

I. Helme,
Burning Hydrocarbon.
Nº 59,393. Patented Nov. 6, 1866.

Fig. 1.

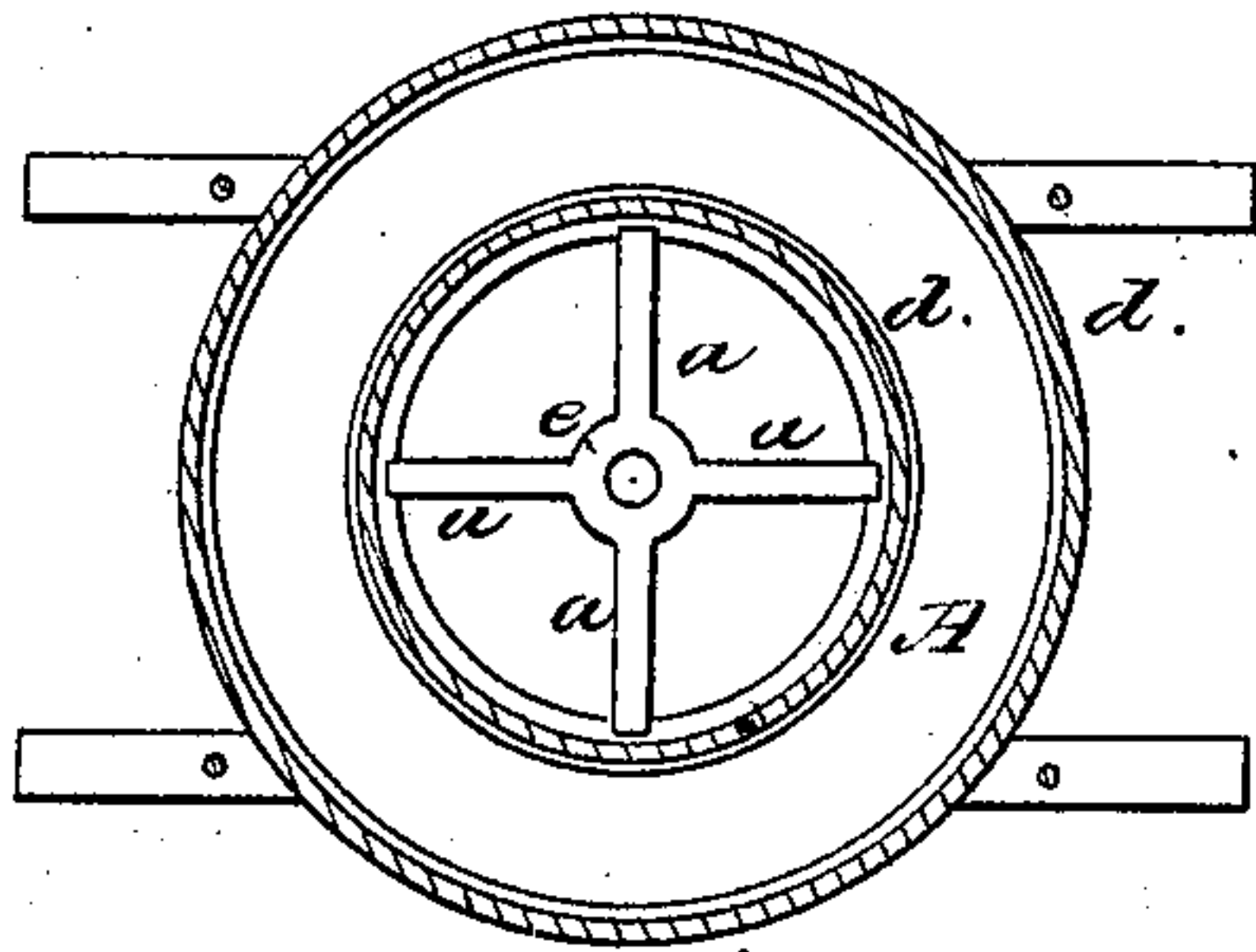
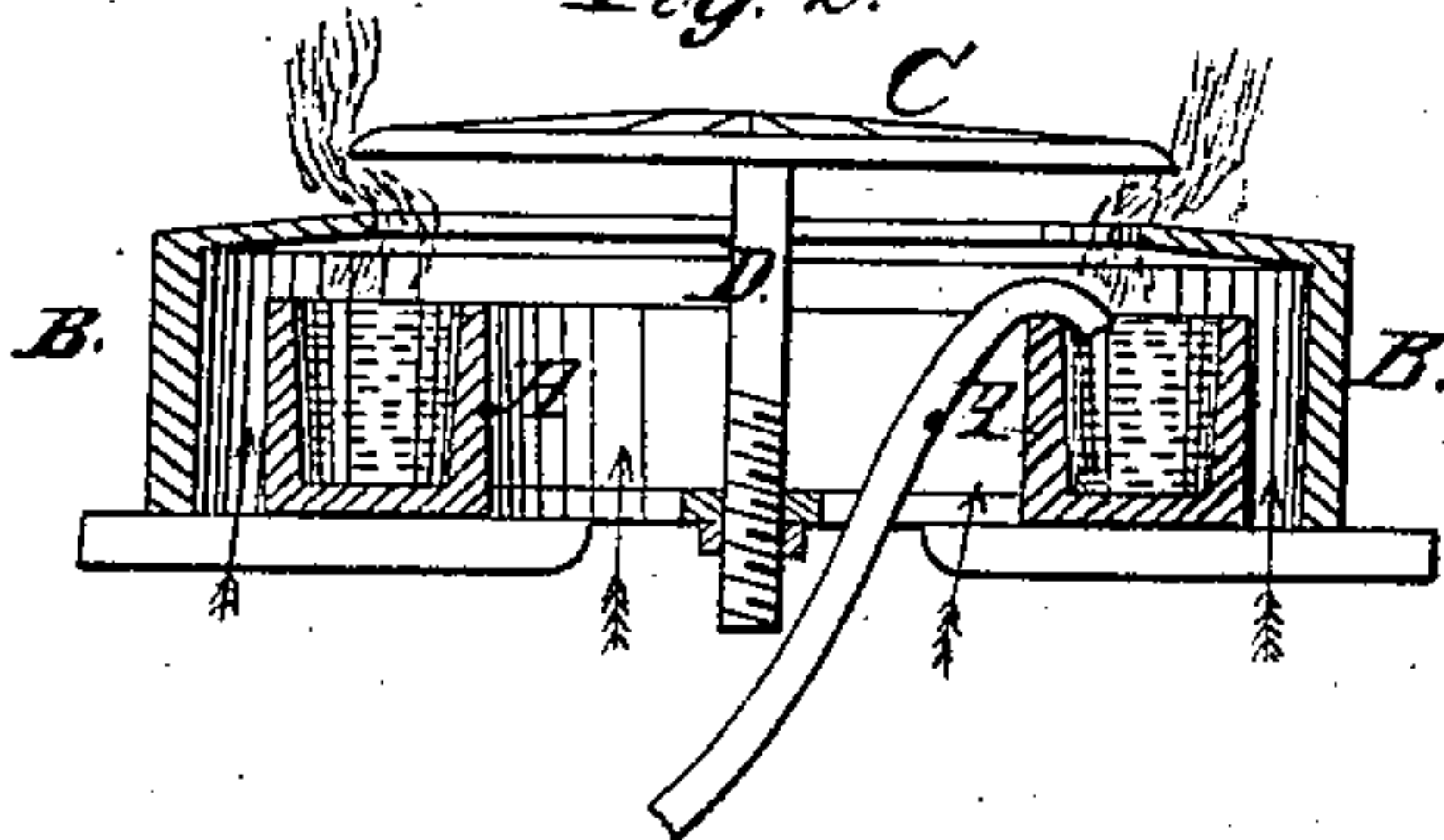


Fig. 2.



Witnesses:

Wheatman
F A Schmann

Inventor:

Isaac Helme
per
Alexander Mason

UNITED STATES PATENT OFFICE.

ISAAC HELME, OF PHILADELPHIA, PENNSYLVANIA.

HYDROCARBON-BURNER FOR STILLs, ENGINES, &c.

Specification forming part of Letters Patent No. **59,393**, dated November 6, 1866.

To all whom it may concern:

Be it known that I, ISAAC HELME, of Philadelphia, in the county of Philadelphia, and in the State of Pennsylvania, have invented certain new and useful Improvements in Hydrocarbon-Burners for Stills and Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the annexed drawings, making part of this specification, A represents a metallic cup, cast with two flanges, *d d*, which project upward and form between them the receptacle for the burning-fluid. *a a a a* represent four arms, which are cast with the cup A, running from the inner flange to the hub *e*, at the center of the said cup. There is no metal between the arms *a a*, as seen. B represents a metallic hoop, which surrounds the cup A, being made of little larger diameter than the cup. This hoop is cast with a flange, which forms a top for it, said flange or top being provided with an annular opening large enough to leave about one-half of the burning-fluid receptacle uncovered by it. This flange or top does not fit down close to the receptacle for fluid, but stands a little above it. C represents a metallic disk, the diameter of which is a little greater than the annular opening in the hoop B, or rather its flange or top. D represents a stem, with a thread cut upon its lower end. This stem passes into the opening in hub *e*. By turning the stem D the disk C is raised and lowered, or brought closer to or removed from the flange or top of the hoop B.

Steam may be passed through the stem D and into the frame through periphery of disk C, if hollow:

In using this burner the fluid, whether coal-oil or any other kind of oil which it may be desirable to use, is conducted to the fluid-receptacle between the flanges *d d* by means of a pipe from the tank containing it.

The fluid, when set on fire, produces a flame, which passes up around the edges of the top or flange of hoop B, strikes the under side of the disk C, and, being spread by it, passes up and around its edges to the boiler or still to be heated.

It will be perceived that there will be a draft of air up through the center of cup A, and also up around its outside, between it and the hoop B.

The flame can be made more or less in volume by raising or lowering the disk C, and of course the degree of heat can be regulated in this way.

I do not propose to confine myself to any particular kind of oil, nor to the shape of this burner, as it may be made oblong or of different shape.

What I claim is—

The cup A, the hoop B, and the disk C, provided with a stem or its equivalent for adjustment, the several parts being constructed and arranged substantially as and for the purpose herein specified.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of October, 1866.

ISAAC HELME.

Witnesses:

EDM. F. BROWN,
C. M. ALEXANDER.