

W. H. SMITH.
Vapor Burner.

No. 79,404.

Patented June 30, 1868.

Fig: 1.

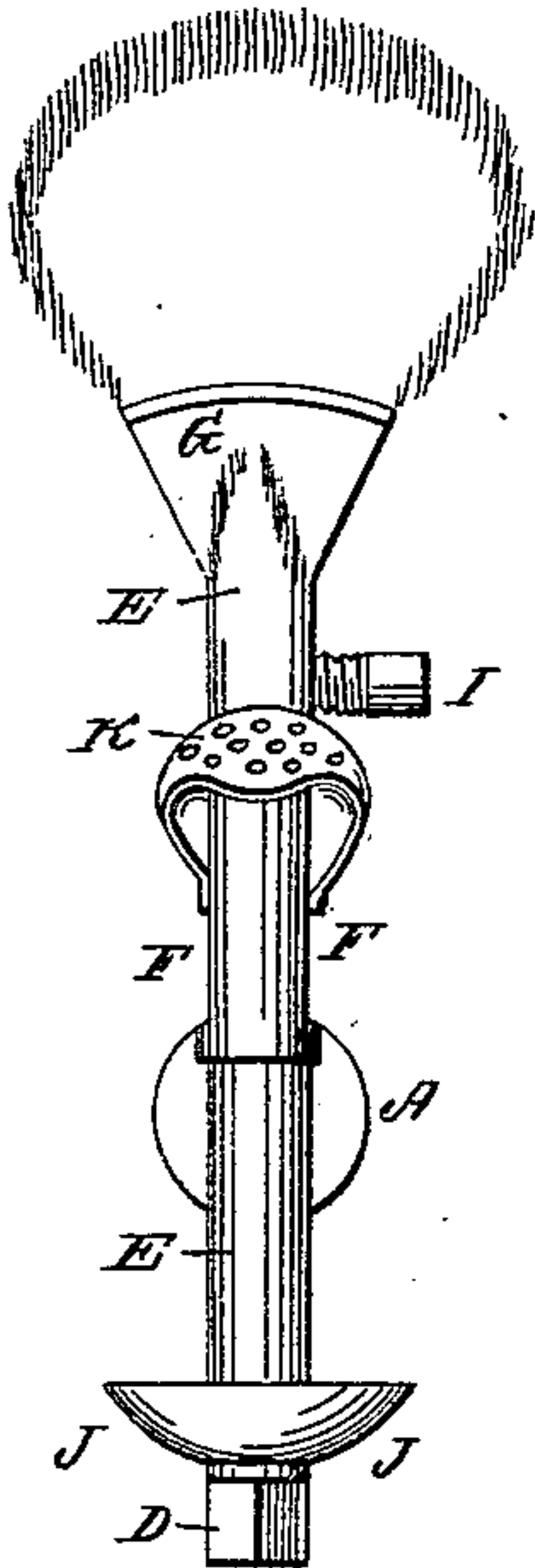


Fig: 2.

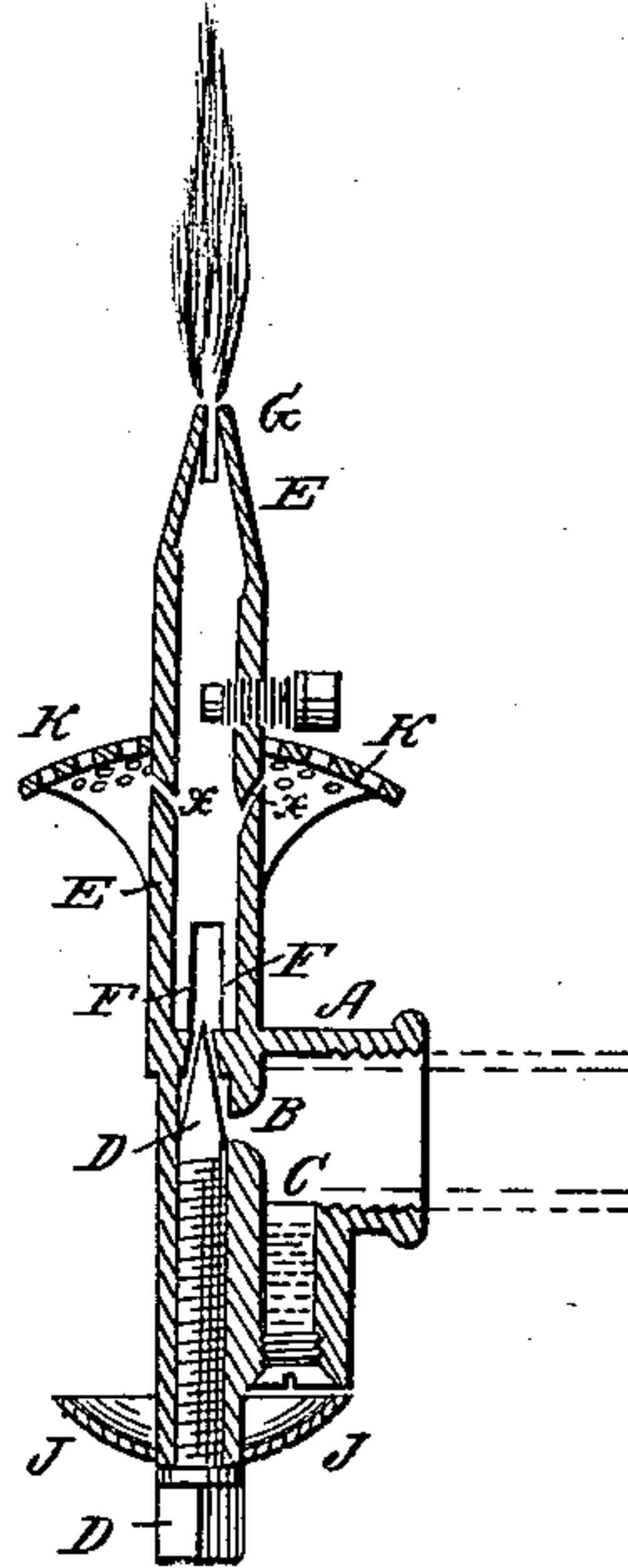
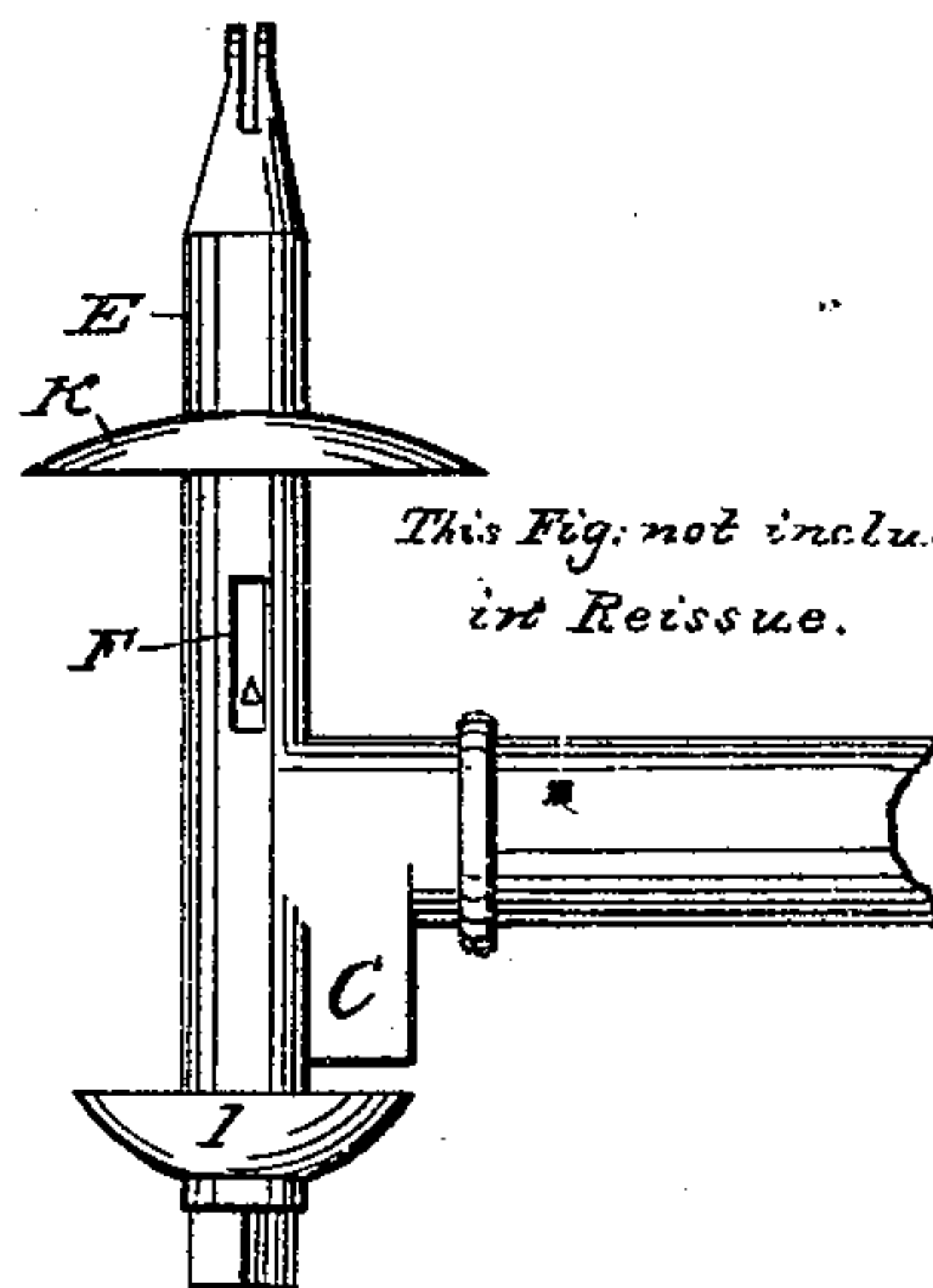


Fig: 3.



*This Fig. not included
in Reissue.*

Inventor

W. H. Smith

Witnesses:

R. Boeklen
W. Omerle

UNITED STATES PATENT OFFICE.

WILLARD H. SMITH, OF NEW YORK, N. Y.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. **79,404**, dated June 30, 1868.

To all whom it may concern:

Be it known that I, WILLARD H. SMITH, of the city, county, and State of New York, have made certain new and useful Improvements in Light-Oil Vapor-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a side elevation of my improved burner; Fig. 2, a vertical central section of the same; Fig. 3, an outside view of the same.

The nature of my invention consists, first, in having a receptacle formed in the oil-passage, on the lower part, near the junction of the oil-pipe with the burner, whereby impurities or solid matter in the oil will be arrested and prevented from passing into the burner and clogging its passages; secondly, it consists in providing the burner with one or more gas-jets on its air-tube, whereby the burner is heated more effectually, and a more perfect evaporation of the oil and a more rapid draft of air are caused, and consequently a better light is obtained, and the light is made more uniform and steady; thirdly, it consists in the construction of the heaters aforesaid, or gas-jets having a deflecting flange or flanges arranged in connection over such gas-jets in the air-tube, whereby the heat of said jets is conducted downward to the burner part of the burner and its feed-pipe, causing a more thorough evaporation at the junction of the oil-tube and burner.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents the ordinary tube of the burner, to which the feed-pipe is attached. B is the opening through which the vapors of the oil escape into the burner. Now, below the opening B, I arrange a receptacle, C, so that the impurities and solid matters will drop into

the receptacle C and be there detained. From the opening B the vapors pass through the usual valve D into the air-tube E, which is provided with the ordinary air-passages F F, through which the air is furnished, and then mixed with the vapors of the oil, producing the inflammable gas, which passes onto the usual flattened and contracted top end, G, of the burner and air-tube. I represents the air-regulating screw in the air-tube, and J is the usual cup used for receiving alcohol or light-oil for the first heating of the burner to set it in operation. Now, in order to produce a better light, more especially in cold weather, and to have a burner capable of giving more heat than those now in use, I employ extra heaters on the air-tube E, by having fine passages *x x* above the air-passages F F, through which small jets of gas issue, and by providing perforated flanges K K the heat from these gas-jets is conducted downward upon the lower part of the burner and upon the oil as it enters the burner, whereby the evaporation of the oil and supply of air are much encouraged and a better flame and light produced thereby.

Having fully described my invention, what I claim therein, and desire to secure by Letters Patent, is—

1. In burners for light-oil, I claim the receptacle C, connected with the feed-pipe and burner, substantially as and for the purposes set forth.

2. Providing the air-tube E, between the air-passages F F and the base of the flame, with heaters consisting of the passages *x x* on a heat-conducting flange or flanges K K, substantially as and for the purpose herein stated.

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Witnesses:

R. BOEKLEN,
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