

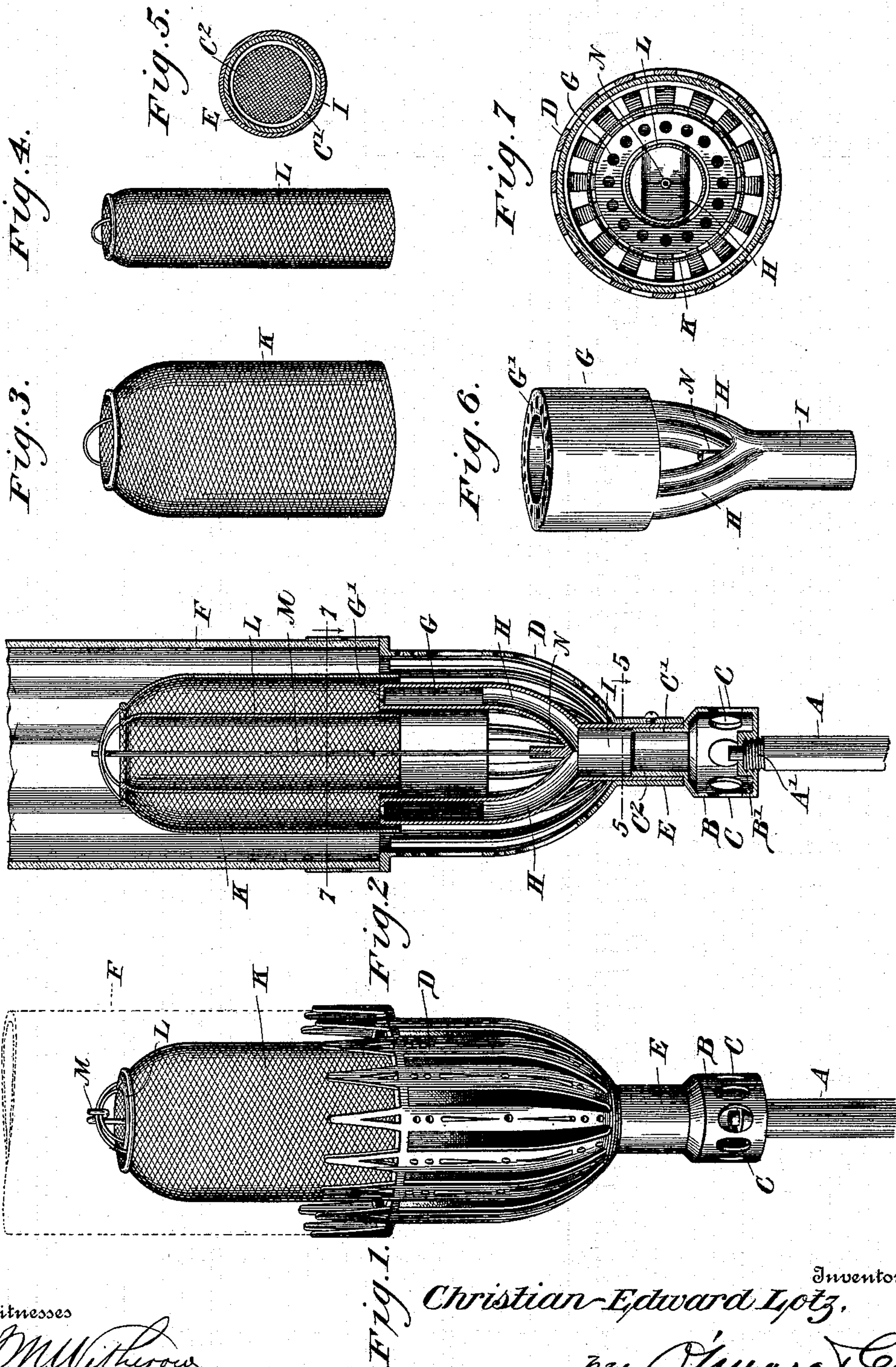
No. 615,288.

Patented Dec. 6, 1898.

C. E. LOTZ.  
INCANDESCENT GAS BURNER.

(Application filed Feb. 15, 1898.)

(No Model.)



Witnesses  
*J. M. Withrow*  
*Chas. E. Brock*

*Christian-Edward Lotz,*  
Inventor

*by J. M. Withrow*  
Attorneys



# UNITED STATES PATENT OFFICE.

CHRISTIAN EDW. LOTZ, OF WHEELING, WEST VIRGINIA.

## INCANDESCENT GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 615,288, dated December 6, 1898.

Application filed February 15, 1898. Serial No. 670,338. (No model.)

*To all whom it may concern:*

Be it known that I, CHRISTIAN EDW. LOTZ, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented a new and useful Incandescent Gas-Burner, of which the following is a specification.

My invention relates to gas-burners, and more especially to that class of gas-burners in which the mantle is heated to incandescence, known as "incandescent" gas-burners.

The object of my invention is to provide a burner of this class which shall be simple in construction and at the same time will be more economical than those in general use.

A special object of my invention is to provide in a lamp of this class means for increasing the incandescent surface without increasing the consumption of gas.

With these objects in view my invention consists in a burner of this class provided with a suitable tip, from which the mixed air and gas escapes at the point of ignition, and an inner and outer mantle, the flame-chamber being located between the two mantles and a central draft-passage being furnished inside of the inner mantle.

My invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the appended claim.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of a burner constructed in accordance with my invention, the glass chimney being shown in dotted lines and broken away at the top. Fig. 2 is a central vertical section through the same. Fig. 3 is a detail perspective view of the outer mantle. Fig. 4 is a detail perspective view of the inner mantle. Fig. 5 is a detail sectional view on the line 5 5 of Fig. 2, looking downward. Fig. 6 is a detail perspective view of the mixing-chamber and burner-tip detached. Fig. 7 is a detail sectional view on the line 7 7 of Fig. 2, looking downward.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letters, A indicates the supply-pipe, which is threaded at its upper end, as at A', by means of which it is threaded into a block B', forming the bottom of the mixing-chamber B. This mixing-chamber is provided with side openings C for the admission of air and an upwardly-projecting nozzle C', covered at its upper end by a sieve C<sup>2</sup>.

A chimney-holder D, of any desired form, is provided with a downwardly-projecting nozzle E, which fits over the outside of the nozzle C' of the mixing-chamber, the glass chimney F being supported in the chimney-holder in the usual manner and the chimney-holder being made of skeleton form to admit of air passing therethrough into the outer portion of the chimney.

G indicates the tip of the burner, which is in the form of an annular chamber, provided with branch pipes H, connected to its under side, leading down to and forming a stem or central pipe I, which is adapted to be fitted between the nozzle C' of the mixing-chamber and the nozzle E of the chimney-holder, as most clearly shown in the sectional view in Fig. 2.

K indicates an outer mantle, and L an inner mantle, both supported at their upper ends from a central rod M, which passes downward through the inner mantle into a socket N, as clearly shown.

It will be noticed that both the mantles extend below the series of openings G' at the top of the burner-tip, so that when the mixed air and gas escaping through the apertures G' in the top of the tip is lighted the flame will be located between the two mantles and will heat both of them to incandescence, the perfect combustion of the mixed air and gas being more thoroughly assured by the air-drafts, which pass centrally through the tip and the inner mantle and outside of the outer mantle, as clearly shown.

From the foregoing description it will be seen that I have provided two mantles, both of which are subjected to the heat of the flame, instead of a single outer mantle, as heretofore used, and both of which will be



brought to a state of incandescence, thereby increasing the intensity of the light.

The central and outer draft arrangement will induce more perfect combustion, thereby economizing in the use of gas, and may be regulated by suitable dampers.

While I have illustrated and described the best means now known to me for carrying out my invention, I do not wish to be understood as restricting myself to the exact details of construction shown, but hold that any slight changes or variations, such as might suggest themselves to the ordinary mechanic, would properly fall within the limit and scope of my invention.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination with the mixing-chamber, having the upwardly-projecting nozzle, of the burner-tip, the branch pipes leading therefrom and the downwardly-projecting stem surrounding the nozzle of the mixing-chamber, and the skeleton chimney-holder, provided with the downwardly-projecting nozzle, mounted around the main pipe and mixing-chamber nozzle, substantially as described.

CHRISTIAN EDW. LOTZ.

Witnesses:

F. F. SCHAEFER,  
HERMAN LOTZ.