

(No Model.)

A. HEILBRUN.

HYDROCARBON INCANDESCENT LIGHT.

No. 352,821.

Patented Nov. 16, 1886.

FIG. I.

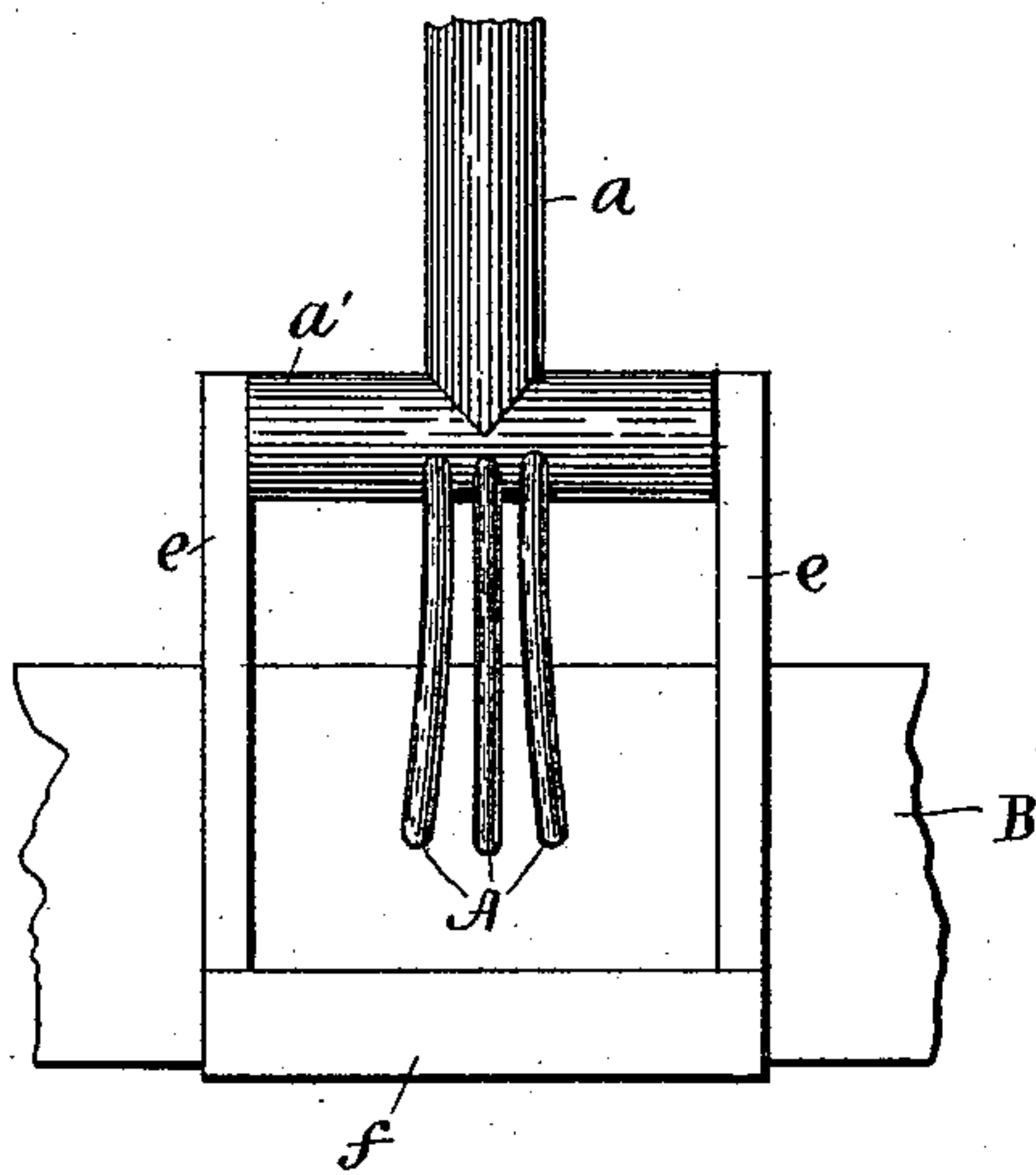
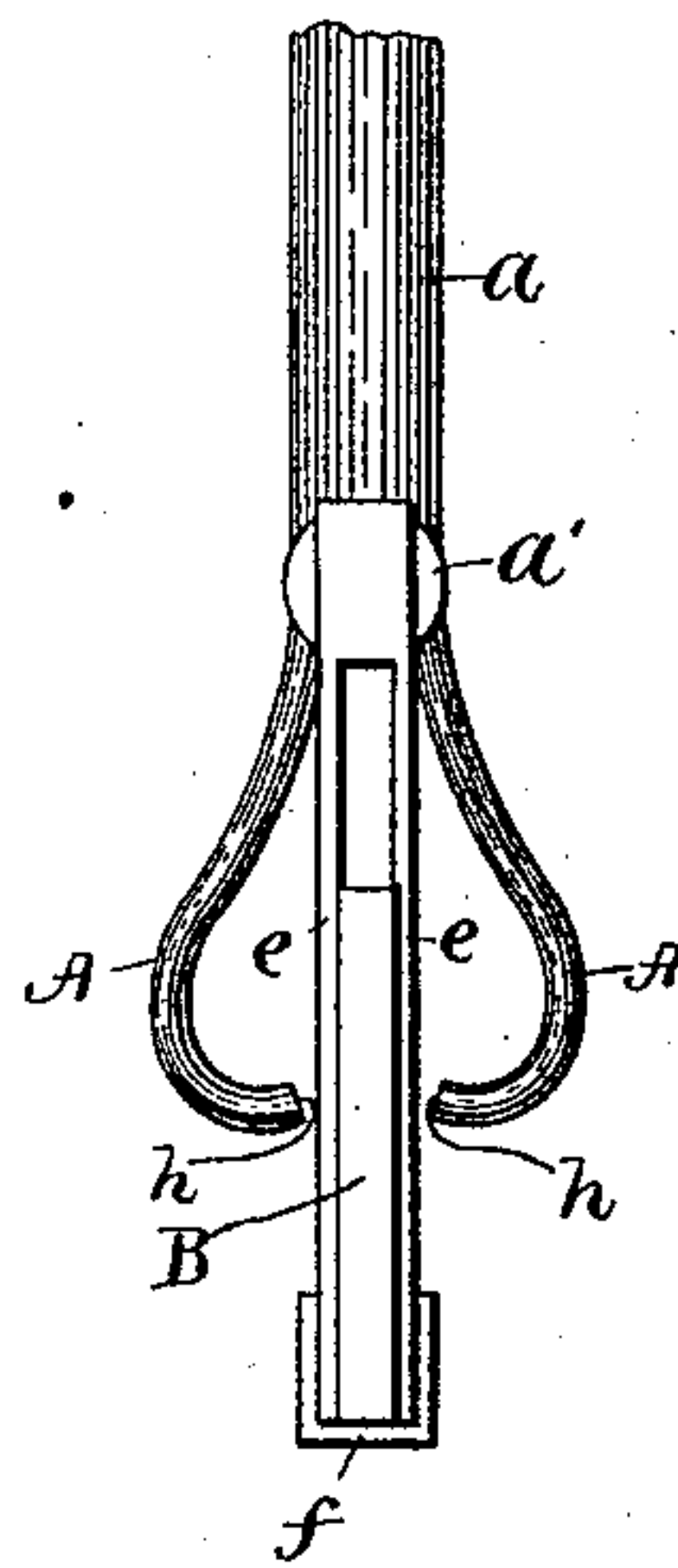


FIG. II.



Attest  
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# UNITED STATES PATENT OFFICE.

ALEXANDER HEILBRUN, OF CINCINNATI, OHIO.

## HYDROCARBON INCANDESCENT LIGHT.

SPECIFICATION forming part of Letters Patent No. 352,821, dated November 16, 1886.

Application filed January 2, 1886. Serial No. 187,464. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER HEILBRUN, of Cincinnati, Ohio, have invented a new and useful Improvement in Hydrocarbon Incandescent Lights, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, forming part thereof, in which—

Figure I is an elevation of my improved burner. Fig. II is an end view of the same.

Similar letters of reference in the several drawings denote the same parts.

Reference being had to the accompanying drawings, *a* is an ordinary gas-pipe. *a'* is a tube, shown in the drawings as soldered to the pipe *a*, but it may be screwed to the pipe *a* in the ordinary manner. Into this tube *a'* the small burning-tubes *A* are inserted and are projected downward any desired depth. These pipes *A* flare, and are curved, as shown, and the mouth ends *h* are brought directly opposite each other. I turn the ends *h* of the tubes *A* up, so that the angle of incidence of the flame impinging upon the surface of the substance to be raised to incandescence shall be such that the deflected flame shall impinge upon said tubes somewhat above their mouth ends and raise the gas therein to a high temperature before it issues.

*e, e,* and *f* are members of a holder rigidly attached to the tube *a'*.

Operation: The tube *a'* is attached to any gas-pipe leading from a gasometer filled with fuel-gas. If, now, it is intended to be used for illuminating purposes, any metal or metallic oxide or carbonate may be inserted into the holder *f* to be raised to incandescence. I have shown a flat elongated piece, *B*, of chalk

or carbonate of lime, inserted in the holder. The gas issuing out of the tubes *A* under pressure serves to heat the chalk, and the heat arising from the flame of the burners and the substance heated serves to heat the gas in the tubes *a'* and *A* before it issues therefrom. If, however, it is to be used for heating purposes only, the distance between the mouths *h h* of the tubes *A* would vary according to the necessities of the case. Looking at Fig. I it will be seen that the fixed ends of the tubes *A* are much nearer together than the mouths of said tubes. They are so placed that the heat arising from the heated substances may more certainly heat the tubes *A* throughout their whole length.

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

The combination, with the supply-pipe *a* and the horizontal blast-tube *a'*, of the hangers *e*, depending from said blast-tube, the support *f*, secured to the lower ends of said hangers in the same vertical plane as the tube *a'*, the piece *B*, of incandescent material, having parallel sides supported by said holder, with its sides vertical and in the same vertical plane as the tube *a'*, and the small tubes *A*, having upwardly-inclined mouth ends terminating in two parallel rows upon opposite sides of the piece *B*, substantially as set forth.

The foregoing specification of my invention signed by me this 29th day of December, A. D. 1885.

ALEXANDER HEILBRUN.

Witnesses:

BENJAMIN H. COX,  
JEPHTHA GARRARD.