supply for an incandescent burner, a burner-tip, a mixing-chamber appurtenant to the burner-tip, a nozzle opening to the mixing-chamber, a

single length of pipe extending into an inclosed heating-chamber formed about the walls of the mixing-chamber and thence to a passage leading to the nozzle, and a jacket
5 inclosing the heating-chamber.

2. In combination with a fluid-supply for an incandescent burner, a burner-tip, a burner-tube having a mixing-chamber, a nozzle opening to the mixing-chamber, a jacket,
10 a nut located within the jacket and forming an inclosed heating-chamber, said nut and jacket being adjustable one with respect to the other whereby the area of the heating-chamber is varied, and a single length of
15 pipe extending into the heating-chamber.

3. In an incandescent burner, in combination, a body part, a burner-tip supported thereon, a mixing-chamber located in the body part, a jacket inclosing the body part, a nut
20 located within the jacket said jacket and nut being adjustable with reference to each other whereby the area of the heating-chamber is varied, a supply-passage extending into the heating-chamber, and means for supplying
25 fluid to the mixing-chamber.

4. In an incandescent burner, in combination, a body part terminating in a tip, a shank forming a mixing-tube, a nut fitting the screw-threaded surface of the shank and forming a
30 heating-chamber, a supply-passage located within said chamber, and means for supplying fluid to the mixing-chamber.

5. In an incandescent burner, in combination, a body part having a burner-tip and a
35 shank forming a mixing-chamber, a nut secured to the shank by means of interengaging screw-threads and forming a heating-chamber, a supply-pipe extending into the heating-chamber, a jacket extending between

the nut and the body part inclosing the heating-chamber, and means for supplying fluid to the mixing-tube. 40

6. In an incandescent burner, in combination, a body part, having a tip and a shank forming a mixing-chamber, a nut secured to
45 the screw-threaded shank and forming a heating-chamber, a jacket inclosing the heating-chamber, means for holding the nut against relative rotation with the shank, a supply-pipe extending into the heating-chamber, and
50 means for supplying fluid to the mixing-chamber.

7. In an incandescent burner, in combination, a body part having a burner-tip and a shank forming a mixing-tube, a jacket surrounding the body part and extending therefrom, a nut secured to the screw-threaded
55 shank and located within the jacket, a supply-pipe extending through the nut into the heating-chamber formed between the body part and the nut, and means for supplying
60 fluid to the mixing-chamber.

8. In an incandescent burner, in combination, a body part having a tip and a shank forming a mixing-chamber, a nut located on
65 the shank and forming a heating-chamber and adjustable lengthwise of the shank, a jacket surrounding the body part and nut and forming walls for the heating-chamber, a single length of pipe extending from a source of
70 supply into the heating-chamber about the same and to a passage leading to a nozzle, and the nozzle located appurtenant to the mixing-chamber.

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