

No. 884,012.

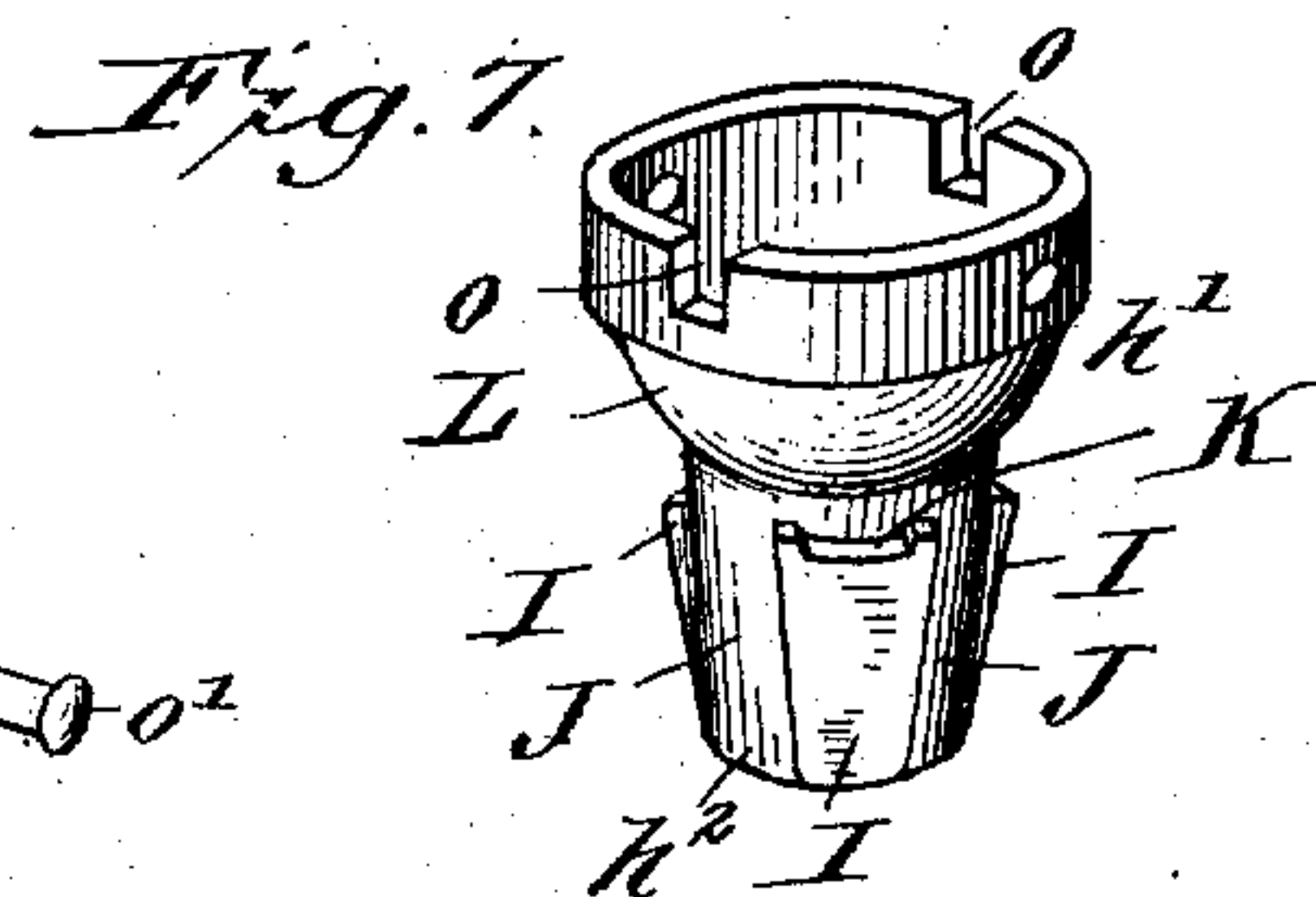
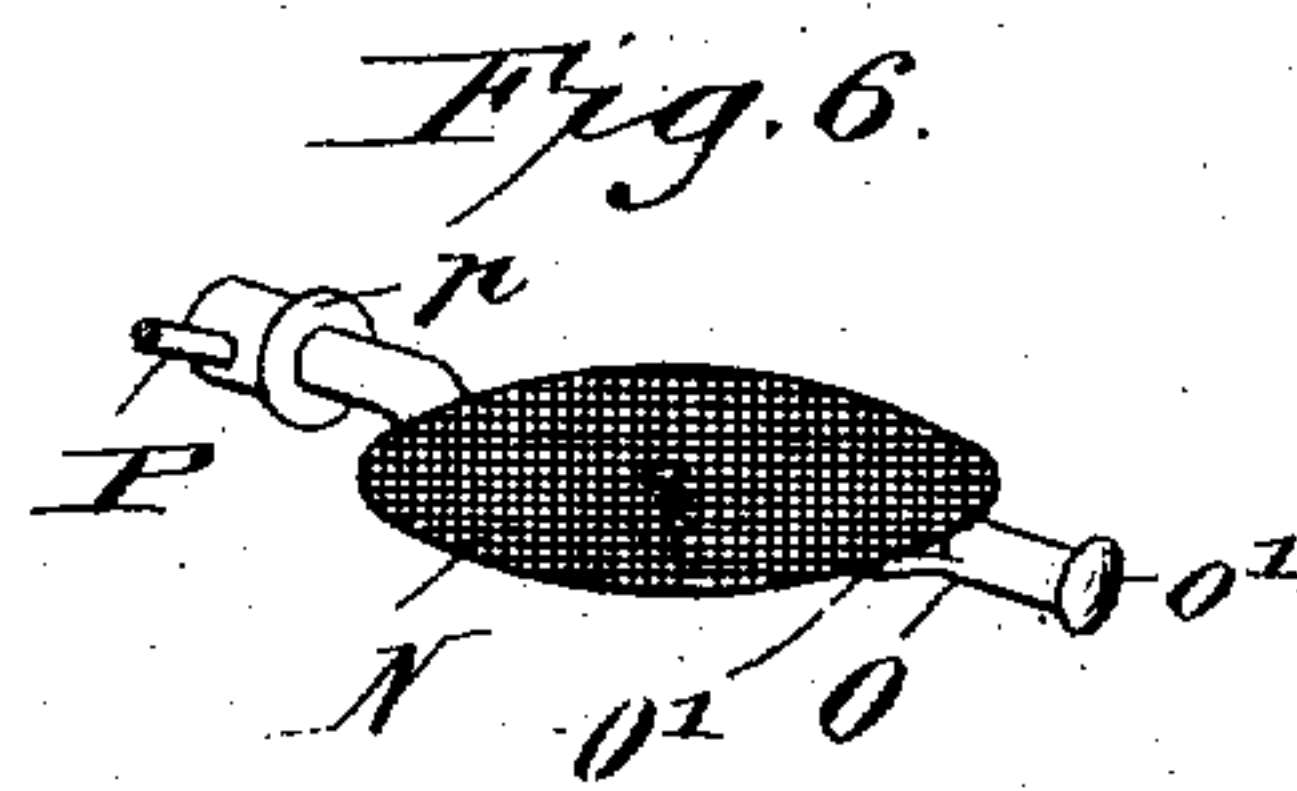
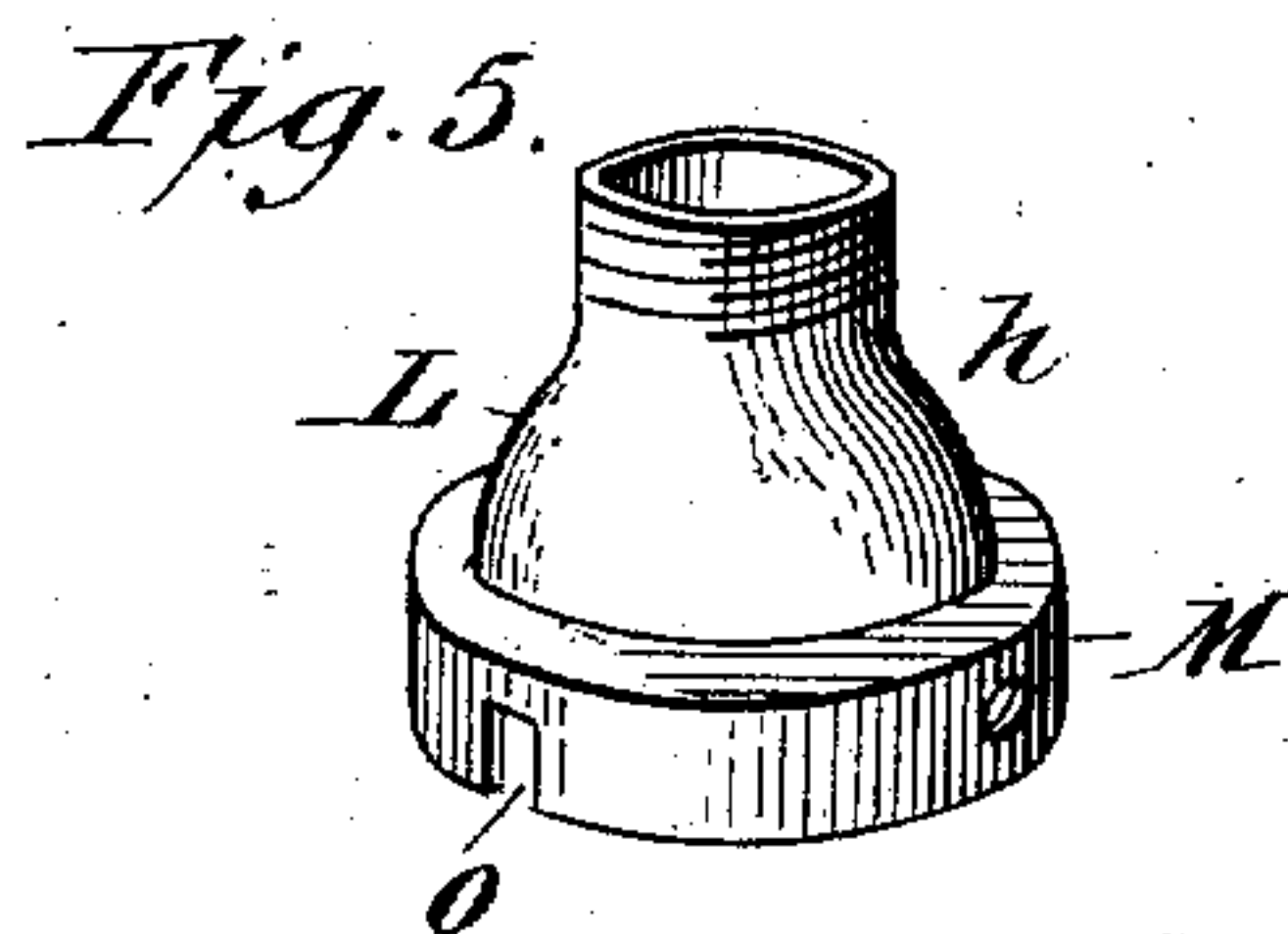
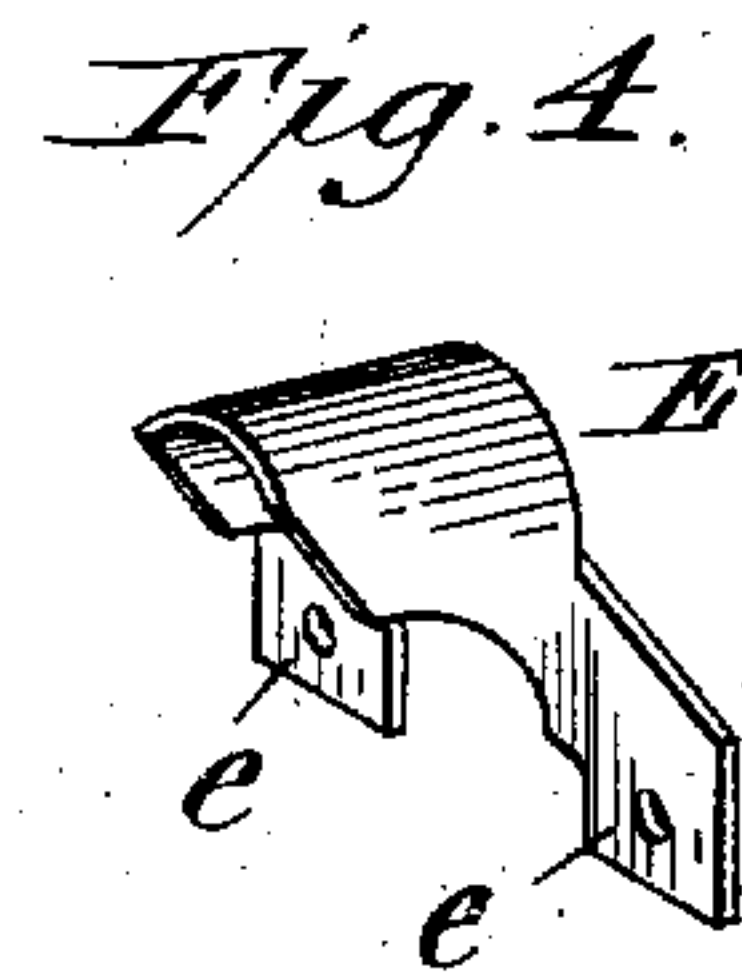
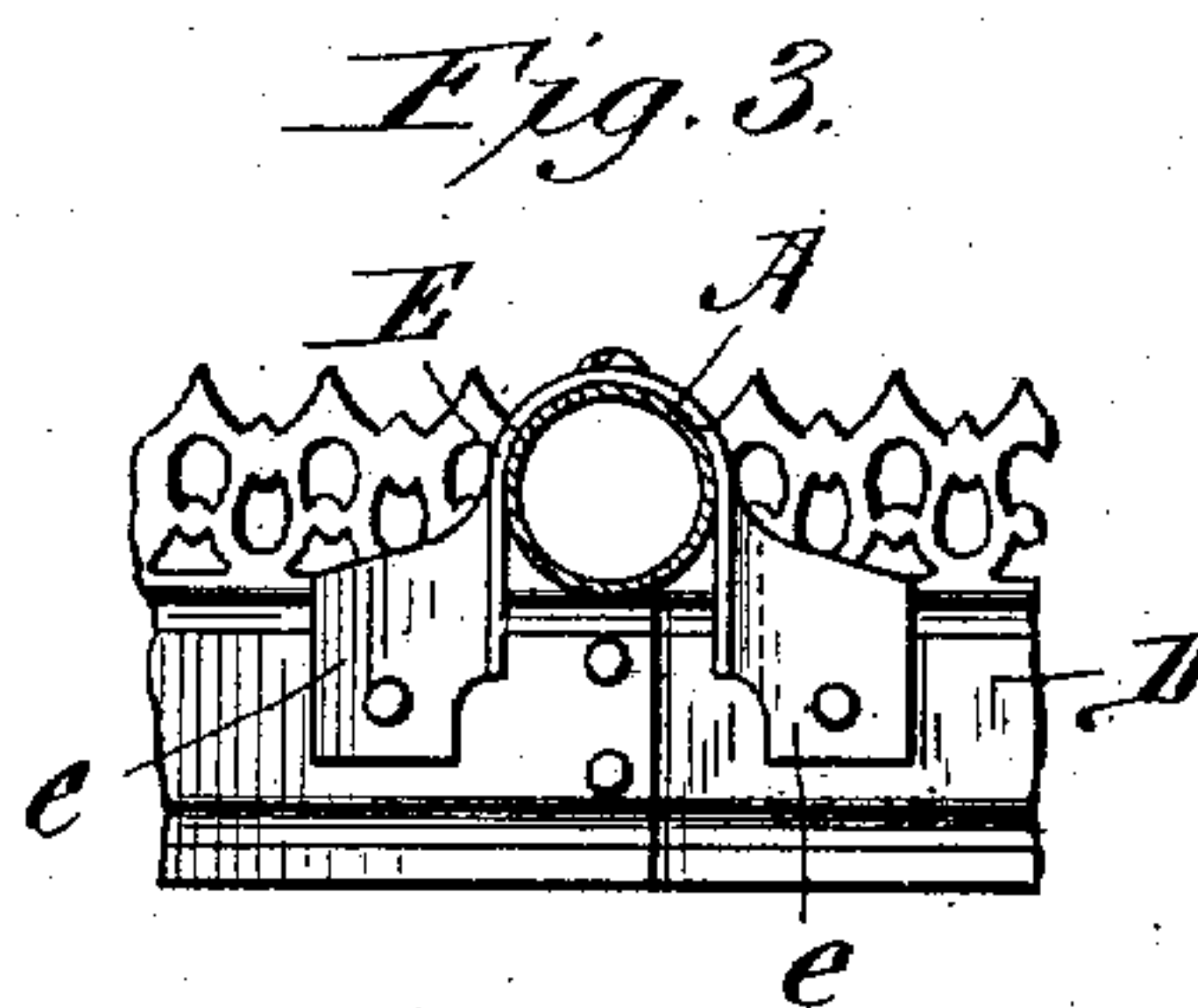
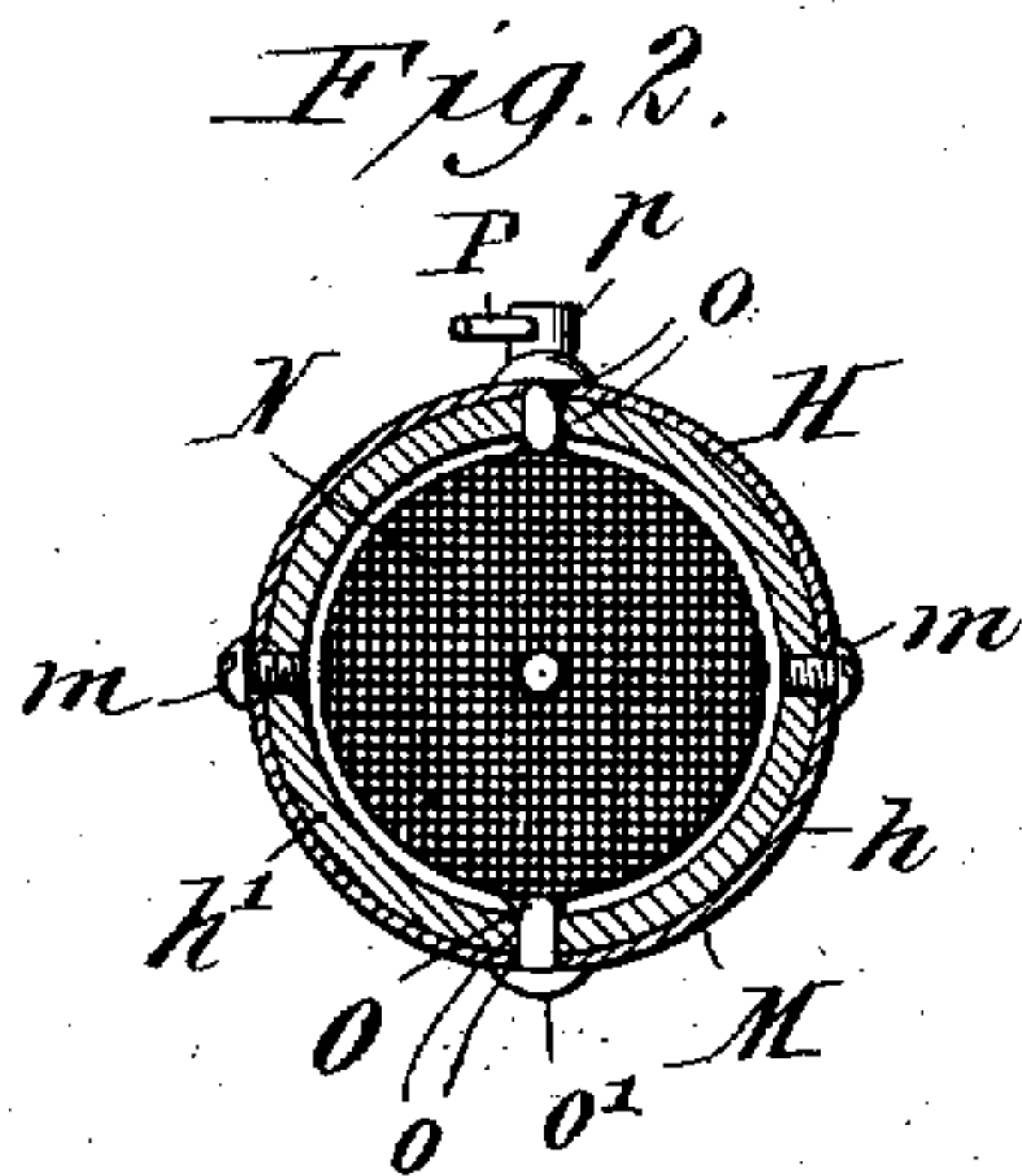
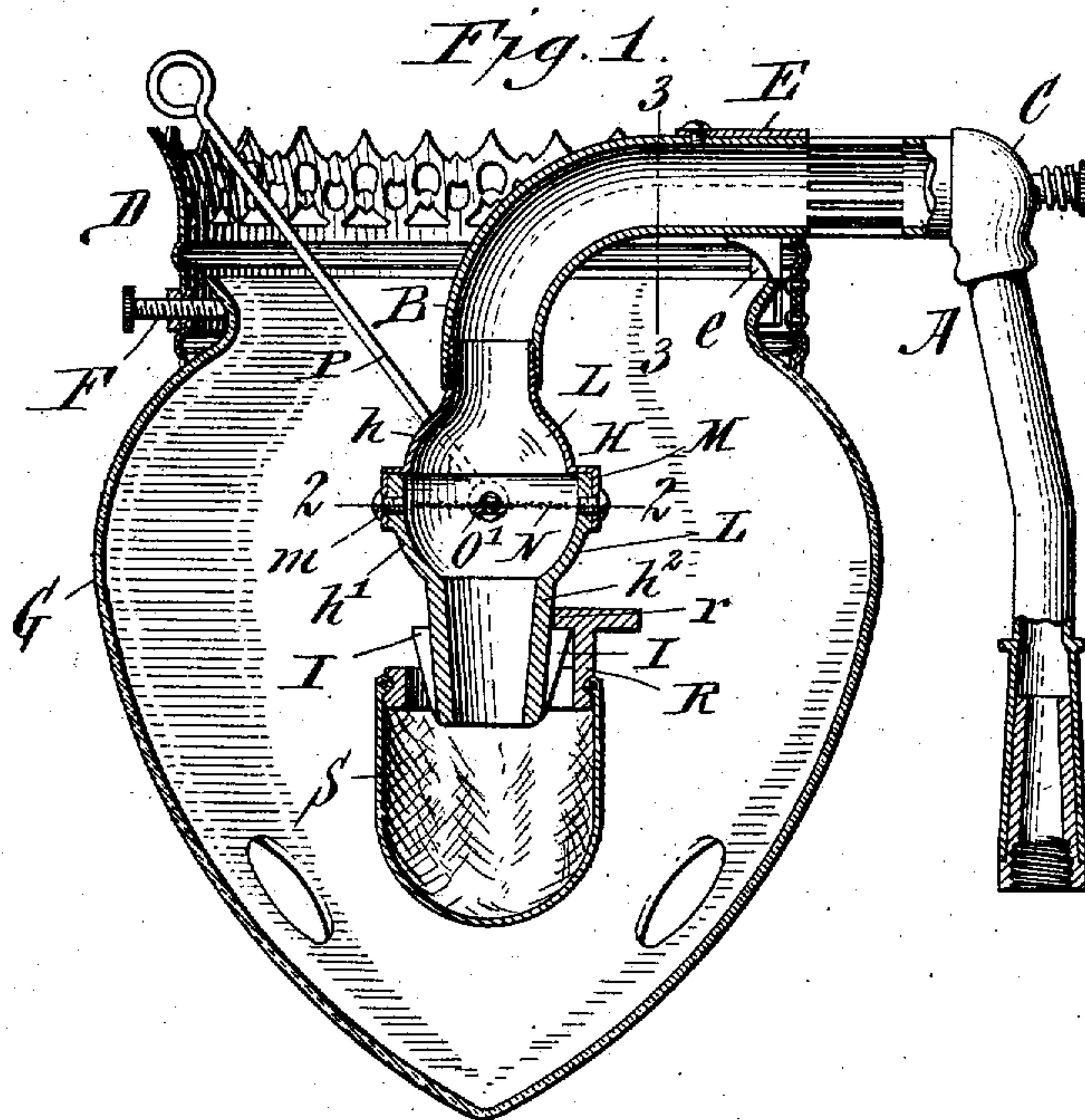
PATENTED APR. 7, 1908.

H. FARNOFF.

AUXILIARY PRESSURE REGULATOR FOR GAS BURNERS.

APPLICATION FILED AUG. 26, 1907.

2 SHEETS—SHEET 1.



Witnesses:
Christ Feinle.
Harry D. Rapp.

Henry Farnoff, Inventor.
By Emil Neuhart,
Attorney.

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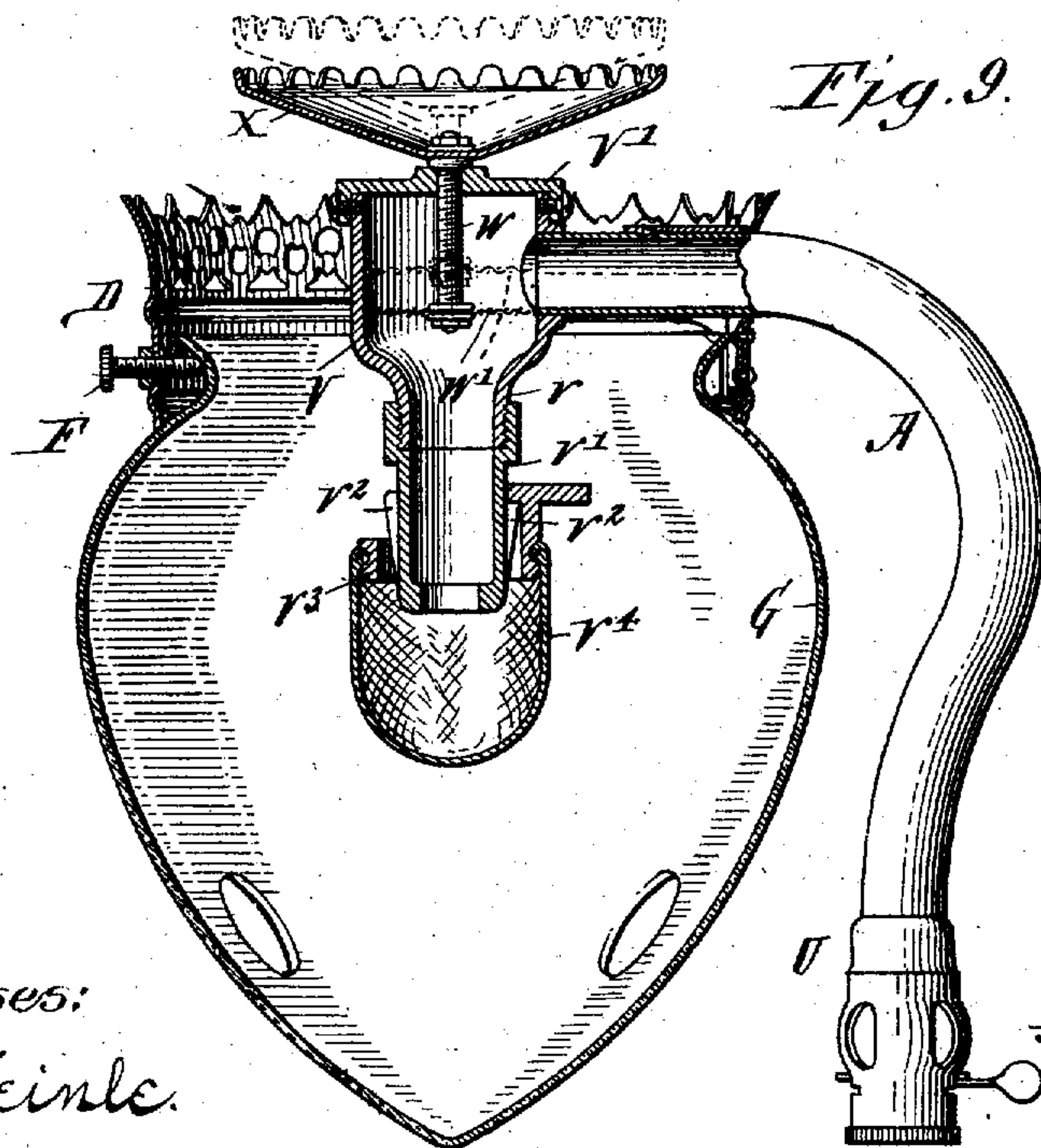
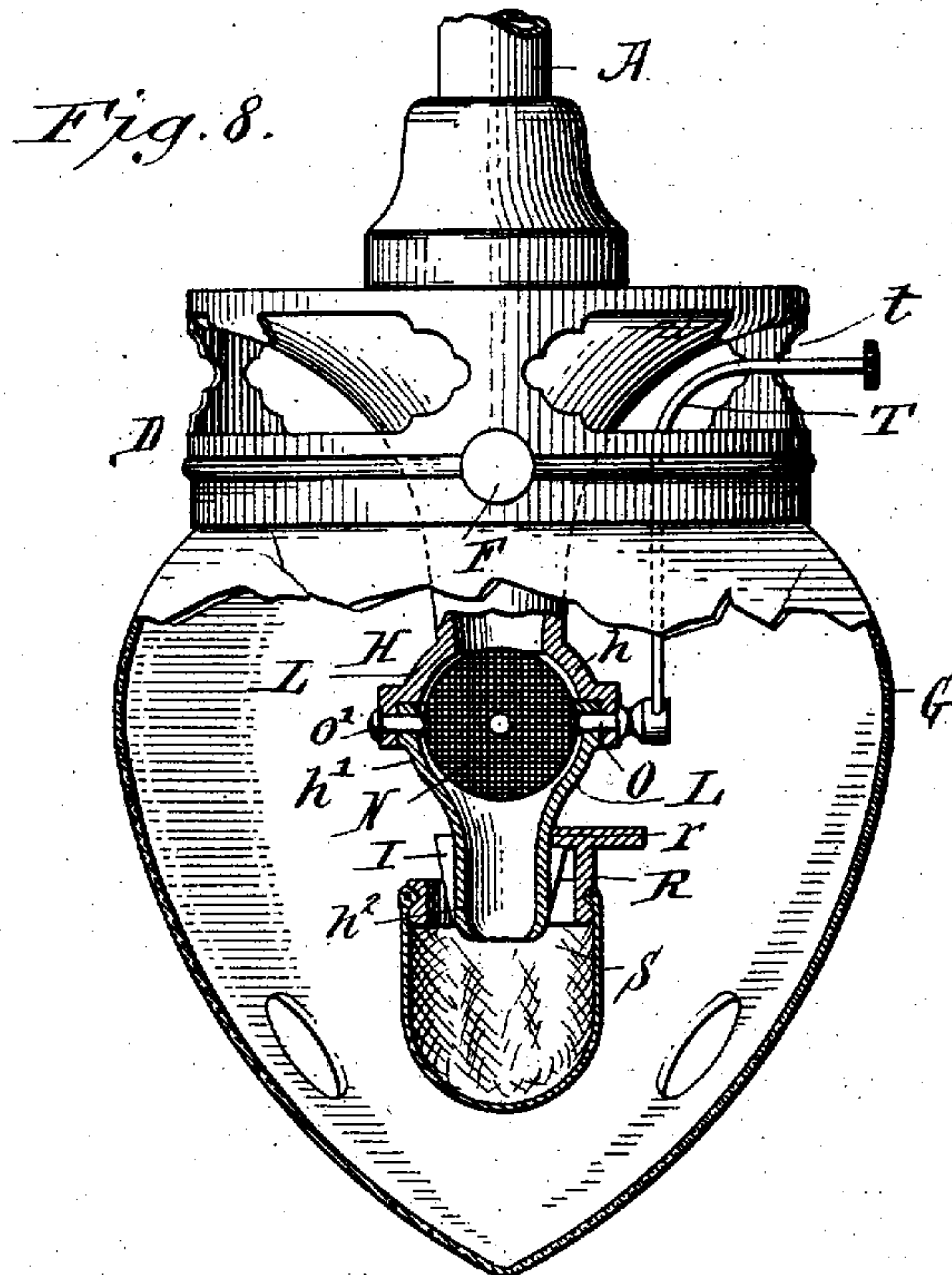
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2 SHEETS—SHEET 2.



Witnesses:
Christ Feinle.
Harry D. Rapp.

Henry Farnoff.
Inventor.
By Emil Neuhart, Attorney.

UNITED STATES PATENT OFFICE.

HENRY FARNOFF, OF BUFFALO, NEW YORK, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF ONE-HALF TO ANTHONY WIND AND ONE-HALF TO CHARLES K. ERNST, OF BUFFALO, NEW YORK.

AUXILIARY PRESSURE-REGULATOR FOR GAS-BURNERS.

No. 884,012.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed August 26, 1907. Serial No. 390,163.

To all whom it may concern:

Be it known that I, HENRY FARNOFF, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Auxiliary Pressure-Regulators for Gas-Burners, of which the following is a specification.

My invention relates to auxiliary regulators for inverted incandescent gas burners.

In inverted gas-burners now in use, the pressure of gas is usually regulated by means of a needle-valve acting in conjunction with a valve-opening in the supply-pipe, and when burning natural-gas, a very unsteady light is obtained owing to the pressure of the gas being very irregular, particularly during the winter season when considerable gas is used for heating purposes. This is also true to a certain extent with respect to the use of manufactured gas.

It is the object of my invention to provide an auxiliary-regulator which can be moved to its open position when the pressure of the gas is weak, and can be closed fully or to any extent desired according to the increase in pressure.

It also has for its object, the production of a regulator of this type which can be applied to any form of burner, and which is arranged to be conveniently operated to move the same into any desired position.

Still further objects are, to provide a simple and inexpensive regulator which can be easily dismantled and the parts thereof disassembled, and to equip one part thereof with means for suspending the mantle therefrom.

The invention consists in the construction, arrangement and combination of parts to be hereinafter described and particularly pointed out in the subjoined claims.

In the drawings,—Figure 1 is a central vertical section through an inverted incandescent burner embodying my invention in preferred form. Fig. 2 is an enlarged horizontal section taken on line 2—2, Fig. 1. Fig. 3 is a vertical section taken on line 3—3, Fig. 1. Fig. 4 is a detached perspective view of the clip whereby the supply-pipe is secured to the crown of the burner. Fig. 5 is a detached perspective view of the upper member of the auxiliary regulator-casing. Fig. 6 is a detached perspective view of the rota-

table screen located within the regulator-casing. Fig. 7 is a detached perspective view of the lower member of the regulator-casing. Fig. 8 is a sectional elevation of a modified form of burner showing the rotatable form of auxiliary regulator illustrated in Fig. 1, applied thereto. Fig. 9 is a central vertical section of a still further modified form of burner showing a modification of the auxiliary-regulator.

Referring to the drawings in detail, like letters of reference refer to like parts in the several figures.

A represents the supply-pipe having a downwardly curved terminal B and a regulator C by means of which the supply of gas to the burner is governed. The supply-pipe is secured to a crown D by means of a clip E which embraces said pipe and has ears *e* that are riveted to said crown. The latter is provided with clamping-screws F adapted to impinge against the upper end of a globe G and securely hold said globe to the crown.

H designates the auxiliary pressure-regulator, the casing of which comprises an upper member *h* and a lower member *h*¹; said upper member being externally threaded at its upper end for engagement with internal threads in the downwardly curved terminal of the supply-pipe, and said lower member having a tube extension *h*² provided with projections I separated by grooves J and having notches K in their upper ends. Each of the members of the auxiliary regulator has a substantially semi-spherical portion L and the upper member has an enlarged cylindrical portion M which fits over the lower member and is secured thereto by means of screws *m*.

N designates a circular screen which may be termed the regulator proper, and O is a spindle having a depressed and flattened intermediate portion O¹ to which said circular screen is secured; said depression being formed to position the screen in line with the axis of the spindle. The two members of the regulator casing are provided with coinciding notches *o* arranged at diametrically opposite points in which the cylindrical ends of the spindle O are held; one end of said spindle having a head *o*¹ which bears against the outer surface of the enlarged cylindrical portion of the upper member, and at its other end an operating handle P is secured; said handle having a socket *p* which bears

against the enlarged cylindrical end of the upper member at a point diametrically opposite the head o^1 . In this manner the regulator is retained in proper position within the casing so that it will rotate freely when manipulating the operating-handle without binding or coming in contact with the walls of the casing.

R designates a mantle holder which has inwardly directed ears r that are set in the notches K in the upper ends of the projections I on the lower member of the auxiliary regulator casing; said holder having a mantle S secured thereto in any approved manner.

In the modification shown in Fig. 8, the supply-pipe enters the burner-tube at the top and said tube has the upper portion of the auxiliary-regulator casing formed integrally therewith; said tube and casing as illustrated in this figure, may be constructed of porcelain. The operating handle designated T is curved outward at its upper end to pass through an opening t in the crown of the holder.

In the modification shown in Fig. 9, the supply-pipe is illustrated in the form of a goose-neck and has a regulator U at its lower end. The upper end of said supply-pipe is threaded into a cylindrical casing V having a reduced externally threaded lower end v onto which is threaded a tube v^1 having projections v^2 onto which a mantle-holder v^3 is held; said holder having a mantle v^4 secured thereto. The upper end of said cylindrical casing has a cap V^1 provided with an axial threaded opening in which a screw w is threaded and which extends into said casing and has a circular screen w^1 secured to its lower end in any approved manner. Secured to the upper end of said screw is a disk X provided at its edge with notches and adapted to be engaged by hand for revolving the screw. The screen has a range of movement from a point above the opening in the supply-pipe to a point beneath the same so that it may be moved wholly or partially into the path of the gas entering the cylindrical casing from said pipe, or entirely clear of said supply of gas, as may be desired.

It is clearly apparent from the foregoing that when the pressure of gas is weak the auxiliary-valve may be manipulated so that the gas does not pass through the screen, and that said screen may be brought into the path of the gas to the extent desired, depending on the increase of pressure of the gas, so as to supply the mantle with the gas under proper pressure for best results.

Having thus described my invention, what I claim is,—

1. In an incandescent gas-burner, the combination with a gas supply-pipe having a gas-regulator and a mantle, of an auxiliary-regulator between said first-mentioned regulator and said mantle, said auxiliary-regulator

having an opening through which the gas may pass and being movable to allow part of the gas to pass directly to the mantle without passing through said regulator.

2. In an incandescent gas-burner, the combination with a supply-pipe having a regulator and a mantle, of an auxiliary-regulator comprising a foraminous screen movable into or out of the path of the gas passing to said mantle.

3. In an inverted incandescent gas-burner, the combination with a supply-pipe and a mantle, of an auxiliary-regulator between said supply-pipe and mantle having a screen movable to compel the supply of gas to pass therethrough or to permit the gas to pass directly to the mantle without passing through said screen.

4. In an inverted incandescent gas-burner, the combination with a supply-pipe and a mantle, of an auxiliary-regulator having a screen movable to allow part of the supply of gas to pass therethrough or movable out of the path of the gas.

5. An auxiliary-regulator for gas-burners comprising a casing and a rotatable foraminous screen movable into or out of the path of the gas passing through said casing.

6. An auxiliary-regulator for gas-burners comprising a casing and a movable foraminous screen within the casing.

7. An auxiliary-regulator for gas-burners comprising a casing having two members, one of said members having a substantially semi-spherical portion and an enlarged cylindrical portion provided with notches, and the other member having a substantially semi-spherical portion entering the enlarged cylindrical portion of the first-mentioned member and provided with notches registering with those of said first-mentioned member, a spindle journaled in said notches, and a circular screen secured to said spindle.

8. An auxiliary-regulator for gas-burners comprising two substantially semi-spherical members, a spindle passing through said members and having a depressed intermediate portion, and a circular screen secured to said depressed intermediate portion.

9. An auxiliary-regulator for gas-burners comprising two substantially semi-spherical members, the end of one fitting within the other and both having coinciding notches, a spindle journaled in said notches and having a depressed intermediate portion, a lever secured to said spindle, and a circular screen secured to the depressed portion of said spindle.

10. In an incandescent gas-burner, the combination with a gas-supply pipe having a gas-regulator and a mantle, of an auxiliary-regulator between said first-mentioned regulator and said mantle, said auxiliary-regulator being adjustable to allow the gas in its entirety to pass through it or to compel part

or all of the gas to pass directly to the mantle without passing through said auxiliary-regulator.

11. In an incandescent gas-burner, the
5 combination with a gas supply-pipe having a regulator and a mantle, of a foraminous regulating-device in said supply-pipe between said first-mentioned regulator and said mantle, said regulating-device being movable to
10 compel the gas in its passage to the mantle to pass through it in its entirety or to allow the

gas in part to pass through it and in part to pass between it and the walls of the supply-pipe.

In testimony whereof, I have affixed my 15 signature in the presence of two subscribing witnesses.

HENRY FARNOFF.

Witnesses:

EMIL NEUHART,

ELLA C. PLUECKHAHN.