

No. 687,715.

Patented Dec. 3, 1901.

A. G. BAYLES.
GAS REGULATOR.

(Application filed Mar. 28, 1901.)

(No Model.)

FIG-1.

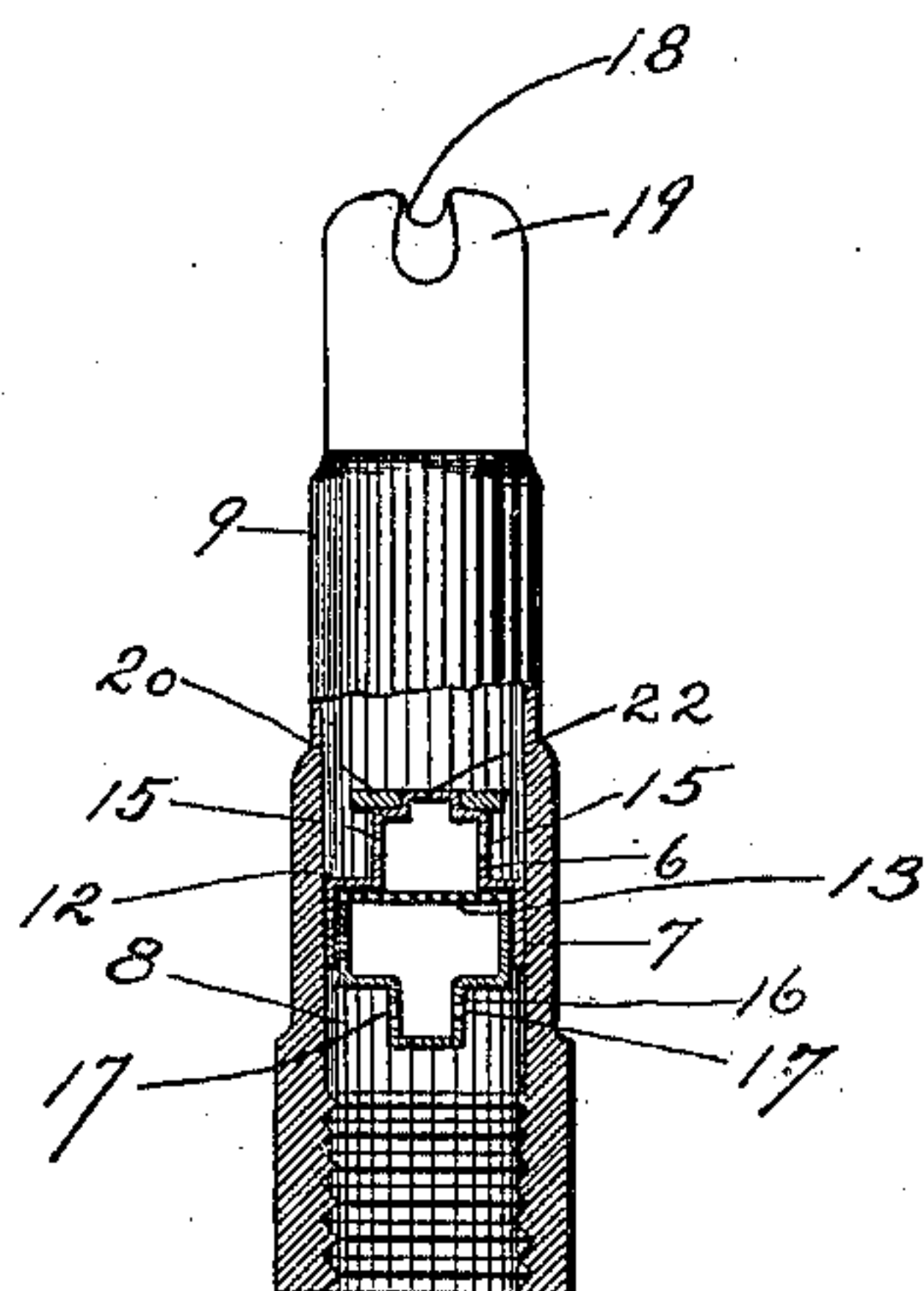


FIG-3.

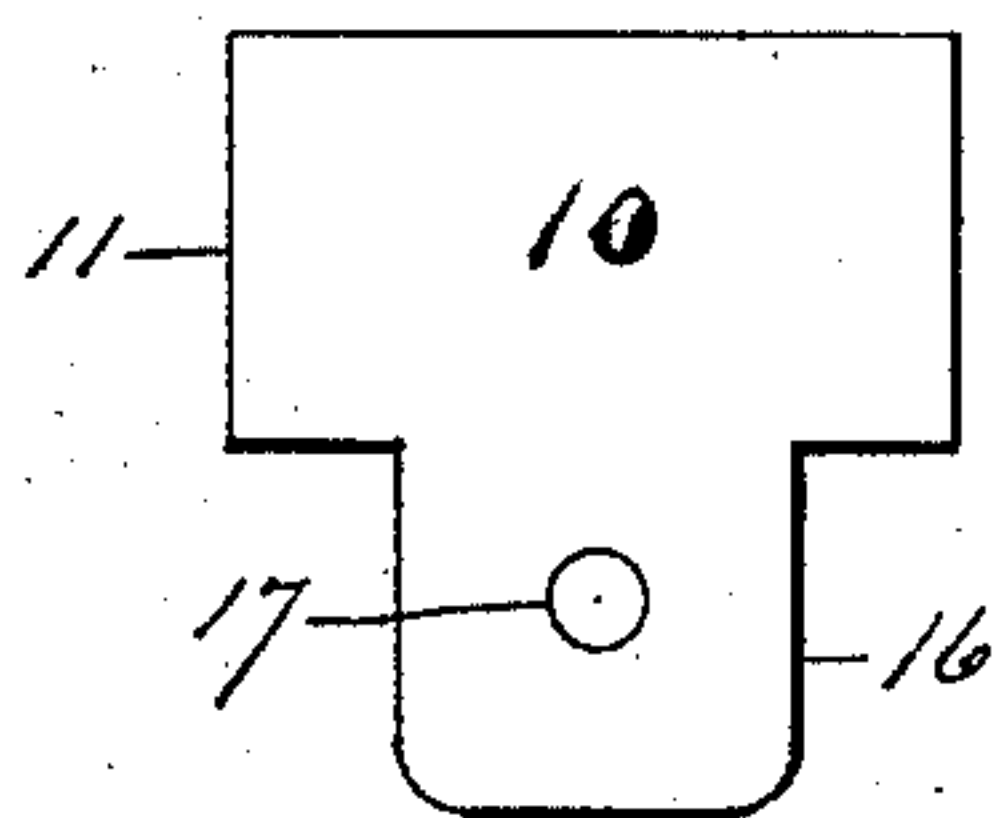


FIG-2.

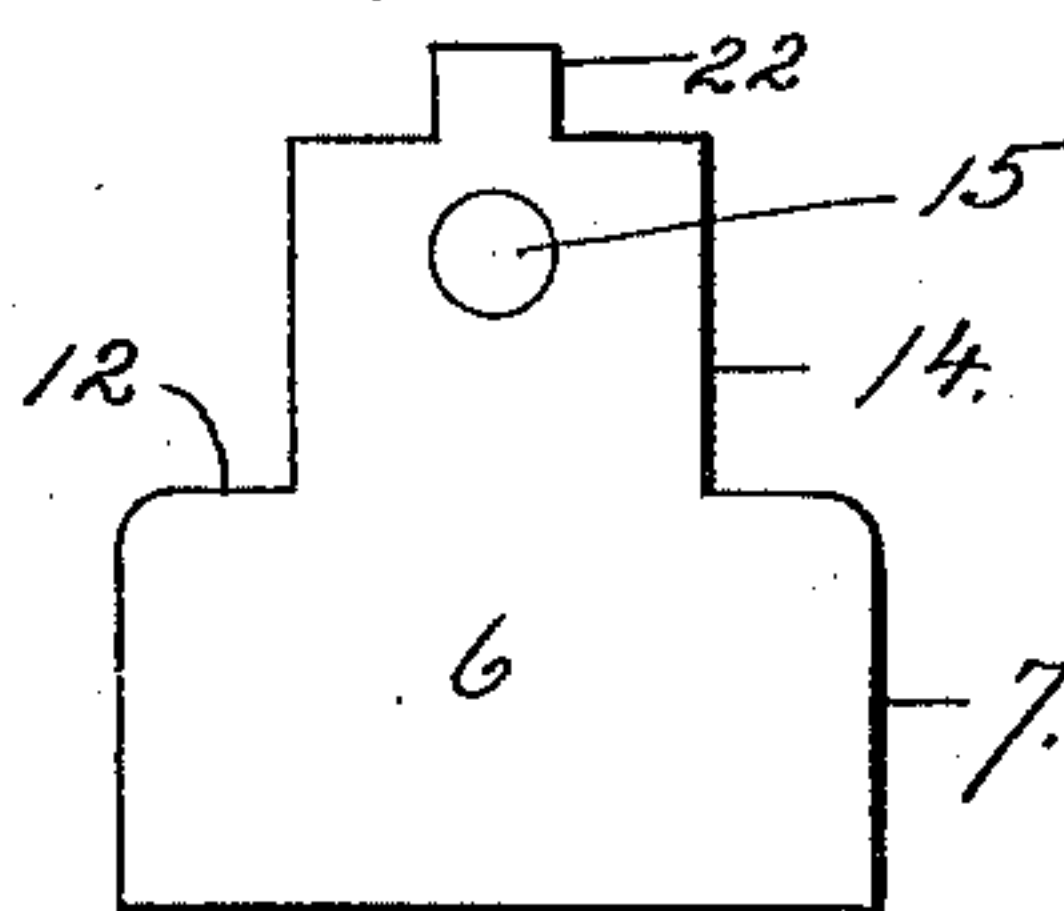


FIG-4.

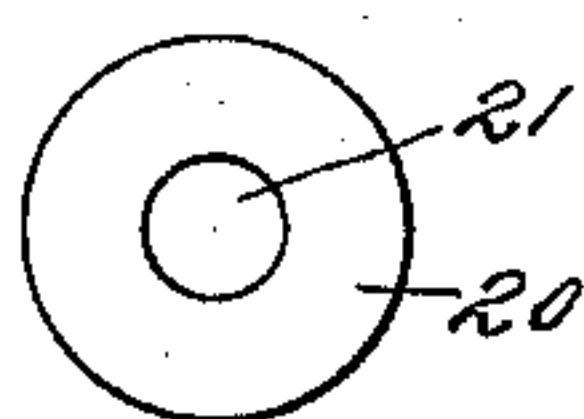


FIG-5.

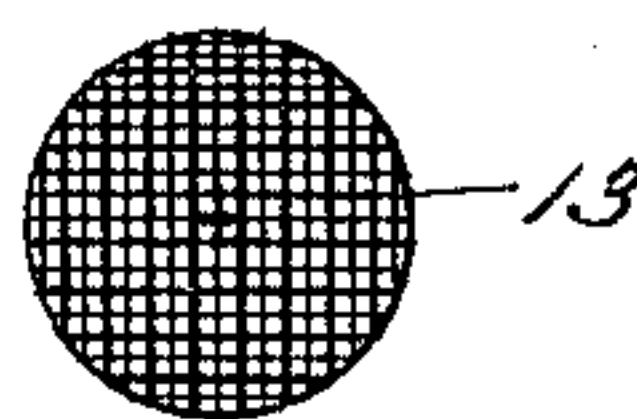


FIG-6.



WITNESSES:

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ALFRED G. BAYLES, OF NEW YORK, N. Y.

GAS-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 687,715, dated December 3, 1901.

Application filed March 28, 1901. Serial No. 53,252. (No model.)

To all whom it may concern:

Be it known that I, ALFRED G. BAYLES, a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Gas-Regulator, of which the following is a specification.

My invention relates to the consumption of illuminating-gas, and has for its object to regulate or control the flow of the gas to the gas-tip.

To insure the flow of gas through the mains to the consumer, considerable pressure is applied at the works, and as a result gas will be forced through the burners nearest the storage-tanks in greater quantities than can be consumed to the best illuminating advantage and usually with considerable noise or blowing. As it is difficult to regulate the pressure at the works, on account of the variation in consumption of the gas, the same difficulties are often experienced even with burners the most distant from the works, especially in large cities, where the gas must be forced to great distances.

My present invention is designed to regulate the flow of gas to the tip, no difference how great the pressure in the mains, so that the greatest illumination is secured with a minimum consumption of gas and the lights will be uniform, no difference what the distance from the works.

While my improved regulator can be used with great advantage with any gas-tip, I have designed it especially for use with the tip shown in the patent granted to William H. Porter January 2, 1900, No. 640,698.

A further object of my invention is to provide a regulator which can be manufactured at the smallest possible cost, which will not easily become clogged up with the gas condensations, which can be easily applied, and the parts composing the regulator are not liable to be inserted in a wrong manner or to become disarranged after being inserted.

I attain these objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a view of a gas-burner having a part of the pillar broken away to show my improved regulator, which is in vertical section. Fig. 2 is a view of the upper thimble-shaped stepped piece forming part of the regulator. Fig. 3 is a view of the lower piece. Fig. 4 is

a view of the top plate. Fig. 5 is a plan view of the gauze plate, and Fig. 6 is an edge view thereof.

Similar numerals of reference refer to like parts in each of the views, and in the practice of my invention I provide a regulator comprising an upper piece 6, which is thimble-shaped and stepped in form, and the larger part 7 thereof is proportioned in size to fit tightly within the gas passage-way 8 of the pillar 9 of the gas-burner and to be held therein by friction, as will be readily understood. I also provide a piece 10, which is thimble-shaped in form and is also preferably stepped, and the large part 11 thereof is proportioned in size to fit in an inverted manner in the part 7 of the piece 6 and to be held therein by friction. Between the end of the piece 10 and the shoulder 12 of the piece 6 I mount a gauze plate 13, which is simply a flat disk which is proportioned in size to the inner diameter of the part 7, so that there is no trouble in placing it in the correct position, and after the piece 10 is in position it is almost impossible to dislodge it.

In the part 14 of the piece 6 I provide one or more apertures 15, adjacent to the top of said part, and in the part 16 of the piece 10 I provide one or more apertures 17, which are smaller in size than the apertures 15 in the piece 7; but it is evident that a larger number of apertures could be made in the upper piece than in the lower, in which case it would not be necessary to make them different in size.

It will be observed that the apertures 15 and 17 are drilled through the sides of the respective parts, so that the drilling can be easily done and is always uniform in size.

In operation the gas flows from the main into the lower part of the pillar, which is formed into a chamber by reason of the regulator entirely filling the passage-way. The gas flows upward around the part 16 and recoils upon itself before passing through the apertures 17, so that there is a slight check to the flow of the gas by reason of this fact. As the gas flows into the hollow regulator formed by the two pieces it is further checked and distributed by the gauze plate 13, and as the apertures 15 are larger than the apertures 17 the gas will be further controlled and

regulated by reason of this fact, and as it issues from the apertures 15 it is projected against the inner walls of the pillar, so that the center of the pillar is under control and the gas does not flow directly to the aperture 18 in the tip 19.

As a further means of controlling the flow of the gas in the upper chamber of the pillar I provide a plate 20, which is provided with an aperture 21 and is mounted on the part 22 of the piece 7. This plate is proportioned in diameter, so that a predetermined space will be left between its edges and the wall of the pillar and the gas will be further distributed by reason of having to flow outward over the edges of this plate. At the same time the apertures 15 will be protected by the plate from any condensations from the gas, so that they will not become clogged.

It is evident that the apertures 17 could be in the bottom of the piece 10, and this piece might be dome-shaped and many other changes could be made, and I reserve the right to make all changes which come within the scope of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A gas-regulator mounted in a gas passage-way, and comprising two thimble-shaped fixed pieces having their bases in juxtaposition thereby forming a chamber through which the gas passes, one of said pieces being provided with an ingress-aperture, and the other piece being provided with an egress-aperture larger in size than said ingress-aperture, for the purpose set forth.

2. The combination with the pillar of a gas-burner of a gas-regulator comprising two thimble-shaped pieces fixed within said pillar, and forming a chamber through which the gas passes, the lower piece being provided with ingress-apertures, and the upper piece being provided with egress-apertures of greater aggregate area than said ingress-apertures, for the purpose set forth.

3. The combination with the pillar of a gas-burner of a gas-regulator comprising two thimble-shaped pieces fixed within said pillar, and forming a chamber through which the gas passes, the lower piece being provided with ingress-apertures in the sides thereof, and the upper piece being provided with egress-apertures in the sides thereof, said egress-apertures being of greater aggregate area than said ingress-apertures, for the purpose set forth.

4. The combination with the pillar of a gas-burner of a gas-regulator comprising two thimble-shaped pieces fixed therein, and having their bases in juxtaposition thereby forming a chamber through which the gas passes,

the lower piece being provided with ingress-apertures in the sides thereof, and the upper piece being provided with egress-apertures in the sides thereof, said egress-apertures being of greater aggregate area than said ingress-apertures, as and for the purpose set forth.

5. A gas-regulator comprising a stepped, thimble-shaped piece adapted to be held in a gas passage-way by friction, a second thimble-shaped piece adapted to be held in said first piece in an inverted manner by friction, said first piece being provided with an aperture adjacent to the top thereof, and said second piece being provided with an aperture smaller in size than the said aperture in the said first piece.

6. A gas-regulator comprising a stepped, thimble-shaped piece adapted to be held in the pillar of a burner by friction, a second stepped thimble-shaped piece adapted to be held in said first piece in an inverted manner by friction and provided with an aperture adjacent to the lower end thereof, said first piece being provided with an aperture adjacent to the top thereof, said last-named aperture being larger than the aperture in the lower piece, and a gauze plate mounted between said pieces, as and for the purpose set forth.

7. The combination with the pillar of a gas-burner of a gas-regulator comprising two stepped, thimble-shaped pieces fixed therein, and having their bases in juxtaposition thereby forming a chamber through which the gas passes, the lower piece being provided with ingress-apertures in the sides of the step, and the upper piece being provided with egress-apertures in the sides of one of the steps, and a plate mounted on the top of said upper piece, for the purpose set forth.

8. A gas-regulator comprising a stepped, thimble-shaped piece adapted to be held in the pillar of a burner by friction, a second thimble-shaped piece adapted to be held in said first piece in an inverted manner by friction whereby a hollow chamber is formed, a gauze plate mounted between said pieces, the lower piece being provided with apertures adjacent to the bottom thereof, and the upper piece being provided with apertures of greater area than the apertures in the lower piece, and a plate mounted on the top of the upper piece, said plate being of a size predetermined by the inner diameter of the pillar in which the regulator is mounted, as and for the purpose set forth.

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

ALFRED G. BAYLES.

Witnesses:

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WILLIAM MCKAY.