P. HUFELAND & W. W. BATCHELDER.

LIGHTING ATTACHMENT FOR LAMPS.

No. 180,587. Patented Aug. 1, 1876.

Fig. 1.

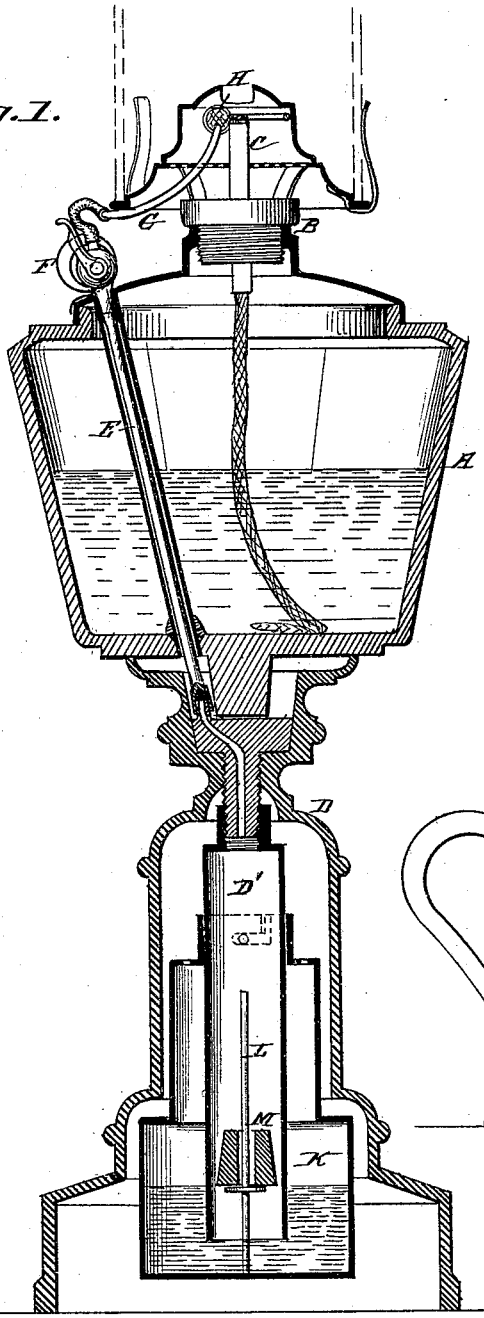


Fig. 2.

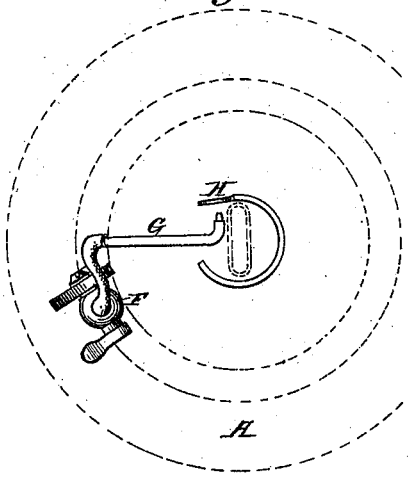
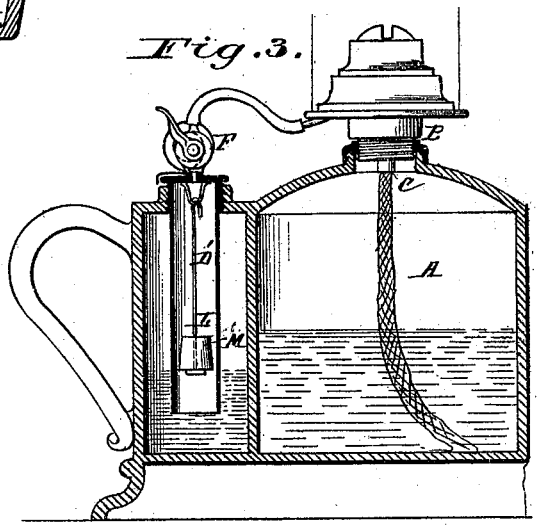


Fig. 3.



Attest:
H. C. Perrine.
Jos. L. Coombs

Inventors.
Philip Hufeland and
Wm. W. Batchelder
By James L. Norris.
attys

UNITED STATES PATENT OFFICE.

PHILIP HUFELAND, OF WEST MOUNT VERNON, AND WILLIAM W. BATCHELDER, OF NEW YORK, N. Y.; SAID BATCHELDER ASSIGNOR TO SAID HUFELAND.

IMPROVEMENT IN LIGHTING ATTACHMENTS FOR LAMPS.

Specification forming part of Letters Patent No. **180,587**, dated August 1, 1876; application filed July 7, 1876.

To all whom it may concern:

Be it known that we, PHILIP HUFELAND, of West Mount Vernon, in the county of Westchester and State of New York, and WILLIAM W. BATCHELDER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Lighting Attachment for Lamps, of which the following is a specification:

Our invention relates to an improved attachment for lamps, its object being to provide a means for lighting the same, in combination with the lamp, so as to dispense with the use of matches and the other ordinary means of lighting such lamps.

This invention consists in the combination, with an ordinary oil-lamp, of a tube extending through the body of the lamp, or a portion thereof, down into a hydrogen-generator, and connected at its top with a pipe leading to a hydrogen-jet situated close to the lamp-burner, and co-operating with a platinum sponge, as more fully hereinafter set forth.

In the drawing, Figure 1 is a vertical central section of a lamp with our improved attachment applied; Fig. 2, a plan view of the same; and Fig. 3, a view of a modification of the same.

In the drawings, the letter A represents the oil receptacle or reservoir of the lamp, which may be constructed of glass, metal, or other material, as usual, and B the screw-cap fitting therein, provided with the ordinary wick-tube C. The oil receptacle or reservoir is mounted upon a pedestal or support, D, which is made hollow, for the purpose to be hereinafter described. E represents a tube, which extends down through the reservoir or fountain into the pedestal of the lamp, being attached in any convenient manner to the upper part of the reservoir or fountain of said lamp. The lower end of said tube terminates in the upper part of a bell, D′, constructed of copper or other metal or material capable of resisting the action of sulphuric or other acid, and the upper end of said tube is provided with an automatically-acting spring-cock, F, and a projecting end, over which may be fitted one end of a flexible tube connected with the hydrogen-jet G, extending upward through the burner-cap, and terminating near the upper end of the wick-tube. The letter H represents a platinum sponge, supported in a ring of metal in the ordinary manner. This ring is attached to a wire or other support, which may be secured to the cap or the burner, as may be most convenient, but preferably to the cap, as shown in the drawing, in such position as to be directly opposite the hydrogen-jet when the lamp is ready for use. The lower end of the tube E terminates directly within the upper part of the bell located in the pedestal of the lamp, which is made hollow for the purpose. The pedestal is constructed considerably larger than the bell, so as to contain and conceal an acid-reservoir, K, which is made of copper, glass, or other material not readily affected by acids. In the bell is located a rod, L, for the purpose of receiving the disk M, of zinc or other metal capable of generating hydrogen gas when in the presence of dilute sulphuric or hydrochloric acids.

In the modification shown in Fig. 3 the acid-reservoir K and hydrogen-gas generator B′ are represented as located within the reservoir or fountain of the lamp. As both the acid-reservoir and generator are substantially similar to the reservoir and generator in the pedestal, further description is not necessary.

The operation of our improved lamp will be readily understood from the foregoing description. The acid-reservoir in the pedestal of the lamp being suitably charged with acidulated water and placed in position with the charge of zinc or other metal attached to the rod suspended in the bell, pure hydrogen gas will be generated and collected in the bell until such an amount is accumulated as to force the acidulated water away from the zinc or other metal.

When it is required to light the lamp the cock in the tube leading from the generator to the burner is opened, allowing the jet of hydrogen gas to project upon the platinum sponge, igniting the current of gas, and setting fire to the wick. As the gas escapes from the bell the acidulated water rises there-

in, generating more gas for the next operation of lighting.

We are aware that a lamp provided with a platinum sponge and hydrogen-jet, connected to a hydrogen-generator in the pedestal by means of a tube extending down outside of the lamp, has heretofore been in use; and this we do not claim.

What we claim, and desire to secure by Letters Patent, is—

In combination with the lamp, the tube extending down through the lamp-body, or a portion of the same, with a hydrogen-generator, and connected at its top with a pipe leading to a hydrogen-jet situated close to the wick of the burner, and co-operating with a platinum sponge, substantially as described.

In testimony that we claim the foregoing we have hereunto set our hands in the presence of the subscribing witnesses.

PH. HUFELAND.
WILLIAM W. BATCHELDER.

Witnesses:
JOS. L. COOMBS,
JAMES L. NORRIS.