

E. F. ROGERS.

Lamp.

No. 52,369.

Patented Jan'y 30, 1866.

FIG. 1.

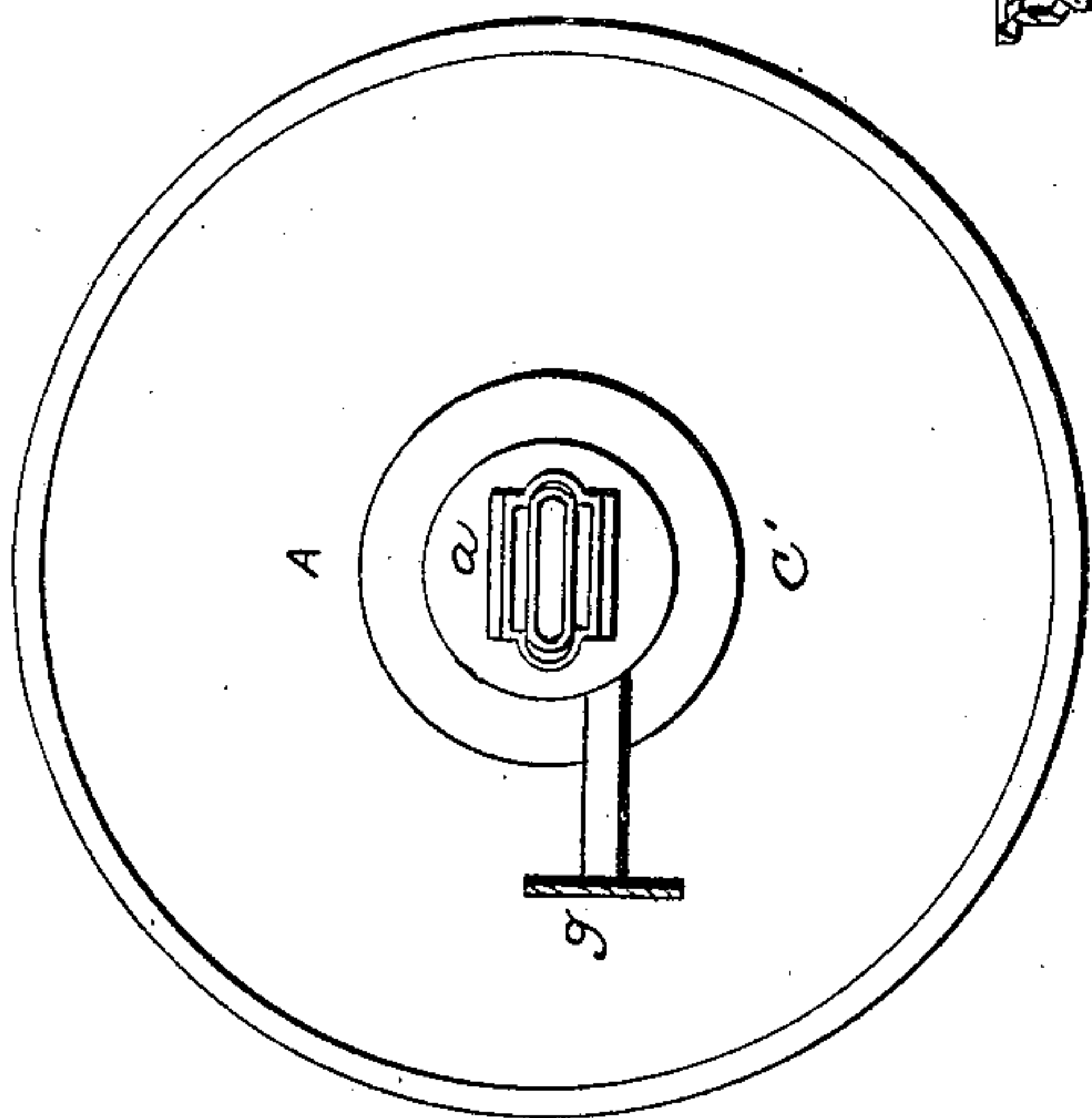


FIG. 2.

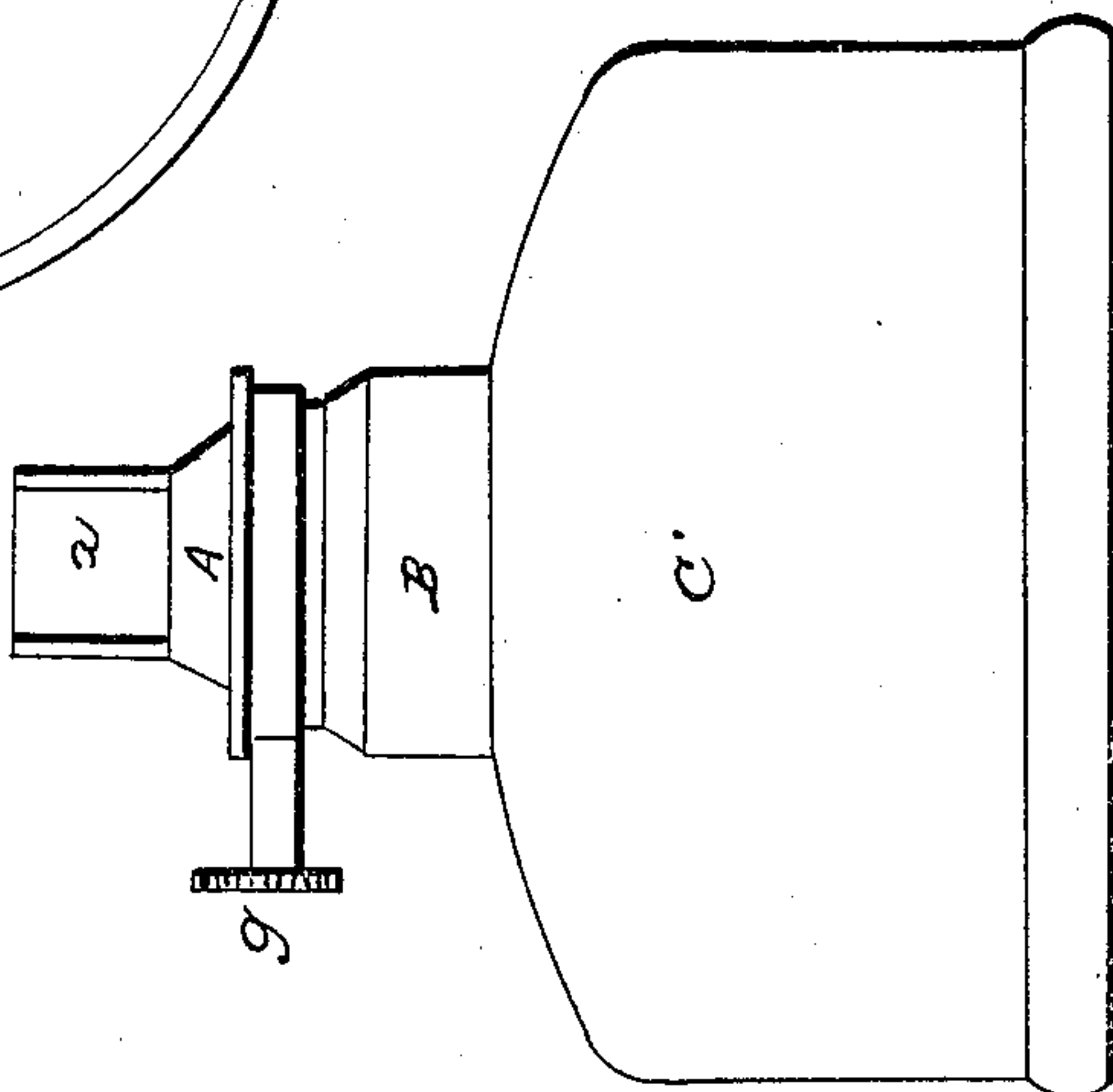
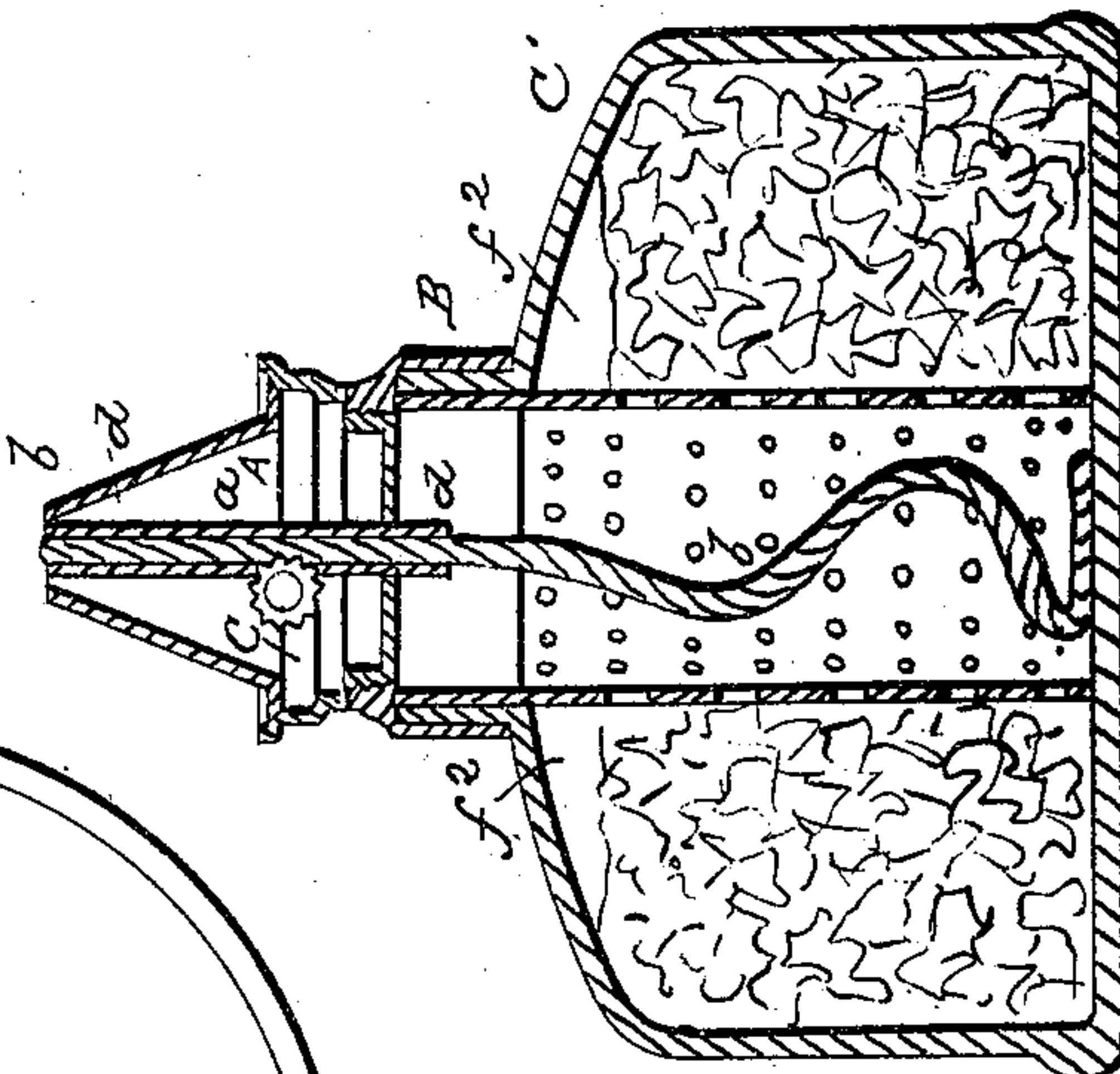


FIG. 3.



WITNESSES:

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INVENTOR.

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per *R. H. Ledy*
att'y.

UNITED STATES PATENT OFFICE.

EDWD. F. ROGERS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF
AND ALFRED K. HILLS, OF SAME PLACE.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. 52,369, dated January 30, 1866.

To all whom it may concern:

Be it known that I, EDWARD F. ROGERS, of South Boston, of the county of Suffolk and State of Massachusetts, have invented a new or Improved Lamp; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side elevation, and Fig. 3 a vertical and transverse section, of it.

My said lamp is for vaporizing a hydrocarbon fluid and burning the vapor for the purpose of obtaining light and heat therefrom.

In the drawings, A denotes the lamp-burner, provided with a wick-tube, *a*, and screwed into an annular cap, B, fitted to the neck of the reservoir or body C, which is to contain the fluid to be burned.

On each side of the wick-tube there is a tube or passage, *d*, having its upper end opening on a level with the top of the wick-tube. The lower end of each tube *d* opens into the interior chamber of the burner, and by means of a hole, *d'*, made through the bottom of the burner, communicates with the interior of a foraminous tube, *e*, which extends down from the cap B to the bottom of the reservoir C.

A wick-elevator, *c*, may be applied to the wick-tube, such elevator consisting of a spur-wheel mounted on a shaft which goes through and out of the burner, and is provided with a milled head, *g*.

The interior of the reservoir C is to be packed with sponge *f*², which should surround the foraminous tube *e* and rest against its outer surface. The wick *b* should descend into the tube *e*, and rest on the bottom of the reservoir.

Preparatory to putting this lamp in operation, hydrocarbon fluid easily vaporizable should be poured into the reservoir and on the sponge until such sponge may be saturated

with the liquid. The wick *b* should also be saturated with the liquid. Under these circumstances (the burner being in place on the cap B) the wick should be inflamed on its top. In a few moments the heat absorbed from the flame by the burner will be conducted down into the sponge by the foraminous tube *e*. In consequence of this the liquid held in suspension by the sponge will be vaporized, and the vapor therefrom will pass through the holes of the tube *e*, and from thence around into the burner, and escape by the tubes *d d*, which will discharge the said vapor directly into or against the flame of the wick, where it will be inflamed.

This lamp will burn with little or no smoke, and does not need a chimney or a current-deflector, such as are required for most lamps for burning petroleum or various other light burning-fluids.

The peculiar advantage of the sponge is that by capillary attraction it will hold a large amount of the liquid against the outer surface of the tube *e*, and in a manner to render such liquid easily vaporized. It also prevents the liquid from becoming spilled from the lamp in case of its being overturned.

I claim as my invention—

1. The combination and arrangement of one or more vapor-ducts, *d d*, and the foraminous tube *e* with the wick-tube *a* and the fluid-reservoir C.

2. The combination of the mass of sponge *f*, or an equivalent absorbent material, with the reservoir C, the foraminous tube *e*, the wick-tube *a*, and one or more vapor-ducts, *d d*, the whole being arranged substantially in manner and so as to operate as specified.

E. F. ROGERS.

Witnesses:

F. P. HALE, Jr.,
R. K. HILLS.