

A. COMBS.
Lamp-Burners.

No. 151,850.

Patented June 9, 1874.

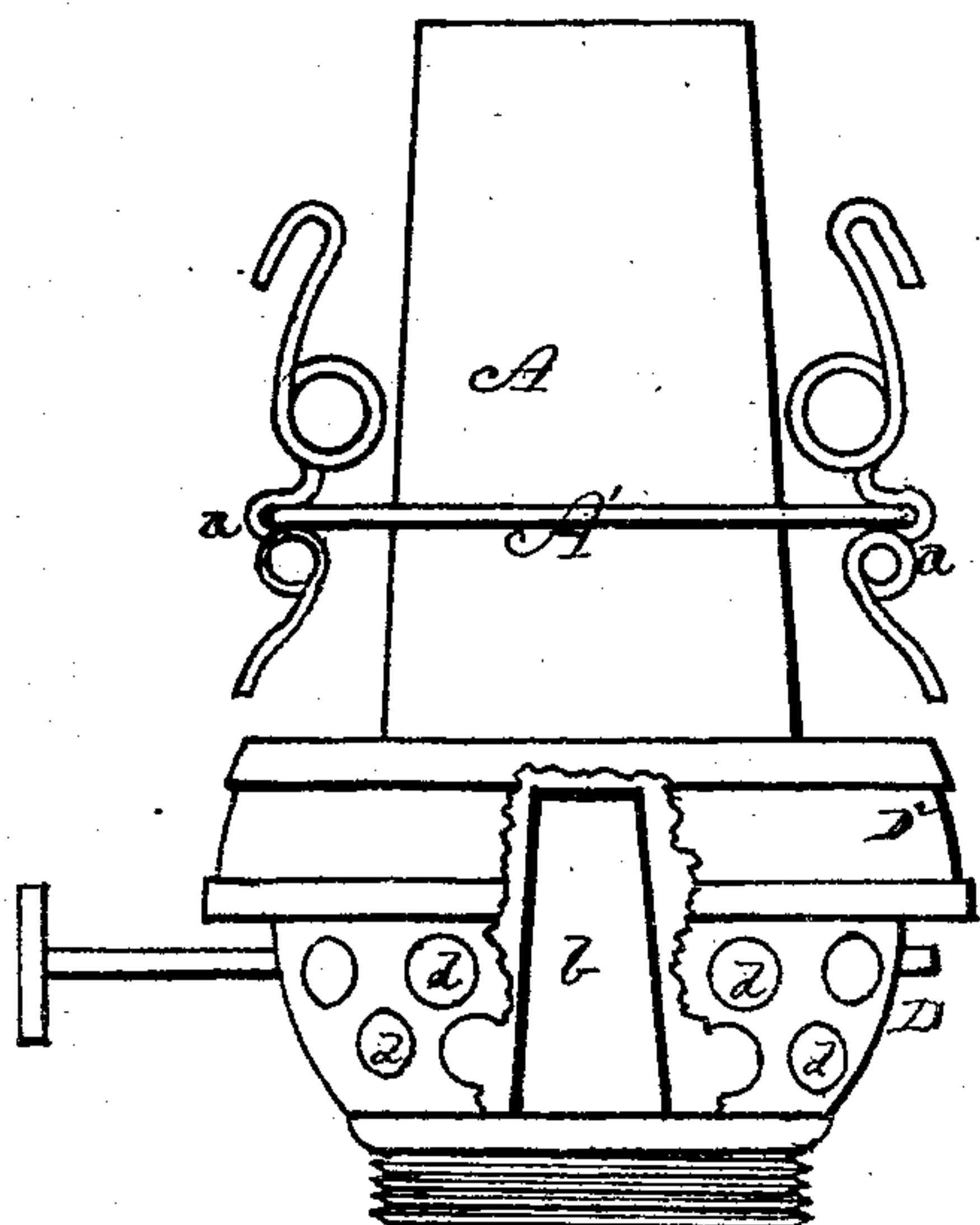


Fig 1

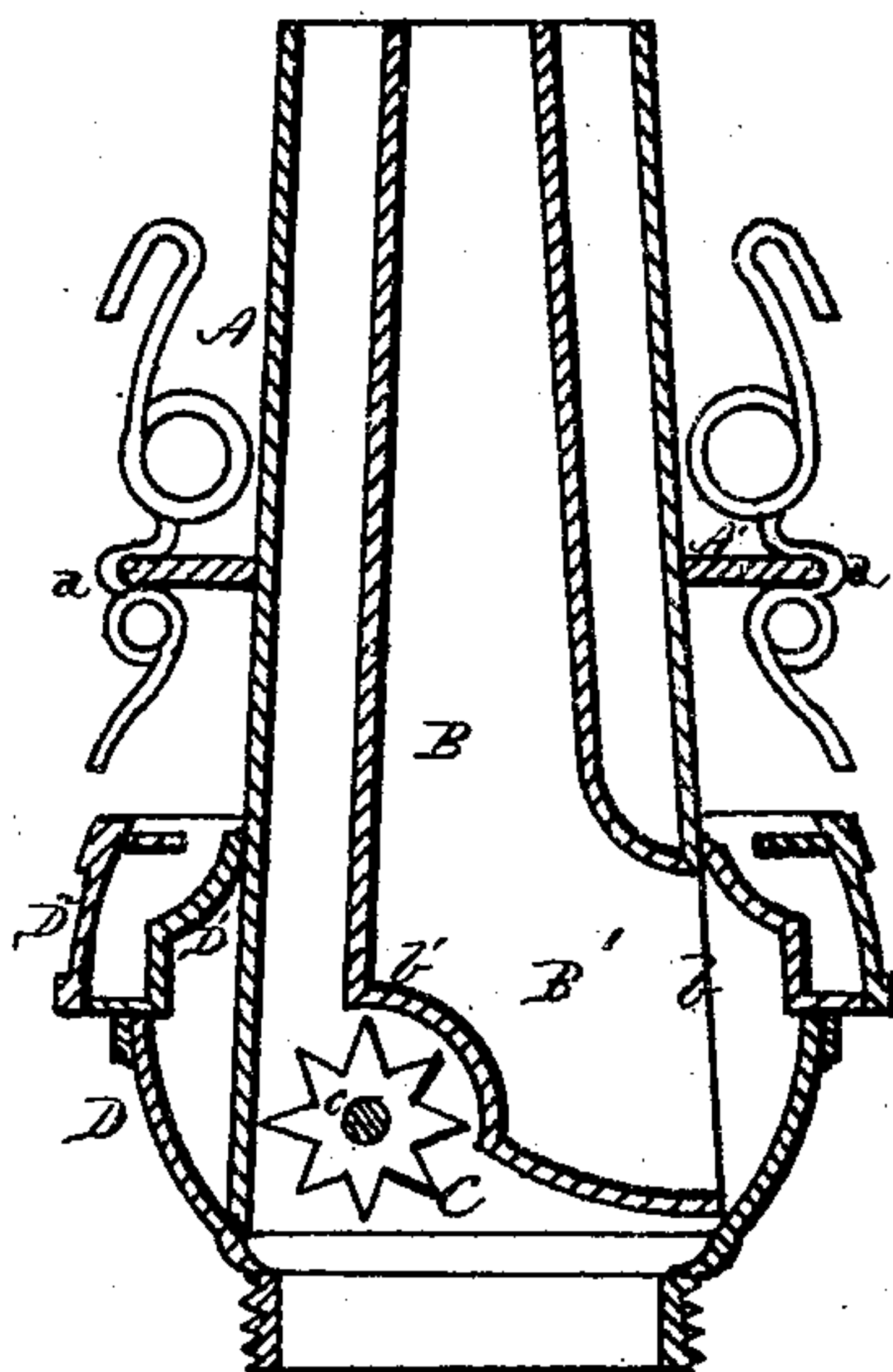


Fig 2

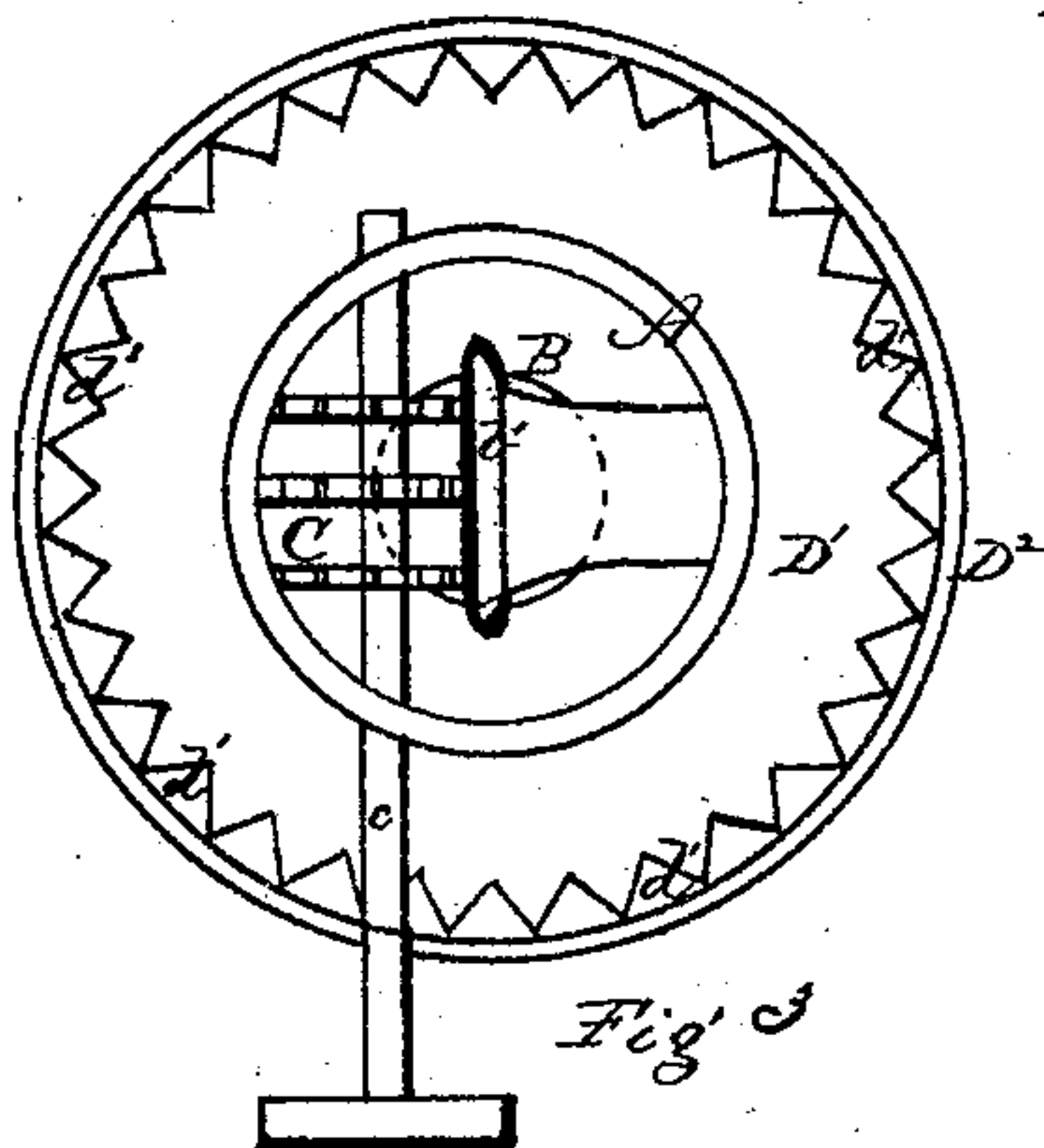


Fig 3

Witnesses.

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UNITED STATES PATENT OFFICE.

ABEL COMBS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. **151,850**, dated June 9, 1874; application filed September 22, 1873.

To all whom it may concern:

Be it known that I, ABEL COMBS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Lamp-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation, partly broken away to show opening in side of wick-tube. Fig. 2 is a vertical section. Fig. 3 is a bottom view.

The objects of my invention are, first, to dispense with the outer cone in lamp-burners; secondly, to provide an improved wick-raiser; thirdly, to provide means for preventing the flame from being extinguished or caused to smoke, owing to a strong or swift movement of the lamp.

The nature of my invention consists, first, in the provision of a disk or collar, which surrounds the wick-tube, and is designed to deflect the outer air-current that enters at the base of the burner, throwing said current against the chimney, whence it is returned to the flame; secondly, in combining, with a ratchet or ratchets, a curved concave plate, between which ratchet or ratchets and plate the wick passes, so as to cause the same to be taken hold of by several of the ratchet-teeth, instead of by one only, as heretofore; thirdly, in providing a partition or diaphragm, which divides the burner into two separate compartments, into the lower one of which the air for the central draft-tube is admitted independently of the supply which passes into the chimney for feeding the outer portion of the flame.

Referring to the accompanying drawing, which illustrates a lamp-burner with my improvements applied, A is a wick-tube; B, a central draft-tube, and C one of a series of ratchets for raising the wick. Surrounding the wick-tube A is a flat disk or collar, A', designed to take the place of the outer cone commonly employed in lamps, and serving to throw out against the sides of the chimney the

air-current, which enters below the chimney to feed the outer portion of the flame, the inside of said flame being supplied with oxygen through the central draft-tube B. This disk, which is made fast to the wick-tube A by any suitable means, serves as a bearing for the springs *a*, which press against the inside of the chimney, holding it firmly in place. It also sub-serves the part of a spring, as it will be noticed that, on pressing the springs *a* either above or below, the disk will be bent, and, on relaxing the pressure, will return elastically to its normal position, thus re-enforcing or aiding the chimney-springs *a a*. The central draft-tube B is curved, as shown, or bent to form an elbow, B', terminating at an opening, *b*, in one side of the wick-tube, below the partition or diaphragm D', located in or upon the burner D, and designed to form a lower chamber in said burner, so that the air-current for the central draft-tube passing through the openings *d d*, Fig. 1, shall be independent of the chimney-current entering through the openings *d' d'*. The diaphragm D' is extended beyond the wall of the burner-base, thus affording bearings for the rim or balcony D², which sustains the chimney, and its edge is serrated, as shown in Fig. 3, to form the air-passages *d' d'*. In form the diaphragm D' is a concave disk, and is made fast to the burner by bending down a few of the teeth on its edge, so as to form catches; but I do not limit myself to the concavity, nor to the particular method of attaching it to the base, as it might be made flat, and secured in place by other means.

Owing to the construction just described, a draft blowing from either side or from the back will not have the effect of stopping the air-current passing through the opening *b*, and, consequently, the lamp will not be extinguished, nor caused to smoke, the cessation of the ascending air-current being the cause of extinguishment or smoking.

The draft-tube at its bend *b'* is made concave and concentric with the periphery of the ratchets C C, which are mounted upon a shaft, *c*, having bearings in the sides of the base of the burner. By this arrangement it will be observed that several of the teeth of each ratchet-wheel have a firm and full hold of the wick at

the same time, whereby all slipping of said wick is absolutely avoided.

I design employing three ratchet-wheels upon the same shaft, which will allow nine teeth to take hold of the wick, and by a slight modification within the principle of the invention two shafts with ratchets may be used where a double wick is employed.

What I claim as my invention is—

1. In combination with the wick-tube A, the disk or collar A', for throwing the ascending air-current against the chimney, said disk or collar being arranged below the top of the wick-tube, substantially as set forth.

2. The draft-tube B, having a concave recess or plate, *b'*, at its lower portion, in combination with the ratchet wheel or wheels C, located between the exterior of said draft-tube and the interior of the wick-tube, substantially as shown and described.

3. The combination, with the wick-tube A

and internal draft-tube B, of the curved or convex plate *b'* and ratchet wheel or wheels C, the teeth of said ratchet-wheels projecting into the recess formed by said plate, as and for the purpose specified.

4. The partition D', located in the burner D, for the purpose of rendering the air-current for the central draft-tube independent of that for the chimney, substantially as set forth.

5. The partition or diaphragm D', extending beyond the wall of the burner-base, to afford support to the rim or balcony, and provided with openings for the admission of air to the chimney, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of September, 1873.

ABEL COMBS.

Witnesses:

GEO. C. SHELMEERDINE,
M. DANL. CONNOLLY.