

J. PUSEY.

Hydrogen-Lamp.

N o. 129,681.

Patented July 23, 1872.

Fig. 1.

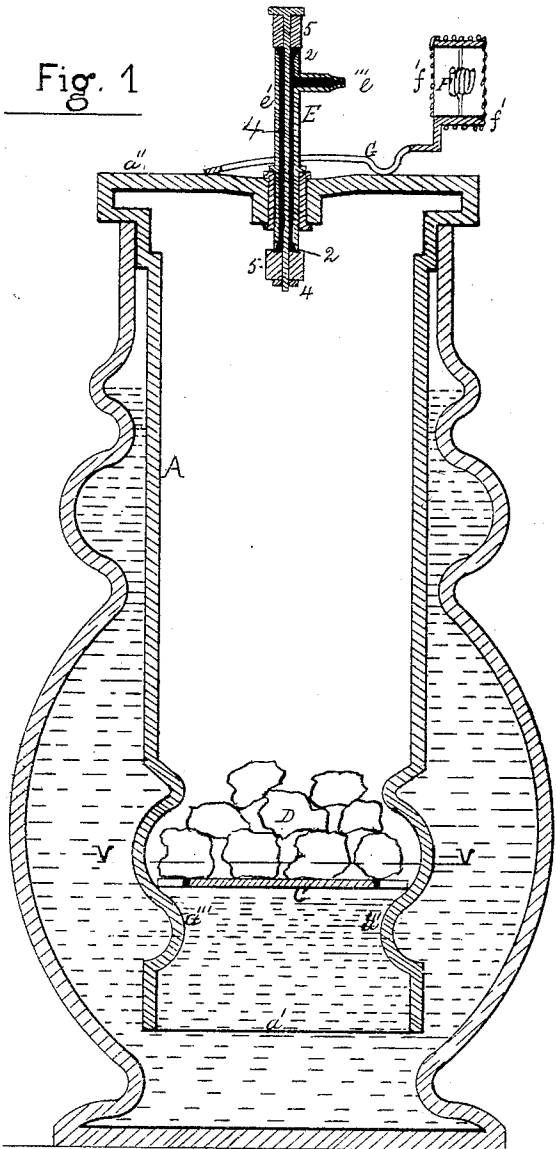


Fig. 2.

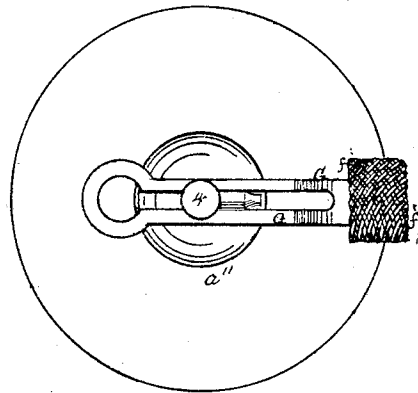
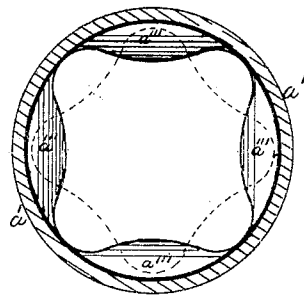


Fig. 3.



WITNESSES

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JOSHUA PUSEY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HYDROGEN-LAMPS.

Specification forming part of Letters Patent No. **129,681**, dated July 23, 1872.

Specification describing certain Improvements in the Dobereiner Hydrogen-Lamp, invented by JOSHUA PUSEY, of the city of Philadelphia, in the State of Pennsylvania.

The first part of my invention relates to the construction of the inner vessel and its cap of glass or other suitable material, in one piece; the object of this part of my invention being to obviate the necessity of cementing the two said parts together, as heretofore, and to produce a better and more durable inner vessel at less cost. The second part of my invention relates to the combination of an adjustable removable shelf for supporting the zinc with the lower portion of the inner vessel by a series of distinct or separate indentations pressed inward around in the said lower portion of the inner vessel and corresponding recesses in the edge of the shelf, in such a manner that the said shelf can be readily introduced and turned horizontally around, so as to rest securely upon the series of said indentations in the vessel; the object of this part of my invention being to dispense with the copper wire heretofore used to suspend the plate, and thus to produce a support for small fragments as well as a large single piece of zinc. The third part of my invention relates to the construction of the valve for discharging the jets of hydrogen-gas by the combination of a block of caoutchouc or its equivalent with each end of a rigid rod within a tube fixed in the upper end of the said inner vessel, (see Figure 1,) so that the inner end of the tube will be opened and closed alternately by alternately pressing one's finger or thumb upon the elastic block on the outer end of the tube, and withdrawing the said finger or thumb therefrom as the jet of gas may be required; the object of this part of my invention being the production of a cheap, more durable, and reliable valve-joint for the purpose. The fourth part of my invention relates to the combination, with the open end of the holder of the platinum sponge, of a gauze-wire covering, in such a manner as to protect the said platinum sponge, which is very fragile, from external causes of injury.

Figure 1 is a vertical central section of a Dobereiner lamp embodying my invention.

Fig. 2 is a plan view of the top of Fig. 1. Fig. 3 is a horizontal section of the lower part of the inner vessel below the dotted line *vv* of Fig. 1.

The inner vessel A is of glass, blown as one piece, with an open bottom, *a'*, and closed top *a''*, the top *a''* projecting around over the sides of the vessel as a flange, for the purpose of suspending it from the edge of the mouth of the containing-vessel B, as shown in Fig. 1. The lower part of the vessel A is indented from the outer side so as to produce a series of projections, *a'''*, for supporting horizontally a copper, glass, or other suitable plate, *c*, (shown by dotted lines in Fig. 3,) upon which the zinc D is placed either in fragments or in a single piece. The valve E consists of a tube, *e'*, both ends of which are open and the edges thereof beveled so as to form a sharp bearing, 2. The tube *e'* has its lower end inserted, gas-tight, through a hole in the top of A, its upper end projecting upward and having a jet-pipe, *e'''*, fixed in one side for discharging the gas. Fitting loosely in the tube *e'* is a wire stem, 4, upon each end of which an elastic caoutchouc block, or its equivalent elastic material, is secured so as to bear firmly upon the respective sharp-edged ends of the tube *e'* in such a manner that when the upper block of the material is pressed upon by one's finger the lower block, which is wholly within the vessel, will be sufficiently separated from the lower end of the tube *e'* to allow the gas to enter the said tube and pass out through the horizontal jet-pipe *e'''* of the tube into contact with the platinum sponge F, and as soon as the finger-pressure is removed the expansion of the upper block will again close the lower opening by drawing up the lower block into close contact with the tube. The usual platinum sponge F is protected from being broken, or otherwise injured from external cause, by a covering, *f'*, of wire-gauze, both being secured to an adjustable holder, G, in any suitable manner.

I claim as my invention—

1. The inner vessel A, when constructed of glass or its equivalent, in a single piece, substantially as and for the purpose hereinbefore set forth.

2. The adjustable removable shelf G, in combination with the indentations a''' in the lower part of the inner vessel A, substantially as and for the purpose hereinbefore set forth.

3. In a hydrogen-lamp, the elastic blocks 5 5, in combination with the rigid rod 4 within the tube e' , and the said tube arranged with its lower end within the vessel A, substantially as and for the purpose hereinbefore set forth.

4. The combination of wire-gauze $f' f'$ with the open ends of the holder of the platinum sponge, as and for the purpose hereinbefore set forth.

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Witnesses:

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