

G. W. HATCH.

Gas-Burners.

No. 137,303.

Patented April 1, 1873.

Fig. 1.

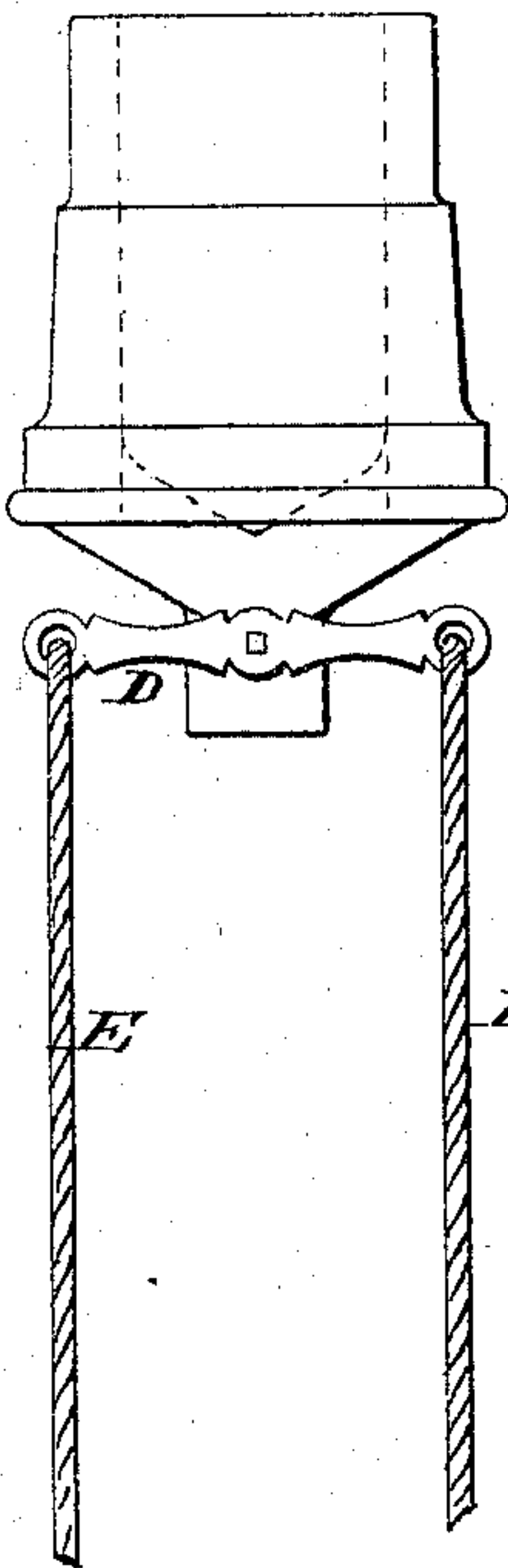


Fig. 2.

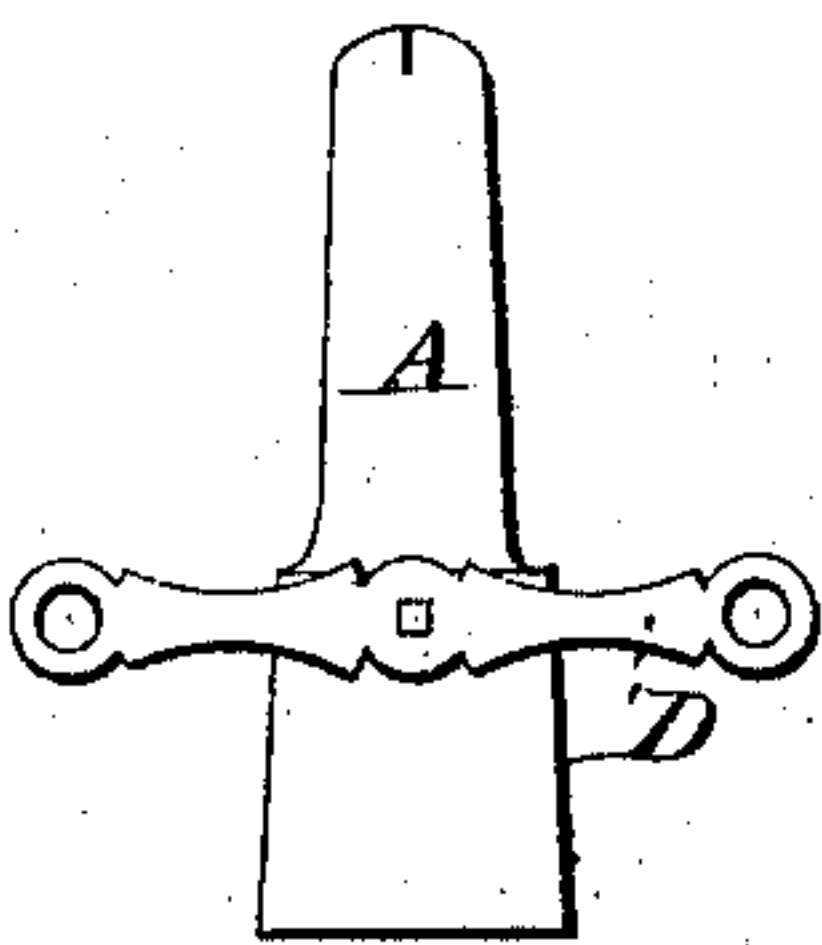


Fig. 3.

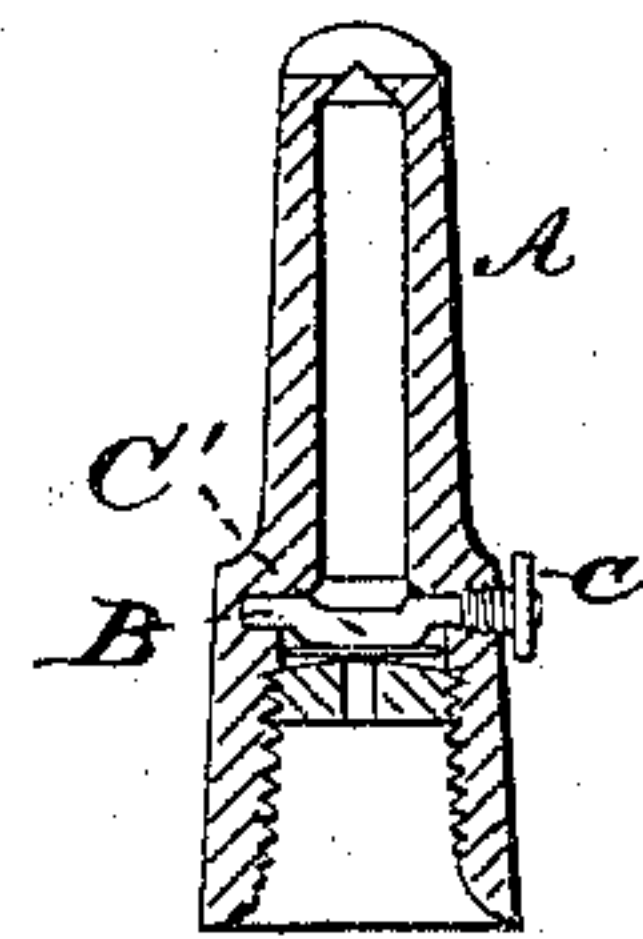


Fig. 4.

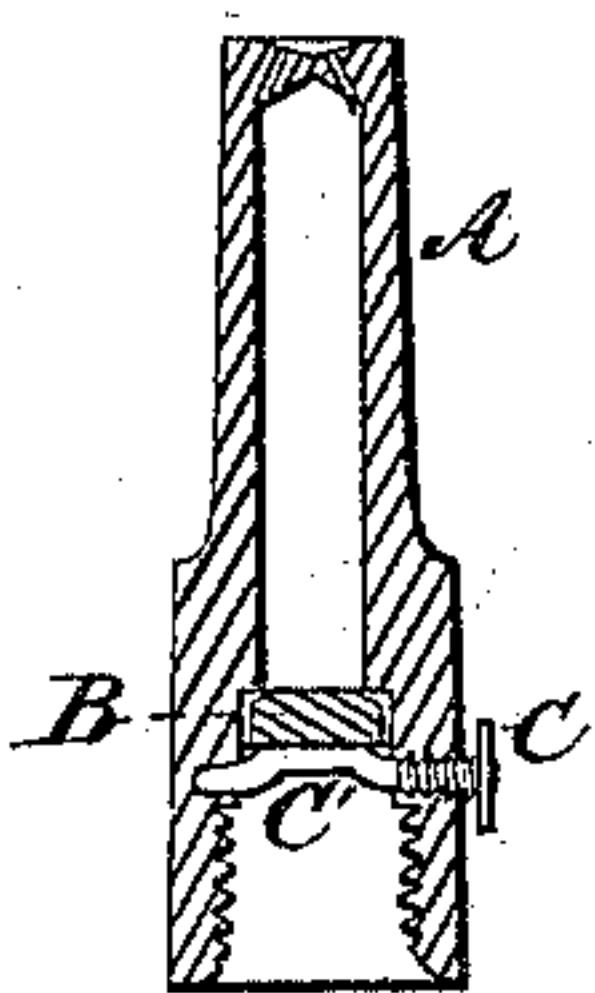
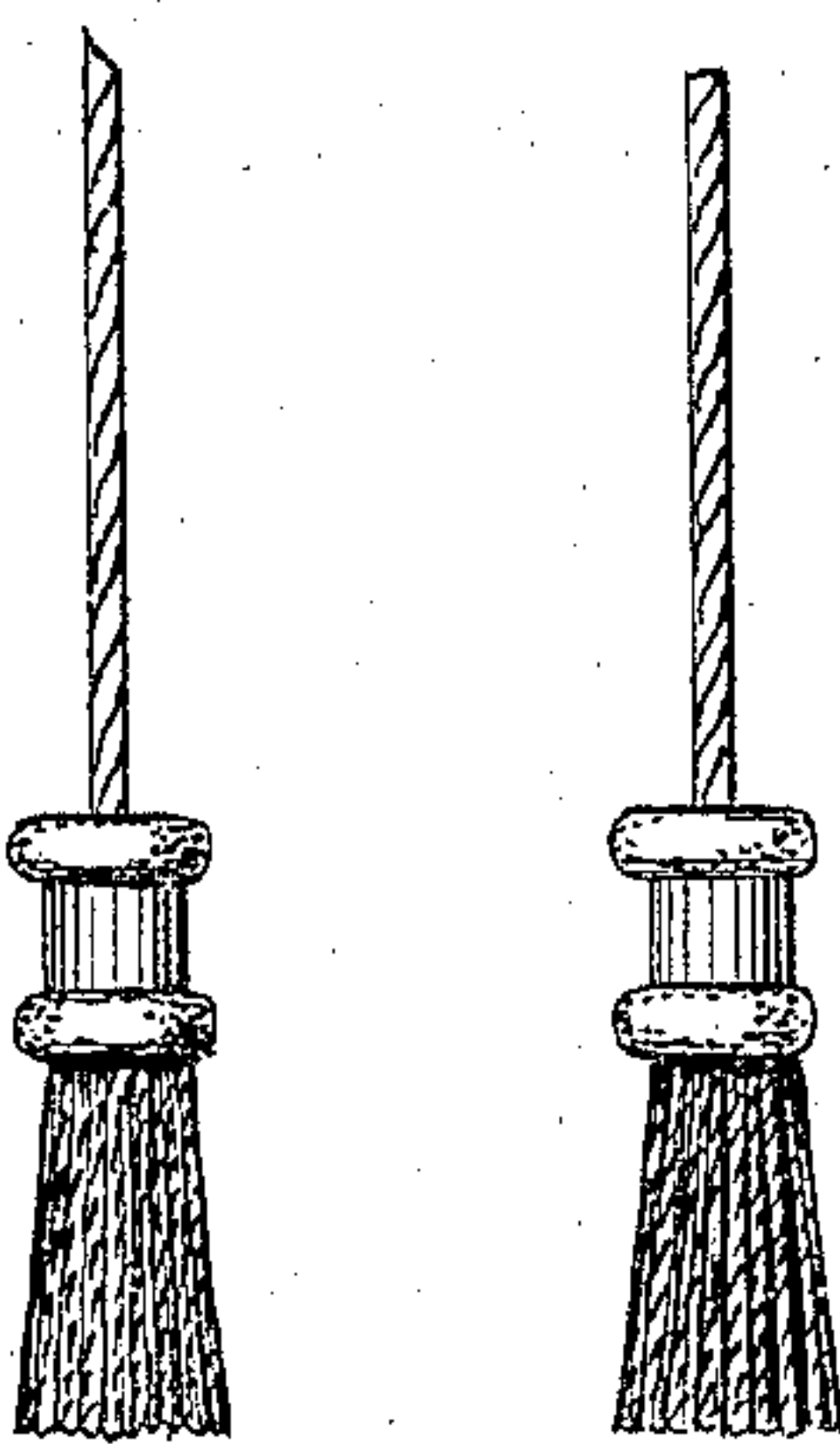
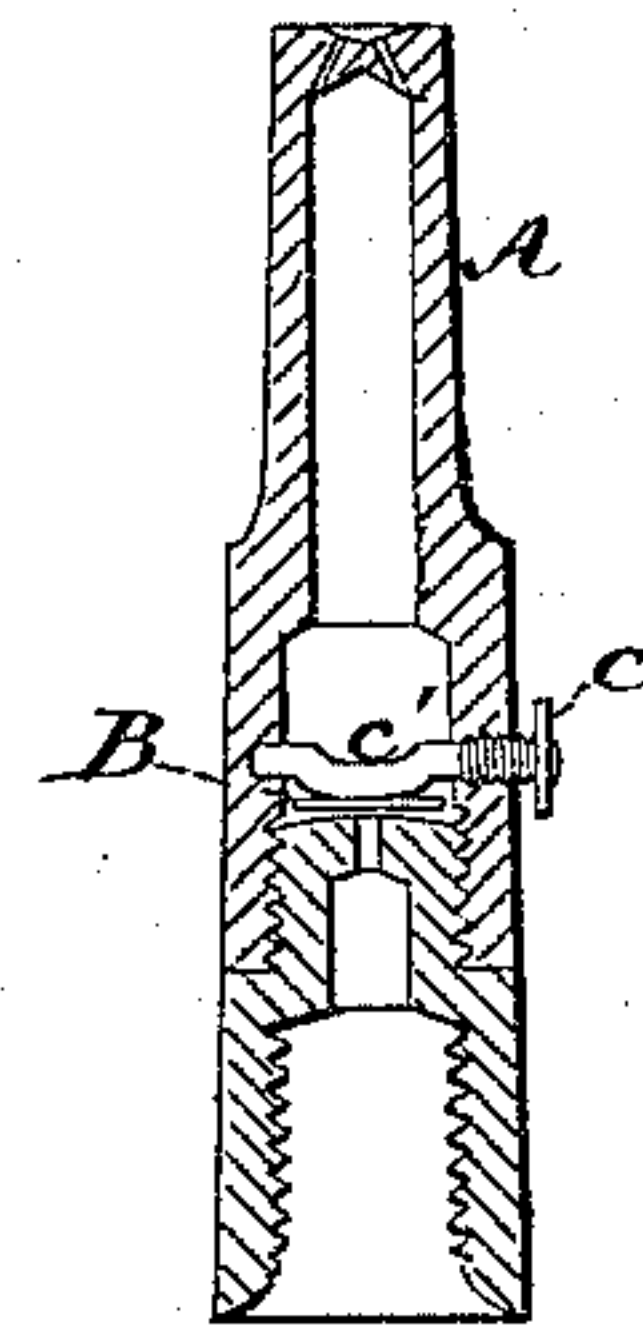


Fig. 5.



WITNESSES

John Lyon
Et. Eliot

George W. Hatch

INVENTOR.

UNITED STATES PATENT OFFICE.

GEORGE W. HATCH, OF BROOKLYN, N. Y., ASSIGNOR TO LYON & FELLOWS
MANUFACTURING CO., OF SAME PLACE.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **137,303**, dated April 1, 1873; application filed
January 23, 1873.

To all whom it may concern:

Be it known that I, GEORGE W. HATCH, of the city of Brooklyn, county of Kings and State of New York, have invented certain Improvements in Gas-Burners, of which the following is a specification:

Nature and Object.

This invention consists in introducing a kind of gravitating valve within the base of the burner or below the point of combustion, and controlling its action by a sort of cam-shaft or curved axis in such a manner that said valve will serve as a regulator to the flow of the gas in addition to the key or cock that controls the gas from the pipes.

Drawing.

Figure 1 represents an outline of an Argand gas-burner provided with the double lever and cords, by which the valve may be operated. Fig. 2 is a similar view of an ordinary fish-tail burner without the cords attached. Fig. 3 is a vertical section of Fig. 2, and at a right angle thereto, or in the plane of the cam-shaft or axis which is shown as bent down to close the valve upon its seat, or nearly so. Fig. 4 is a similar section of a batwing burner, but showing the valve as pressed upwards by the cam-shaft towards its seat. Fig. 5 is also a similar section, but showing a modification of the valve-seat.

A represents the burner in all the views, and B is the valve, which consists simply of a small disk of metal, or its equivalent, which is made nearly the size of the interior of the tube in circumference, and which is placed loosely within the base of the burner, and allowed by its own gravity to rest upon its seat, or upon the axis that controls its action, as the case may be. As shown in Fig. 3, a special seat is provided for the valve by screwing a small disk of metal into the base of the burner after the valve and the axis C are inserted therein; and at Fig. 5 a seat is provided by the end of a check-section being inserted in the base of the burner; and in both these cases the valve gravitates towards the seat, and is only opened or lifted therefrom by the pressure of the gas against the valve; but a gravitating

valve may be arranged as shown at Fig. 4, when the seat consists simply of a shoulder formed within the burner, against which the valve can rest when the pressure of the gas is sufficient to overcome its gravity; and in such a case the valve is made much heavier than when arranged as shown in Figs. 3 and 5, or sufficiently heavy to at all times resist the weight of the gas, and thereby keep itself away from the seat, and resting upon the cam-shaft C', in which case it is raised by the cam-shaft toward its seat, and gravitates therefrom when permitted by the axis C. This axis C' is formed of wire slightly curved, as shown, or flattened, which latter method is described in a patent recently granted to me for operating a spring-disk valve, and which is there shown as operated by a lever on its exterior end; but in addition thereto it is found very convenient to operate the valve in both directions, and many times when beyond the reach of the user; consequently a double-lever, as at D, is provided on the end of the cam-shaft C, and each end is furnished with eyes or hooks to which cords, as E E', are attached, to extend down to within convenient distance of the hand, so that the gas may be regulated as desired.

It is not intended that such valves shall shut off the flow of the gas completely, but only to diminish it to prevent waste when the light is not required, as in hall-lights and passage-ways, which are not constantly in use.

It will be observed that a valve constructed in that manner herein described is controlled by gravity in one-half of its operation, whether moving to or from its seat, and in the other half by the cam-shaft; therefore

I claim—

In combination with a gas-burner the gravitating valve B controlled by the cam-shaft C, provided with either a single or a double lever, as described, and for the purposes set forth.

GEORGE W. HATCH.

Witnesses:

JOHN LYON,
E. N. ELIOT.