

(No Model.)

G. K. COOKE.

GAS BURNER.

No. 379,562.

Patented Mar. 20, 1888.

FIG. 1

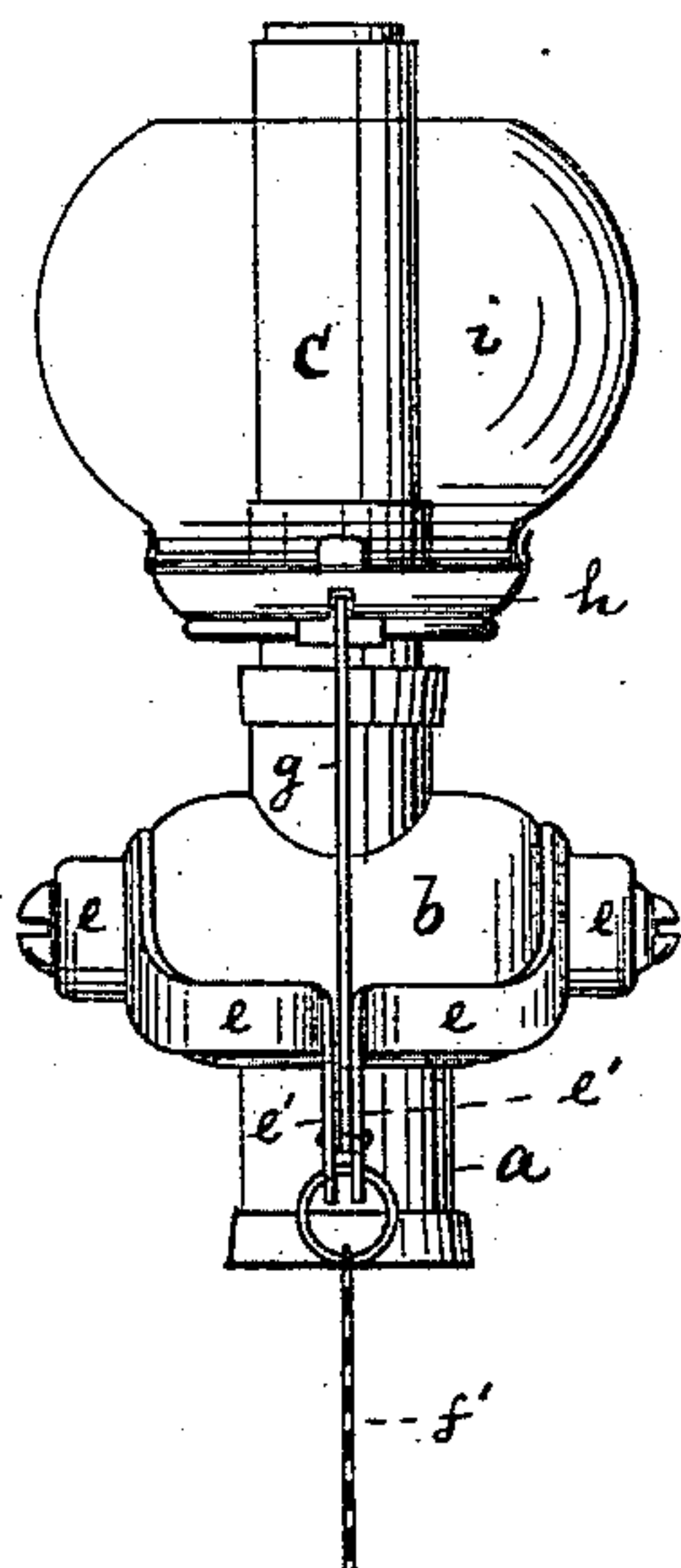


FIG. 2

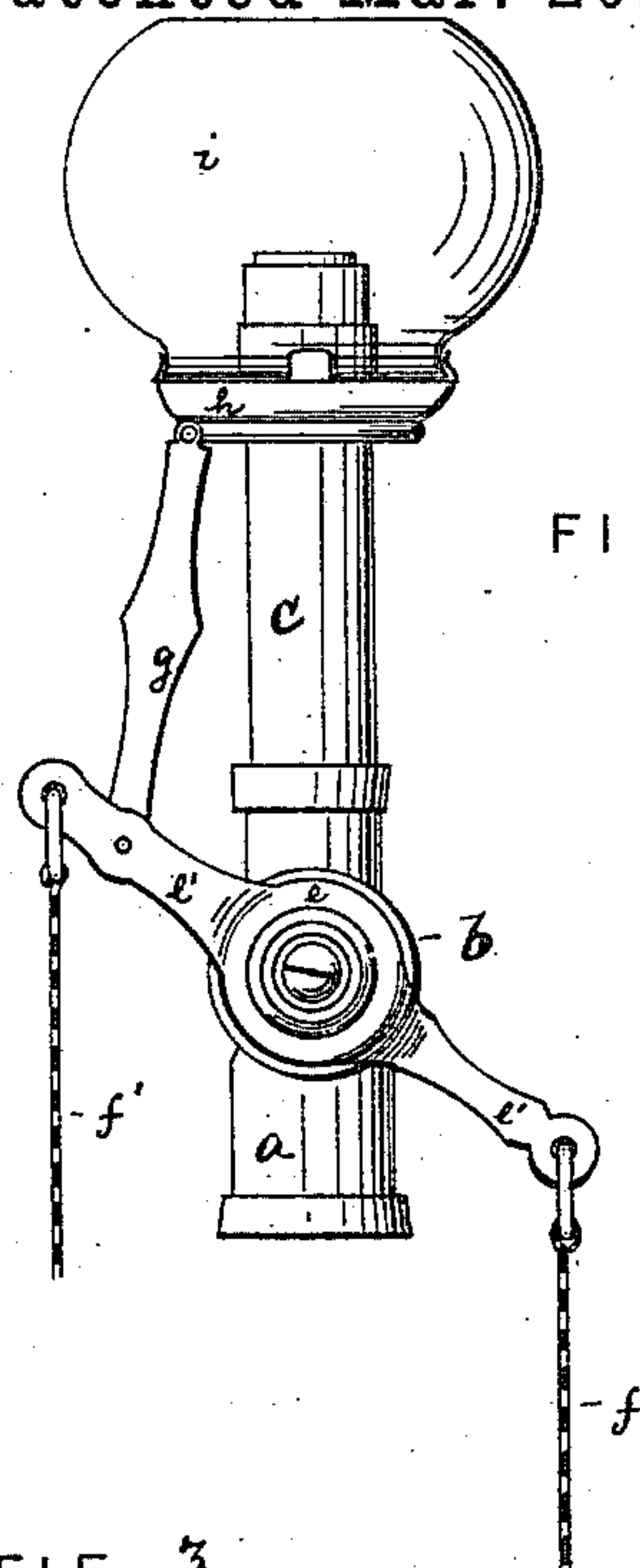


FIG. 7

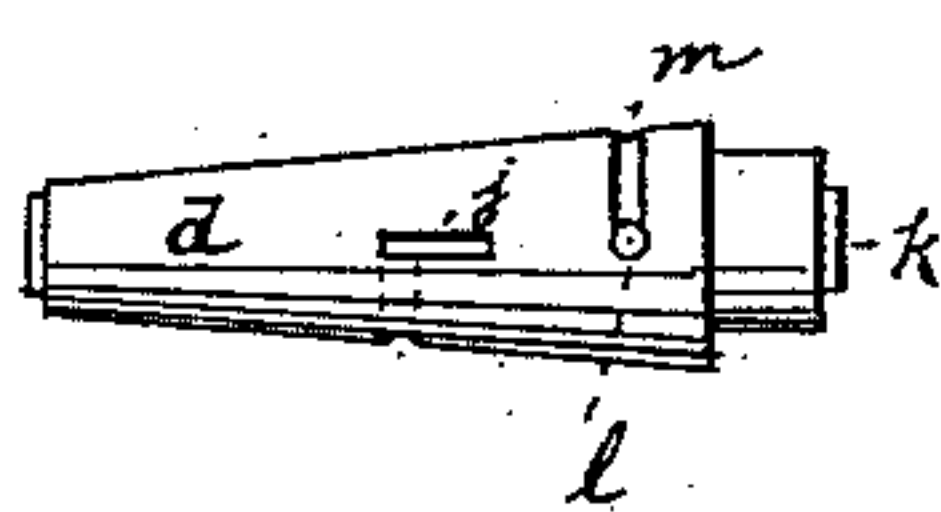


FIG. 3

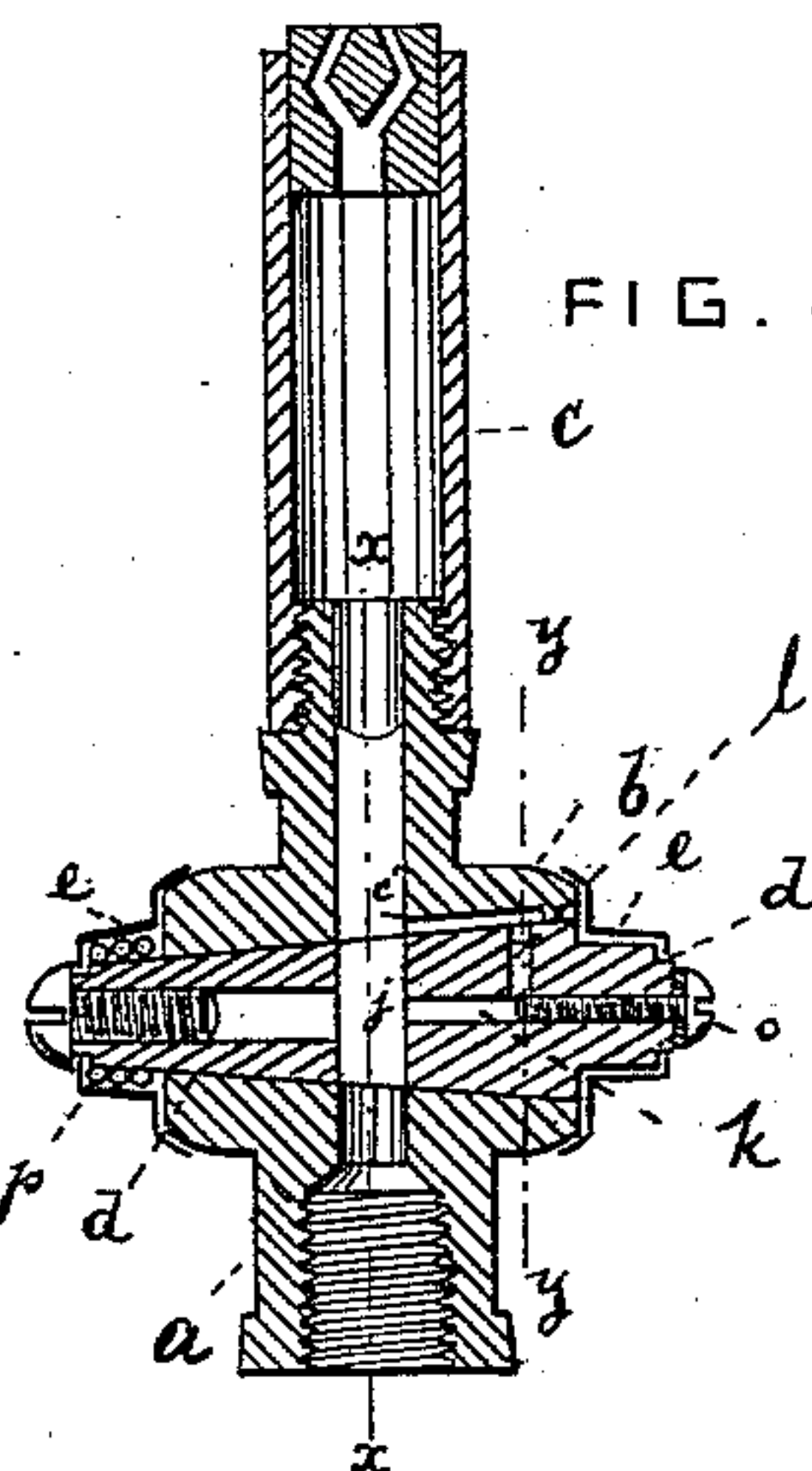


FIG. 6

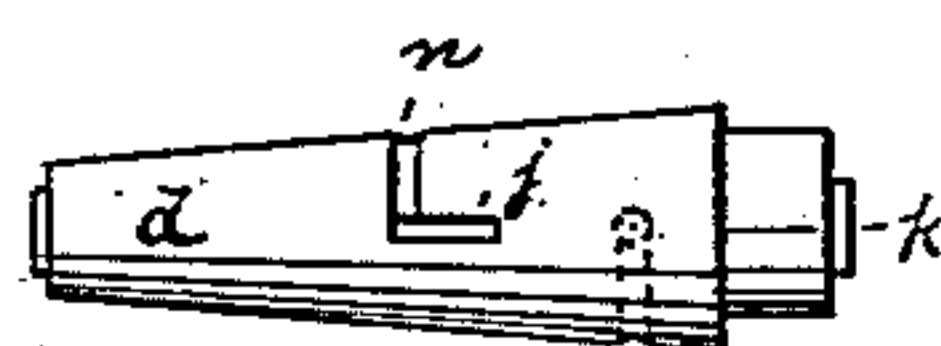


FIG. 4

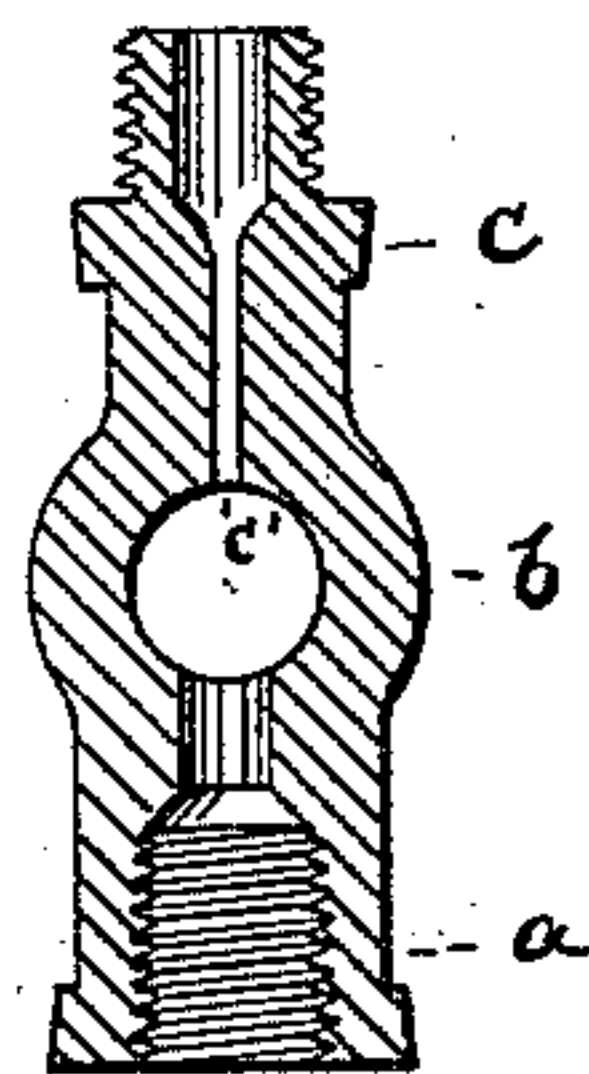
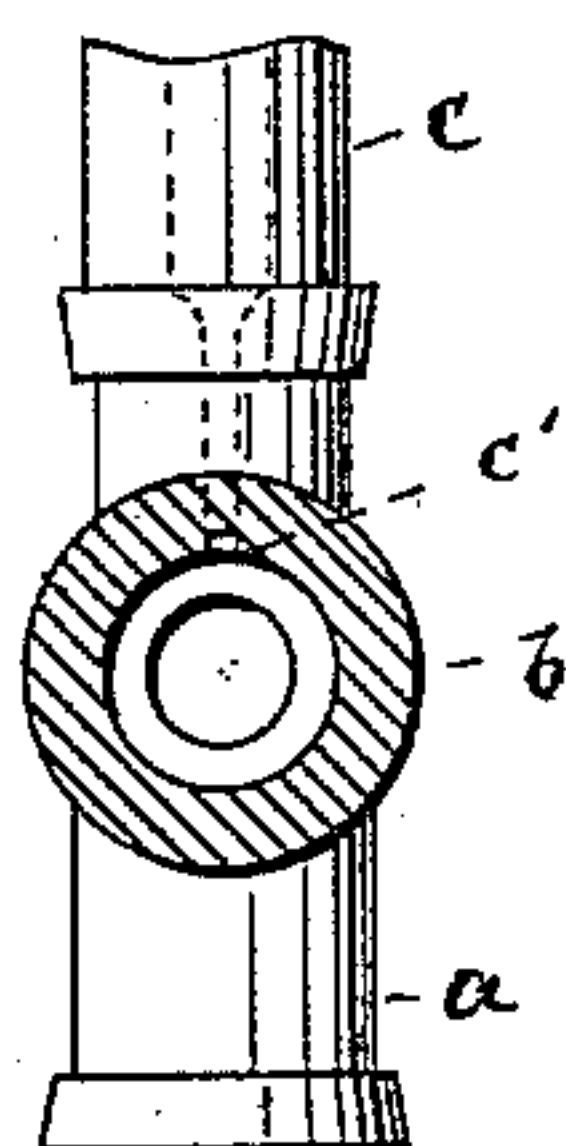


FIG. 5



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UNITED STATES PATENT OFFICE.

GEORGE K. COOKE, OF NEW YORK, N. Y., ASSIGNOR TO D. SACKETT MOORE,
OF SAME PLACE.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 379,562, dated March 20, 1888.

Application filed September 6, 1887. Serial No. 248,928. (No model.)

To all whom it may concern:

Be it known that I, GEORGE K. COOKE, of New York city, New York, have invented a new and Improved Gas-Burner, of which the following is a specification.

This invention relates to a gas-burner of the kind which when turned off still admits a limited supply of gas sufficient for a minute flame. Thus the burner can be turned on without the use of a match. The burner is provided with a sliding chimney, which is raised up to surround the small flame a short time after the main flame has been turned off. In this way the chimney will not be apt to become cracked by the main flame, and will still protect the small flame.

The invention consists in the various features of improvement, more fully pointed out in the claim.

In the accompanying drawings, Figure 1 is a front view of my improved burner with the chimney down. Fig. 2 is a side view thereof with the chimney up. Fig. 3 is a vertical central section of the burner proper. Fig. 4 is a section on line *x x*, Fig. 3. Fig. 5 is a section on line *y y*, Fig. 3. Fig. 6 is a side view of the valve-plug, showing inlet-opening of slit *j*; Fig. 7, a similar view showing the outlet-opening of slit *j*.

The letter *a* represents the gas-inlet pipe entering the valve-seat *b*, from which projects upwardly the discharge-pipe *c*, having the usual tip.

d is the tapering plug-valve projecting beyond the valve-seat at both ends. These exposed ends are squared and are embraced by an oscillating frame consisting of two U-shaped pieces, *e*, having laterally-projecting arms *e'* and perforated centrally to fit upon the ends of the plug-valve.

f f' are chains connected to arms *e'*, and *g* is a pivoted link connecting the oscillating frame to the cap *h*, carrying chimney *i*. By pulling either the chain *f* or *f'*, the chimney is raised or lowered, and at the same time the plug-valve is partially revolved.

The plug *d* is provided with a transverse slit, *j*, connecting the inlet with the discharge-pipe, though intercepted by an axial perforation, *k*. The slit *j* should be long and narrow at its discharge end, (see Fig. 7,) so as to be brought rapidly past the pipe *c* when the plug is turned. The slit *j* serves for the pas-

sage of the gas that supplies the large or main flame. For the auxiliary flame there is a perforation, *l*, smaller than slit *j*, and connecting the axial perforation *k* with the surface. Here the perforation *l* joins a short groove, *m*, partly encircling plug *d*. The inlet end of slit *j* is also connected to an encircling groove, *n*.

When the chain *f'* is pulled down, the chimney *i* is lowered, and at the same time the plug *d* is revolved to bring the slit *j* in line with the pipes *a c*, and thus cause a full supply of gas, Fig. 3, for the main flame.

When the chain *f* is subsequently pulled down, the first fraction of rotation of plug *d* will bring the slit *j* past the mouth of pipe *c*, and thereby quickly cut off the main supply of gas. In order to carry this out, this slit, as before stated, should be long and narrow, and the lower end, *c'*, of pipe *c* should also be long and narrow. (See Figs. 3, 4, and 5.) Thus enough gas can be admitted by these parts to feed the main flame, and still the main flame can be very quickly cut off. This is necessary, because the main flame should disappear before the frame *e* has oscillated sufficiently far to raise the chimney *i* up to the flame, for otherwise the chimney would be cracked or injured by the main flame. The main flame being thus turned off, gas will be fed, through groove *n*, slit *j*, central perforation, *k*, perforation *l*, and groove *m*, into the contracted mouth *c'* of pipe *c*, to supply the auxiliary flame.

In order to regulate the size of the auxiliary flame, I make use of a set-screw, *o*, entering axial perforation *k*, and of such a length that it may close up the perforation *l* to a greater or less extent, Fig. 3.

p is a spring, between the oscillating frame and the plug *d*, for holding the latter tightly to its seat.

What I claim is—

The combination, in a gas-burner, of the pipe *a*, valve-seat *b*, and pipe *c*, having long and narrow-slitted mouth *c'*, with the valve *d*, having a direct gas-passage, *j*, with a long and narrow discharge end, and having an auxiliary gas-passage, and with an oscillating frame connected to the chimney-cap *h* and operating the valve, substantially as specified.

Witnesses: GEORGE K. COOKE.

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WM. A. LOWE.