

No. 714,136.

Patented Nov. 25, 1902.

G. A. BRACHHAUSEN.

GAS REGULATOR.

(Application filed July 28, 1902.)

(No Model.)

Fig. 1.

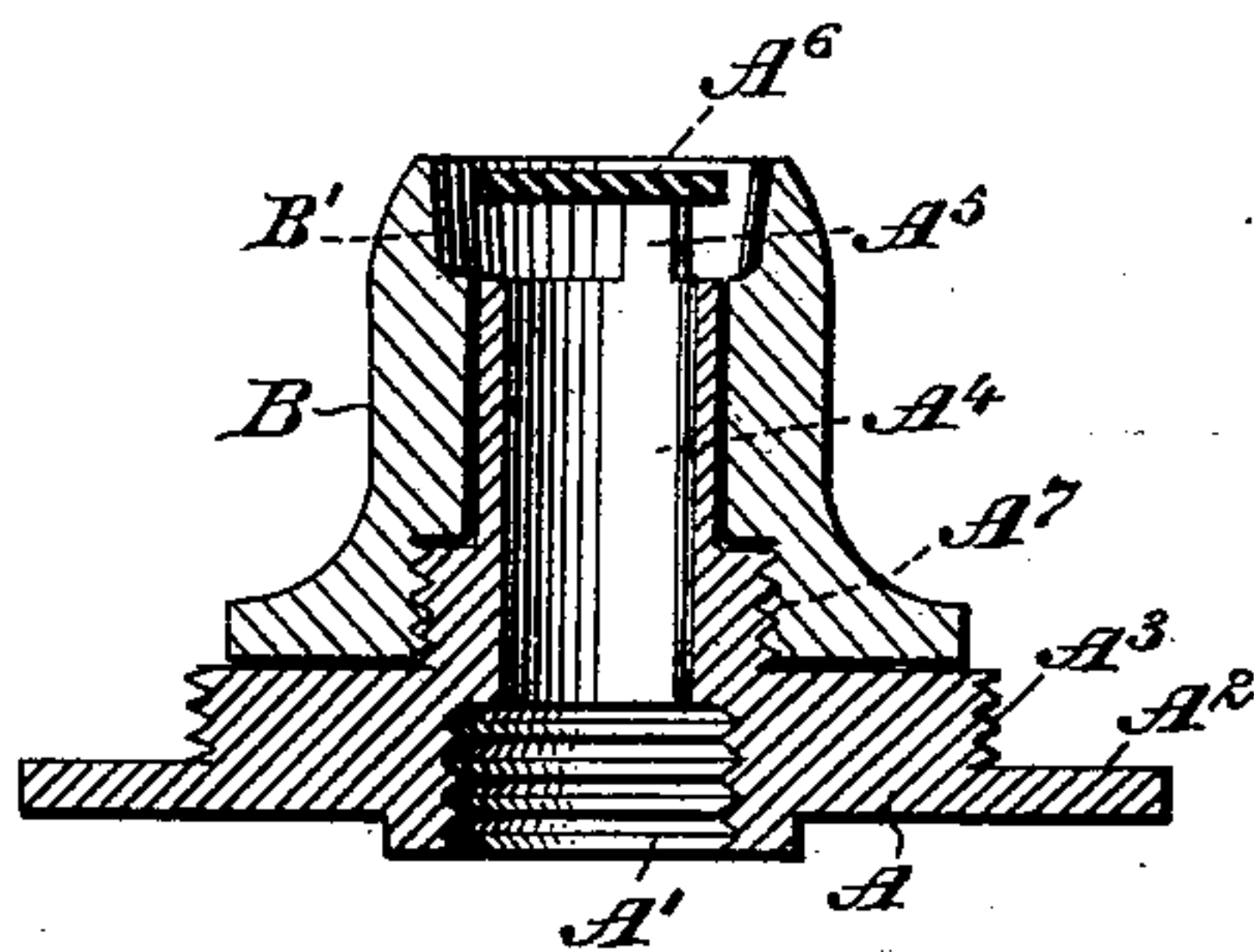


Fig. 2.

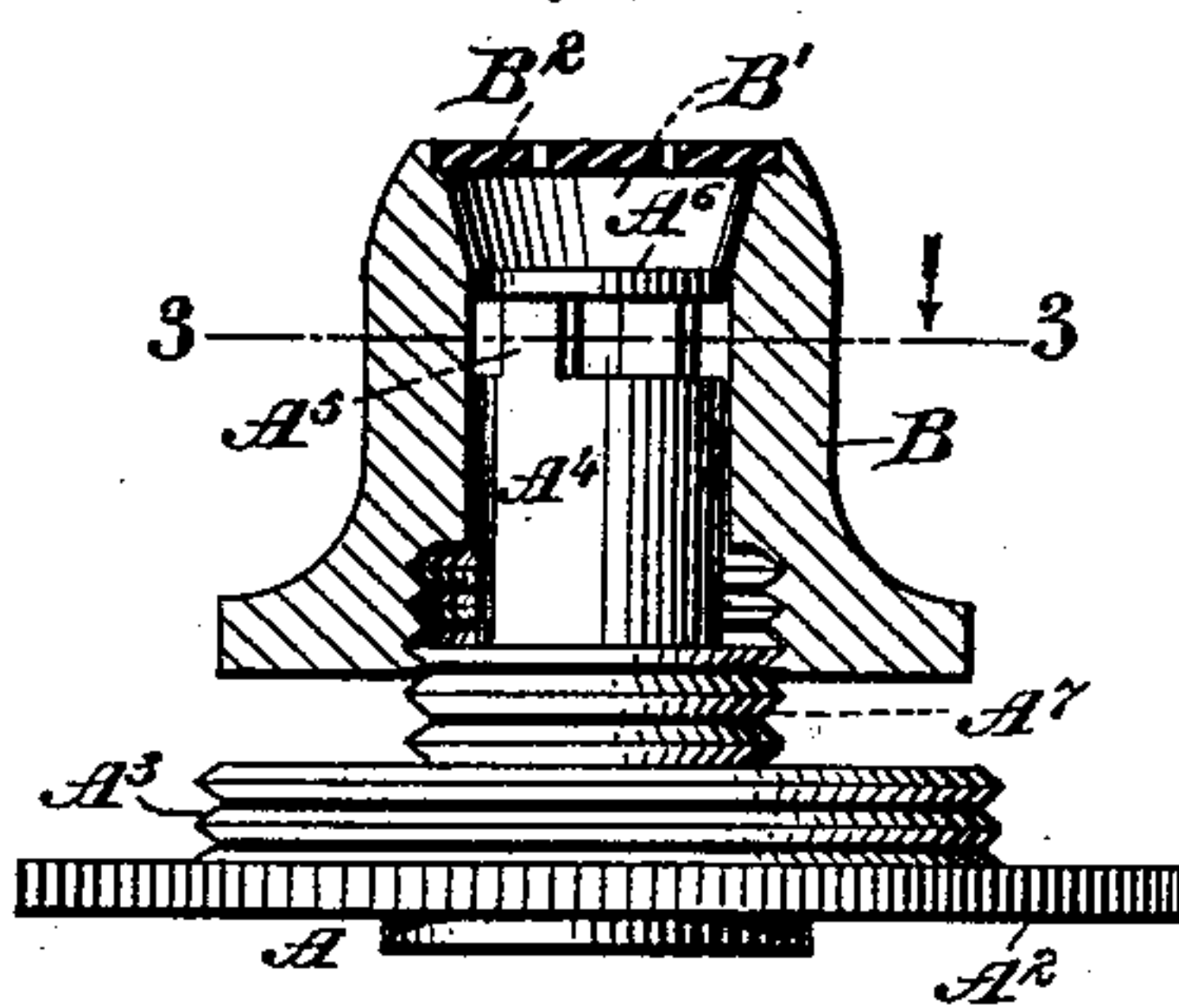
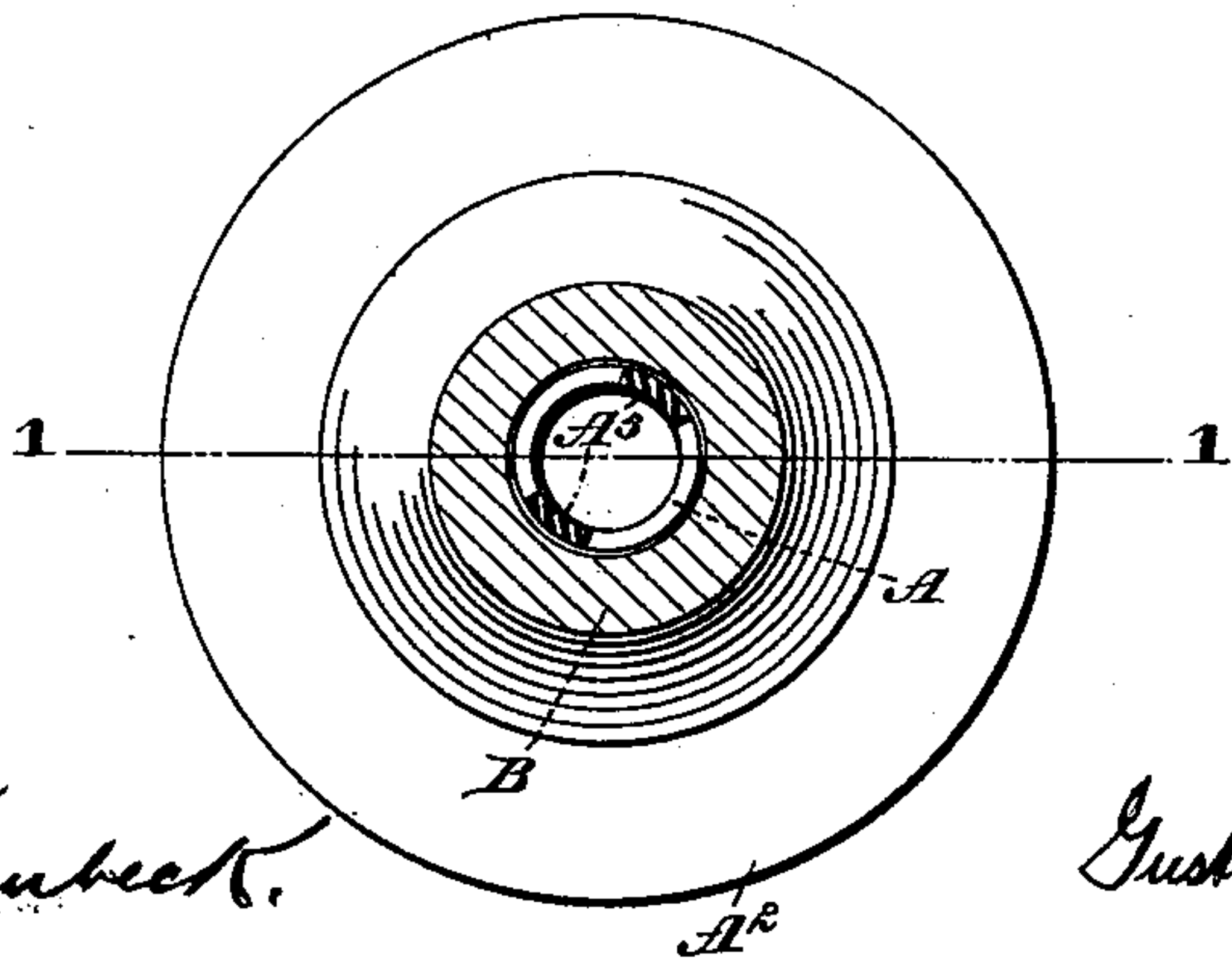


Fig. 3.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GUSTAV A. BRACHHAUSEN, OF RAHWAY, NEW JERSEY, ASSIGNOR TO THE  
REGINA MUSIC BOX COMPANY, A CORPORATION OF NEW JERSEY.

## GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 714,136, dated November 25, 1902.

Application filed July 28, 1902. Serial No. 117,332. (No model.)

*To all whom it may concern.*

Be it known that I, GUSTAV A. BRACHHAUSEN, a citizen of the United States, and a resident of Rahway, Union county, New Jersey, have invented certain new and useful Improvements in Gas-Regulators, of which the following is a specification.

My invention relates to improvements for regulating the flow of fluids, and particularly of illuminating-gas, the object being to secure the regulation with as little obstruction as possible in the path of the gas, so that there may be as little check as possible to the out-flow of the gas at the proper speed.

To this end my invention consists of certain novel features, which will be pointed out specifically in the appended claims.

Two constructions embodying my present invention are shown as examples in the accompanying drawings, in which—

Figure 1 is a central sectional elevation of one form of my invention on line 1 1 of Fig. 3. Fig. 2 is an elevation of another form of the invention with one of the members of the regulator shown in section, and Fig. 3 is a cross-section on line 3 3 of Fig. 2.

My improved regulator comprises two members which are adjustably connected, and one of them is adapted to be secured to a source of fluid-supply—as, for instance, a gas-pipe—while the other is carried by its companion member.

A indicates the carrying member, which is provided with an interior screw-thread  $A^1$ , so that it may be attached to a gas-pipe, and is also provided with a flange  $A^2$  for the purpose of more readily applying it. This member also has as a rule a screw-thread  $A^3$  for the purpose of attaching accessory parts of the burner—as, for instance, a holder for an incandescent member when a burner of this type is employed. In line with the axially-located screw-thread portion  $A^1$  is located a channel  $A^4$ , and from the upper end of the tubular portion of the member A extend lugs  $A^5$ , which carry a plate  $A^6$  of a diameter equal to the outer diameter of the tubular portion  $A^4$ . The carrying member A is further provided with a screw-thread  $A^7$ , which is engaged by the regulating member B. This mem-

ber has a bore which closely fits the tubular portion  $A^4$  of the carrying member and also the plate or cap  $A^6$  when the regulating member is in its upper position. At its mouth the regulating member is enlarged, as shown at  $B'$ , this enlargement having either a concave surface, as shown in Fig. 1, or a conical, as shown in Fig. 2. In most cases I believe the formation shown in Fig. 1 will be preferable for the reason that a sharp edge is provided at the lower end of the enlargement  $B'$ .

Fig. 1 shows the regulator so adjusted that the largest possible amount of gas will flow through the device. It will be seen that the gas passes through the carrying member A to the upper end of the tubular portion  $A^4$ , then escapes outward between the arms  $A^5$ , and finally passes upward between the perforated plate  $A^6$  and the enlargement  $B'$  of the regulating member B. If the said member is screwed up on the carrying member A, the flow of gas will be checked as the lower edge of the enlargement  $B'$  approaches the plate or cap  $A^6$ , and in the particular construction shown in Fig. 1 the sharp edge formed at the lower end of the enlargement  $B'$  will, together with the edge of the cap  $A^6$ , form a passage of well-defined dimensions. By giving the enlargement  $B'$  different shapes the gas can be caused to issue at the top either straight upward or slightly outward or even inward. If the regulating member B is raised until the lower edge of the enlargement  $B'$  registers with the cap  $A^6$ , as shown in Fig. 2, it will be obvious that the flow of gas is entirely interrupted.

An important feature of my invention is that the flow of gas is not materially interfered with and that the gas is not perceptibly deflected from its main course or direction—that is, the flow of gas is substantially upward at every point. In some cases it may be found advisable to effect a further regulation of the gas at the point of issue, and this may be done by means of a plate  $B^2$ , as shown in Fig. 2, said plate having a few perforations through which the gas escapes. This plate, however, in many instances will not be required.

I desire it to be understood that while I



have described the constructions shown with considerable detail the invention is capable of various embodiments.

What I claim as new, and desire to secure by Letters Patent, is—

1. A fluid-regulator, comprising a member provided with a tubular portion and a cap arranged at a distance in advance of the discharge end of said tubular portion and in the direct line of the outflow of the fluid, and another member having a cylindrical portion adapted to surround the tubular portion of the first-named member, and an interior enlargement at the discharge end of said cylindrical portion, one of said members being adjustable lengthwise of the other.

2. A fluid-regulator, comprising a member having a tubular portion with an arm extended from its discharge end, and a cap carried by said arm at a distance in advance of the discharge end of the tubular portion, the diameter of said cap being substantially the same as the outer diameter of said tubular portion, and another member having a cylindrical bore arranged to fit around the said tubular portion, and an interior enlargement at the discharge end of said bore, one of said members being adjustable lengthwise of the other.

3. A fluid-regulator, comprising a member having a tubular portion with a central discharge-aperture, and a cap at a distance in advance of the discharge end of said tubular portion, and another member having a bore arranged to receive the said tubular portion and cap, and also provided with an interior enlargement at the discharge end of said bore, one of said members being adjustable lengthwise of the other.

4. A fluid-regulator, comprising a member

having a tubular portion with a central discharge-orifice and a cap at a distance in advance of the discharge end of said tubular portion, and another member provided with a bore arranged to receive said tubular portion and cap, and with an interior enlargement at the discharge end of said bore, and with a perforated plate in said enlargement, one of said members being adjustable lengthwise of the other.

5. A fluid-regulator, comprising a member provided with a cylindrical tubular portion having an arm extending forward from its discharge end and a cap carried by said arm and of substantially the same diameter as said tubular portion, and another member having a cylindrical bore adapted to receive the said tubular portion and cap, and an interior enlargement at the discharge end of the said bore, the said members having a screw connection.

6. A fluid-regulator comprising a member having a tubular portion and a cap at a distance in advance of the discharge end of said tubular portion, and another member having a bore adapted to receive said tubular portion and cap, and also provided with a concave-faced interior enlargement which begins at and is immediately contiguous to the discharge end of the bore which is adapted to receive said cap, so that a sharp edge is formed at the junction of said enlargement and of the said bore.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GUSTAV A. BRACHHAUSEN.

Witnesses:

JOHN LOTKA,  
EUGENE EBLE.