L. LOEFFLER.

Lamp.

No. 39,488. Patented Aug. 11, 1863.

Fig. 1.

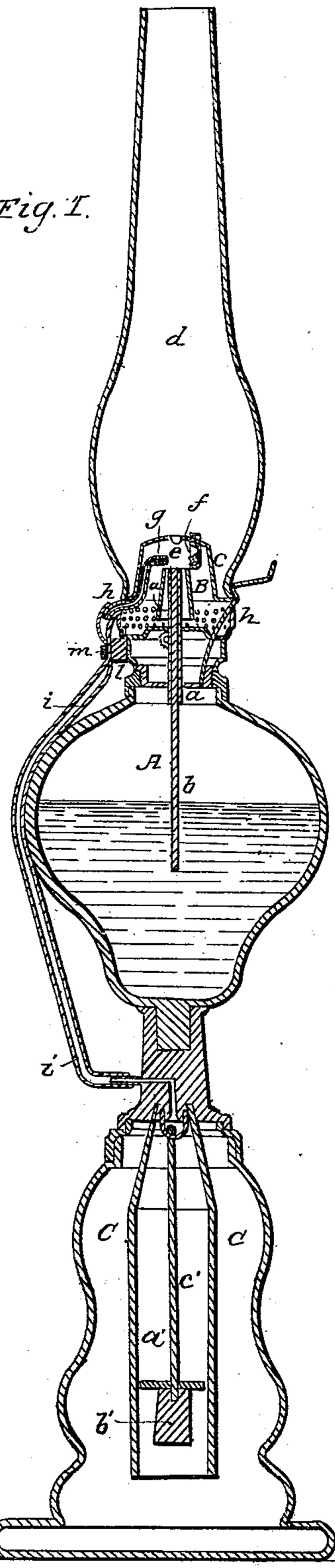
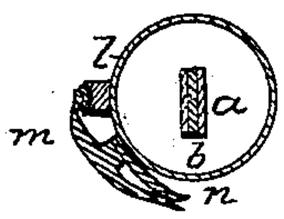


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

LOUIS LOEFFLER, OF EAST CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **39,488**, dated August 11, 1863.

To all whom it may concern:

Be it known that I, LOUIS LOEFFLER, a citizen of Prussia, and a resident of East Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Lamps; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a vertical section of a lamp made with my invention, the same being a lamp having combined or arranged with respect to its wick or wick-tube, or the equivalent thereof, not only a spongy piece of platinum, or its equivalent, but an apparatus for the generation of hydrogen gas and the discharge of such gas upon such platinum for the purpose of so heating it as to inflame the discharged gas and the wick or burner of the lamp.

In the drawings, A denotes the fluid-reservoir, and B the burner, of an ordinary lamp for burning kerosene or other liquid hydrocarbon. Of the burner, *a* is the wick tube; *b*, the wick; *c*, the conical deflector, and *d* the chimney. Within the upper part of the said deflector, and aside of its flame-opening *e*, there is fixed a piece, *f*, of spongy platinum, and opposite to it there is a jet-tube, *g*, which runs up from the deflector-supporter *h*, and connects with an india rubber tube or conduit, *i*, which leads downward and opens into a hydrogen-gas generator or vessel, C, which constitutes the base of the lamp or is a chamber made with such base. The generator, as shown in the drawings, has an elongated inner vessel or gasometer, *a'*, arranged within it, such vessel being open at bottom, while at its top it communicates directly with the conduit *i*. The jet-tube or its conduit may be furnished with a stop-cock, but in lieu thereof I make use of a means of compressing the tube, when it is an elastic one or is made of india-rubber. For this purpose the tube is carried down against a projection, *l*, extending from the lamp-cap. A thumb-lever, *m*, provided with a spring, *n*, serves to compress the tube by pressing it against the projection *l*.

Fig. 2 represents a horizontal section of the lever and the lamp-cap, and shows the projection *l*, the lever *m*, and the spring *n*. There should be placed in the generator C, or within the gasometer *a'* thereof, one or more pieces of zinc, *b'*, and there should be a solution of sulphuric acid within the generator. The action of the acid solution on the zinc will cause hydrogen gas to be set free. This gas, as it may accumulate in the gasometer, will expel the acid solution or force it out of the bottom thereof until it may be caused to descend below the piece of zinc *b'*, suspended in position by the wire *o'*. When this takes place, no more gas will flow until gas in the gasometer may be removed therefrom through the conduit *i*. While the solution may be in the act of being driven out of the gasometer, it will rise in the vessel *c* and thus exert a pressure on the gas to expel it with force through the jet-tube at such time as may be desirable. By suffering the gas to escape through the tube at any time, and to rush against the piece of spongy platinum, the latter will be soon heated so as to inflame the gas. Under these conditions the elevation of the wick into the flame of the gas will cause the wick to be inflamed. By pressure against the tail of the lever *m* the compression of the tube may be removed so as to cause the gas to issue from the jet-pipe. While the tube may be compressed the emission of gas will be arrested. Thus at any time when it may be desirable to inflame the wick, we have a means of accomplishing the same without the necessity of using a match or lighted taper, and of first removing the chimney from its supporter.

I am aware that for upward of thirty years it has been known that a piece of spongy platinum, when held in a jet of hydrogen gas issuing from a small pipe, would soon become so heated as to inflame the gas; therefore I do not claim such.

What I do claim as my invention is—

The combination of a lamp or burner, a piece of spongy platinum, or its equivalent, and an apparatus for the generation of hydrogen gas and discharge of such gas on the said piece of spongy platinum, the whole being substantially as and for the purpose above specified.

LOUIS LOEFFLER.

Witnesses:

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