

(No Model.)

J. DARBY.
HYDROCARBON BURNER.

No. 552,236.

Patented Dec. 31, 1895.

Fig. 1.

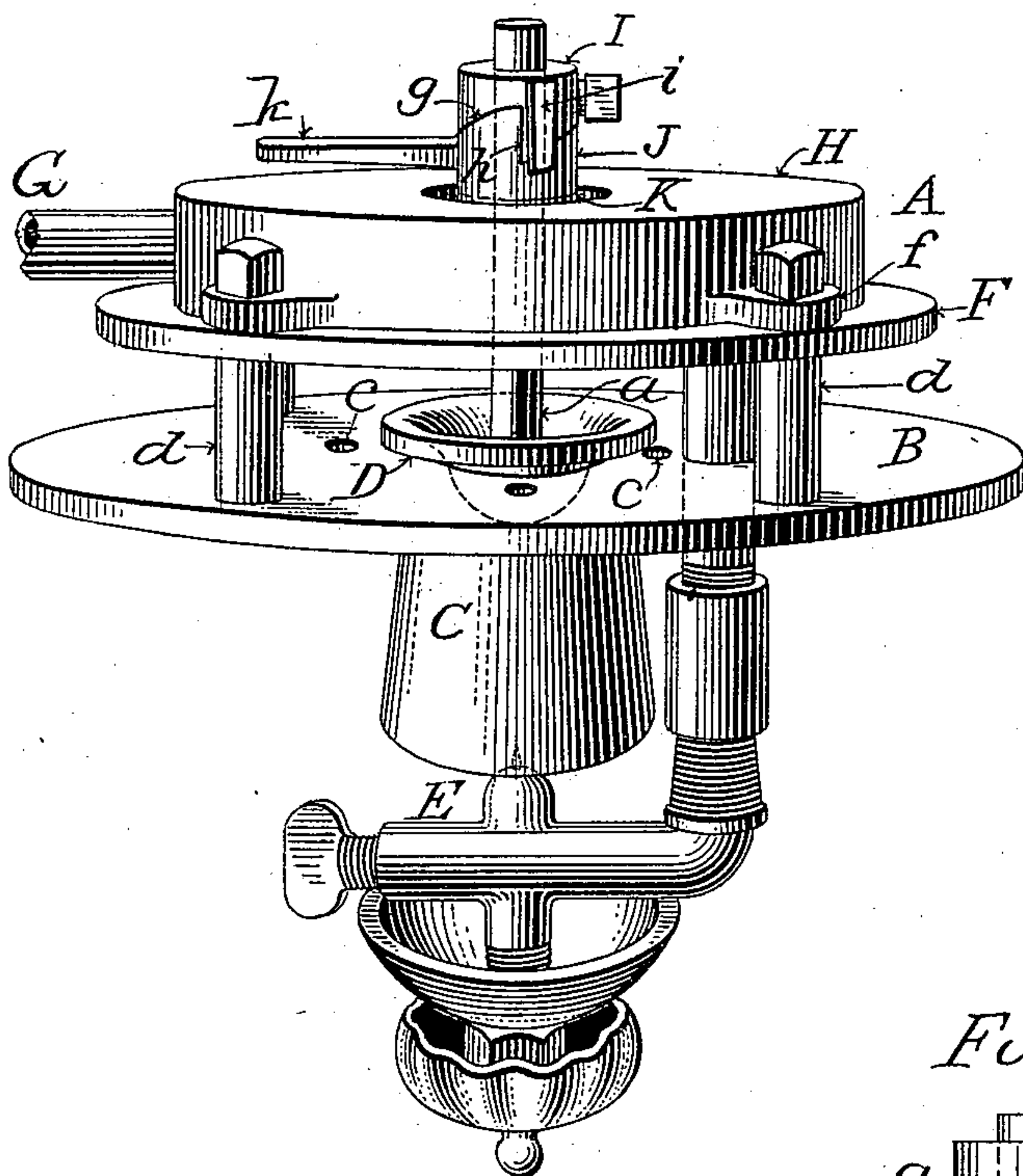


Fig. 2.

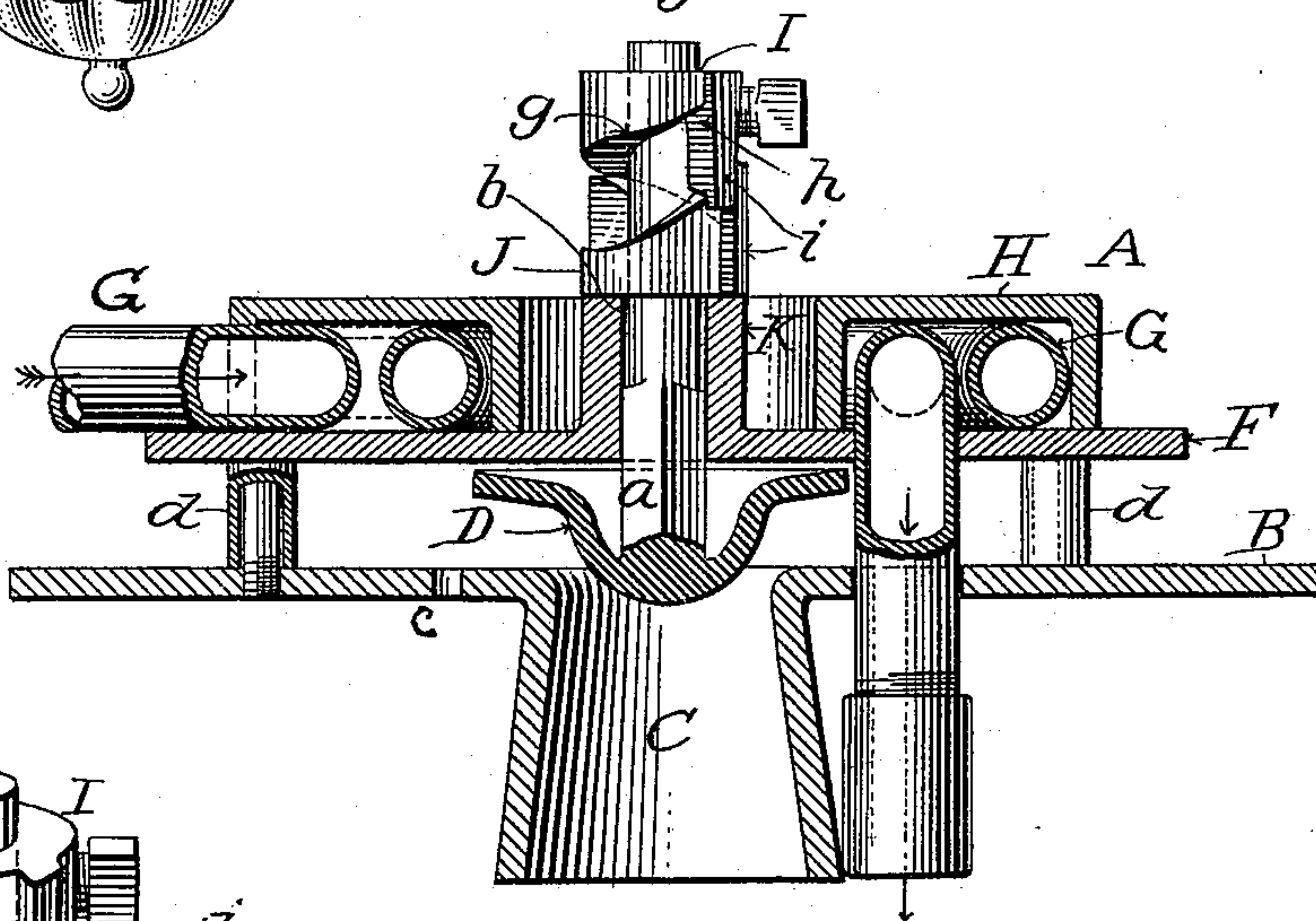
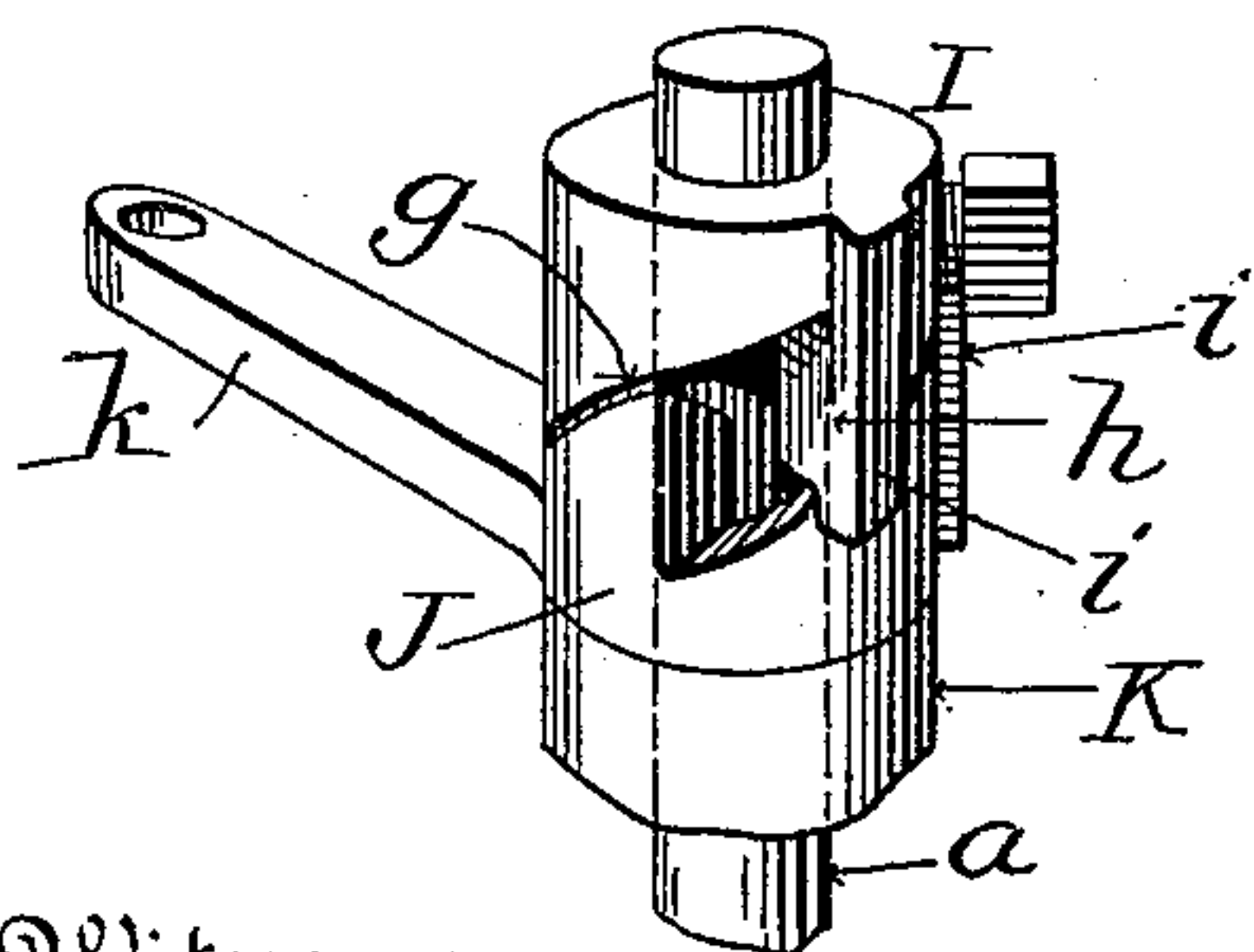


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH DARBY, OF SPRINGFIELD, OHIO; HARMON S. FAIRCHILD, ADMINISTRATOR OF SAID DARBY, DECEASED, ASSIGNORS TO ELIJAH F. DARBY, OF SAME PLACE.

HYDROCARBON-BURNER.

SPECIFICATION forming part of Letters Patent No. 552,236, dated December 31, 1895.

Application filed January 24, 1895. Renewed September 6, 1895. Serial No. 561,708. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DARBY, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have
5 invented certain new and useful Improvements in Hydrocarbon-Burners, of which the following is a specification.

My invention relates to hydrocarbon-burners; and it consists of the novel construction
10 and arrangement hereinafter set forth and claimed.

In the drawings, Figure 1 is a perspective view of my improved burner; Fig 2, a vertical sectional view, and Fig. 3 a view showing cer-
15 tain details of construction.

The object of my invention is to produce a burner simple in construction and efficient in operation, and one that may be easily and quickly assembled and taken apart.

20 The general construction of the burner is similar to that shown and claimed in my application filed December 28, 1894, Serial No. 533,185, the present case differing only in the construction of the retort and the means for
25 adjusting the parts of the burner.

A designates the retort, below which is secured a plate or disk B, provided at its center with a depending conical mixer or funnel C, the walls converging upwardly or toward the
30 discharge end. Between this plate and the retort, and over the mouth of the mixer, there is suspended a deflector or spreader D, the stem *a* of which passes up through a square opening *b* in the retort. The lower portion of
35 the stem is square, which prevents it from turning, while leaving it free to rise and fall.

E indicates the burner or valve connected with the outlet-pipe of the retort and located below the mouth of the mixing-funnel. A
40 series of holes or openings *c* is provided around the mixing-funnel to admit air to the space between the retort and the plate B to insure proper combustion of the gas or vapor.

The retort A comprises a plate F, the coil
45 G, and a cover or cap-plate H. The plate F is provided on its under face near its periphery with a series of downwardly-depending arms or studs *d*, which are bored through, as seen upon reference to Fig. 2. Upon the upper face
50 at the center is also a stud or projection K,

provided with a squared opening which passes entirely therethrough, and through which opening passes the stem *a* of the deflector or spreader.

The coil G is constructed of ordinary iron
55 pipe bent to form and resting upon the upper face of plate F. The inlet end of the coil passes through a suitable opening in the side of the cover or cap-plate H, while the outlet end extends down through an opening in the
60 plate F to a point convenient for the attachment of the burner-valve E. The oil is thus caused to travel through a tortuous passage and is fully exposed to the heat of the burner,
insuring proper vaporization. 65

The cover or cap-plate fits over and down upon the coil, and is formed with lugs or ears *f*, having holes or openings which register with the openings through the studs *d*. Bolts are
70 passed through openings in the plate B, studs *d*, and ears *f*, and securely hold the parts together.

The adjusting device for the spreader comprises a collar or washer I, adjustably secured to the upper end of stem *a*, said collar having
75 two cam-faces *g g*, forming shoulders or abutments *h h*. A similar collar J encircles the stem *a* below the collar I, the cam-faces of the two collars working against each other. The lower collar J is provided with an arm or
80 handle *k*. Formed upon the periphery of each collar, adjacent to one of the shoulders *h*, is a rib *i*, the end of which extends beyond the cam-face and bears against the periphery of the other collar. When the lower collar is so
85 turned that the deflector is in its highest position, the ends of the ribs abut against each other and further movement of the lower collar is prevented, and the deflector is sustained in its highest elevation. 90

It will be seen from the above description that the coil may be readily removed or replaced as desired, either for repairs or for any other purpose.

Having thus described my invention, what
I claim is— 95

1. A retort for hydro-carbon burners, comprising a pipe coil removably secured within a substantially closed compartment.

2. A retort for hydro-carbon burners, com- 100

prising the combination of a pipe coil; a plate below said coil and upon which it rests; and a cap plate or cover fitting over said coil, and secured to the supporting plate.

5 3. In a hydro-carbon burner, the combination of a pipe coil; a plate below said coil and upon which it rests; a cap or cover fitting over said coil; a disk B secured to the plate at a short distance below the same and provided
10 with a mixing funnel, and a burner below said funnel.

4. In a hydro-carbon burner, the combination of a pipe coil; a plate below said coil and upon which it rests; a cap or cover fitting over
15 said coil; a disk secured to the plate at a short distance below the same and provided with a mixing funnel; a burner below said funnel;

and an adjustable spreader above the mouth of the funnel.

5. In a hydro-carbon burner, the combination of a retort; a spreader or deflector provided with a stem passing up through said retort; a cam faced collar secured to the upper end of said stem; a second cam faced collar encircling the stem and bearing against
25 the first collar; and ribs formed upon the collars adapted to abut against each other when the spreader is in its elevated position.

In witness whereof I hereunto set my hand in the presence of two witnesses.

JOSEPH DARBY.

Witnesses:

CHAS. I. WELCH,
ELIJAH F. DARBY.