

H. SCHULTZ.
Gas Regulator.

No. 101,771.

Patented April 12, 1870.

Fig. 1

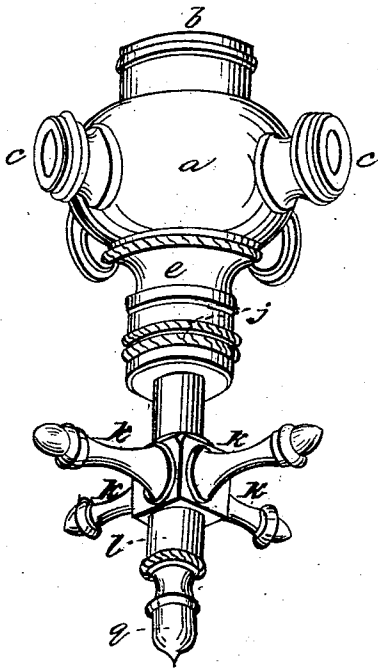
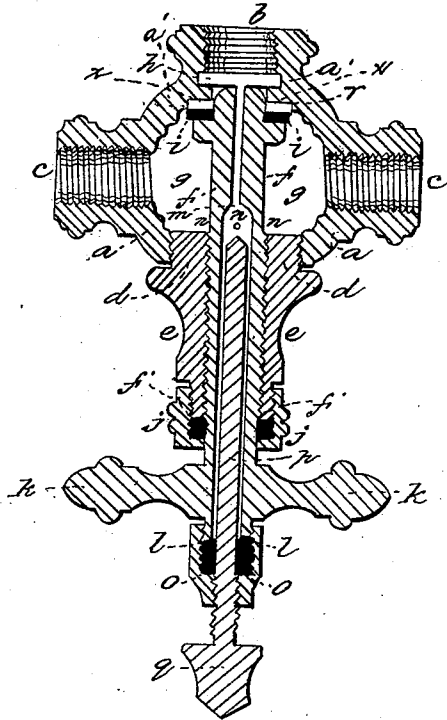


Fig. 2



Witnesses:

Isaac P. Walker
John H. Hinton

Inventor:

Henry Schultz

United States Patent Office.

HENRY SCHULTZ, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO HIMSELF
AND HENRY C. BENTLEY, OF SAME PLACE.

Letters Patent No. 101,771, dated April 12, 1870.

IMPROVEMENT IN REGULATING DEVICE FOR GAS-BURNERS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern :

Be it known that I, HENRY SCHULTZ, of the city and county of Milwaukee, in the State of Wisconsin, have invented a new and useful Improvement in Gas-Fixtures; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The principle and nature of my invention consist in supplying gas-fixtures with a device whereby, when properly adjusted, it is rendered impossible to shut off the gas and extinguish the flame and light entirely without a readjustment of the device; but which adjustment and readjustment are at the will and under the command of the operator.

Of the drawings—

Figure 1 is a perspective view of the main body or center piece of a gas-fixture, showing the external parts of my invention in place.

Figure 2 is a vertical section of the same thing showing a longitudinal section of the parts of my invention as employed in operating the same.

Of fig. 2, *a a a a* is the main body of the fixture, shown with a cavity or hollow, *g g*.

b is the threaded opening for the supply or induction-pipe.

c c are the threaded openings for the eduction or burning-pipes.

e e is a hollow cylinder screwed into the main body of the fixture at *d d*.

The hollow or bore of this cylinder should be coarsely screw-threaded at point *d d* for the distance of half to three-fourths of an inch to correspond with threads on tubes *f*.

Tube *f* is a tube which passes longitudinally through hollow cylinders *d d*, and across cavity *g g* of the main body of the fixture to the top of that cavity, so as to close the opening to induction-pipe *b* when desired. This tube terminates interiorly, in an arched or hemispherical nipple screwed upon the end.

A short distance below this nipple a flange or shoulder is formed on the tube *f*, on which is to rest and be secured in place by the nipple an elastic packing-ring, as shown at *i i*.

Letters *j j* indicate a mere stuffing-box to be screwed on to hollow cylinder *d d* for packing-tube *f* gas-tight at *f' f'*.

The letters *k k* mark mere projections or handles on and near the outward end of tube *f* for convenience in working it.

For the fourth or third of an inch outward from these projections tube *f* has a screw-threaded extension, as shown at *l l*.

The hollow or bore of tube *f* is not uniform in caliber throughout. From *h*, at the apex of the nipple,

to the apex of the conical enlargement of the bore at *m*, the caliber need not exceed one-sixteenth of an inch for four burners.

From *m* the caliber is conically enlarged, as shown at that point, to the size of about one-fifth of an inch, and is thence continued of that size throughout the remainder of the tube.

A short distance below the base of the conical enlargement of tube *f* the wall of the tube is pierced with small holes or gas-ports, corresponding in number with the number of eduction or burning-tubes, as shown at *n n n*.

This tube is screwed into the main body of the fixture at *d d*.

Its outward extremity is provided with a stuffing-box, *o o*, for packing regulator *p*, as shown between *l* and *o*.

Regulator *p* is a mere cylindrical rod of sufficient length and size to occupy and fill the enlarged portion of the bore of tube *f*, and extend sufficiently outward to be operated by the thumb and finger, and having its outward extremity provided with a thumb-piece, as shown at *q*.

It is secured and worked within tube *f* by means of a screw-thread working in a corresponding thread in stuffing-box *o*, as shown at *o o*, and is to have a longitudinal movement in operation, from its position as shown in fig. 2, to point *m* in the same figure.

Its upper or inward extremity is obtusely conical to correspond with and closely fit, when screwed home to *m*, the conical enlargement in the bore of tube *f*.

My invention is more particularly applicable and useful in the lighting of billiard tables, where the gas is to be alternately let on at full head and partially cut off.

To operate my invention and produce its intended effect, the gas is let on by so turning tube *f* as to withdraw the arch of its nipple or inner end from the inner opening of induction pipe *b*, and the packed shoulder *i* from the corresponding seat *r* on the inner surface of cavity *g*.

The gas will then flow into cavity *g* and through pipes *c* to the burners, where it is to be lighted in the usual manner. The gas will now burn with a full or maximum flame, and give full light.

This it will continue to do, to a great extent, though tube *f* be again screwed home to *h* so long as regulator *p* occupies the position it does in fig. 2, for the gas will still flow into cavity *g* through the smaller bore of *f* and the holes or gas-ports *n*.

But if, by means of thumb-piece *q*, regulator *p* is now screwed inward until the base of its conical point partially closes ports *n* the supply of gas to the burners (and consequently the flames) will be diminished. By this means any degree of diminution of the gas

and flames may be attained, or the gas may be entirely shut off, and the flame extinguished. But when, by means of regulator *p*, the flames are reduced to the size at which they are to burn when not used for light, then the device may be termed set for the time being. When in this condition if tube *f* be again withdrawn from *h* a full flame and light will be instantly restored. But by screwing it home to *h* again the flame and light will not and cannot be extinguished, but the flame will be instantly restored to its regulated minimum size, and this without danger of extinguishment, how quickly soever the operation may be performed. To extinguish the flame regulator *p* must be screwed home to *m*, or at least so far as to wholly close gas-ports *n*.

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

1. A regulating device or cock to be applied to gas-fixtures for controlling the supply of gas to the burners, consisting of body *a a a*, tube *f*, and packing-ring *i*, arranged substantially as described.

2. Tube *f*, openings *n*, enlargement *m*, regulator *p*, with openings from the enlargement *m* to the head of tube *f*, arranged substantially as described.

3. A gas-regulating device constructed with ports *h* and *m*, and openings *c*, *b*, and *n*, arranged substantially as described.

Witnesses:

HENRY SCHULTZ.

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