

H. W. HAYDEN.  
Lamp-Burner.

No. 225,054.

Patented Mar. 2, 1880.

Fig. 2.

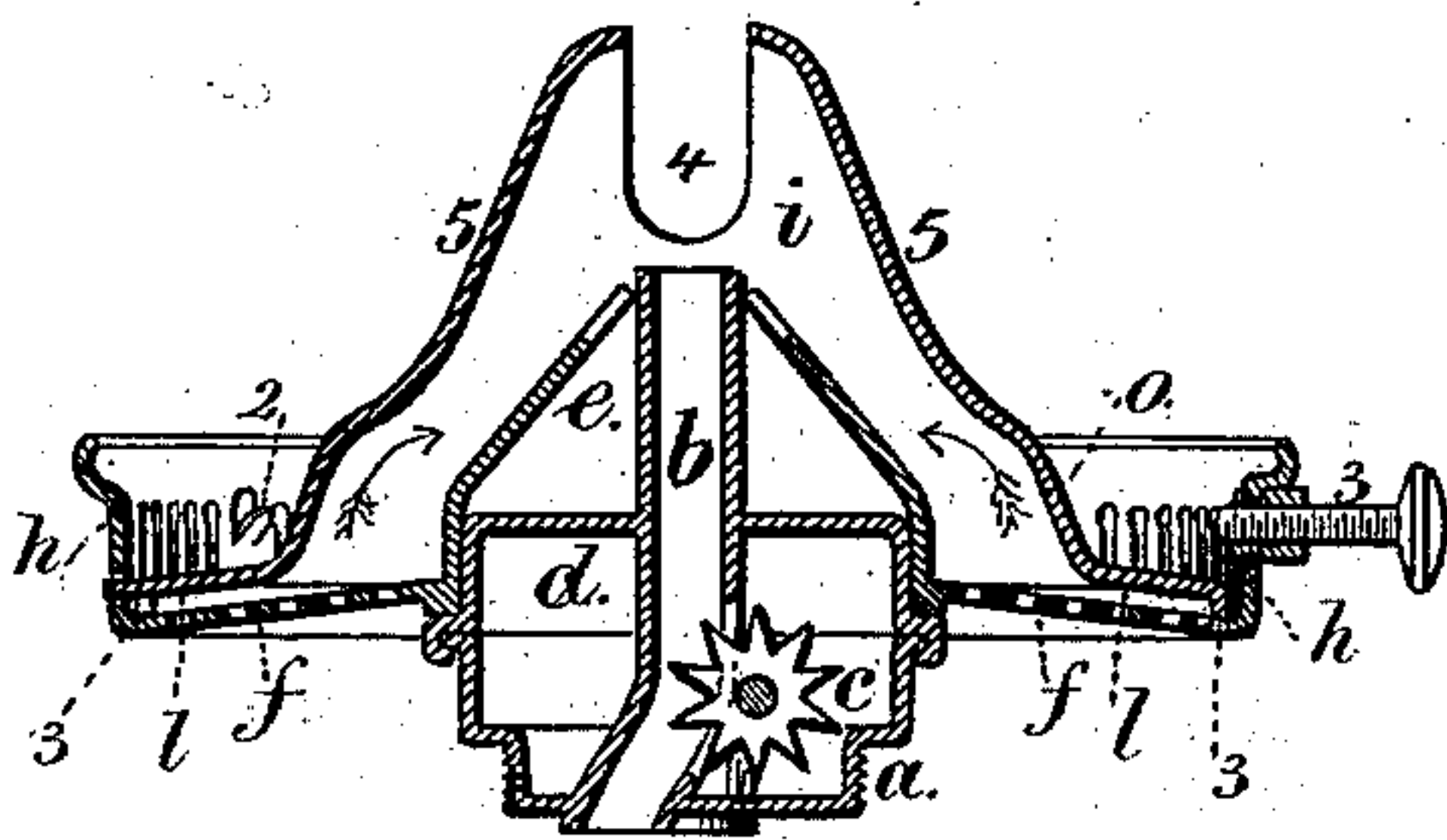


Fig. 4.

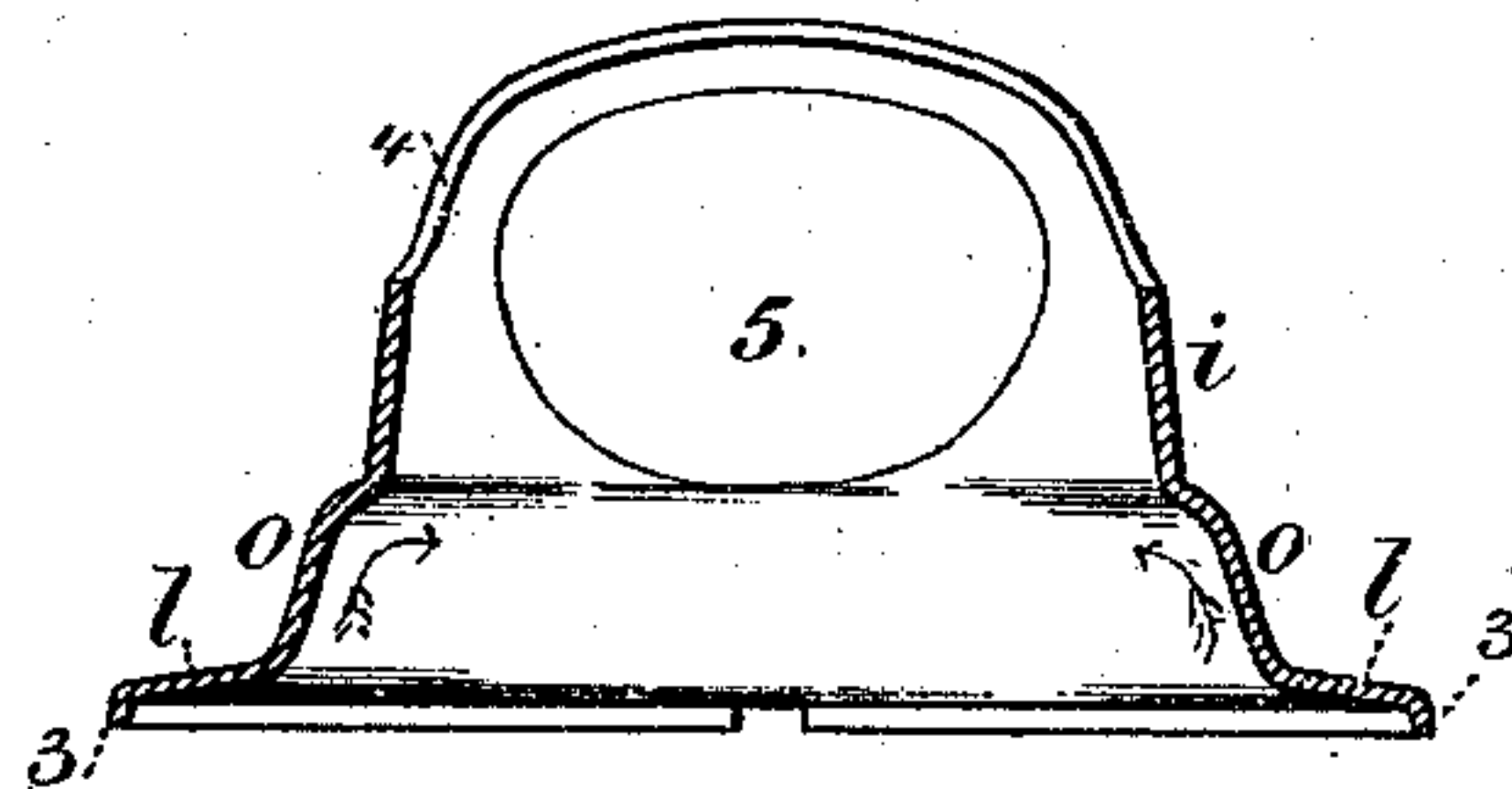


Fig. 1.

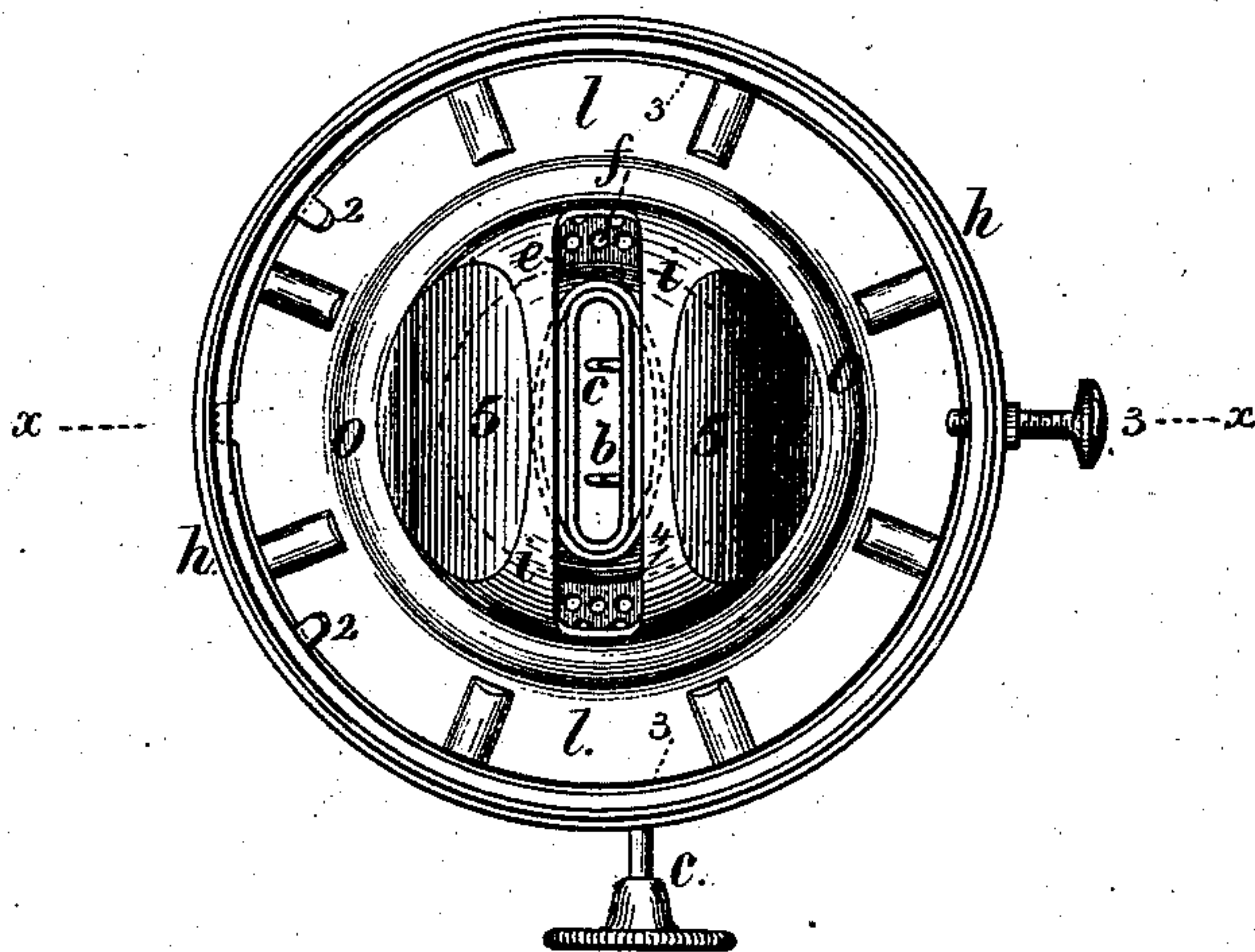
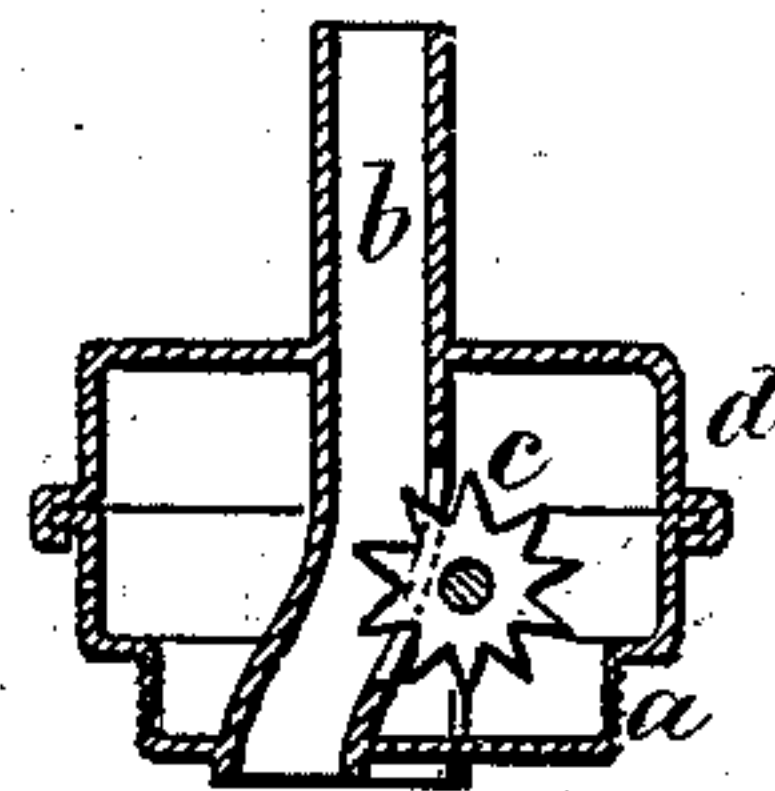


Fig. 3.



Witnesses

Chas H Smith  
Harold Serrell

Inventor

Hiram W. Hayden.

per Lemuel W. Serrell

*[Signature]*  
att'y

# UNITED STATES PATENT OFFICE.

HIRAM W. HAYDEN, OF WATERBURY, CONNECTICUT, ASSIGNOR TO HOLMES,  
BOOTH & HAYDENS, OF SAME PLACE.

## LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 225,054, dated March 2, 1880.

Application filed December 22, 1879.

*To all whom it may concern:*

Be it known that I, HIRAM W. HAYDEN, of Waterbury, in the county of New Haven and State of Connecticut, have invented an  
5 Improvement in Lamp-Burners, of which the following is a specification.

My lamp-burner is made with reference to supplying a large volume of air to a large flame without the risk of smoking in consequence of external currents of air.

I make use of a large circular air-distributor, at the edge of which is a rim, forming the chimney-holder, and within the chimney-holder is a deflector, the base of which is surrounded  
15 by a downward rim, to raise the base above the holes of the large air distributor.

The deflector is of a dome shape, with the sides flattened in the direction of the flame-slot, and the lower part of the dome is spread as a compound curve, to freely admit the air, but check  
20 the upward rush of the same toward the flame. In the middle of the air-distributor is a wick-tube guide, surrounding the wick-tube and resting upon the ratchet-cap, so that the air-distributor, deflector, and chimney can be removed from the wick-tube.

In the drawings, Figure 1 is a plan of the burner. Fig. 2 is a vertical section of the same at the line *xx*. Fig. 3 is a section of  
30 the wick-tube and ratchet-cap, and Fig. 4 is a detached section of the deflector at right angles to Fig. 2.

The screw-base *a*, wick-tube *b*, wick-raiser *c*, and ratchet-cap *d* are of ordinary construction.  
35

The wick-tube guide *e* is of a size to set over the wick-tube. It has a slot at the upper end that is wider than the wick-tube, and the lower part is circular and notched, so  
40 as to set over the ratchet-cap and be held in position by lugs entering the notches. This wick-tube guide has been used in burners of other kinds.

The air-distributor *f* is nearly flat, being  
45 slightly the highest in the middle, where it is united to the wick-tube guide.

Around the edge of the air-distributor there is a vertical flange, forming a chimney-holder

ing ring, *h*, with lips 2 and screw 3, for holding the chimney.

The deflector has a base, *l*, and dome *i*.  
50 Around the edge of the base there is a downward flange or rim, 3, resting upon the air-distributor, and raising the base of the deflector sufficiently above the air-distributor to allow  
55 the air that passes vertically through the air-distributor to turn horizontally, or nearly so, as it travels toward the center of the burner. The dome portion *i* of the deflector does not extend down to the base *l*; but there is a swell  
60 in the form of a compound curve at *o*, so that the currents of air, as they pass upward, are, by the top portion of the compound curve, directed inward, as indicated by the arrows.

The dome portion of the deflector has the  
65 flame-slot at 4, and the deflector is not a regular dome, but its sides are flattened, as at 5 5, in the direction of the flame-slot, the object being to lessen the space between the  
70 sides of the wick-tube and the dome, and cause the air to pass up to the flame with as much uniformity as possible, the large volume that enters the numerous fine holes in the air-distributor being thus directed to the flame with  
75 an equal action, so as to spread the flame and render the combustion perfect, and prevent the flame from smoking in consequence of sudden currents of air reaching the same.

It is preferable to use a wide wick, and to employ a curved wick-tube, where the same  
80 passes through the screw of the base.

I claim as my invention—

The combination, in a lamp-burner, of a nearly-flat air-distributor, a chimney-holder around the same, a deflector formed of a dome  
85 with the sides flattened in the direction of the flame-slot, an enlarged lower portion of the dome, and a base to the dome, having a rim to rest upon the air-distributor and raise the deflector, substantially as specified.  
90

Signed by me this 15th day of December,  
A. D. 1879.

H. W. HAYDEN,

Witnesses:

GEO. E. TERRY,  
R. R. WADE.