

(Model.)

E. B. REQUA.
Lamp Burner.

No. 241,417.

Patented May 10, 1881.

Fig. 1.

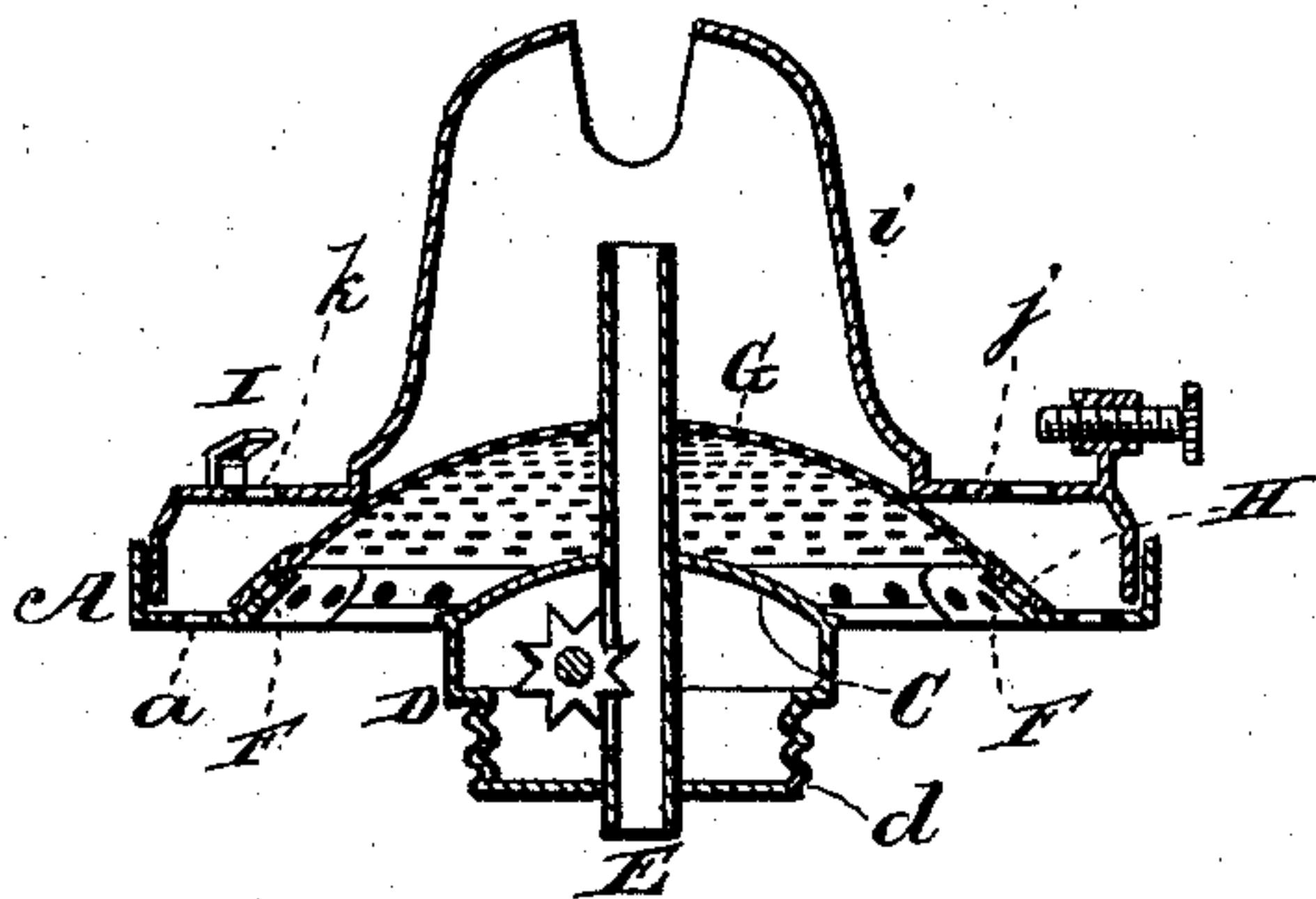


Fig. 2.

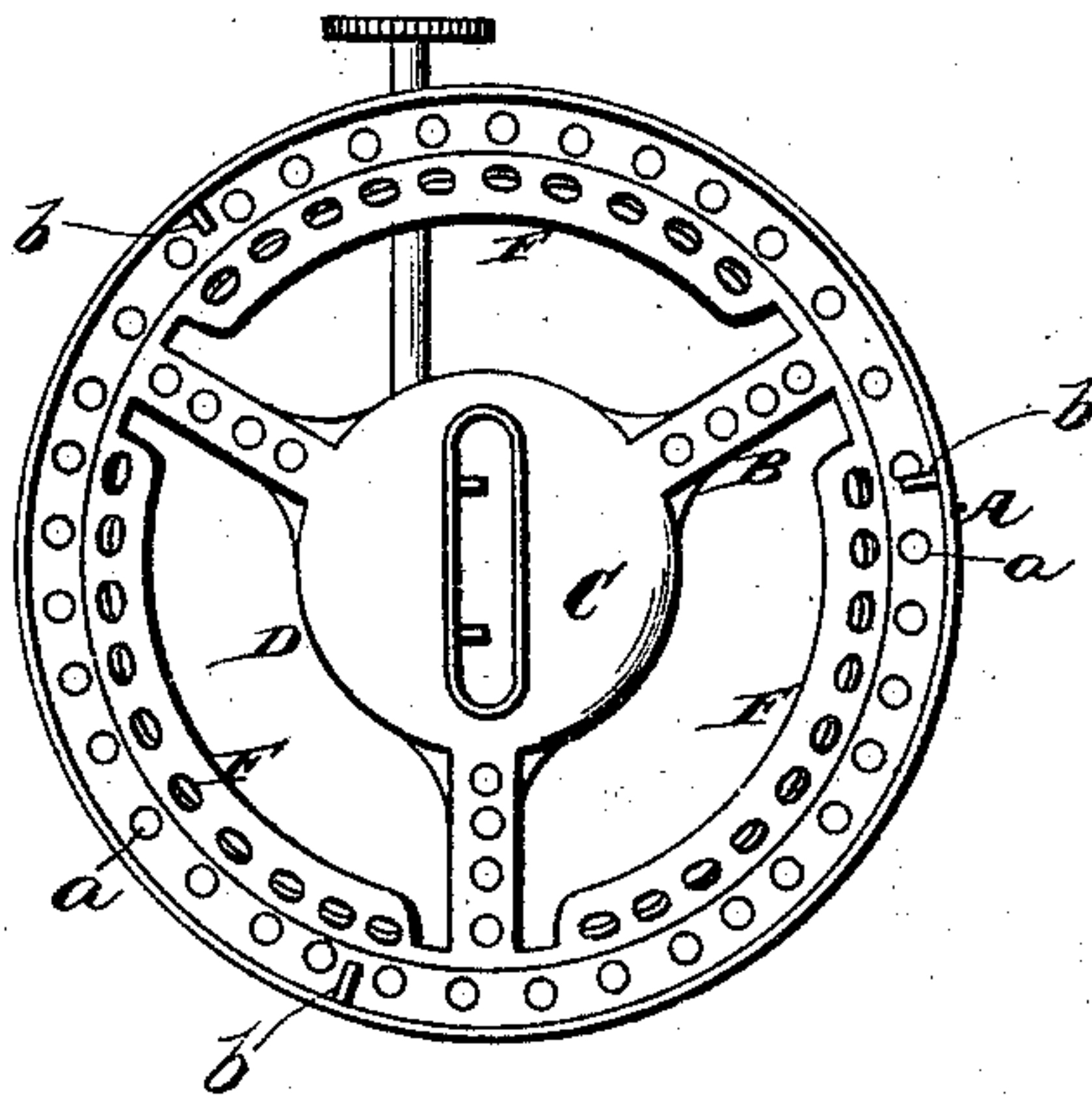


Fig. 3.

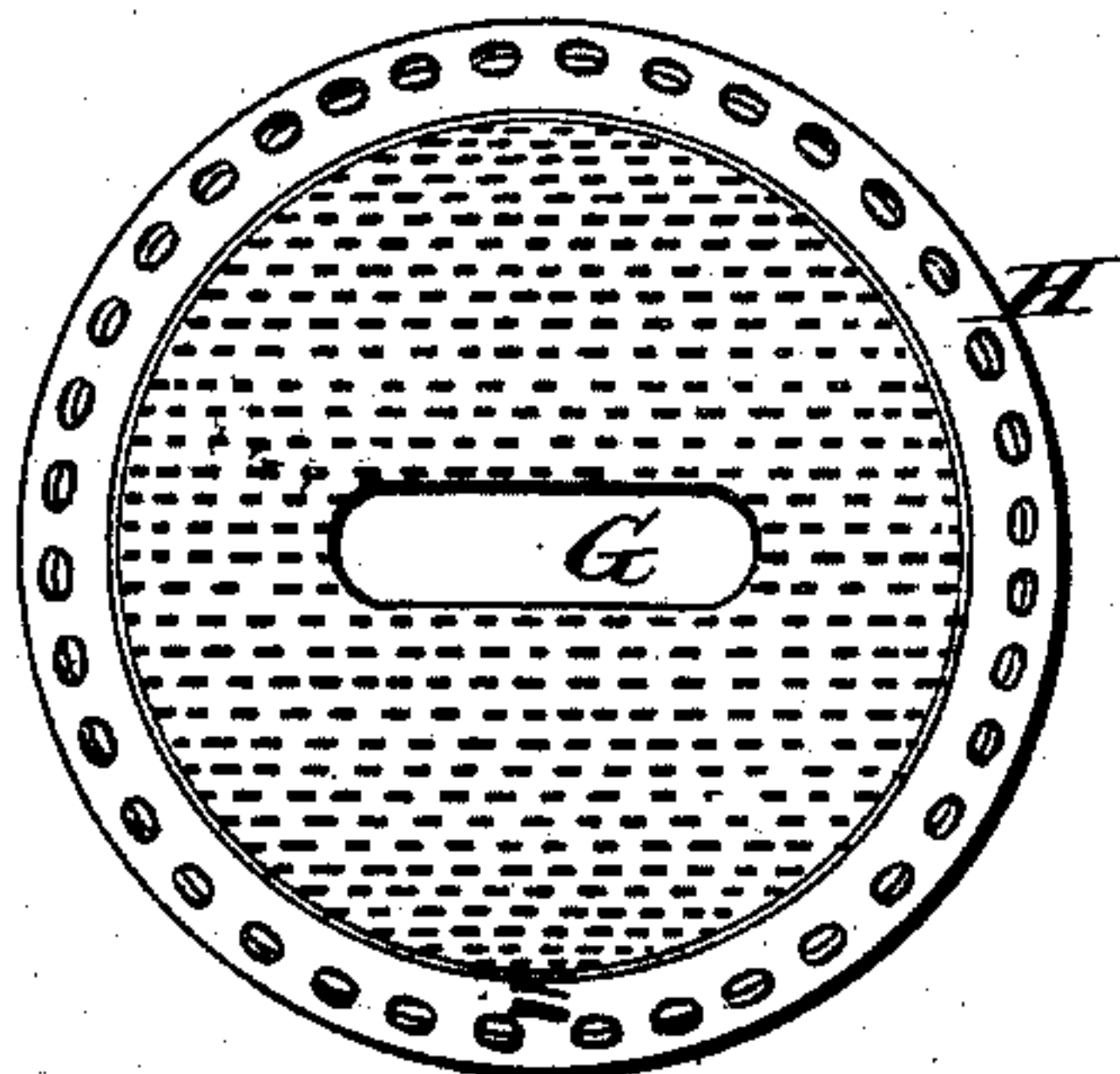


Fig. 4.

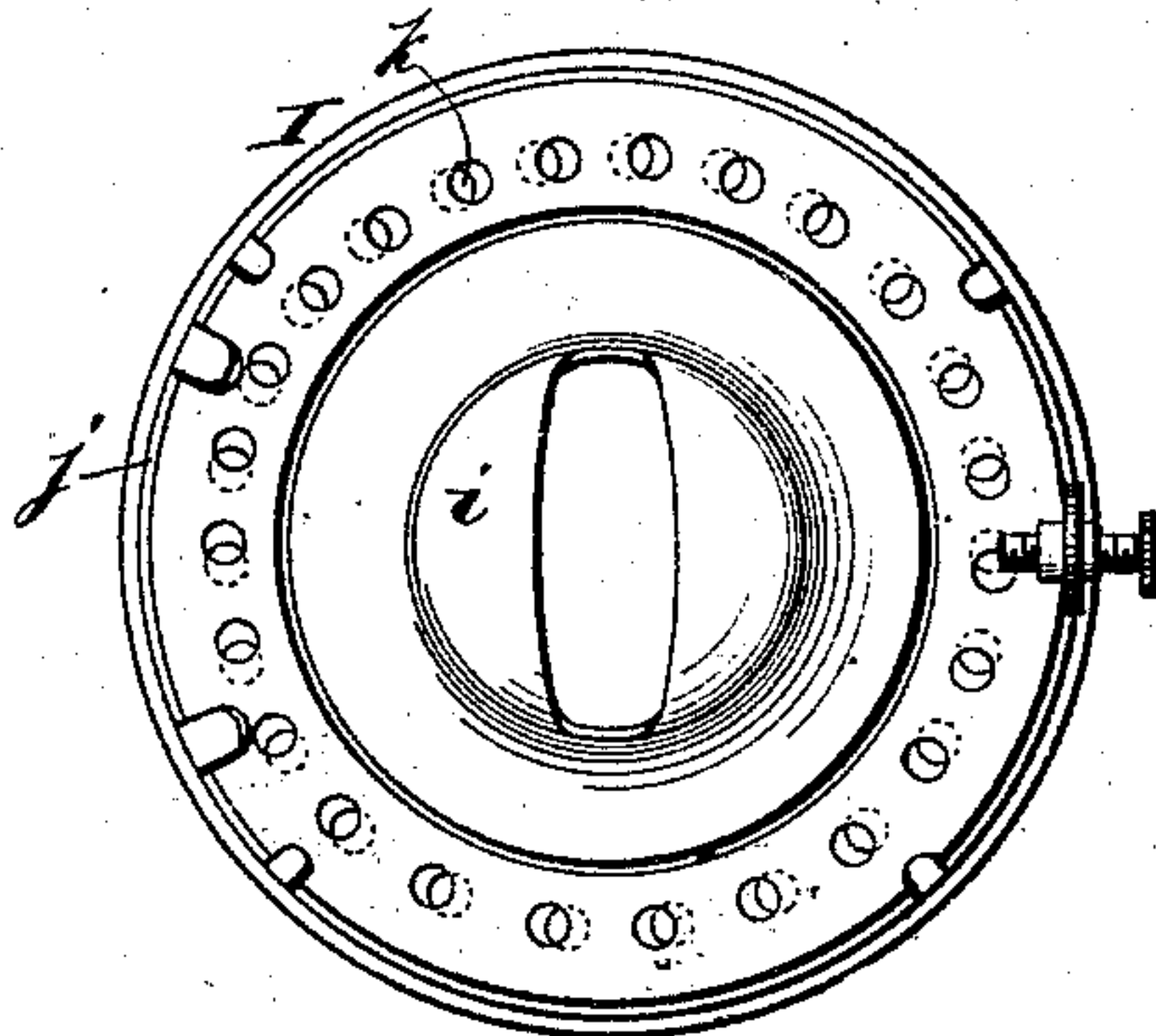


Fig. 5.

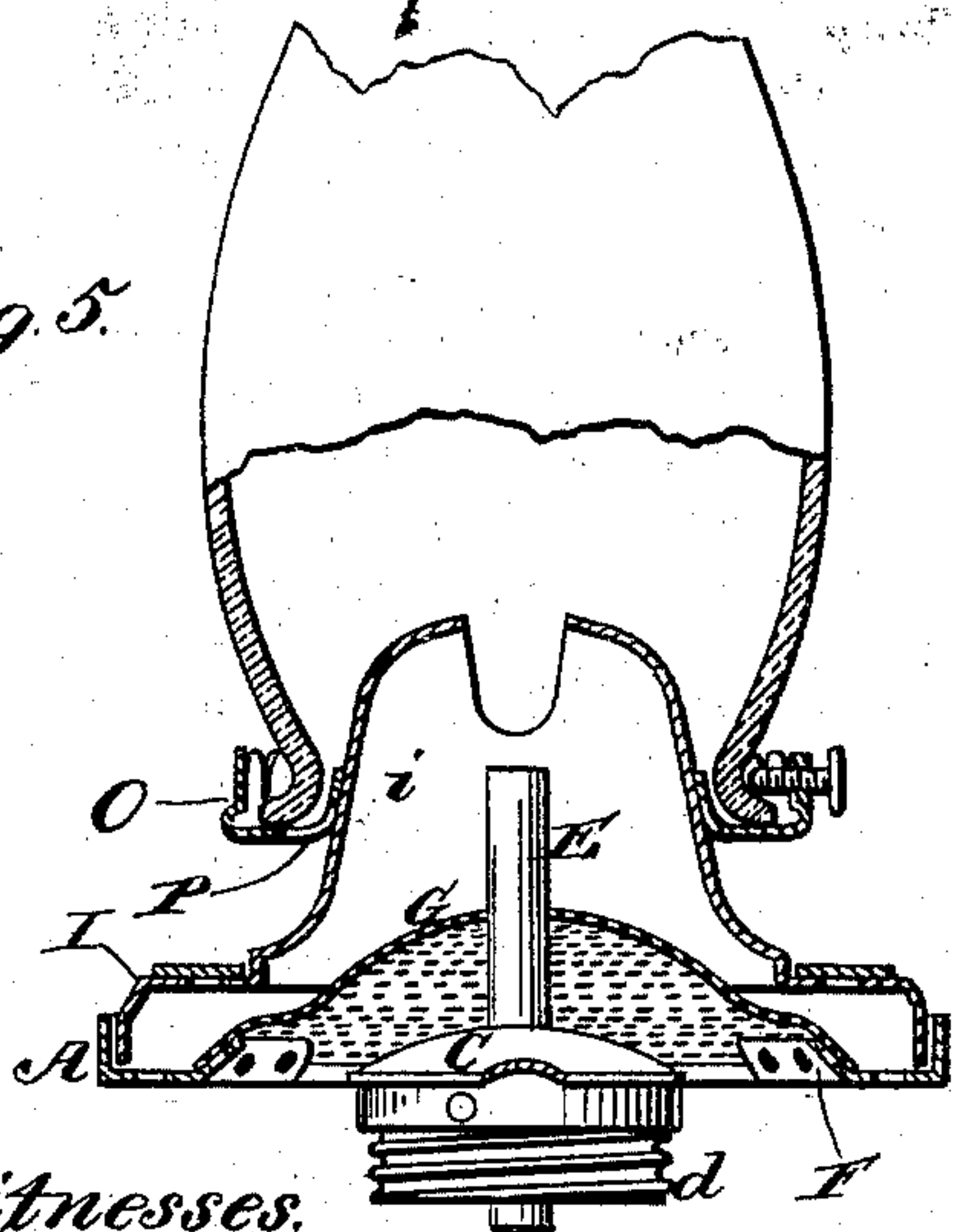
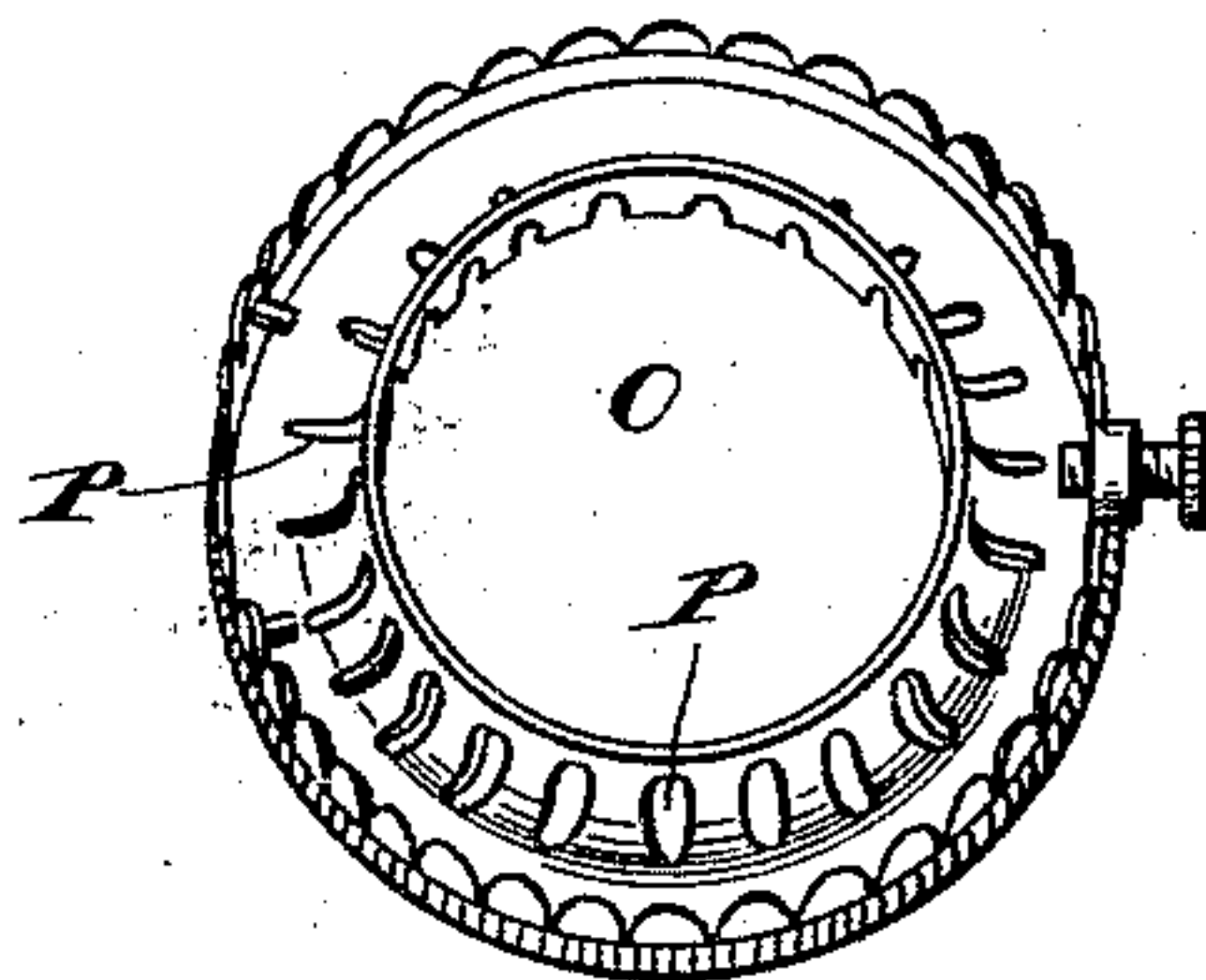


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

ELIAS B. REQUA, OF JERSEY CITY, NEW JERSEY.

LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 241,417, dated May 10, 1881.

Application filed March 18, 1881. (Model.)

To all whom it may concern:

Be it known that I, ELIAS B. REQUA, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Lamp-Burners, of which the following is a specification.

The object of the present invention is to provide a lamp-burner of a cheap and simple construction, the component parts of which are so fitted together as to permit the ready separation thereof for cleaning and other purposes.

Another object of the invention is to insure the perfect safety of the burner and cause the production of a clear and highly-luminous flame, and prevent the overheating of the burner, for permitting the burner to be handled and the chimney removed without burning the fingers.

I attain the results above stated by the construction and combination of parts, which will hereinafter be more fully described, and then set forth in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view of a lamp-burner specially adapted for light hydrocarbon oils. Fig. 2 is a detail view of the ring-shaped burner-base and the perforated arms for securing the wick-tube and its ratchet-wheel casing to the ring-shaped base. Fig. 3 is a detached view of the foraminous cap or air-distributor, having a perforated edge or bottom rim. Fig. 4 is a detached view of the deflector or cone, having a perforated bottom plate and a closing or register ring. Fig. 5 is a vertical section of a burner specially adapted for burning heavy oils. Fig. 6 is a detached view of the chimney holder or ring, adapted to fit on the cone of the burner.

The base of the burner comprises the flanged ring A, having an inwardly-turned bottom or horizontal portion, which is perforated or provided with openings *a* for admitting air to the wick-tube or flame and chimney, or only to the former.

The radial arms B, projecting from the ring A, are made in one piece therewith, and also form one integral part of a solid central portion, C. The latter is of a dished or concavo-convex shape, and constitutes the cover of the ratchet-wheel housing or casing D. The lat-

ter has the customary screw-neck, *d*, for securing it to the collar of the oil-fount, and the wick-tube E passes through it and the cap C, and is firmly secured to both the housing and cap.

Flanges F, projecting in a slightly upward direction from the edge of the ring A, are perforated in the same manner as the horizontal bottom portion of the ring A. These flanges receive and hold in position a removable foraminous cap or air-distributor, G, which is of an arched or dished shape, and has the bottom or edge rim H. This rim is perforated and rests immediately over the perforated flanges F. The foraminous cap or air-distributor has a central slot, through which projects the wick-tube for holding said cap firmly in position, and causing the openings of its bottom rim to register with the openings in the flanges F, and this cap or air-distributor rests loosely and detachably upon the said flanges.

The deflector-cone is designated by the letter I, and, as shown, in the present instance it has the cone *i*, which surrounds the wick-tube, and the flanged bottom plate, *j*, detachably resting upon the burner-base ring outside the annular row of perforations in the latter. The bottom plate, *j*, is provided with a zone of perforations, *k*, which, when a suitable chimney is fitted to the burner, serve to admit air into the interior thereof, between the base of said chimney and the deflector-cone I, causing what is termed the "outside draft."

The object of the foraminous cap or air-distributor, together with the perforated plate *j* of the deflector-cone, is to divide the draft or current of air passing through the base of the burner, so as to cause one current to pass to the wick and the other into the chimney. The air is delivered to the foraminous cap or air-distributor in a free manner, because all liability of obstructing the passage of the air is removed by perforating the radial arms in the manner already stated. The perforated arms will also tend to prevent the formation of air-eddies, which would frequently take place if imperforate arms were used.

It may be stated that the presence of the foraminous cap or air-distributor, and the arrangement of the smooth-faced cone in proper relation thereto, will cause the largest volume

of air to be concentrated into the wick-tube, and by this increased supply of air to the wick all wavering or flickering of the flame is avoided and a steady and uniform light produced, and every part of the burner is maintained in a cool state, so that they may be handled with impunity upon removal of the chimney.

By dividing the current of air in the manner already stated a small amount of air is admitted to the interior of the chimney to supply the vacuum, and the larger volume of air passing to the wick produces a coaction between the two to produce a uniform, brilliant, and regular light. By the supply of air described no part of the burner becomes more than blood warm, and it can accordingly be handled at any time with ease and facility.

The burner above described can be used with any desired form of chimney, and is intended for light oils whose specific gravity ranges up to 150° Baumé. When heavy oils are used I employ the foraminous cap or air-distributor shown in Fig. 5, which is perforated over its entire area in a uniform manner. In this instance the openings in the deflector-cone are closed by means of a register-ring, and the foraminous cap or air-distributor is annularly depressed in such manner as to leave a clear space between it and the deflector-cone, and so as not to touch the latter at any point whatever. In this manner the entire volume of air passing through the base of the burner and the foraminous cap or air-distributor is fed to the wick-tube.

In this form of burner the supplementary or attachable chimney-holder O is employed. As shown in Fig. 5, it comprises a ring which encircles the burner-cone and a horizontal bottom flange and outer vertical flange for supporting the chimney. Perforations or slits P, made in this form of holder, serve to supply the necessary air for producing the outside draft, and also bring air in contact with the outside of the cone for cooling it.

The deflector-cone and the burner-base ring may be connected together by any of the well-known means—for instance, by the pins *b* on the ring engaging the slot of the usual bayonet-joint.

I do not broadly claim a lamp-burner provided with a foraminous air-distributor which forms part of or is attached to the burner-body; nor do I broadly claim a foraminous air-distributor supporting a deflector-cone

which is provided at its lower portion with a perforated ring to support a chimney, so that air can enter to the wick-tube, and also pass up into the chimney; but

What I claim is—

1. The burner-base consisting of the perforated ring A, having at its inner edge the inclined perforated flange or flanges F, in combination with the foraminous cap or air-distributor G, supported at its margin only by the perforated flange or flanges of the base, and the deflector I, resting on and supported by the burner-base ring outside of the perforations in the latter, substantially as described.

2. The combination, with the burner-base, consisting of the perforated ring A, having perforated flanges F, and the detachable deflector-cone resting on the ring outside the perforations therein, of the foraminous cap or air-distributor resting on the perforated flanges and bearing against the deflector-cone, substantially as described.

3. The burner-base, consisting of the annularly-perforated ring A, provided at its inner edge with the upwardly-inclined perforated flange or flanges F, and radial perforated arms B, attached to the ratchet-wheel chamber, in combination with the foraminous cap or air-distributor G, removably supported by the inclined flange or flanges, and the deflector I, resting on and supported by the burner-base ring outside the perforations therein, substantially as described.

4. The burner-base consisting of the perforated ring A, radial perforated arms, B, and ratchet-chamber D and wick-tube E, in combination with the superposed foraminous cap or air-distributor G and a deflector-cone, I, detachably supported on the burner-base ring outside the perforations therein, substantially as described.

5. The burner-base having an outer series of perforations, radial perforated arms, and central ratchet-chamber and wick-tube, in combination with the detachable superposed foraminous cap or air-distributor and the deflector-cone having an outer perforated ring, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ELIAS B. REQUA.

Witnesses:

JAMES L. NORRIS,
JAMES A. RUTHERFORD.