(No Model.) 2 Sheets—Sheet 1.

J. W. BRAGGER.

INCANDESCENT GAS BURNER.

No. 605,562. Patented June 14, 1898.

Fig. 1.

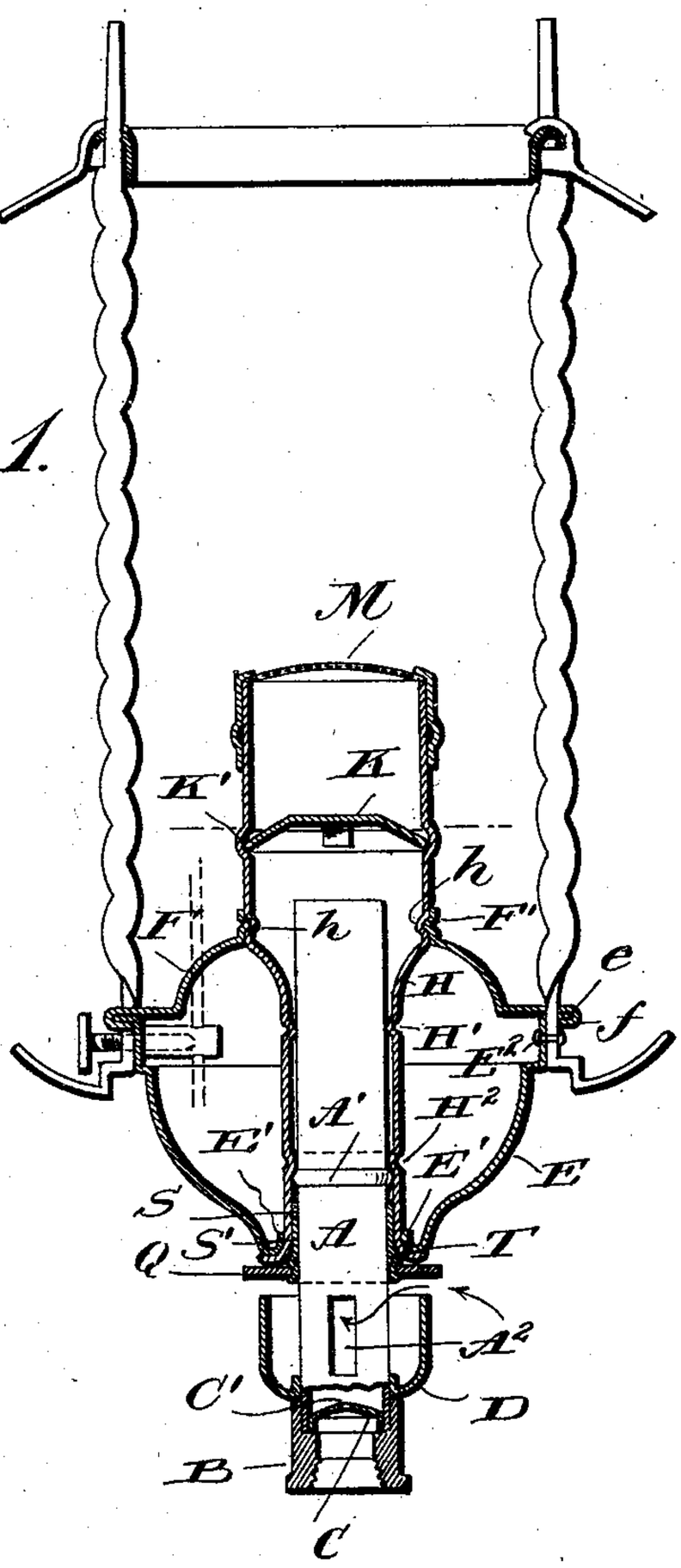

Fig. 2.

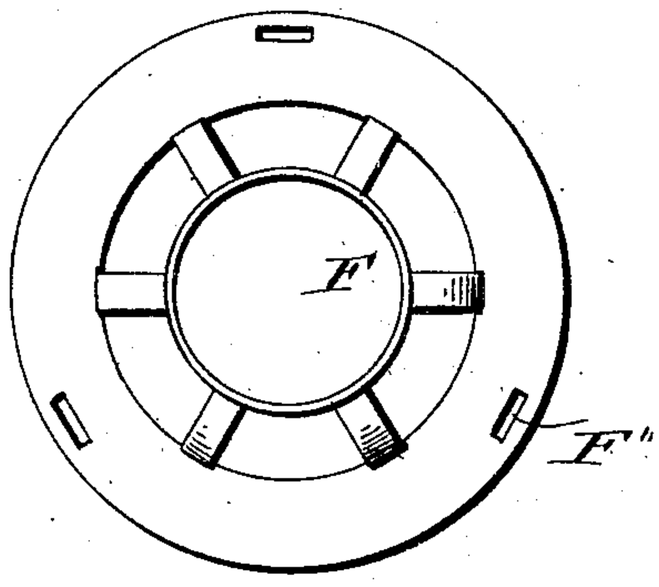

Fig. 3.

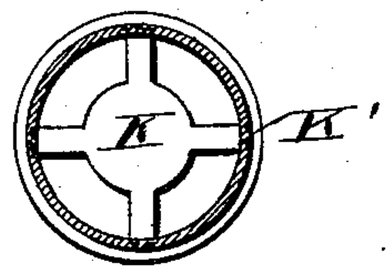

Fig. 4.

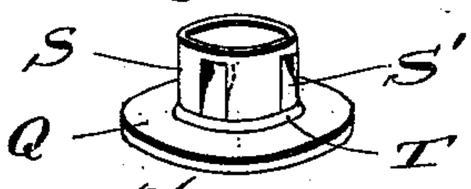

Fig. 5.

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(No Model.) 2 Sheets—Sheet 2.

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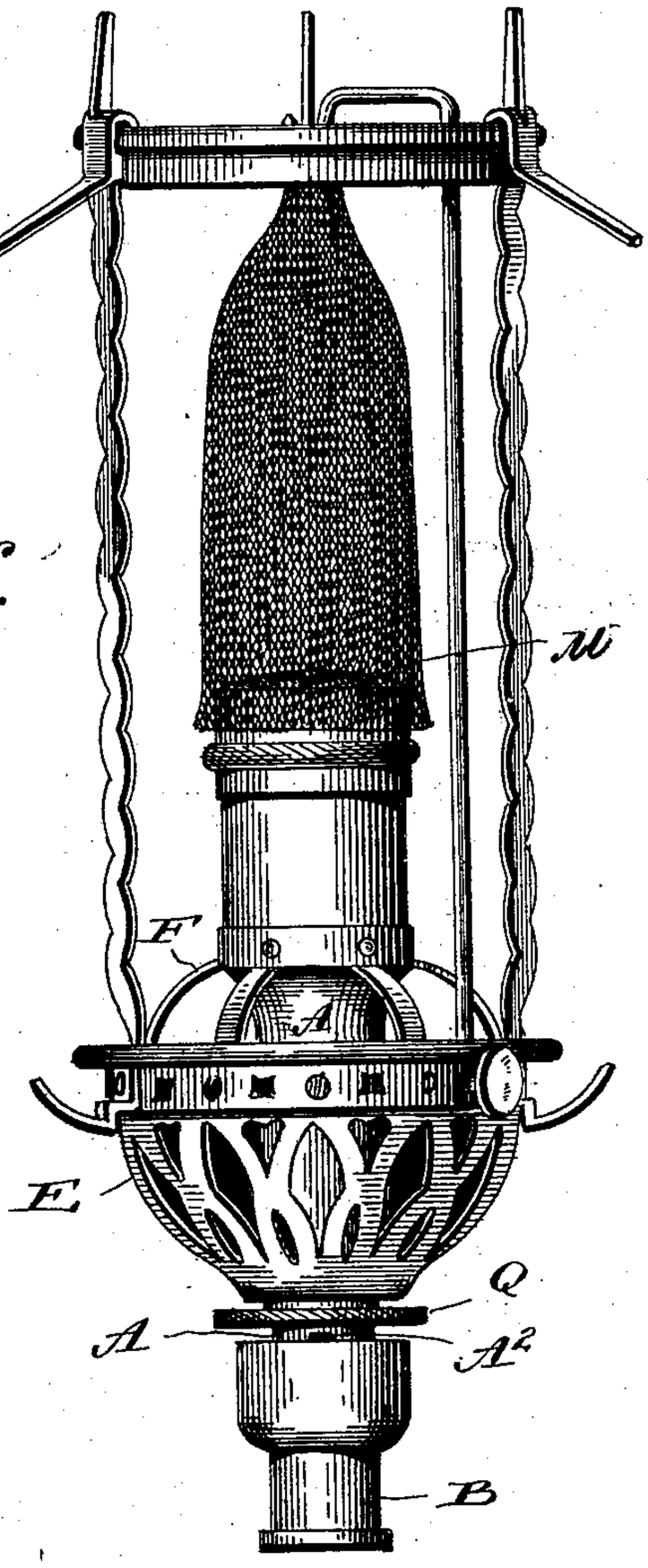
Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN W. BRAGGER, OF WATERTOWN, NEW YORK, ASSIGNOR TO THE HITCHCOCK LAMP COMPANY, OF SAME PLACE.

INCANDESCENT GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 605,562, dated June 14, 1898.

Application filed October 30, 1897. Serial No. 656,902. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. BRAGGER, a citizen of the United States, residing at Watertown, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Incandescent Gas-Burners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in gas-burners, and especially to a new construction of incandescent burner which may be adjusted to regulate the supply of air which is necessary to insure a complete combustion of the gas at different pressures.

A further part of the invention resides in the provision of a Bunsen tube, which supports a detachable shell carrying the mantle and globe supporter, and a vertically-adjustable flanged cylinder for regulating the size of the air-inlet passage leading to the apertures in the tube of the burner, which tube is seated in a cup, between the open edge of which and the said flange the air is allowed to enter to feed the burner.

Other features of the present invention consist of the make-up of the shell, manner of assembling of the parts forming a suitable mixing-chamber in which air is drawn to assist in the better combustion of the gas, and in the general arrangement, combination, and adaptation of the parts forming a part of the invention, which will be hereinafter more fully described, and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, and in which drawings similar letters of reference indicate like parts throughout the several views, in which—

Figure 1 is a central vertical sectional view through my improved burner. Fig. 2 is a plan view taken on line 2 2 of Fig. 1. Fig. 3 is a cross-sectional view on line 3 3 of Fig. 1. Fig. 4 is a detail in perspective of an adjustable flanged cylinder provided to regulate the supply of air to the burner. Fig. 5 is a detail view of the cup-shaped member secured to the base of the burner. Fig. 6 is a side elevation of the burner complete.

Reference now being had to the details of the drawings by letter, A designates the Bunsen tube, which may be mounted in any suitable manner on the jet-engaging member B, in which a tip C, having one or more apertures C′, is seated, and over which the lower end of the said tube A sets. This tube is provided with the apertures A′ for ingress passage-ways for air, and surrounding that portion of the tube below the said apertures therein is the cup D, which is apertured and has its lower edge inwardly turned, as illustrated in the drawings. This upwardly-turned flange serves to securely hold the cup on the burner-tube.

The shell, which is supported on the burner-tube, is composed of the metallic portion E, of the general shape shown in Fig. 1 of the drawings, where it is shown in vertical section. The lower part of this portion is bent upward, forming a flange E′, with its upper margin at right angles in two directions, thence outward, where it forms a flange *e*, over which is swaged the flange *f* of the upper portion of the shell F. This top portion has its upper margin formed into a beaded flange F′ for engagement with the said beaded portion in an annular recess *h* in the wall of the mixing-chamber H. This mixing-chamber, which has the said annular recess in its tubular portion, fits snugly over the burner-tube A, has two inwardly-turned beads H′ and H², the latter of which is provided to engage against an outwardly-turned bead A′ on the burner-tube A, and thus assist in supporting the metallic portion forming the mixing-chamber. The lower end of the mixing-chamber is turned outwardly and upward and receives the lower upwardly-curved end of the shell E. The upper bead H′ serves to steady the shell and mixing-chamber upon the burner-tube and hold same snugly together.

In the mixing-chamber, a slight distance above the upper open end of the burner-tube, is a spreader, which is of the shape shown in the detail view, Fig. 3 of the drawings, which

rests in an annular groove K′, being sprung therein. This spreader has openings about its solid center, as shown in the said detail view, and is provided for the purpose of mixing thoroughly the gas and air before it arrives at the point of combustion at the upper screened end M of the mixing-chamber. The upper end, forming the screen, is formed in the shape of a cap which is fitted over the cylindrical portion of the mixing-chamber.

Through the flanges connecting the two portions of the shell are apertures F″, (seen plainly in Fig. 2 of the drawings,) and in said apertures are passed the upright supports R, which are twisted, as shown, and riveted to the shell, as at E^2, while the lower ends of the said supports are outwardly turned and form a support for a globe or shade.

In order to regulate the supply of air which it is desired to be fed to the burner-tube, I provide a shutter or cylindrical member S, which has stamped out of its cylindrical wall the springs S′. This member has its lower portion double-beaded, as at T, to receive and hold the disk Q. The cylindrical portion S is of such a size that it will fit over the outer wall of the tube A, and by the provision of the spring-arms S′ the said cylinder may be held to the said tube and may be pushed up or down, and by so doing the space between the disk Q, which forms a flange for the cylindrical member S, and the upper end of the cup D is increased or diminished, as may be desired, to allow more or less air to enter the burner-tube under varying pressures of gas.

To the shell E is secured the adjusting thumb-screw for holding the mantle, which is carried on a vertically-adjustable rod of ordinary construction, which forms no part of the present invention.

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

An incandescent gas-burner, comprising in combination with the base, the burner-tube A and gas-tip C supported on a shoulder therein, the cup D with its lower flanged end upturned and fitted about said tube A, the cylindrical jacket S with beaded end, the disk Q thereon, means for supporting the jacket, and the mixing-chamber supported by the beads on said tube and jacket, as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. BRAGGER.

Witnesses:
I. J. MORRIS,
O. A. KLINE.