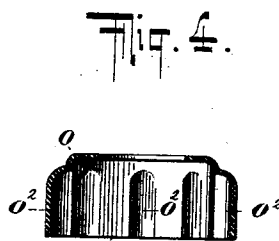
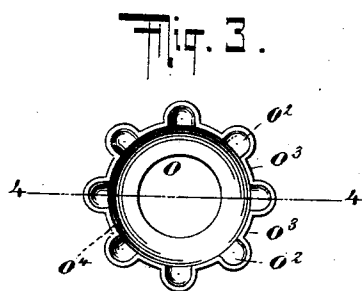
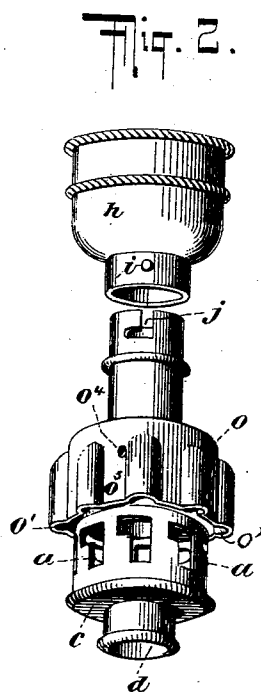
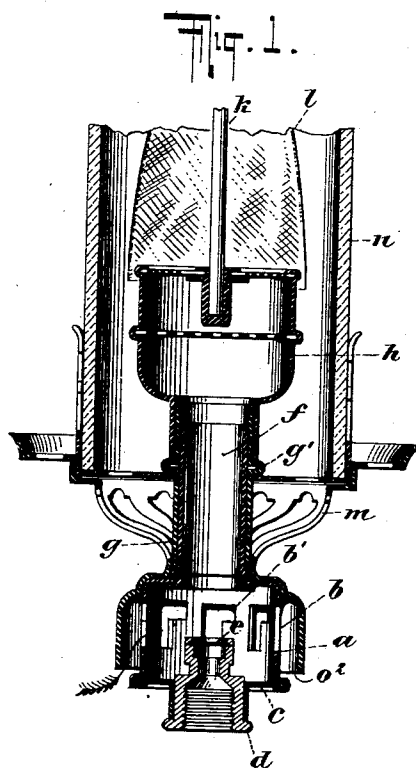


(No Model.)

E. LINDNER.
BURNER.

No. 580,113.

Patented Apr. 6, 1897.



WITNESSES

Gustave Dietrich.
Geo. E. Moore.

INVENTOR

Ernst Lindner
BY *Briesen Knautz*
his ATTORNEYS.

UNITED STATES PATENT OFFICE.

ERNST LINDNER, OF NEW YORK, N. Y.

BURNER.

SPECIFICATION forming part of Letters Patent No. 580,113, dated April 6, 1897.

Application filed December 23, 1896. Serial No. 616,692. (No model.)

To all whom it may concern:

Be it known that I, ERNST LINDNER, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Burners, of which the following is a specification.

My invention relates to burners, more especially of the incandescent-gas-burner type, and has for its object to so construct a burner as to obviate a difficulty heretofore encountered in burners of this class, namely, the liability of the said burners to burn irregularly by reason of the irregular feeding of the air to the burner. In burners of this type as heretofore constructed it has been customary to obstruct the direct influx of air into the mixing-chamber of the burner to a greater or less degree by means of shields—as, for instance, see United States Letters Patent Nos. 409,530 and 390,055. In constructions of this character, however, the “shield,” so called, is inadequate to prevent a direct and strong influx of air into the burner, so that upon the moving of a considerable current of air in a room where the burner is the light becomes flickering in character—as, for instance, when the door of a room wherein the burner is located is suddenly opened or closed the puff of air will cause the supply of air to the burner to be suddenly varied and thereupon the light will flicker, which is highly objectionable. By my invention, however, I am enabled to obviate the difficulties heretofore mentioned; and with this object in view my invention consists in the construction hereinafter set forth and claimed.

My invention will be understood by referring to the accompanying drawings, in which—

Figure 1 is a transverse vertical section of an incandescent gas-burner embodying my invention. Fig. 2 is a perspective view of the burner shown in Fig. 1, the parts being separated to clearly show the construction thereof. Fig. 3 is a view looking upward into the casing or shield, which closely hugs the mixing-chamber; and Fig. 4 is a section on line 4 4 of Fig. 3.

Referring to the drawings, wherein like letters indicate like parts throughout the several views, *a* is the mixing-chamber of the burner, which may be pierced at its periph-

ery with slots *b*, which are shown in the present instance as vertical slots having angular extensions *b'*. *c* is the floor of the mixing-chamber, through which a gas-supply nipple *d* enters, which is shown in the present instance as extending into the mixing-chamber and provided with a screen or grating *e*. This mixing-chamber is shown in Fig. 1 as spun rigidly onto the lower end of a burner-tube *f*, which is fixed firmly in the supporting-tube *g*, to which a burner-chamber *h* is secured by a bayonet-joint *i j*, the lower edge of the said burner-chamber resting upon a shoulder *g'* of the supporting-tube. The burner-chamber *h* is shown as surmounted by the usual mantle-supporting rod *k* and mantle *l*.

The burner can obviously be used as an ordinary Bunsen burner or with the mantle as an incandescent gas-burner. When used as an incandescent gas-burner, I prefer to provide the said burner with a gallery *m* for supporting a chimney *n*.

The parts of the burner just described are intended to be fixed or rigid, so that the manipulations subsequently described may be easily performed. Closely hugging the mixing-chamber and turning loosely thereon is a shield *o*, whose periphery is provided with marginal elevations *o'*, forming chambers *o''*, and intervening marginal depressions *o'''*, which follow the contour of the circular mixing-chamber and fit closely against the outer face of the said chamber, so that as the shield *o* has free movement on the mixing-chamber *a* the marginal depressions may be brought over the vertical slots *b* to a greater or less extent, so as to regulate the air-supply to the mixing-chamber, the air entering through the chambers *o''* and thence through the slots *b*, as indicated by the arrow in Fig. 1. As I have before stated, this shield fits the burner-chamber closely and is frictionally held thereto, but free to turn, its turning movement being limited by a nib *o''*, which projects into the interior of the shield, being shown in the present instance in Figs. 2 and 3 as formed by striking in the thin wall of the shield by a punch from the outside. This nib extends into one of the slots *b* and works in the said slot *b* and its extension-slot *b'*, so that the said nib being allowed to oscillate between

the wall of *b* and the wall of *b'* will limit the swing of the shield on the burner-chamber. When the shield is slipped over the mixing-chamber during manufacture and springs
 5 down thereon to frictionally hold it, the nib is made to enter one of the slots, so that as the mixing-chamber is held rigidly when the burner is mounted upon a gas-fixture the shield may be swung within small limits to
 10 regulate the air-supply to the burner, and instead of presenting one large annular space for the sudden entry of air will present a number of constricted orifices wherein the air does not get a direct path of impingement into the
 15 mixing-chamber, but has to pass thereto by what is practically an angular course, so that sudden gusts of air will not cause the flame to flicker objectionably.

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

1. In a gas-burner, the combination of a mixing-chamber having air-inlet slots therein and a gas-inlet, and a shield surrounding the
 25 said mixing-chamber, the said shield being so shaped as to form a number of independent chambers constituting restricted air-inlet passages to the slots, substantially as described.

30 2. In a gas-burner, the combination of a mixing-chamber having gas and air inlet orifices and a shield surrounding the said mixing-chamber and provided with marginal ele-

vations with intervening marginal depressions, the said elevations cooperating with the
 35 air-inlet orifices of the mixing-chamber, and the said depressions closely hugging the said mixing-chamber between the air-inlet orifices, substantially as described.

3. The mixing-chamber *a* having slots *b*
 40 combined with the shield *o* having the marginal elevations *o'* forming chambers *o''* and the intervening marginal depressions.

4. The mixing-chamber *a* having slots *b*
 45 combined with the shield *o* having the marginal elevations *o'* forming chambers *o''* and the intervening marginal depressions, and with a burner-chamber and a tubular passage leading from the mixing-chamber to the
 50 burner-chamber.

5. The mixing-chamber *a* having the slots
 55 *b*, combined with the shield *o* surrounding and movable on the chamber and having the chambers *o''* cooperating with the slots, and the depressions *o'''* adapted to reach contact
 60 with the wall of the mixing-chamber, whereby the admission of air to the mixing-chamber may be regulated by adjusting the shield on the chamber and liability of a sudden influx of air to the mixing-chamber obviated,
 65 substantially as described.

ERNST LINDNER.

Witnesses:

GEO. E. MORSE,
 MAURICE BLOCK.