

(No Model.)

C. V. BEST.
VAPOR BURNER.

No. 471,596.

Patented Mar. 29, 1892.

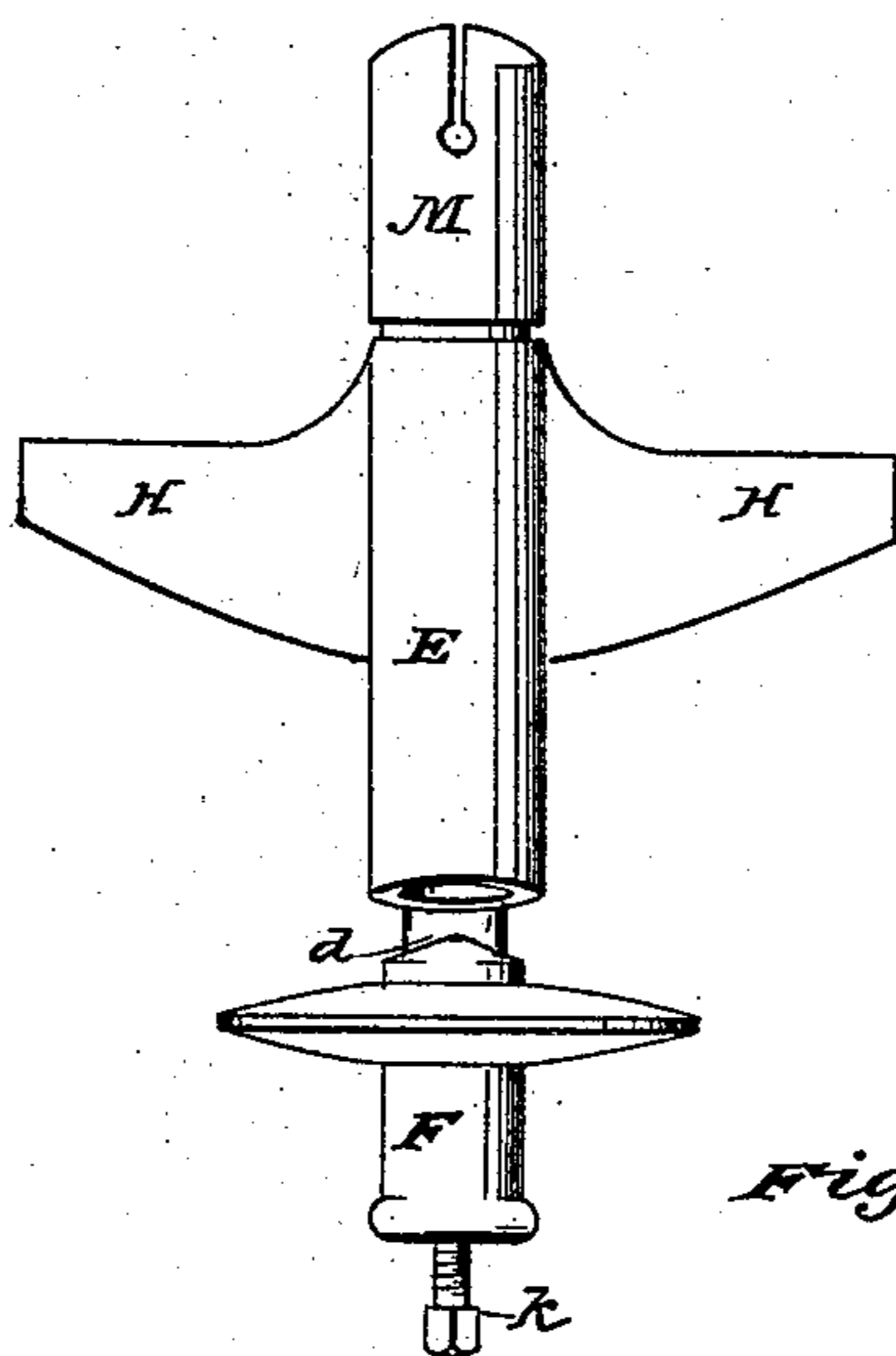


Fig. 2.

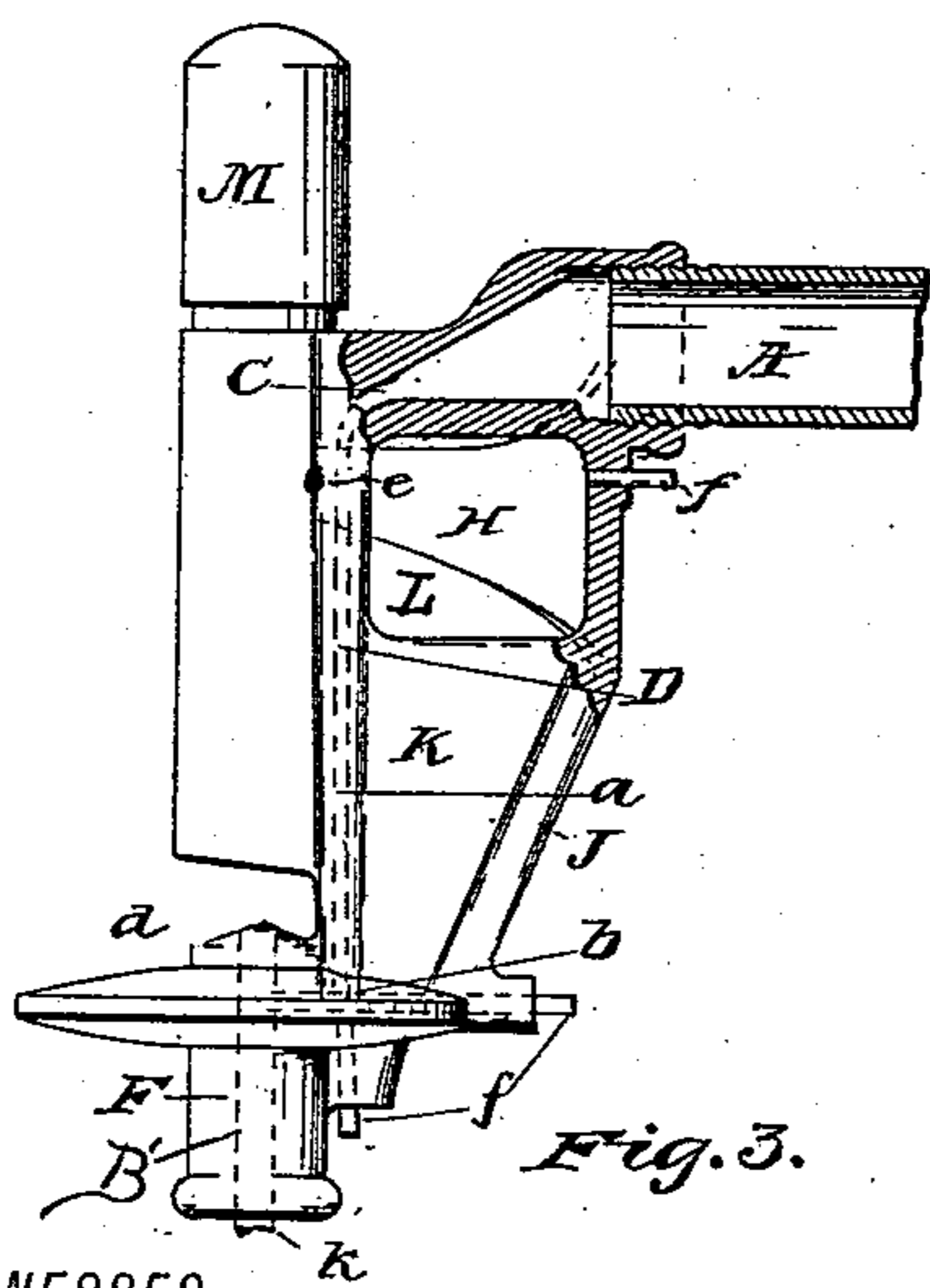


Fig. 3.

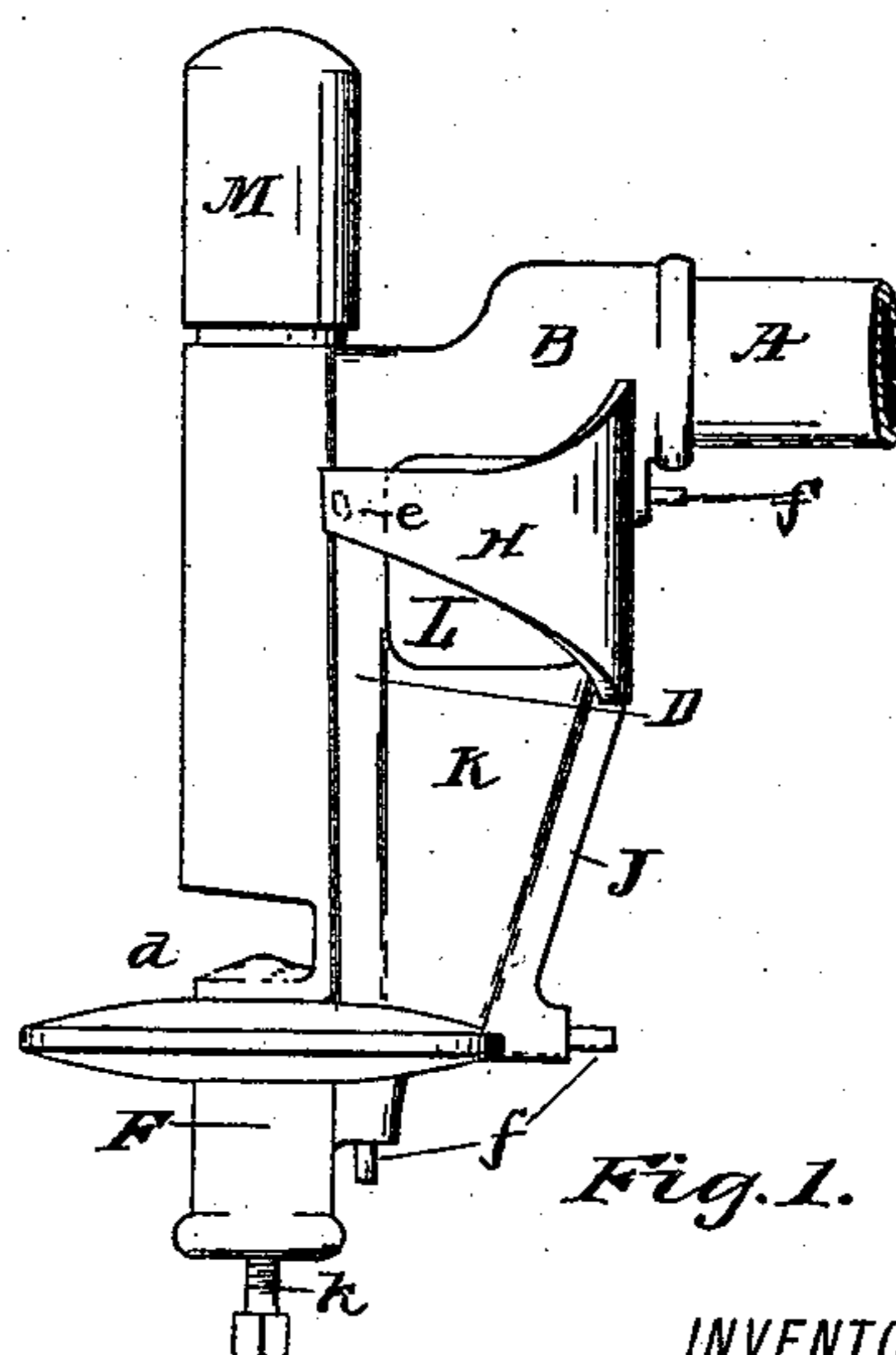


Fig. 1.

WITNESSES:

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CLEARMONT V. BEST, OF CANTON, OHIO, ASSIGNOR OF ONE-HALF TO GEORGE W. ALTHOUSE, OF SAME PLACE.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 471,596, dated March 29, 1892.

Application filed April 6, 1891. Serial No. 387,757. (No model.)

To all whom it may concern:

Be it known that I, CLEARMONT V. BEST, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have
5 invented a new and useful Improvement in Vapor-Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings; making part of this specification.

10 My invention relates to improvements in gasoline vaporizers and burners; and it consists in providing means by which the hydrocarbon may be vaporized and the vapor or atoms superheated before reaching the mix-
15 ing-chamber.

With these ends in view my invention relates to certain features of construction and combination of parts, as will be hereinafter described, and pointed out in the claim.

20 Figure 1 of the accompanying drawings is a side elevation of a vapor-burner illustrating my invention; Fig. 2, a front elevation showing the form of the pattern and casting, the wings that form the hood for the sub-light
25 extended to facilitate molding; Fig. 3, a sectional view of the atomizer and sub-light or heater.

Similar letters of reference indicate corresponding parts in all of the figures of the
30 drawings.

A represents a supply-pipe leading from the tank or source of supply to the atomizer B, which is connected with the body portion of the burner by a neck portion C. A rib D is
35 extended down the side of the mixing-chamber E to the bottom portion F of the frame. A pipe-like aperture *a*, as indicated by the dotted lines, extends from the atomizing-chamber B through the neck C and down
40 through the rib D, intercepting a similar aperture *b*, extending from the lower end of the aperture *a* to a vertical aperture *B'*, centrally located in the base F; as shown by the dotted lines, thus forming a continuous conduit
45 from the atomizer to an aperture *d* below the mixing-chamber E, in which is provided a regulating-pin *k*, the body of which is threaded and turned into the base F, as shown, by which
50 the flow of vapor to the mixing-chamber may be regulated. A small aperture *e* is formed in the side of the mixing-chamber E, as shown

in Fig. 3, by the side of the rib D. These apertures are formed by the use of small drills, the outer or unused end portions closed by
plugs *f*. The object of the aperture *e* is to
55 provide a sub-light or heater at a point below and under the atomizer B, and to protect said sub-light from being extinguished by wind wings, as H, are provided that are cast integral with the body of the burner, as shown in
60 Fig. 2, which in the finished burner, as shown in Fig. 1, are bent forward, their front ends embracing the pipe *a* and a portion of the mixing-chamber E, thus partially inclosing
65 the flame of the sub-light and directing and impinging the flame on the atomizer to atomize or vaporize the gasoline and onto the pipe
a, through which the vapor passes from the vaporizer to the mixing-chamber, by which
70 arrangement the one sub-light or flame serves to vaporize the gasoline in the chamber B and superheat it in the pipe *a*, the flame striking the wings H at their central portion and is spread out on the inner surface of the wings
75 and directed forward and about the pipe *a*.

The web K, filling the space between the frame-piece J and the rib D, extending up to the lower edge of the wing, serves to direct the air upward to support and bear the flame
80 up about the atomizer and to prevent cross-currents, by which the flame would be carried off to one side away from the atomizer and conduit.

I wish to call attention to the form of the lower edge of the wing, as shown in the draw-
85 ings, having the lower edge cut away or graded oblique to a line drawn longitudinally through the wing, by which the front end portion of the wing is made narrower than the base or rear portion, by which the port L is made
90 larger at the front portion of the heating-chamber formed by the inclosing wings, where the greatest amount of air is required to perfectly support the combustion of the vapor. A further advantage of this structure is that
95 the sub-light is brought near to the burner M, which, if extinguished by violent winds, will be relighted by the sub-light.

Having thus fully described the nature and object of my invention, what I claim as new, 100 and desire to secure by Letters Patent, is—

In a vapor-burner, the combination, with a

supply-pipe A, of a mixing-chamber E, hav-
ing a sub-light aperture *e*, a pipe *a*, integral
with the mixing-chamber and parallel thereto,
the frame-piece J, a web K, connecting said
5 frame and mixing-chamber, an atomizer B,
communicating with the pipes A *a*, upwardly-
graded wings H, connecting the atomizer with
the frame J and bent forward to embrace both
sides of the pipe *a*, by which a heating-cham-
10 ber is formed, the sides of which will direct
and impinge the flame of the sub-light against

both sides of the pipe *a* and about the atom-
izer B, and the base F, located beneath the mix-
ing-chamber E and provided with a valve-
controlled aperture communicating with the 15
pipe *a*, substantially as set forth.

In testimony whereof I have hereunto set
my hand this 19th day of March, A. D. 1891.

CLEARMONT V. BEST.

Witnesses:

W. K. MILLER,

CHAS. R. MILLER.