

No. 793,302.

PATENTED JUNE 27, 1905.

M. L. KEISER.  
GAS BURNER FOR ILLUMINATING PURPOSES.  
APPLICATION FILED FEB. 7, 1905.

Fig. 1

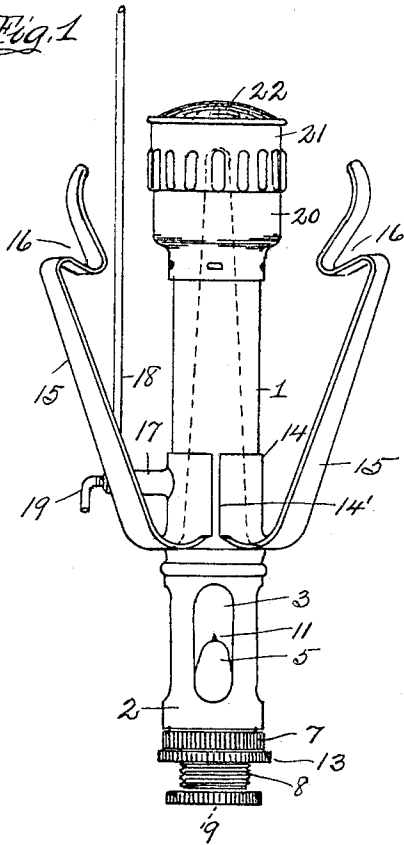


Fig. 2

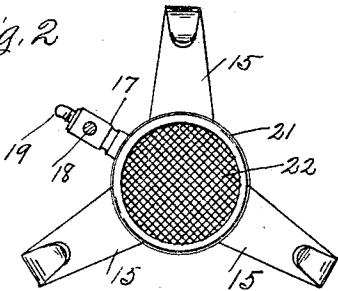


Fig. 3

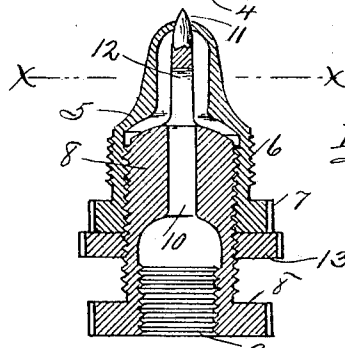
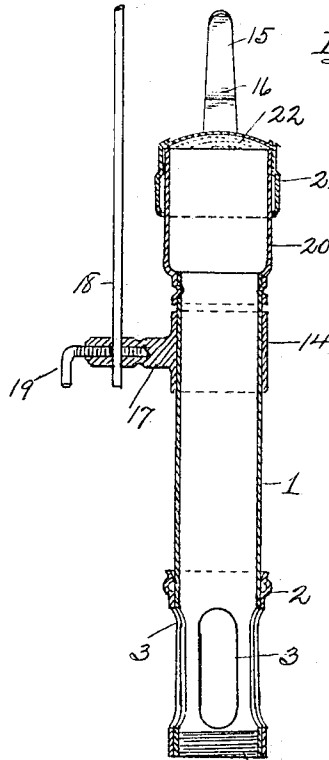


Fig. 4

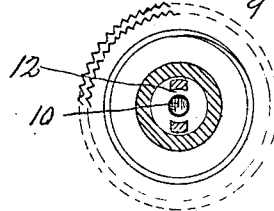


Fig. 5

Witnesses:  
H. J. Lewis  
L. Boulton.

Witness:  
M. L. Keiser  
O. D. Lewis

Atty.

# UNITED STATES PATENT OFFICE.

MARTIN LUTHER KEISER, OF PITTSBURG, PENNSYLVANIA.

## GAS-BURNER FOR ILLUMINATING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 793,302, dated June 27, 1905.

Application filed February 7, 1905. Serial No. 244,527.

*To all whom it may concern:*

Be it known that I, MARTIN LUTHER KEISER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Burners for Illuminating Purposes; 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to an improved gas-burner for illuminating purposes; and it consists in the certain details of construction and combination of parts, as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is a side elevation of my improved gas-burner, the same being constructed and arranged in accordance with my invention. Fig. 2 is a plan view of the same. Fig. 3 is a sectional side elevation of the burner having the needle-point regulator removed therefrom. Fig. 4 is an enlarged side sectional elevation of the needle-point regulator, showing the interior construction of the same. Fig. 5 is a sectional plan view of the same, the said section being taken on the line X X of Fig. 4.

To construct a gas-burner for illumination purposes in accordance with my invention, I provide a section of suitable tubing 1, having an interior screw-thread 4 at the base and formed with a series of vertical slots 3, adapted to be opened and closed by means of a loose sleeve 2, provided with similar slots to form an air mixer and regulator by means of which the quantity of air admitted to the burner may be proportioned and regulated to obtain complete combustion of the gas, said air-mixer being always in plain view.

Connected to the bottom of the tube 1 by means of the screw-thread 4 is a hollow conical-shaped piece 5, having a small perforation at the top, an exterior screw-thread, a serrated flange 7, and an interior screw-thread, by means of which a flanged fitting 8 is connected. This fitting 8 is formed with an in-

terior threaded portion for attachment with the gas-inlet pipe and with a central opening 10, over which is an integral arch-piece 12, terminating in a needle-point valve 11, operated to open or close the perforation in the cone 5. Above the loose sleeve 2, forming a part of the air-mixer, is a globe and mantle holder capable of being moved vertically along the central tube 1 and consisting of an open ring 14, having upwardly-diverging integral arms 15 bent near the top to form pockets 16, in which the globe rests, and the said open ring provided with a radial thread-boss 17, having an opening for the reception of the mantle-wire 18, said wire being held at the desired position by a screw 19. Attached to the top of the tube 1 is an enlarged portion 20, said portion being open at the top and fitted with a cap 21, formed with a gauze 22.

In operation the mantle is suspended to the wire 18 to surround the upper portion of the burner in a manner well known in the art. By releasing the locking-nut 13 and moving the cone-piece 5 up or down to open or close the perforation the inflow of gas may be regulated with the greatest degree of exactness. As is obvious, the quantity of air admitted is regulated by revolving the sleeve 2 to partly open or close the slots 3.

The mantle and globe may be elevated above the cap 22 and the said cap removed for the purpose of cleaning the gauze by simply moving the ring 14 upward and held in this position by the friction of the parts.

By the use of a gas-burner constructed as described many advantages are obtained, some of which are the improved needle-point regulator, the simplicity of the air-regulator, the globe-holder, which may be bent and shaped for adjustment with any size or shape of globe, the large tube having no offsets to retard gas-pressure, producing perfect combustion. Its mantle and globe may be raised above the cap for the purpose of cleaning the gauze of the same and the parts again lowered without damage to the mantle. The burner is noiseless and is so constructed that the gas has a straight or uninterrupted flow to the top of the mantle, thereby causing a non-ex-

plusive combustion of gas in the mantle when ignited. This construction of a gas-burner causes the gas to ignite at the top of the mantle, thus giving the same brilliancy at the top as produced at the bottom of the mantle. 5  
 With this burner we get three times the candle-power from the same gas pressure or volume as in the ordinary burner of this class. Also this burner does not throw any shadows 10 and cannot collect dust, &c., owing to the peculiar form of the needle-valve.

It is obvious that slight modifications and changes may be made in the details of construction without departing from the spirit 15 of the invention. Therefore I do not wish to confine myself to the exact construction shown and described, but wish to claim all such as would come properly within the general scope of the invention.

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

1. In a burner, in combination with the burner-tube, of a mantle and globe holder 25 slidingly arranged on said tube, said holder

being formed of a single piece of sheet metal and comprising a split ring, radially-extending arms bent upwardly and formed with bent portions at their upper ends to receive the globe, a mantle-supporting means, and a boss 30 on said split ring to receive the mantle-supporting means.

2. In a device of the character described, a burner-tube provided with air-ports, an apertured sleeve arranged on said tube to regulate 35 the amount of air passing through said ports, a split ring arranged on said tube and normally resting on said sleeve, integral arms bent from the bottom portion of the split ring and extended upwardly to receive the globe, means 40 for supporting the mantle, and means on said ring to adjustably receive the mantle-supporting means.

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

MARTIN LUTHER KEISER.

Witnesses:

H. J. LEVIS,  
 E. M. BROWN.