

HENRY H. EDGERTON.

SHIELDS FOR NAPHTHA

GAS BURNERS.

117396

PATENTED JUL 25 1871

FIG. 1.

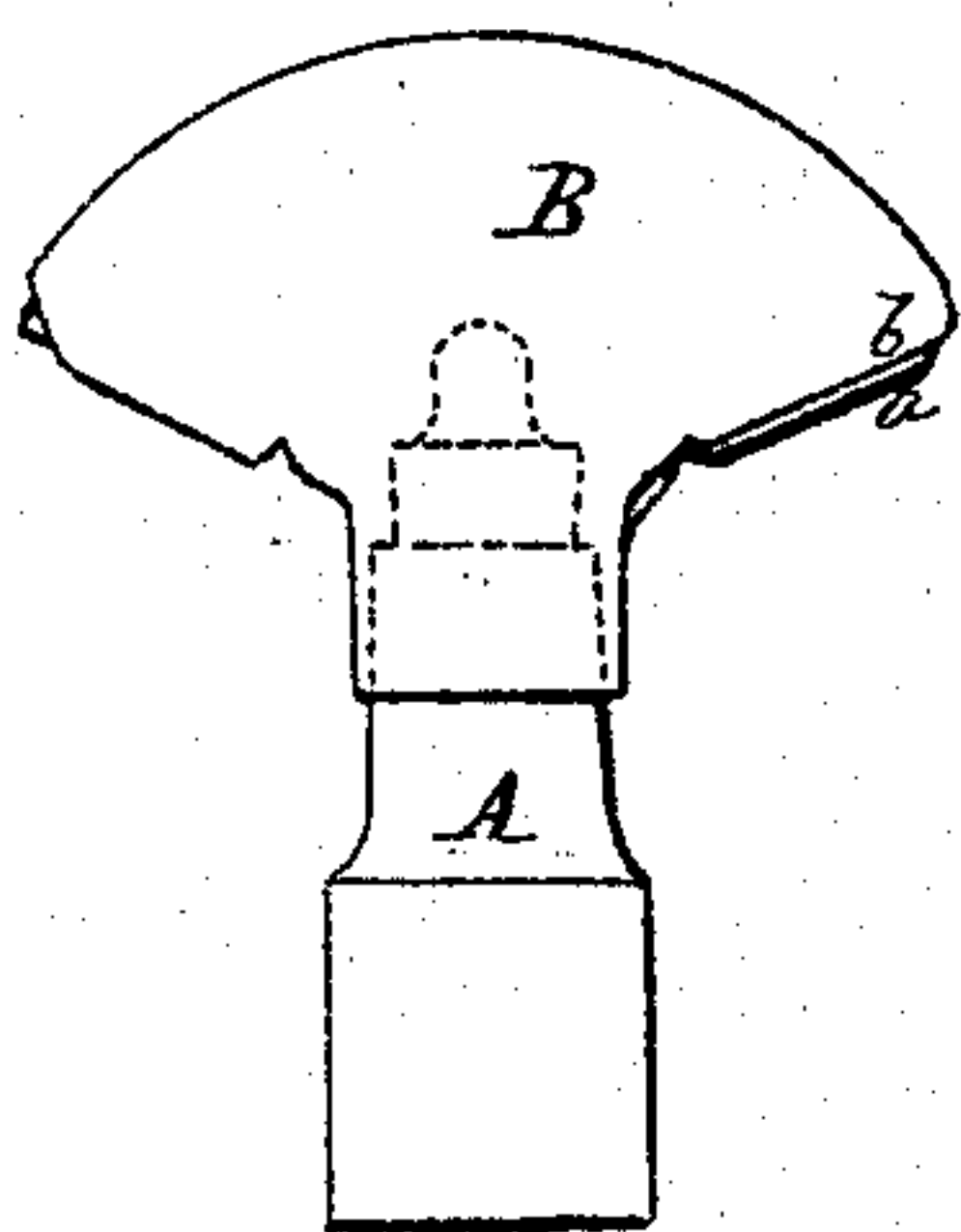


FIG. 2.

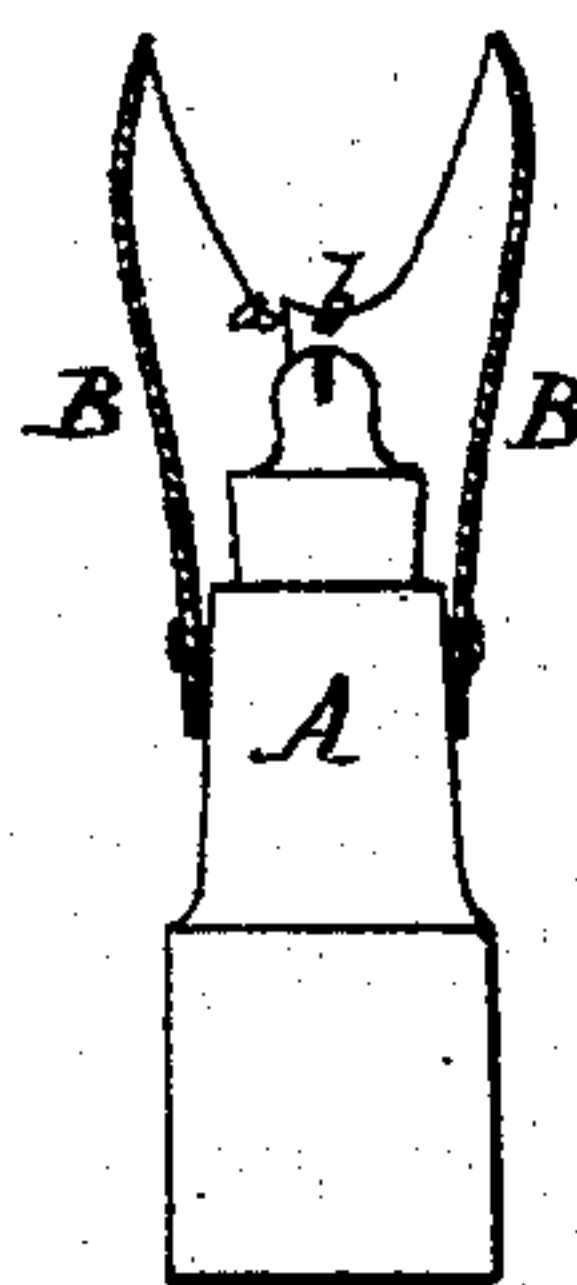


FIG. 3.

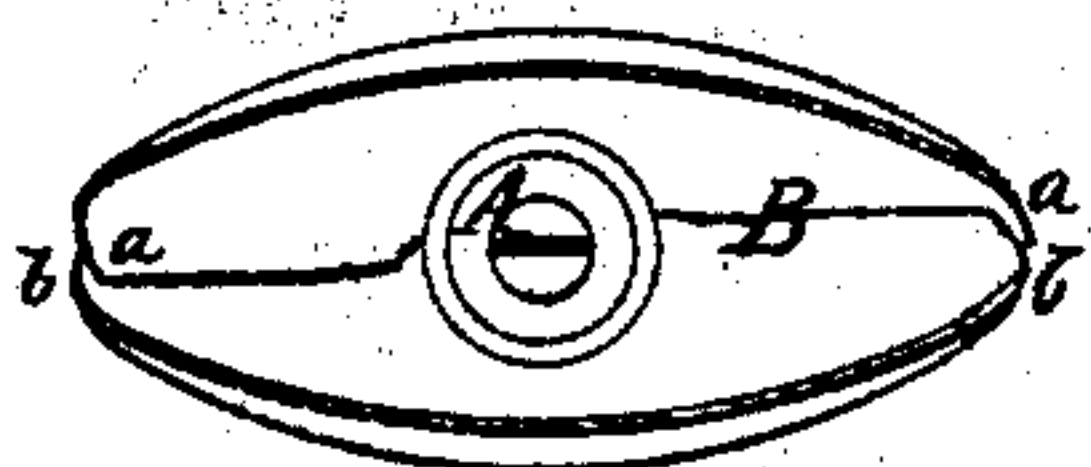
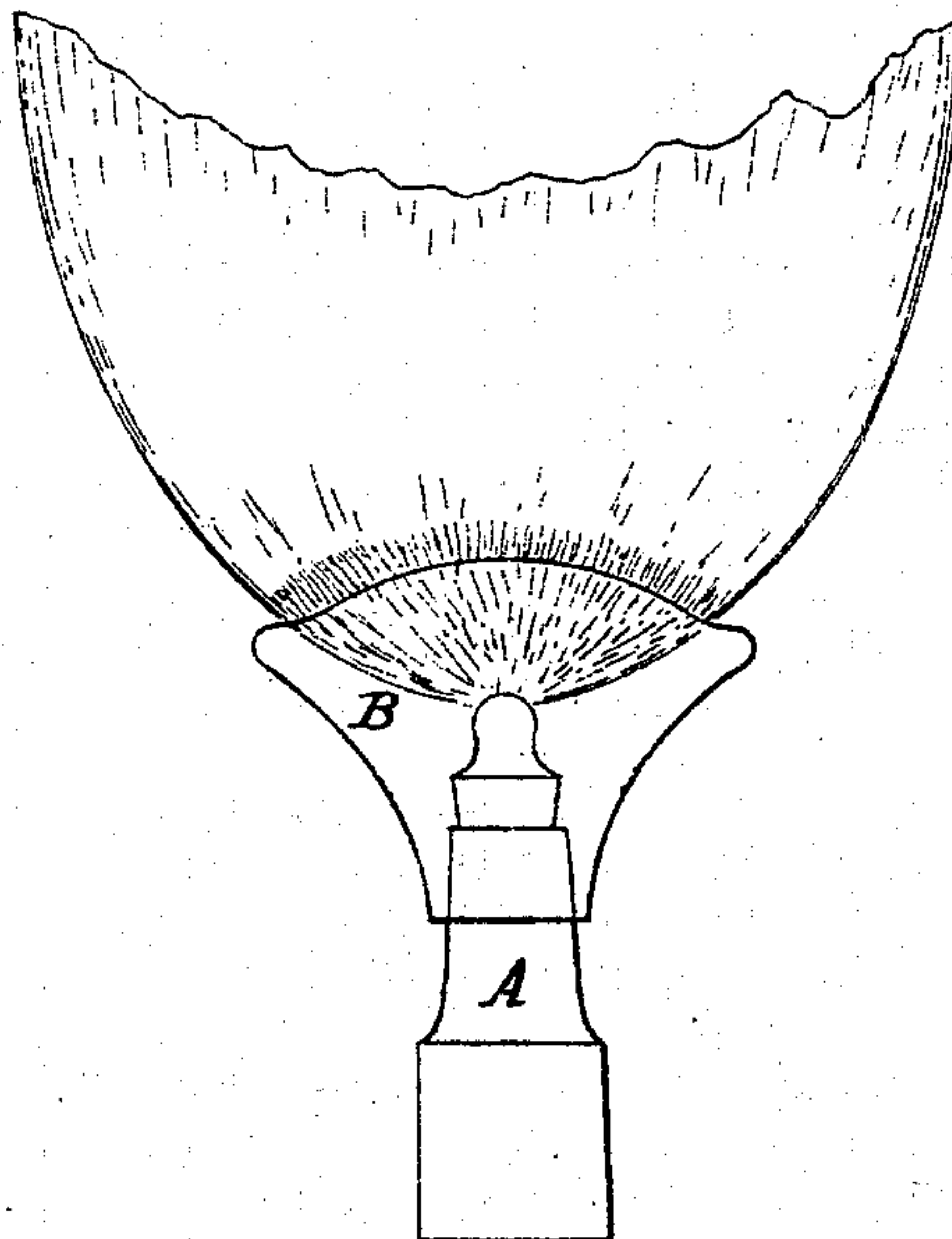


FIG. 4.



Henry H. Edgerton  
by his attorney  
*A. B. McK*

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WITNESSES. *J. Nottingham*

# UNITED STATES PATENT OFFICE.

HENRY H. EDGERTON, OF FORT WAYNE, INDIANA.

## IMPROVEMENT IN SHIELDS FOR NAPHTHA-GAS BURNERS.

Specification forming part of Letters Patent No. 117,396, dated July 25, 1871.

*To all whom it may concern:*

Be it known that I, HENRY H. EDGERTON, of Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification:

My invention has special relation to burners for naphtha gas in contradistinction to coal gas or carbureted air. In the use of such gas I have found that the upward currents of air, which, in the consumption of other kinds of gas, are allowed to pass directly up around the sides of the burners to the flame, are injurious and harmful, and I have therefore devised a shield which closes tightly around the burner at the bottom so as to prevent the entrance of air from that direction, and extends up so that its top shall be about level with or a little below the line which separates the illuminant and non-illuminant portions of the flame. With a shield of this character the burning of the gas is much improved and a better flame is produced, and an elasticity is imparted to it in certain situations, as, for instance, in street-lamps, which could not be obtained were the shield open at the bottom or on the sides.

The manner in which my invention is or may be carried into effect will be readily understood by reference to the accompanying drawing, in which—

Figure 1 is a side elevation of a burner provided with a shield made in accordance with my invention. Fig. 2 is a transverse vertical section through the shield. Fig. 3 is a top view of the burner and shield. Fig. 4 is a side elevation of the burner and shield, representing the relation which the latter bears to the flame.

The naphtha-gas burner A may be of any ordinary or suitable construction, and need not be further described. The shield B may be made of metal, as indicated in Figs. 1, 2, and 3, or of glass, as seen in Fig. 4, or of other suitable material. At the bottom it is made cylindrical or of other shape to fit tightly and closely around the burner, so as to exclude all air from below, this being an essential feature of the shield, without which it could not well be used for the purposes for which it is designed. The shield, above its cylindrical part, is flattened and spread so as to follow to some extent the shape of the flame, and rises from a quarter to half an inch, more or

less, above the burner-tip. If the shield be made of metal it may be formed of two side pieces with lapped edges, as shown at *a b*; or it may be constructed in any other suitable manner and of any proper material; but in any case the shield should be practically a closed shield, which will exclude the air from below. As indicated in Fig. 4, the top of the shield is in line with or a little below the separating line between the dark and light portions of the flame.

I am aware that various shields for burners have been employed, some moving up and down according as the cock of the burner is closed or opened, such burners being used for night-lamps. I am also aware that shields have been used for burners consuming coal gas or carbureted air, such, for instance, as shown in patents 21,733, of October 12, 1858, and 107,824, of September 27, 1870. But all these shields admit air from below directly to the flame, the air passing, in the former case referred to, through the open sides of the shield, and in the latter case through the open bottom of the shield. Either of the shields will answer for burning ordinary gas or carbureted air, but neither will serve for the burning of pure naphtha gas. In order to perfectly burn this gas it is necessary that the shield should be broad and flaring at the top and tightly closed at the bottom, so that, while excluding the air from below and deflecting the upward currents, air may at the same time have access to the flame in such quantity as to insure perfect combustion.

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

A shield for naphtha-gas burners, made of glass, metal, or other material, with a neck to fit closely around or upon the burner so as to exclude air from below, and a broad or flaring upper air-deflecting portion following the general shape of the flame, and extending to or below the line between the illuminant and non-illuminant parts of the flame, as herein shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

HENRY H. EDGERTON.

Witnesses:

JAS. BEARD,  
WM. T. MANTHEY.