No. 848,367. PATENTED MAR. 26, 1907.

H. H. HIPWELL.

GAS BURNER.

APPLICATION FILED MAY 26, 1906.

Fig. 1.

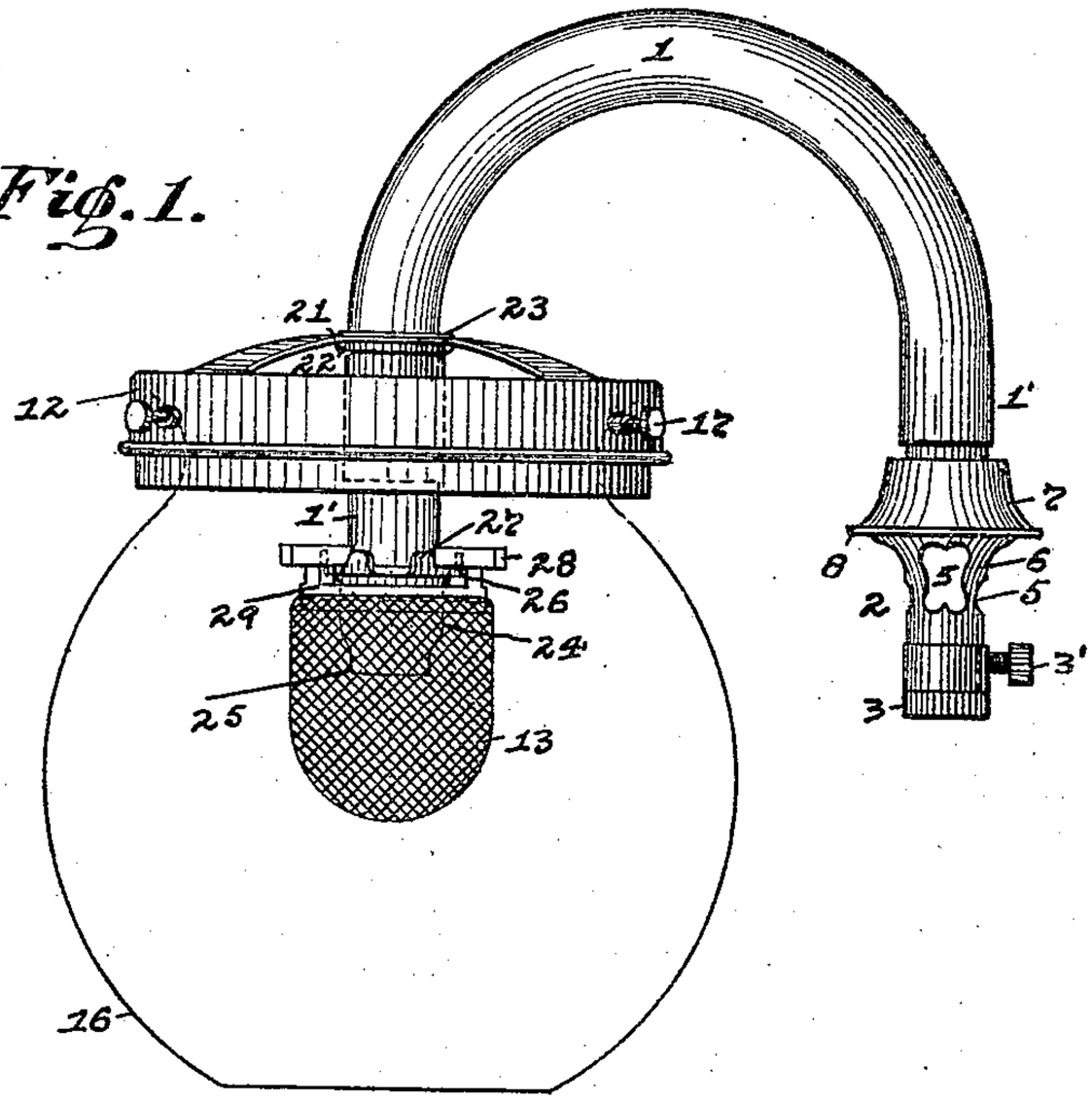


Fig. 4.

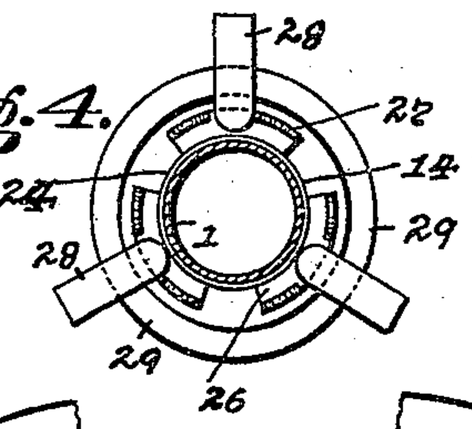


Fig. 2.

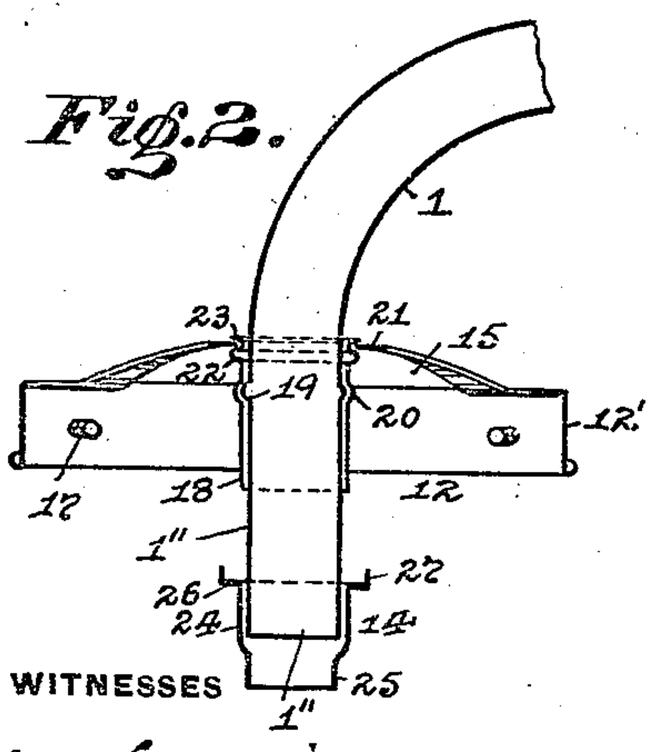
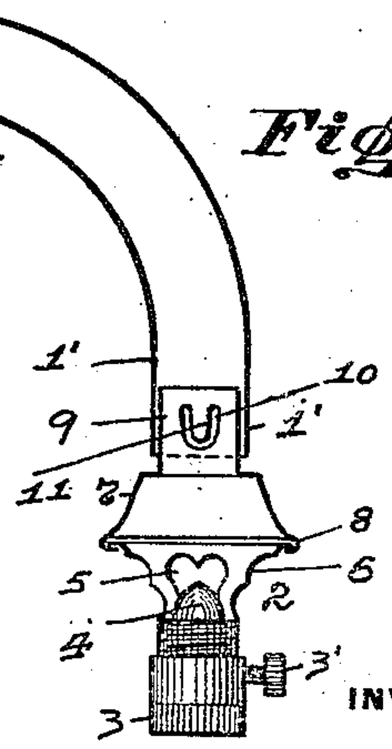


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

HARRY H. HIPWELL, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR TO HIPWELL MANUFACTURING COMPANY, OF ALLEGHENY, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

GAS-BURNER.

No. 848,367. Specification of Letters Patent. Patented March 26, 1907.

Application filed May 26, 1906. Serial No. 318,805.

To all whom it may concern:

Be it known that I, HARRY H. HIPWELL, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Gas-Burners; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to gas-burners, and has special reference to what are known as inverted incandescent gas-light burners.

The object of my invention is to provide such a form of a gas-burner which will be cheap and simple in its construction and operation, will be practical and efficient for its purpose, and will be capable of being easily manufactured and assembled.

My invention consists, generally stated, in the novel construction, arrangement, and combination of parts, as will hereinafter be more specifically set forth and described, and particularly pointed out in the claim.

To enable others skilled in the art to which my invention appertains to construct and use my improved gas-burner, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved burner, showing the same ready for operation. Fig. 2 is a sectional view of one end of the same. Fig. 3 is a sectional view of the opposite end of the same. Fig. 4 is a detail view of the mantle-support.

Like symbols of reference herein indicate like parts in each of the figures of the drawings.

As illustrated in the drawings, 1 represents the "bunsen" or mixing-tube for the mixture of air and gas to the burner, and this tube is of an inverted-U-shaped form and of a continuous construction or formed of a single piece of thin sheet metal. At one end 1′ of the tube 1 is a device 2, formed of sheet metal, for mixing gas and air and is connected at its lower end 3 to a main gas-supply pipe (not shown) for supplying gas to the burner. This gas is regulated in passing through the device 2 in any suitable manner, as by the screw-pin 3′, operating in connection with a needle-point and jet device 4, as shown in Fig. 3, and air is supplied to the bunsen through openings 5, formed in the outwardly-flaring portion 6. The top portion 7 fits above and over the flared portion 6 and is connected thereto by means of a flange 8 on said top, which is bent around the upper edge of the portion 6. The tubular upper end 9 on the top 7 fits within the end 1′ on the continuous tube 1 and is held therein by means of a U-shaped opening 10, which forms a tongue 11 to be bent out and engage with the said end 1′.

Fitting around the opposite or burner end 1″ of the continuous tube 1 is the shade or globe holder 12, which is formed of sheet metal and extends above a burner-mantle 13, held on the mantle-support 14, secured on the end 1″. The globe-holder 12 is provided with the openings 15 through the top of the same to form the arms 21′, and the globe 16 is held within the same by means of the set-screws 17, passing through the flanged body 12′ of said holder and engaging with said globe. The holder 12 is supported in place on the end 1″ of the continuous tube 1 through the medium of a sheet-metal tubular portion 18, fitting over said tube end and being held in place by a rib 19, formed outwardly on each side of said end, engaging within a recess in a like rib 20, formed outwardly on each side of said tubular portion. The shade-holder 12 is secured to said tubular portion 18 by a cap portion or ring 21 on said holder, and this cap has arms 21′ connected thereto and to the body 12. The ring 21 fits between an annular rib or flange 22, formed outwardly on said tubular portion, and a flange 23, also formed at the upper end of said tubular portion and bent over therefrom against the upper face of said cap portion 21.

The mantle-support 14 is bent and cut from a circular plate of sheet metal to form the tubular portion 24 and the contracted portion 25 thereon, together with the series of flanges 26, bent out at right angles from the upper end of portion 24, on which the lips 27 are bent up from the outer face and at each end thereof, so that the mantle 13 can be easily placed upon and removed from said support 14. This is accomplished by allowing the prongs 28 on the frame 29, holding the mantle 13, to be run along the tubular portion 24 and between the flanges 26, so that said frame can be turned and dropped over the lips 27 to seat the said prongs on said

flanges and between the said lips for supporting said mantle. The mantle and frame can be taken off by lifting the prongs over the lips and turning the same, so that said prongs can be drawn down between the flanges and along the tubular portion to remove the mantle and frame for any purpose, such as replacing an old one, &c.

In the operation of my improved gas-burner the gas passes from the usual supply-pipe through the needle and jet device 4 in the device 2, and the air to be mixed with the said gas passes through the openings 5 in the flared portion 6 of the same, so that such gas and air will then pass through the continuous tube 1 from the end 1′ thereof to the end 1″ on the same, where they will be burned at the mantle 13 when duly lighted. It will thus be seen that my improved gas-burner by having a flared portion for the air-openings to the bunsen will provide a large area for the incoming air in order to make the complete and proper combustion for burning after passing through the long and continuous tube, and the manner of securing the shade-holder to said tube enables an easy, quick, and permanent attachment for the same to said tube. Practical experience with the gas-burner has proven it capable of unusual lighting power, as the long and continuous tube will overcome the usual obstructions to the gas and air passing through the same, as in the ordinary constructions, which thereby gives such gas and air an increased velocity through the same and at the same time enabling it to be much cheaper, quicker, and easier made by reason of it being in one piece.

The design and construction of my improved gas-burner may be changed or varied without departing from the spirit of the invention or sacrificing any of its advantages.

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

A gas-burner for incandescent gas-lighting comprising an inverted-U-shaped mixing-tube having a rib and a mantle at its lower end, a sleeve above the mantle having a recess fitting on said rib and also having a flange at its upper end with another flange above the first-named flange, a ring fixed permanently between said flanges, arms on said ring, and a shade-holding ring at the outer end of said arms.

In testimony whereof I, the said HARRY H. HIPWELL, have hereunto set my hand.

HARRY H. HIPWELL.

Witnesses:

J. N. COOKE,

WM. R. MCCOMMON.