P. HUFELAND & W. W. BATCHELDER.

LIGHTING ATTACHMENT FOR GAS-BURNERS.

No. 180,588. Patented Aug. 1, 1876.

Fig. 1.

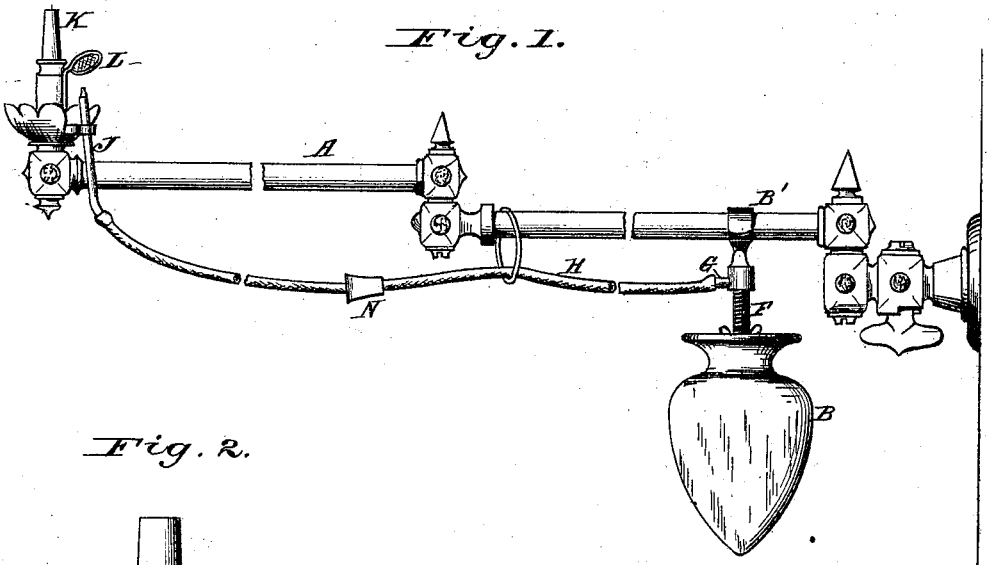


Fig. 2.

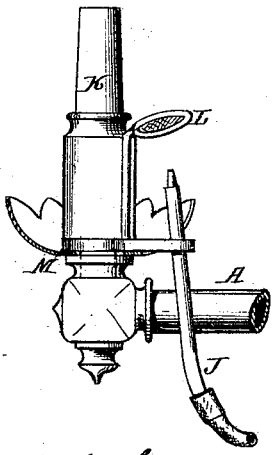


Fig. 3.

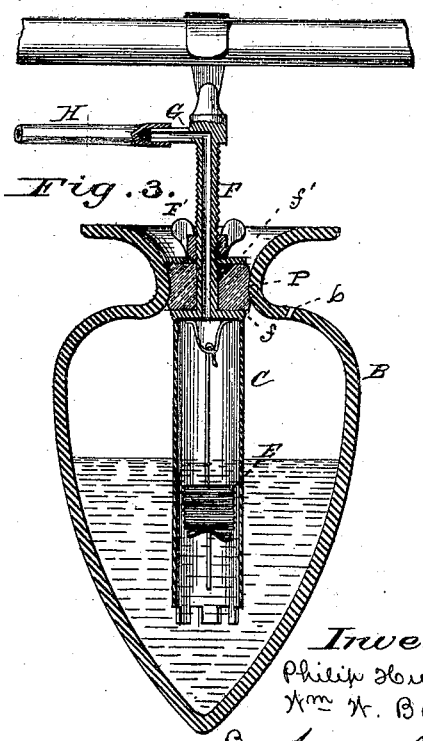
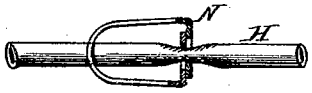


Fig. 4.



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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 GAS-BURNERS.

Specification forming part of Letters Patent No. **180,588**, 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 Gas-Burners, of which the following is a specification:

This invention relates to a new and improved attachment for gas-burners for the purpose of automatically lighting the gas without the use of matches or other means ordinarily employed for the purpose; and it consists in a vessel for generating hydrogen gas from the decomposition of water, which is provided with a means for readily attaching it to the gas-fixture, in combination with a tube or conduit leading to a hydrogen-jet attached to the burner, and located in such position that its flame will readily ignite the gas escaping from said burner, said hydrogen-jet co-operating with a platinum sponge secured to a support which may be conveniently attached to the burner, in such manner that when the jet of hydrogen is projected upon the platinum sponge it will be inflamed, and thus serve to ignite the jet of ordinary gas escaping from the burner.

In the drawing, Figure 1 represents a view of an ordinary gas-bracket, showing our improved automatic lighting attachment secured in position. Fig. 2 represents a detached view of the burner, showing the hydrogen-jet and platinum sponge in position. Fig. 3 represents a vertical section of the hydrogen-generator, showing the means for attaching the same to the bracket, and Fig. 4 represents a view of the cut-off employed in connection with the flexible tube leading from the generator to the hydrogen-jet.

In the drawings, the letter A represents an ordinary gas bracket or chandelier. The letter B represents a vessel of glass or other material capable of resisting the action of acids, of any desired shape and size, but preferably of an ornamental configuration. The letter C represents an inverted bell or tube constructed of glass or other material capable of resisting the action of acids, and adapted to set within the vessel B, and to be secured within the mouth of the same in any convenient manner. In the present instance said bell or tube is provided with a rubber, provided with a packing at its upper end, which holds it in the mouth of said vessel when in place. The upper end of said tube is provided with a loop or hook, B′, by which the whole may be conveniently attached to, and detached from, the gas bracket or chandelier. Said bell is provided with a hook depending from its top on its interior, which is adapted to hold or support a hooked rod, the lower end of which carries a cylinder of zinc, E, for the generation of the hydrogen gas in conjunction with the acidulated water with which the vessel B is charged. From the top of the bell projects a tube, F, provided with a short tube, G, to which one end of a flexible tube, H, is secured, the other end of said tube being attached to one end of a hydrogen-jet, J, attached to the gas-fixture in any convenient manner, its upper end terminating below the orifice of the burner K and in close proximity thereto. In the present instance the tube F is provided with a flange, *f*, on its lower end, and a movable disk, *f′*, the exterior of said tube being screw-threaded and provided with a thumb-screw, F′, by means of which a packing, P, may be tightened in the mouth of the reservoir B, so as to hold the same upon the tube. The reservoir is provided with an aperture, *b*, for the admission of air. L represents a platinum sponge supported above the hydrogen-jet in a ring secured to an attachment fastened to the gas fixture or burner in any convenient manner. In the present instance both the hydrogen-jet and the supporting attachment for the platinum sponge are secured to a small bracket, M, which encircles the screw-threaded end of the gas-bracket, and is confined thereon by the burner; but it is evident that these devices may be attached by other means. The flexible tube or gas-jet is provided with suitable means for cutting off the flow of hydrogen. In the present instance this means consists of a spring cut-off, N, adapted to pinch or clamp the flexible tube

and stop the flow, and to free the said tube when desired by pressing the sides together, the tube opening out by its own elasticity when freed from the pressure of said cut-off.

The operation of our invention will be understood from the foregoing description. When it is desired to light the gas, the cock in the bracket is properly turned, and the cut-off or cock of the hydrogen-tube manipulated so as to allow a jet of hydrogen to be projected against the platinum sponge, when the hydrogen becomes immediately ignited, communicating its flame to the escaping gas. Upon closing the cut-off the flow of hydrogen is stopped, the gas accumulating in the bell, forcing the acidulated water away from the zinc, and stopping the generation of gas until it is again drawn off from the bell for the purpose of again lighting the jet.

It is evident that the reservoir may be applied to a chandelier containing many burners by providing each burner with a platinum sponge and hydrogen-jet, as described, with suitable flexible tubes leading from said generator to the hydrogen-jets, so that as many burners as desired may be lighted by means of a single hydrogen-generator.

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

A detachable hydrogen-gas generator, adapted to be secured to a gas bracket or chandelier, in combination with a hydrogen-gas jet and platinum sponge, secured to the burner or other portion of the gas-fixture, the generator being connected with the hydrogen-jet by means of a flexible tube, substantially as set forth.

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.