

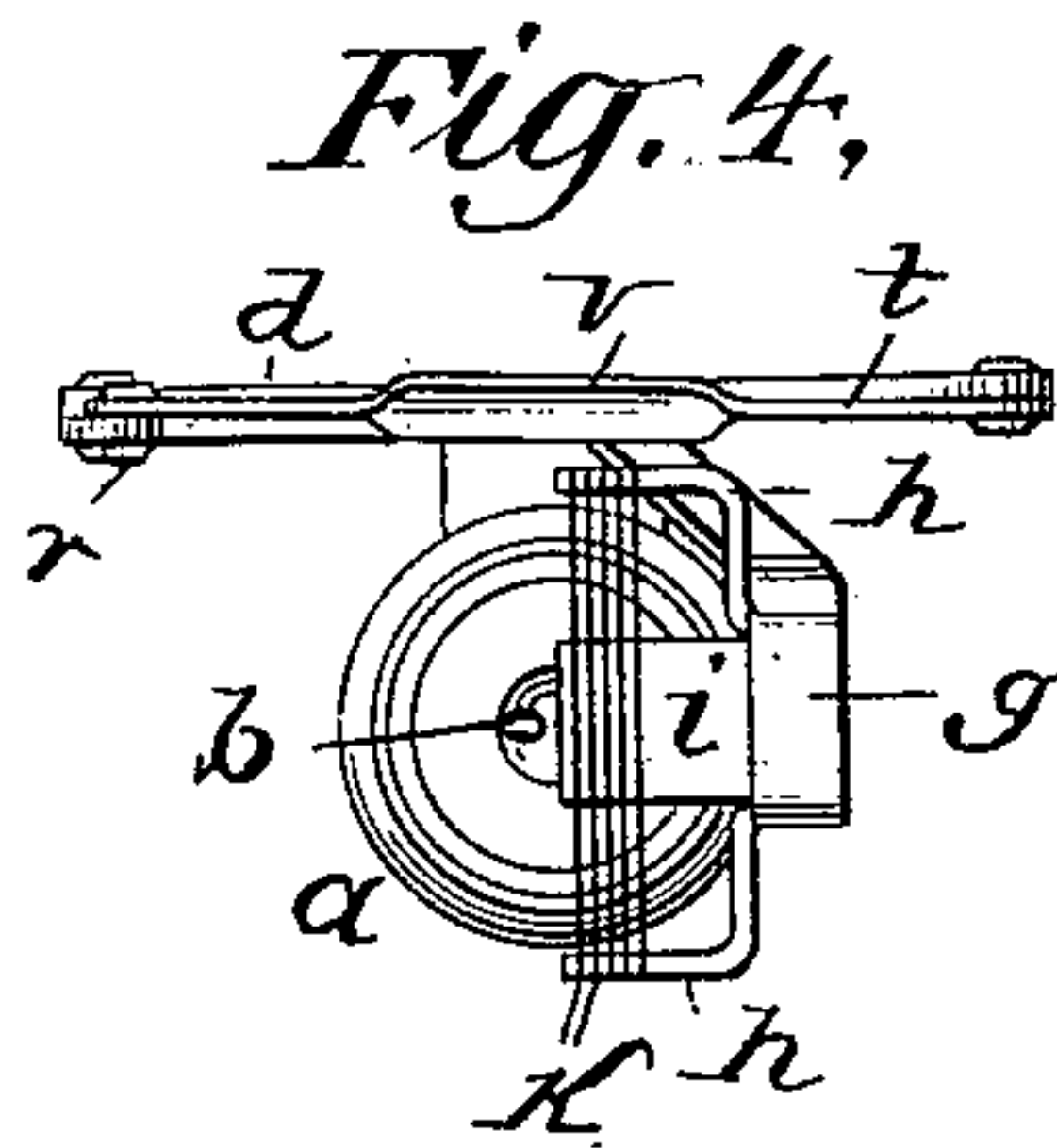
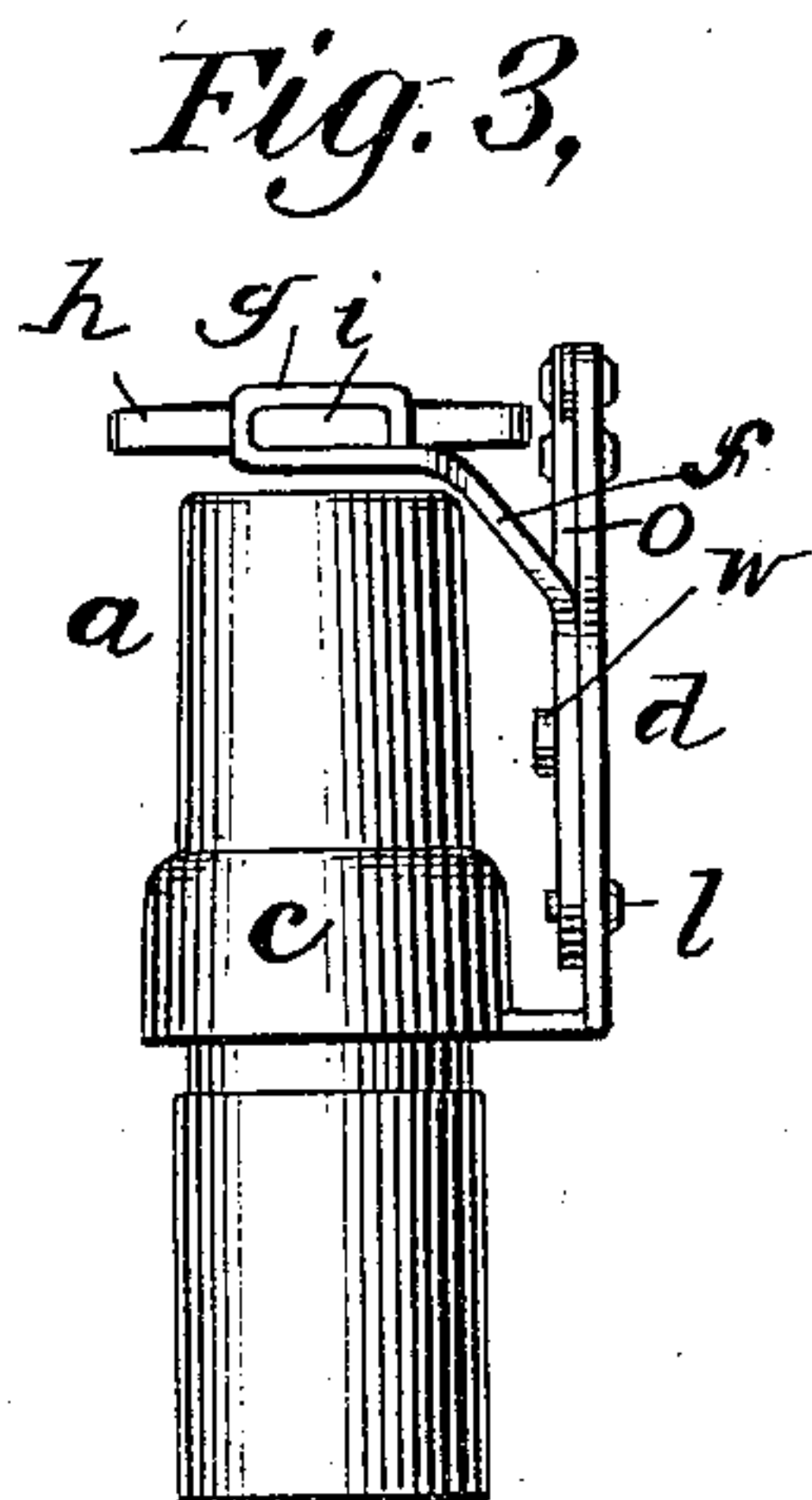
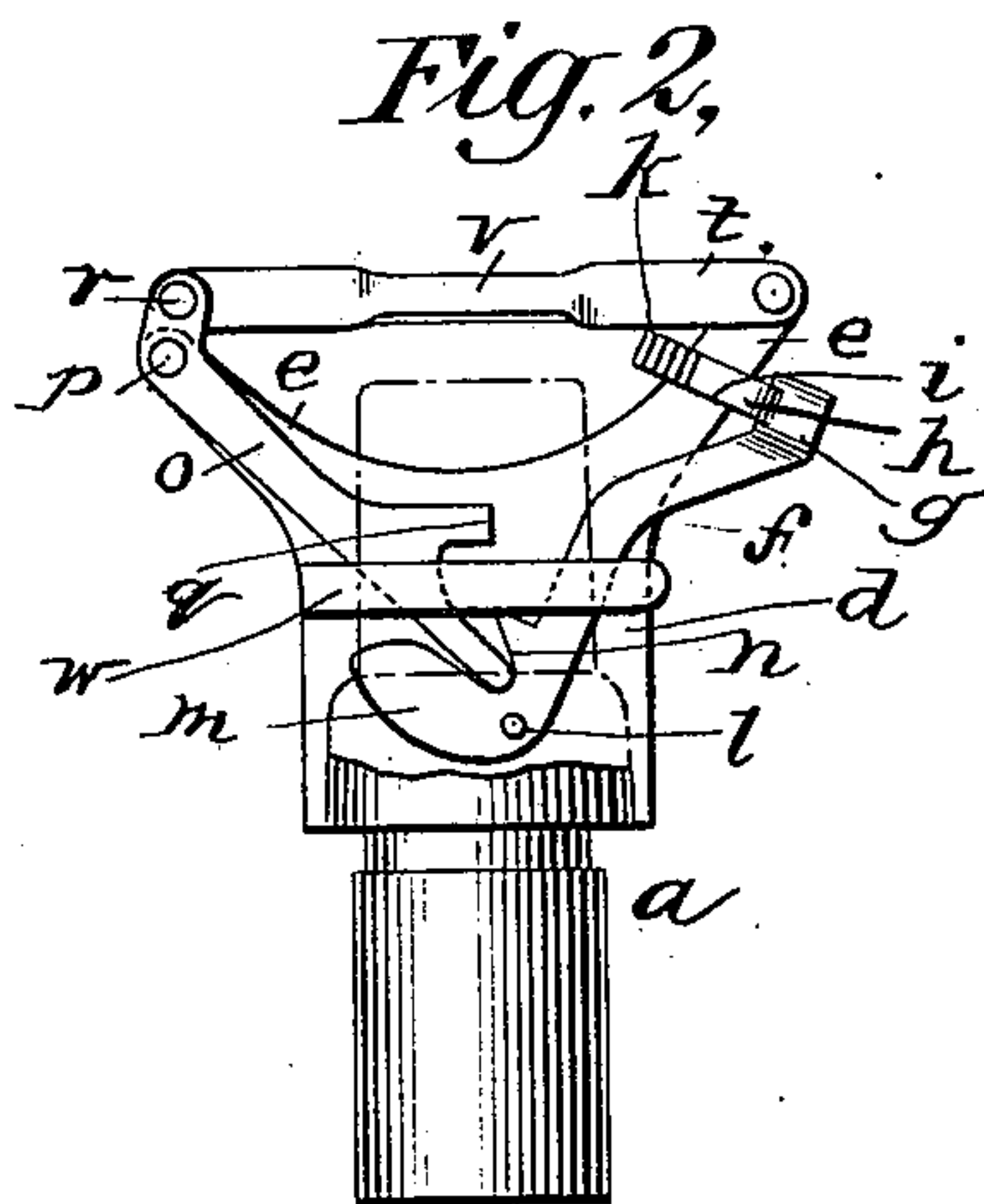
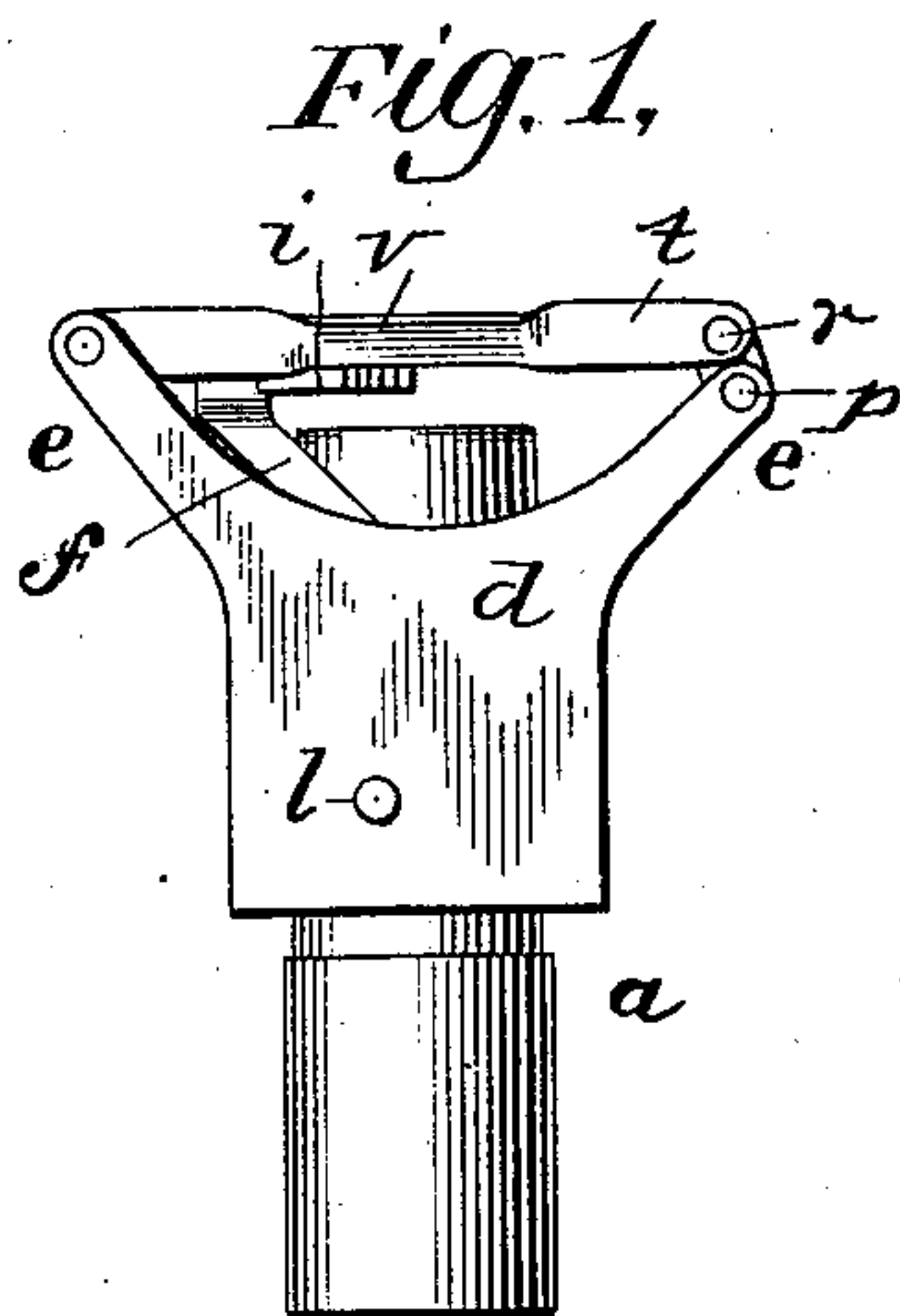
No. 631,267.

Patented Aug. 15, 1899.

C. L. BURGER.
IGNITING DEVICE FOR GAS BURNERS.

(Application filed May 16, 1899.)

(No Model.)



WITNESSES:

D. H. Hayworth

David Grode

INVENTOR

Clarence D. Burger

UNITED STATES PATENT OFFICE.

CLARENCE L. BURGER, OF NEW YORK, N. Y.

IGNITING DEVICE FOR GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 631,267, dated August 15, 1899.

Application filed May 16, 1899. Serial No. 716,981. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE L. BURGER, a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Improvement in Igniting Devices for Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates particularly to the kind of igniting devices for gas-burners illustrated in United States Letters Patent to Alfred J. Sterne, dated August 23, 1898, No. 609,749, in which the platinum igniter is movable to and from the gas-jet, so that after ignition of the jet the igniter will not be exposed to the injurious effects of the flame. The igniter may be normally held away from the jet by gravity or by a spring and moved into igniting position by hand, as illustrated, for the sake of example, in said Letters Patent No. 609,749, or the igniter may be caused to move automatically to and from the flame by the simple heating and expansive action of the flame on a thermostat in operative connection with the movable igniter, as illustrated in an application for patent filed by Alfred J. Sterne aforesaid, March 6, 1899, Serial No. 707,853.

The object of my invention is to simplify and improve the latter automatic form of igniting device; and I attain this end by the means hereinafter described, and illustrated in the accompanying drawings, in which the same parts are designated by like letters in all the figures.

Figure 1 is an enlarged side view of an igniting device for gas-burners embodying my improvements, the igniter being in igniting position. Fig. 2 is a reverse side view of the same, the igniter being shown removed from the path of the jet and the upper part of the burner being broken out to better disclose the construction. Fig. 3 is a side view taken at right angles to that of Fig. 1. Fig. 4 is a plan view.

In the drawings, *a* designates the burner-pillar, and *b* the jet orifice or orifices, the form of burner here illustrated being a standard Bray "Union-jet" burner, although my invention is likewise applicable to a "bat-wing,"

Bunsen, incandescent mantle, or any other suitable form of burner.

d designates a bracket fixed to the burner-pillar, as by means of a collar *c*, and having a guide *w* for the levers *o f* and arms *e e*, extending upwardly on opposite sides of the jet.

f designates a lever or support pivoted to the bracket *d* between it and the burner and carrying at its upper end a platinum igniter *g h i k*, substantially like that described and shown in the aforesaid Letters Patent No. 609,749 and application Serial No. 707,853. It is self-evident that the fine platinum wires *k* may be in the form of a single wound wire or platinum gauze and may be placed in contact with either the upper and lower or front surface of the platinized body *i*, or both, as may be desired and according to the type of burner-tip used. The simple style of wiring here shown has been found preferable for the Union-jet burner here illustrated. The igniter-lever *f* is by preference formed with a partial counterbalance *m* to make its motion more steady.

To the bracket-arm *e* opposite that behind which the igniter moves is pivoted, by a pin *p*, an intermediate lever *o*, having a stop *q* for the lever *f*, the lower end of which lever *o* I engage with the igniter-lever *f* near the pivot *l* of the latter by forming a tapering recess *n* in the igniter-lever to receive the end of the lever *o*, the opposite sides of the end of the lever *o* acting as shoulders against the opposite sides, as bearings of the recess *n* when the lever *o* is moved to swing the igniter-lever and igniter positively both to and from the jet. The upper arm of the lever *o* is connected, close to the pivot *p*, by a pin or rivet *r*, to one end of a thermostatic bar *t*, which crosses the edge of the gas-jet and is immovably connected, as by a rivet or pin, at its opposite end to the opposite arm *e* of the bracket *d*, so that the igniter being normally in igniting position over the jet-orifice, as indicated in Fig. 1, the gas will be automatically ignited as soon as turned on. The flame will then quickly heat and expand the thermostatic bar *t*, which is made thin for that purpose, and swing the intermediate lever *o* so as to throw the igniter-lever and igniter to the position (indicated in Fig. 2) away from

the flame. Reversely, when the gas is extinguished the resulting contraction of the thermostatic bar *t* will return the igniter to igniting position.

5 Where the thermostatic bar *t* crosses the edge of the flame, I twist the bar (if necessary) as shown at *v* to make its transverse section lie approximately edgewise toward the jet-orifice, so as not materially to obstruct the flow
10 of gas, and thus not to distort the flame, while at the same time exposing both sides of the bar to the direct action of the flame, and thus causing it to expand quickly.

The engagement illustrated between the igniter-lever *f* and the thermostat-actuated lever or part *o* in both directions insures the positive outward throw of the igniter when the flame is ignited whether the igniter-lever moves stiffly or not and in whatever position
20 the burner is mounted, either vertical or horizontal or inclined, a result which cannot be accomplished by the action of gravity alone and which is an exceedingly important feature of my invention, for if the igniter does
25 not move out of the flame its efficiency is soon destroyed, as is well known. Further, by mounting the igniter-lever *f* and the intermediate lever *o* at or by opposite ends of the thermostatic bar *t*, as shown, said levers do
30 not interfere with or unnecessarily limit the motion of each other, and at the same time both swing between the bracket *d* and the burner and are thus covered and protected by the bracket *d* and the thermostatic bar
35 *t*, which latter can therefore be made of the full length necessary to accomplish the requisite movement of the igniter.

By this important improvement I effect in practice a movement of the igniter nearly
40 half an inch from the jet, the importance of which in preserving the igniter from the heat of the flame is well understood, and I accomplish this without carrying the bracket or any parts below the usual groove of the Bray
45 Union-jet burner shown, thus leaving ample room for applying the pliers thereto in screwing the burner on or off the fixture.

I claim as my invention—

1. In a gas-lighter to be attached to a burner, a thermostatic bar a transverse section of
50 which is located in the path of the gas-jet and lies approximately edgewise toward the jet-orifice so as not to materially obstruct the flow of gas, in combination with an igniter and means whereby the thermostatic bar moves
55 the igniter to and from the jet.

2. In a gas-lighter to be attached to a burner, the combination with an igniter, a movable support carrying the igniter and having bearings respectively for positively projecting the
60 igniter into and positively retracting it from the jet, a thermostat and a part actuated by the thermostat having shoulders respectively to engage said igniter-projecting and igniter-retracting bearings.
65

3. In a gas-lighter to be attached to a burner, the combination with an igniter, a pivoted lever carrying the igniter, an intermediate lever, which positively projects into the jet and positively retracts from the jet the igniter-
70 lever, and a thermostat in operative connection with the intermediate lever.

4. In a gas-lighter to be attached to a burner, the combination with an igniter, a pivoted lever carrying the igniter and formed with a
75 recess in its edge, an intermediate lever having an end entering and engaging said recess, and a thermostat in operative connection with said intermediate lever.

5. In a gas-lighter to be attached to a burner, the combination with a thermostatic bar crossing the jet, an intermediate lever pivotally connected to one end of said thermostatic bar, an igniter, and a pivoted lever carrying the
80 igniter by the opposite fixed end of the thermostatic bar, said intermediate lever acting on said igniter-lever.
85

In testimony whereof I have hereunto set my hand the 15th day of May, 1899.

CLARENCE L. BURGER.

In presence of—

DAVID G. RODE,
EMILIE BERENDSOHN.