

D. F. RANDALL.

Lamp Burner.

No. 16,398.

Patented Jan. 13, 1857.

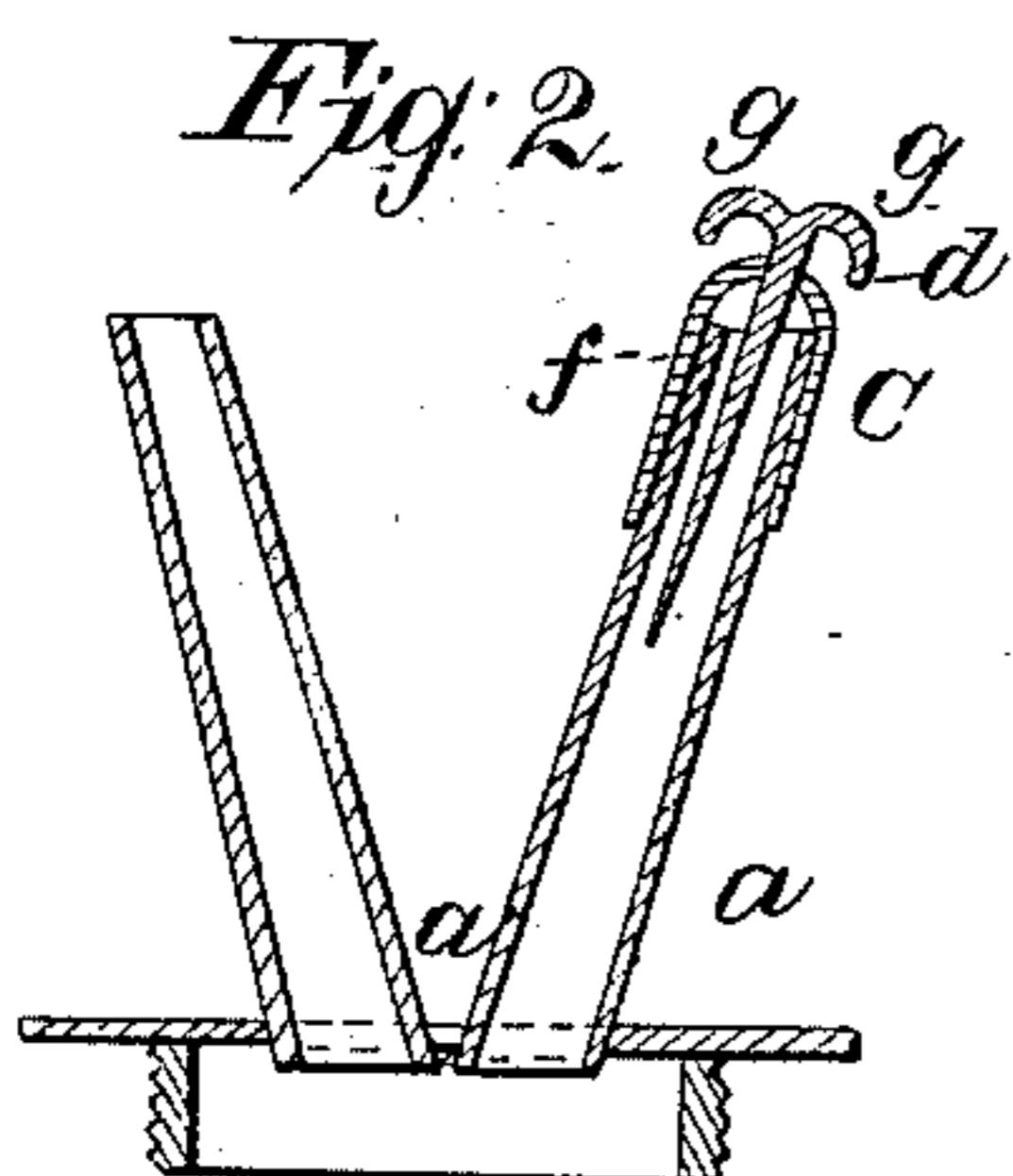
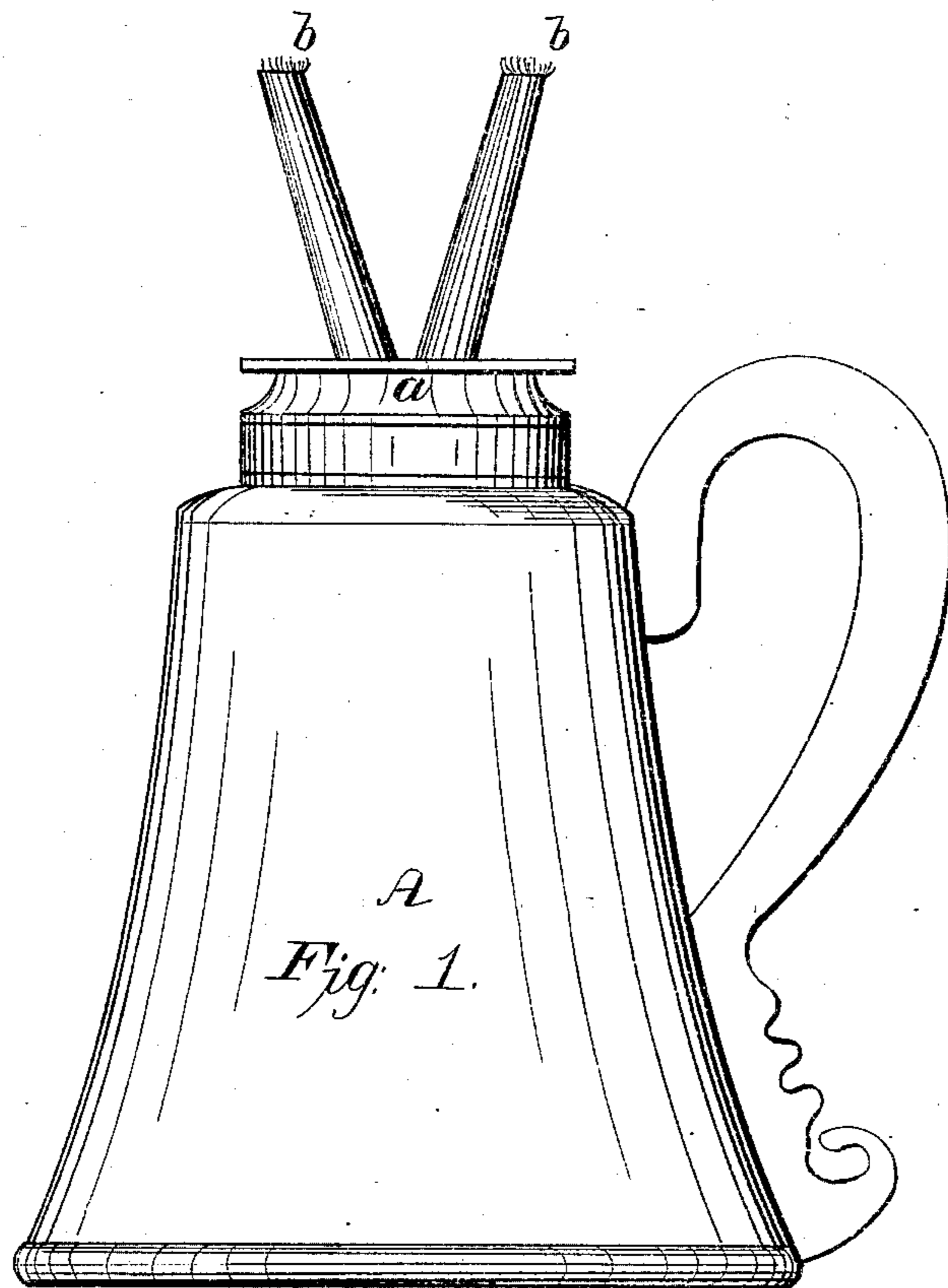


Fig. 3.



Fig. 4.



UNITED STATES PATENT OFFICE.

DAVID F. RANDALL, OF CHICOPEE, MASSACHUSETTS.

CONSTRUCTION OF BURNING-FLUID LAMPS.

Specification of Letters Patent No. 16,398, dated January 13, 1857.

To all whom it may concern:

Be it known that I, DAVID F. RANDALL, of Chicopee, in the county of Hampden and State of Massachusetts, have invented an
5 Improvement in Lamps for Burning Volatile Hydrocarbons; and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

10 Figure 1, denotes a view of one of my improved lamps. Fig. 2, is a longitudinal section of its wick tube gas burner, and spur to be hereinafter described. Fig. 3, is a top view of the gas burner tube. Fig. 4, a
15 side view of the spur.

In said drawings, A, denotes a common lamp, such as is used for burning camphene or highly volatile burning fluid composition, *a*, being its wick tube, and *b*, its wick.

20 On the wick tube is slipped a cap or gas burner, *c*, provided with a slit, *d*, on its top for emission of vapor, and also with a small hole down through the central port of the slip or tip through which and down
25 into the wick, I insert a tapering spur, *f*, provided at top with one or more branches or curved arms, *g, g*, which when the lamp is burning, serve not only to spread the flame, but particularly to gather heat
30 therefrom and conduct it into the shank of the spur, by which it is conveyed into the body of the wick so as to aid in vaporizing the fluid or material taken up in and by the wick. This spur transfers heat into the
35 middle part of the wick, while the external surface of the wick removes heat from the burner cap and the wick tube. The efficiency of the spur will at once be apparent by removing it from the burner tube while
40 the lamp is in operation or inflamed. A depression of the flame will immediately follow, and in most cases, the lamp will shortly

go out, as by the gas burner, there will not be heat enough conducted into the wick to vaporize the contents thereof.

45

When the gas burner and the spur are placed with relation to the wick tube and wick as shown in Figs. 1, and 2, and flame is applied to the burner, the fluid of the wick immediately becomes inflamed, and issues with considerable velocity from the slit of the burner, and takes fire so as to emit a brilliant light, far more effulgent, than can be produced from the wick tube and wick without the appendages as specified.

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I do not claim combining with a burner, a piece of metal to extend down into the body of a lamp for the purpose of fluidizing the combustible matter therein; nor do I
60 claim combining with the wick of a burner, a metallic tube to extend around said wick and down into the burner tube, and to be capped with a button for spreading the flame, the heat of said button and the tube
65 extending immediately around the wick serving to vaporize the fluid within the wick, but

What I claim is—

So applying to the gas burner, a tapering spur, that it may extend down into the body
70 of the wick and serve to conduct heat into the interior of the wick while the external sides of the wick are heated by the burner and wick tube as specified; and when such spur is used I claim making it with
75 one or more branches at top as shown and described.

In testimony whereof I have hereunto set my signature this twenty first day of November, A D 1856.

DAVID F. RANDALL.

Witnesses:

GEO. M. STEARNS,
M. W. CHAPIN.