J. W. LYON.

Gas-Burner.

No. 161,531. Patented March 30, 1875.

Fig. 1.

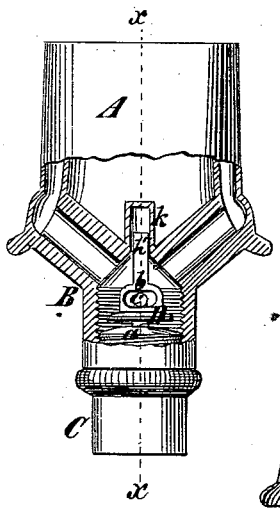


Fig. 2.

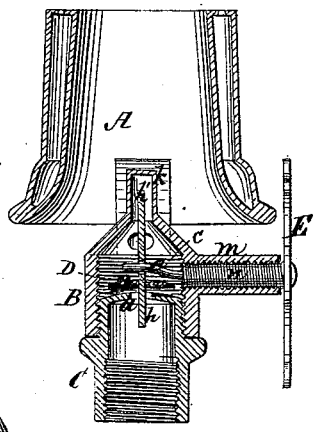


Fig. 3.

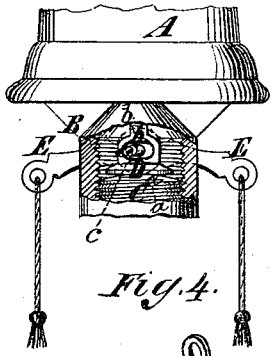
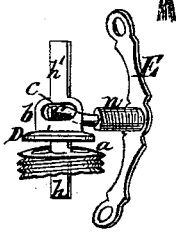


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES W. LYON, OF BROOKLYN, E. D., NEW YORK.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **161,531**, dated March 30, 1875; application filed March 17, 1874.

To all whom it may concern:

Be it known that I, JAMES W. LYON, of the city of Brooklyn, E. D., in the county of Kings and State of New York, have invented a certain new and useful Improvement in Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which forms part of this specification.

My present invention relates more particularly to the style of gas-burner known as the Argand burner, and has reference to the manner of operating the valve located in the lower portion or base of the burner, so as to regulate the flow of gas without the necessity of manipulating the ordinary shut-off cock of a gas arm or bracket.

My invention consists in the combination, with a gas-burner, of a loose disk or valve, provided with a slotted head, through which passes a bent lever or cam-shaft, which latter is operated from the outside by a double lever or otherwise, whereby the regulating-valve of a gas-burner may be opened and closed bodily by direct force, and without the aid of the spring or screw power heretofore employed.

In the accompanying drawing, Figure 1 is a side elevation of an Argand burner, with a portion broken out to disclose my invention applied thereto, the valve being shown as raised from its seat. Fig. 2 is a vertical central section of the same, taken on the plane of the line *x x*, Fig. 1. Fig. 3 is a vertical central section of the lower portion or base of a similar burner, showing the position of the parts when the valve is closed upon its seat. Fig. 4 is a perspective view of the valve and its connections detached from the burner.

A designates the upper portion, and B C the base or lower portion, of an Argand gas-burner, the portion C screwing into the portion B, in the usual manner. The upper end of the said portion C constitutes the valve-seat *a*. D is the valve, and it is a disk of sufficient size to cover the opening through the valve-seat *a*, and it is located within the bore of the base portion B of the burner. The upper face or side of this valve D carries a head, *b*, which is provided with a slot, through which projects the valve-actuating shaft *c*, the said shaft being, in the present instance, merely a rod curved or bent where it passes through the slotted head *b*, but having the functions of a cam, crank, or eccentric for raising up—that is, opening—and forcing down—that is, closing—the valve, as will be clearly understood by reference to Figs. 3 and 4, where the valve is respectively shown as closed and opened.

This cam-shaft extends through at least one side wall of the base portion B of the burner, and carries upon its extremity a double lever, E, to be operated by cords when desired, (see Fig. 3;) or a milled thumb-wheel or other suitable device for operating the valve from the outside.

The said cam-shaft may be journaled or have its bearings directly in the side or sides of the base part B, having any suitable contrivance, such as a stud or screw-thread, for preventing its becoming detached; or it may be arranged as shown in Fig. 2 of the drawing—that is, a short tube, *m*, having an internal screw-thread, may be affixed to the base B, and the cam-shaft be provided with an external screw-thread, *n*, (see Fig. 4,) to engage with the thread in the said tube, through which the said shaft passes.

In order that the valve D may be properly guided, I preferably provide it with a guide-rod, *h*, which passes down through the gas-opening in the valve-seat *a;* and I also find it desirable to provide it with another guide-rod, *h'*, which passes up into a tubular extension, *k*, at the top of the base portion B.

From the above description it will be seen that, by providing the valve with a slotted head, I am enabled to operate the valve bodily, to lift and to seat it, by means of a shaft passing through the side walls of the base part of the burner; in other words, by providing the valve with a head, or an equivalent therefor, I am enabled to take direct hold of such valve with a crank or cam, or the like, upon a horizontal shaft.

I have shown, in connection with my im-

proved construction of valve, the shaft and double lever described in the patent granted to Hatch, No. 137,303, dated April 1, 1873.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with a gas-burner, B C, of the loose valve D, provided with the slotted head *b* and the crank or cam shaft *c*, the latter projecting loosely into the slotted head *b*, substantially as and for the purposes specified.

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