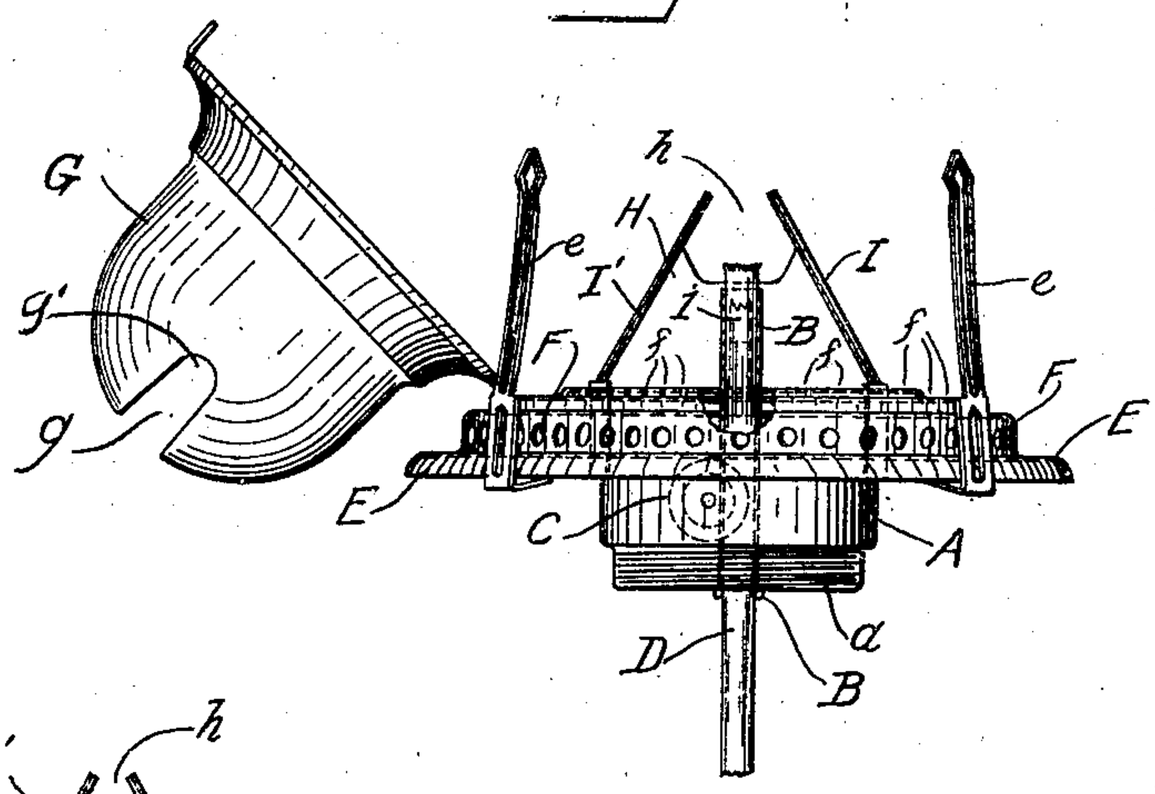
F. A. CURTIS.

BURNER.

APPLICATION FILED MAY 7, 1908.

917,261. Patented Apr. 6, 1909.

FIG. 1.



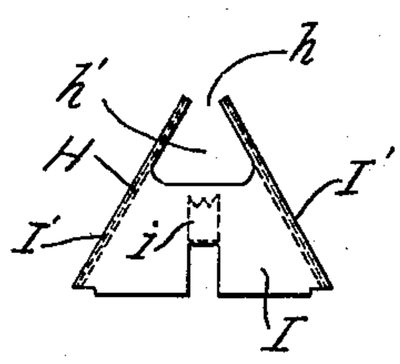
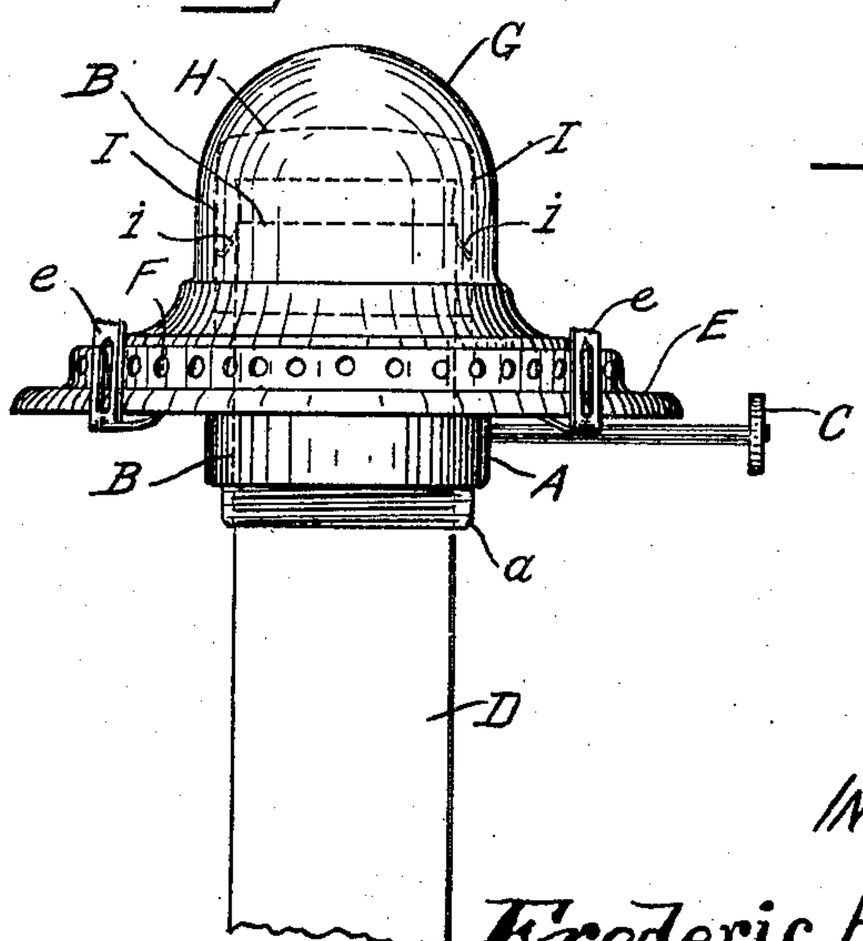


FIG. 3.

FIG. 2.



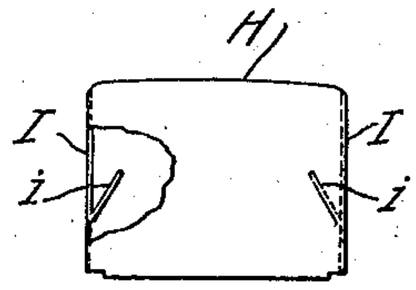


FIG. 4.

WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

FREDERIC A. CURTIS, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO STANDARD WICK & BURNER CO., OF CHICAGO, ILLINOIS, A CORPORATION.

BURNER.

No. 917,261. Specification of Letters Patent. Patented April 6, 1909.

Application filed May 7, 1908. Serial No. 431,398.

To all whom it may concern:

Be it known that I, FREDERIC A. CURTIS, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Burners, of which the following, when taken in connection with the drawing accompanying and forming a part hereof, is a full and complete description sufficient to enable those skilled in the art to which it pertains to understand, make, and use the same.

This invention relates to burners for kerosene lamps wherein the ordinary flat wick is used. And the object of the invention is to obtain a burner by means of which good combustion, without smoke, and a clear white light may be obtained from kerosene oil.

A further object of the invention is to obtain a flame which will not flicker to any considerable extent.

A further object of the invention is to obtain a burner of the kind named usable on the ordinary kerosene lamps and on which an ordinary chimney may be placed.

In the drawing refrered to Figure 1 is a side elevation of a lamp burner with the dome thereof thrown back, showing the upper end of the wick tube and adjacent parts in vertical section. Fig. 2 is an elevation of a burner embodying this invention, viewed at right angles to Fig. 1, with the dome in place. Fig. 3 is a vertical sectional view of an air deflector forming an element in the device. Fig. 4 is a side elevation of the air deflector, forming an element in the device, broken away at one end to give a sectional view thereof.

A reference letter applied to designate a given part is used to indicate such part throughout the several figures of the drawing wherever the same appears.

A is the base of the burner embodying this invention, and is provided with the screw threads *a* arranged to fit into corresponding threads on the bowl of the lamp.

B is a wick tube secured in base A.

C is a wick raiser.

D is a wick.

E is a foraminated sub-base of the burner and is provided with springs *e*, *e*, arranged to hold a chimney in place thereon.

F and *f* are perforations or foraminations in the sub-base E.

G is the dome of the device, and is provided with aperture *g g'* through which a flame from wick D extends, when the device is in use.

H is an air deflector provided with aperture *h h'*, through which aperture the flame from the wick D extends, before passing through the aperture *g g'* in dome G.

The parts *g h* of apertures *g g'* and *h h'*, respectively, are above the wick tube and the parts *g' h'* of such apertures are on the sides of the wick tube when the dome G and the air deflector H, are in place as illustrated in Fig. 2.

Air deflector H is illustrated as comprising ends I, I, and sides I', I', with part *i* of the ends cut out therefrom and bent up to engage with wick tube B to hold such air deflector H in place on sub-base E.

When the air deflector H is in position on sub-base E as illustrated in Figs. 1 and 2 of the drawing it covers some of the perforations *f* in such sub-base so that air passing through these perforations flows up under the air deflector and is deflected into the flame from the lamp wick, by the sides I', I'. The remainder of the perforations *f* are underneath the dome G and when such dome is in place on the sub-base E, as illustrated in Fig. 2 of the drawing, air passing through the apertures which are not covered by the deflector H, passes upward between the deflector H and dome G and is directed into the flame from the wick D as such flame comes out of the aperture *h h'*; and such flame, with the combustion producing said flame reinforced by the additional air so supplied thereto, passes out through aperture *g g'* in dome G.

Portions *g'* of aperture *g g'* and *h'* of aperture *h h'* extend down, on the spherical portion of the dome G and on the end walls of air deflector H, to permit spreading of the flame which passes through such apertures, after such flame is above the dome and in the chimney of the lamp.

The air deflector H may be stamped or pressed out of sheet metal, or built up, as preferred. Such air deflector when made as herein described is removable from the position thereof on the foraminated sub-base E; but its removability in no way affects the action of the burner, and such removability is for the purpose of permitting ready cleaning thereof. It is therefore, not essential to the operation thereof.

The device is not differently operated than an ordinary kerosene burner, but I have found a marked difference in the size and steadiness of the flame produced thereby from the flame which I have been able to obtain in any differently constructed burner.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is;—

1. In a burner, the combination of a screw-threaded base with a wick tube, a foraminated sub-base, a dome on the sub-base arranged to cover the perforations therein, such dome provided with an aperture for a flame, and an air deflector on the sub-base and beneath the dome, means to attach the air deflector to the ends of the wick tube, such air deflector arranged to direct some of the air which flows upward through the perforations in the sub-base into the flame, such air deflector provided with an aperture for a flame, the aperture for the flame in the dome and in the air deflector respectively, of greater length than the width of the wick in the wick tube and the end of such apertures respectively arranged to extend downward adjacent to the narrow edges of the wick tube, substantially as described.

2. In a burner, the combination of a screw-threaded base with a wick tube, a foraminated sub-base, a dome on the sub-base arranged to cover the perforations therein, the dome provided with an aperture for a flame, and a removable air deflector on the sub-base and beneath the dome, arranged to direct some of the air which flows upward through the perforations in the sub-base into the flame, projections on the inner faces of the end of the air deflector and arranged to engage with the wick tube, the air deflector provided with an aperture for a flame, and the dome arranged to direct the remainder of the air flowing through the perforations in the sub-base into the flame; substantially as described.

FREDERIC A. CURTIS.

In the presence of—
CHARLES TURNER BROWN,
CORA A. ADAMS.