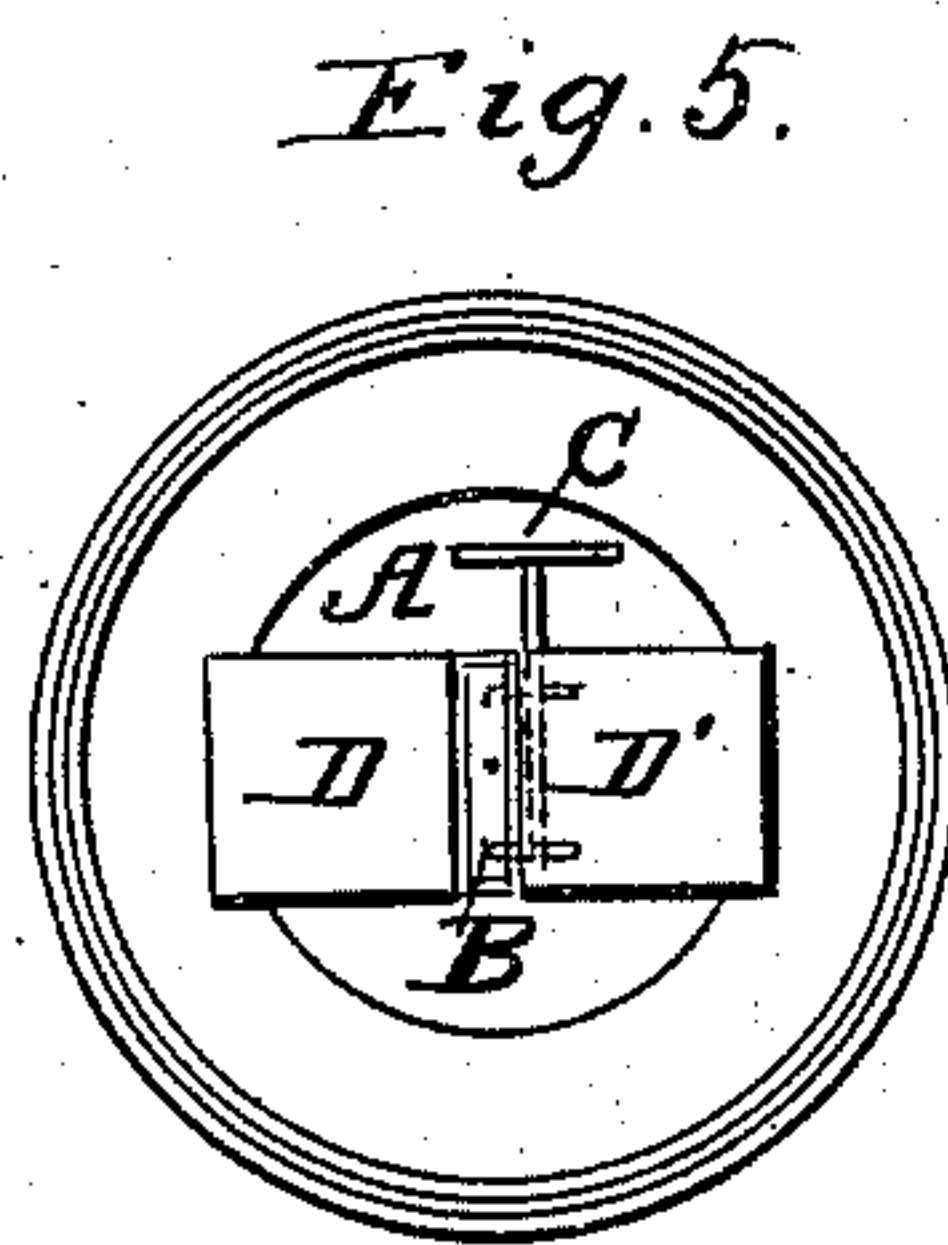
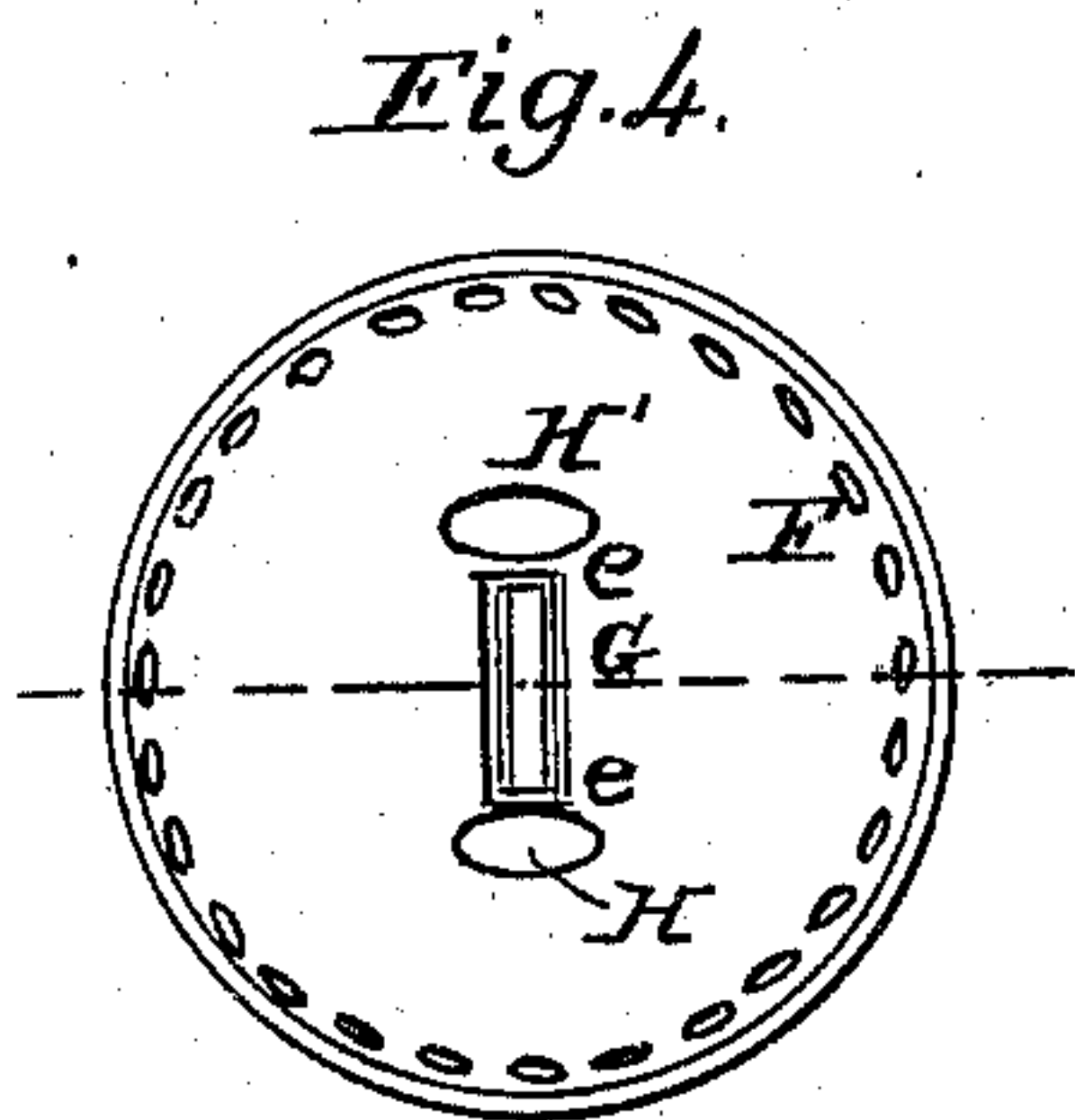
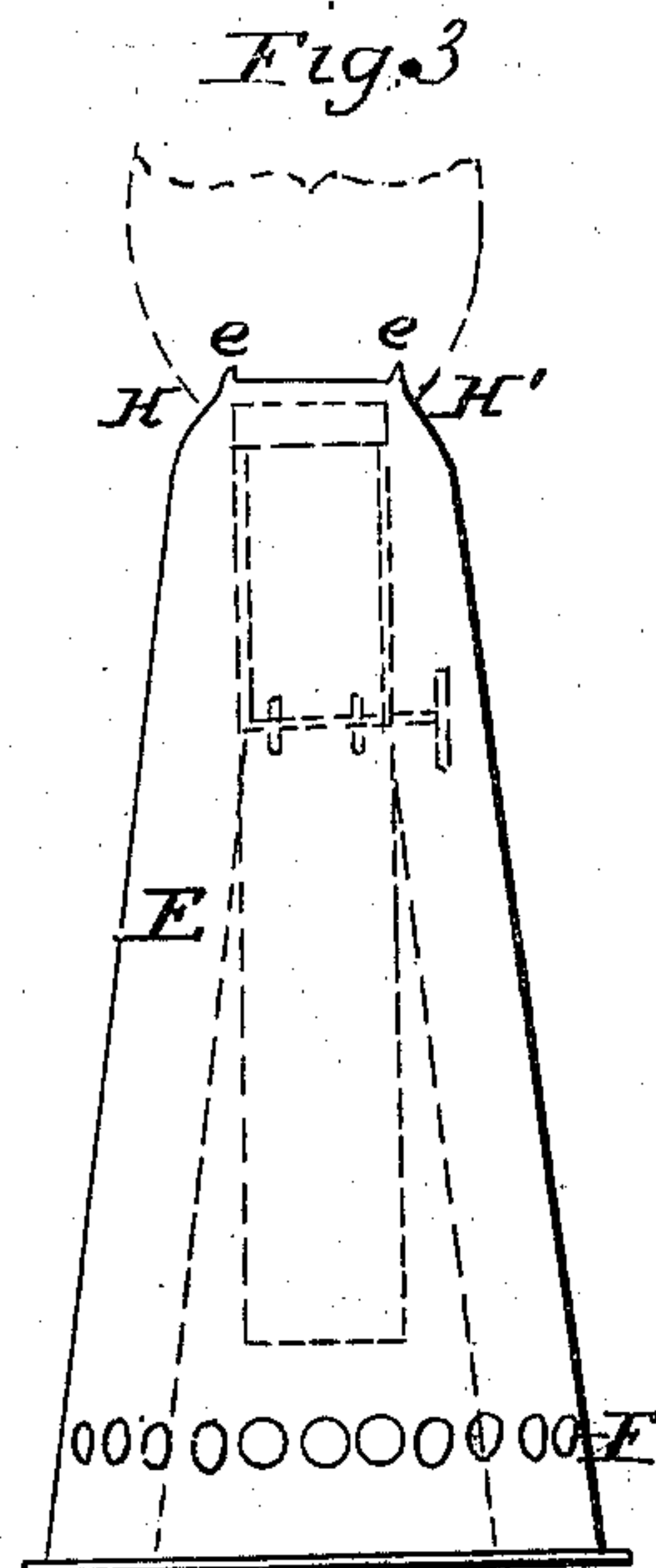
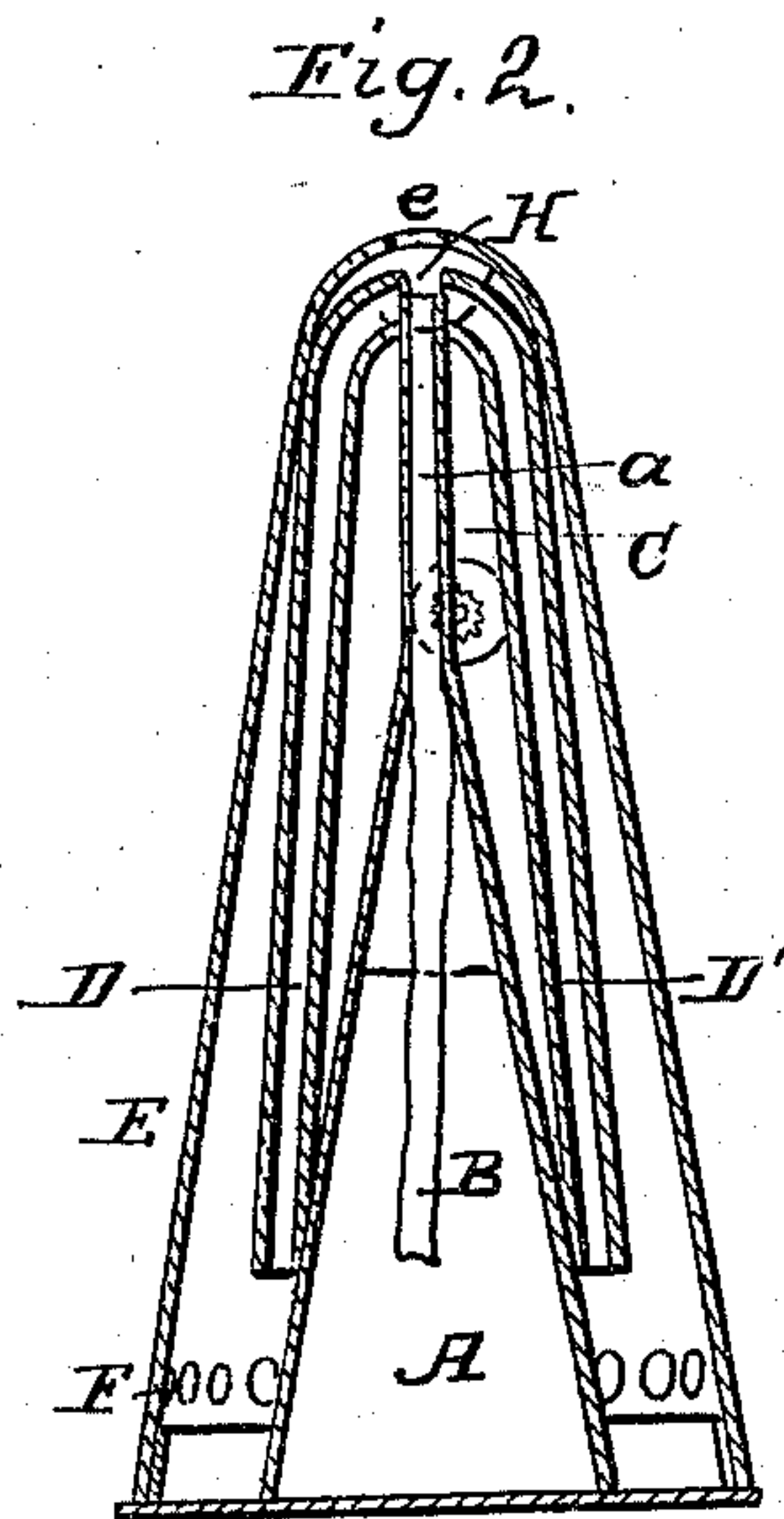
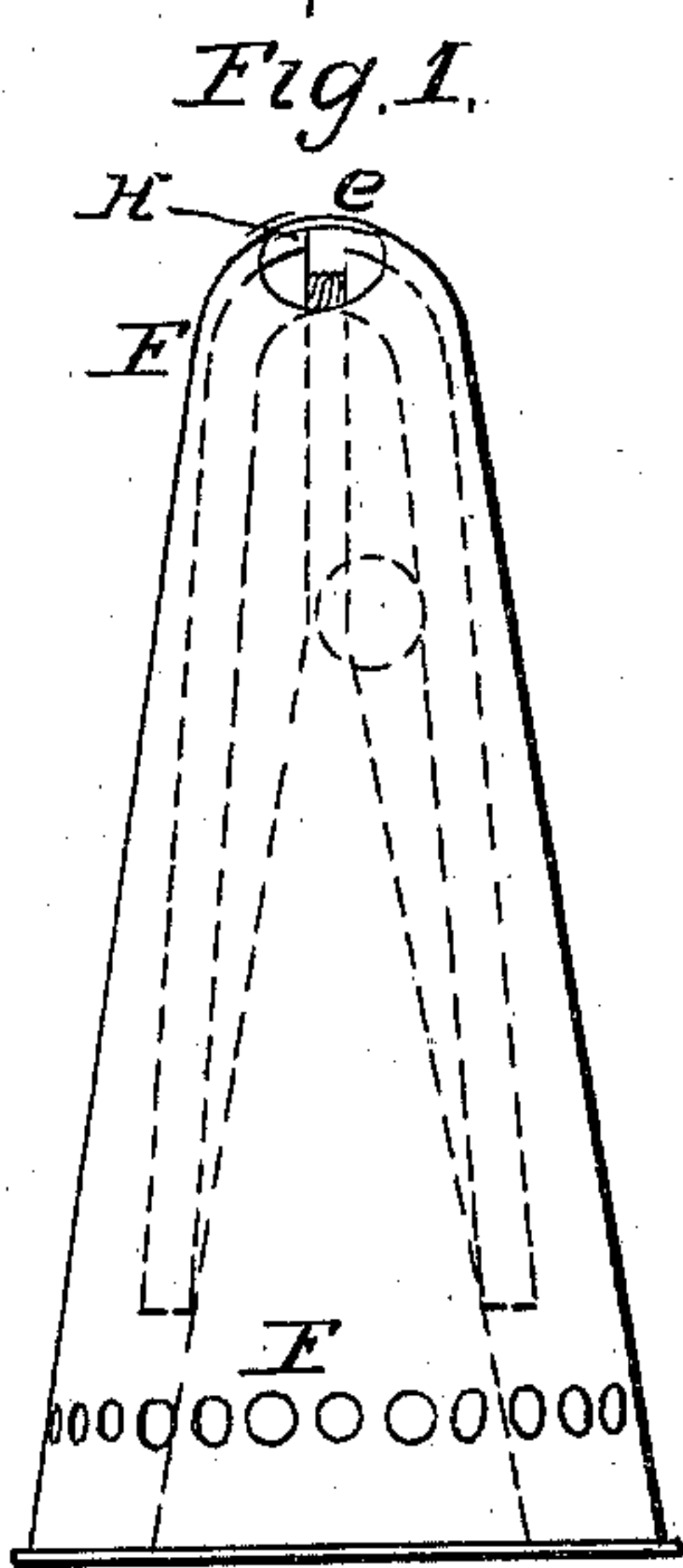


J. THOMAS.  
Lamp.

No. 32,156

Patented April 23, 1861.



Witness  
A. Snyder  
Wm. B. Smith

Inventor:  
Joseph Thomas

# UNITED STATES PATENT OFFICE.

JOSEPH THOMAS, OF NEW YORK, N. Y.

## LAMP.

Specification of Letters Patent No. 32,156, dated April 23, 1861.

*To all whom it may concern:*

Be it known that I, JOSEPH THOMAS, of the city and county of New York, in the State of New York, have invented a certain new and important Improvement in Lamps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

My lamp is designed for burning coal oil and similar fluids without a chimney. I have demonstrated by trial that it can produce a steady economical and perfectly controllable light without smoke.

My invention consists in arrangements for inducing and directing currents of air to support the combustion and to spread the flame.

To enable others skilled in the art to make and use my invention I will proceed to describe it by the aid of the drawings in which—

Figures 1 and 3 are elevations. Fig. 2 is a vertical section on the line S, S, in Fig. 4. Fig. 4 is a plan view of the lamp complete. Fig. 5 is a corresponding view of the lamp with the outer cap removed.

Similar letters of reference indicate like parts in all the figures.

A is the body of the lamp represented as of a conical form and *a*, is an ordinary wick tube containing a wick B and provided with a screw and button C for raising and lowering the latter when necessary. The wick tube *a*, is narrow and thin as shown distinctly in the plan view. The wick B projects above *a*, and supports the flame in the manner which is obvious.

D and D' are rectangular tubes of metal, fixed upon A and *a*, and open at each end. They are bent as represented and so arranged that the upper extremity of each is presented directly to the side of the exposed part of the wick and in contact with the top of the tube *a*. Each tube becomes heated by the flame and the heated air within rises in a constant stream and impinges directly against the base of the flame on one side. The tubes on each side are similar and the flame is thus struck on each side by a steady current of pure heated air leaving the edges of the wick and of the flame not exposed thereto. The upper ends of D, D', are in tight contact with the sides of the tubes *a*, so that no air can rise between them.

E is a cap with an hemispherical apex

fitted over the upper portions of the lamp and provided with openings at the top and near the base as represented.

The openings F near the base allow an influx of air the opening G at the top allows the escape of the flame and of the air immediately in contact with the flame on each side, while the openings H, H', at or opposite the edges of the wick allow a free escape of large diverging currents of heated air with the effect to draw out or widen the flame in the manner shown, and perfectly to complete the combustion of the carbonaceous matter therein.

The form of E at the sides of the aperture G is such as to throw additional currents of air against the sides of the flame above those received through D and D'. These currents aid in producing the effect already described *i. e.* the impinging of streams of heated air nearly at right angles upon the sides of the flame.

The metal of E at the sides of the opening G is supported by two slender braces *e, e*, which extend across from one side to the other. It is not essential to the success of my burner that these braces be employed but they tend very greatly to promote the durability of the construction because in their absence a very slight blow is sufficient to bend the metal on one side or the other and displace the parts so as to impair the usual effect.

It will be observed that the opening G is long and narrow and that the openings H, H', which are in effect but continuations of G are wider and extend downward nearly or quite to a level with the top of the wick tube. I attach much importance to the location and proportion of these apertures which are shown very fully and completely in the drawings.

I can use my lamp with its tubes D, D' without the cap E and in such case derive a very marked and useful effect from the employment of D, D', arranged and operating as described. I can also use my lamp with its cap E without the tubes D, D', and in such case derive a very marked and useful effect from the employment of E with the openings G, H, H', arranged and operating as described, but in such cases the cap E must be placed so much lower and the aperture made so much narrower than is represented that the top of E at each side of



G shall correspond in position with the top of the tubes D, D', as the latter are shown in the drawings.

I wish it to be understood that I do not  
5 claim broadly directing currents of heated  
air upon the plane of a coal oil lamp for the  
purpose of consuming the carbonaceous  
matter carried upward with the flame, as  
many devices for accomplishing this end  
10 have been heretofore used; neither do I  
claim presenting the heated air in two cur-  
rents one on each side of the wick except  
when the same is directed nearly horizon-  
tally thereon in the manner described, but  
15 What I claim as my invention and desire  
to secure by Letters Patent is—

1. The construction and use in coal oil  
lamps of two vertical or partially inclined  
passages D D' terminating at the top in  
20 such a form and so arranged in respect to  
the flat wick tube as herein set forth as to

discharge at right angles or thereabout to  
the plane of the wick two currents of heat-  
ed air partly upon the wick and partly  
upon the flame and preventing the access of 25  
the air to the edges thereof in the manner  
and for the purpose specified.

2. The enlarged ends H and H' of the  
opening G in the cap E, the said ends being  
wider than that part of the opening in the 30  
cap through which the body of the flame  
passes, and extending down to points level  
or about level with the top of the wick tube  
as herein represented and described.

In testimony whereof I have hereunto set 35  
my name in the presence of two subscribing  
witnesses.

JOSEPH THOMAS.

Witnesses:

A. SNYDER,  
WM. B. SMITH.