I. JENNINGS.

Vapor Burner.

No. 2,254. Patented Sept. 11, 1841.

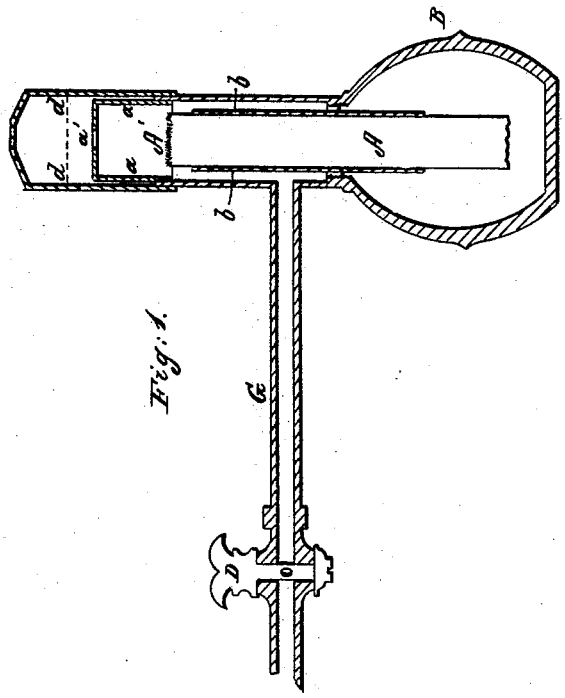

Fig. 1.

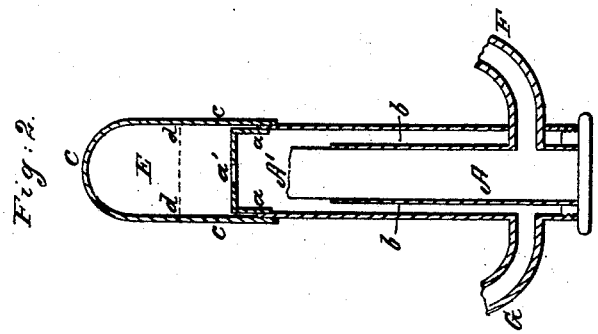

Fig. 2.

UNITED STATES PATENT OFFICE.

ISAIAH JENNINGS, OF NEW YORK, N. Y.

CONSTRUCTION OF LAMPS FOR BURNING VOLATILE INGREDIENTS.

Specification of Letters Patent No. 2,254, dated September 11, 1841.

To all whom it may concern:

Be it known that I, ISAIAH JENNINGS, of the city of New York, in the State of New York, have invented a new and useful Manner of Constructing a Lamp for the Burning of Volatile Ingredients; and I do hereby declare that the following is a full and exact description thereof.

My improved lamp is to have two reservoirs for containing the volatile ingredients, which ingredients are to be of two different kinds; one of them, for example, may be spirits of turpentine, naphtha, or other fluid of the nature of an essential oil, and the other may be alcohol, whisky, or other ardent spirit, or any other volatile fluid. These two ingredients may be of such kind as will combine together when mixed with each other in the fluid state, as will alcohol and spirits of turpentine to a certain extent; and for the use of which compound I have obtained Letters Patent of the United States; or the two fluids may be such as will not combine with each other by simple mixture, as, for example, spirits of turpentine and whisky, or other spirit of ordinary proof; or which if they do combine at all, do so to an extent too limited for any beneficial practical purpose as ingredients to be burned in lamps. The two ingredients used by me are to be converted into vapor separately, and the vapors produced are to be intimately mixed, or combined, with each other previously to their issuing from the orifices at which they are to be ignited. By this means ingredients may be burned together, and be made to afford a brilliant light, which could not be used in combination in the ordinary way of mixture; and those which may be so mixed, and used in combination, are employed to much greater advantage than when mixed in the liquid state, as they are rendered independent of changes of atmospheric temperature, which sometimes cause the mixed fluids to separate from each other.

In the accompanying drawings, I have shown the manner in which I construct my apparatus for carrying my plan into effect.

Figure 1, is a vertical section of a burner, and of a supply tube leading thereto from a reservoir containing one portion of the volatile ingredients. The burner consists of two distinct chambers, or compartments, connected respectively with the two reservoirs of volatile ingredients. The middle compartment receives a roll of cotton, a bundle of cotton wick, or any other article along which a fluid will rise by capillary attraction. This is shown at A. The lower end of this wick extends down to the lower part of the hollow ball B, or other formed reservoir, which is to contain one of the volatile ingredients, say whisky for example. This fluid will ascend up to the top A′, of the wick, which terminates in a chamber formed by a cap *a*, *a*, into which the vapor rising from the wick will pass.

C, is a supply tube proceeding from the ordinary reservoir of a lamp, which may be of any of the kinds in general use. D, is a cock that may be used to regulate the supply of fluid. The tube C, leads into a chamber *b*, *b*, which surrounds that containing the wick A. Into this chamber the volatile ingredient is to flow from the last named reservoir; this ingredient we will suppose to be spirits of turpentine. The vapor from this will rise and commingle in the chamber formed by the cap *a*, *a*, with that proceeding from the whisky. There is in the top of this chamber, a hole *a*′, which may be from an eighth to a fourth of an inch in diameter, and through this opening the vapor is to pass into the chamber E, which chamber is formed by a cap *c*, *c*, fitting closely on to the outer tube of the burner. Through this cap a row of small holes *d*, *d*, is drilled, through which the vapor is to escape, and which vapor being ignited on the exterior of the cap will produce a clear white flame. The cap *c*, *c*, may be used without that *a*, *a*, but in this case the vapors arising from the two kinds of fluid will not become perfectly incorporated before passing through the holes *d*, *d*, and the flame will be unequal, but in passing through the opening *a*′, a perfect mixture of the two will take place. The space *b*, *b*, may have some fibrous material placed within it to prevent the overflow of the fluid when the lamp is agitated.

In Fig. 2, I have represented a burner having two tubes passing into it; the tube F, leading into the chamber A, and the tube G, leading into the chamber *b*; these tubes are to be connected with separate reservoirs containing the two volatile ingredients. Suppose the burner to be that of an astral lamp, the reservoir of such a lamp may be divided by cross partitions into two parts, one of which parts may contain alcohol, or

other suitable fluid, and the other may contain oil of turpentine, or other essential oil, or volatile ingredient. The jets of flame may be surrounded by a glass chimney, but, excepting in situations where there is a considerable draft of air, a steady, clear, and smokeless flame may be obtained without it.

In Figs. 1, and 2, I have represented the two chambers as concentric, but they may be semi-cylindrical, or in any other form that may be preferred.

Having thus fully described the nature of my invention, and shown how the same may be carried into operation, what I claim therein as new and desire to secure by Letters Patent, is—

The employment of two separate reservoirs for the supply of a lamp, or lamps, which reservoirs are to contain volatile ingredients of different natures, and which volatile ingredients are to be conducted into separate chambers in the burner, in which chambers they are to be evaporated, and their vapors are to be made to commingle in a gas, or vapor, chamber, whence it is to escape through suitable holes for the purpose of being ignited; the respective parts of the apparatus for effecting this object being arranged and combined substantially in the manner herein set forth.

ISAIAH JENNINGS.

Witnesses:
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