T. F. McGANN.

REGULATORS FOR GAS-BURNERS.

No. 194,877. Patented Sept. 4, 1877.

Fig. 2

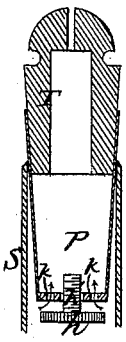


Fig. 1

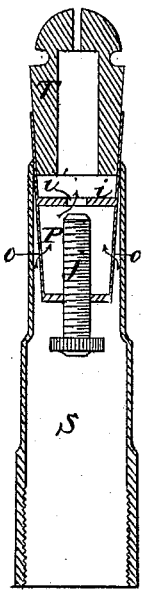


Fig. 4.

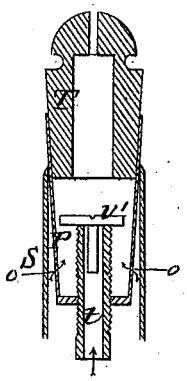


Fig. 3.

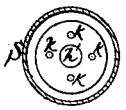


Fig. 5.

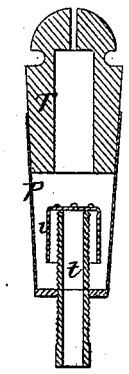


Fig. 6.

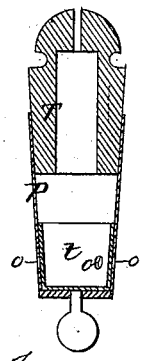


Fig. 7.

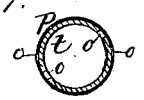
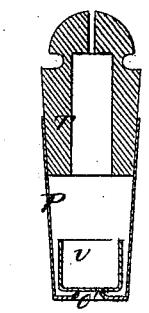


Fig. 8.



Witnesses.
A. E. Brinckerhoff
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Inventor
T. F. McGann.
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Attys.

UNITED STATES PATENT OFFICE.

THOMAS F. McGANN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN REGULATORS FOR GAS-BURNERS.

Specification forming part of Letters Patent No. **194,877**, dated September 4, 1877; application filed July 26, 1877.

To all whom it may concern:

Be it known that I, THOMAS F. McGANN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Checks and Regulators for Gas-Burners, of which the following is a specification:

In the accompanying drawings, forming a part of this specification, Figure 1 represents a sectional view of a gas-burner embodying my invention. Figs. 2, 3, 4, 5, 6, 7, and 8 represent modifications of the same.

Similar letters of reference refer to like parts.

This invention has for its object to provide a cheap and simple device for regulating and checking the passage of gas from the tube to the tip of an ordinary gas-burner, which is adapted to be applied to or interposed between the ordinary tip and shell or tube of a gas-burner, without alteration of said parts or special manipulation in applying and fitting.

To this end my invention consists in a hollow tapering plug, provided with means for checking and regulating the passage of gas, and adapted to receive a lava tip, and be inserted therewith into the shell or pillar of a gas-burner, as I will now proceed to describe.

It consists, also, in certain details of construction and combinations of parts, all of which I will now proceed to describe and point out in my claims.

In the drawings, S represents the shell or tube of an ordinary gas-burner, and T represents the ordinary tip, which is tapering or frusto-conical at its base, as shown, and is adapted to be applied to the shell S by being inserted as a plug or stopper into said shell in the usual manner.

P represents my improved gas regulating and checking device, which is composed of a hollow plug, tapering in form, adapted to receive the tapering end of the tip T, and to be inserted with said tip into the end of the shell S, as shown in Figs. 1, 2, 4, 5, 6, and 8.

The plug P is provided with means which adapt it to regulate to any desired extent, or to entirely obstruct, the passage of gas from the shell S to the tip, and this result I accomplish, preferably, by the means shown in Fig. 1, the construction being as follows: The plug is provided with a partition, *i*, in which is an opening, *i'*, and with a screw valve or plug, *j*, adapted to entirely or partially close the opening *i'*. Gas enters the plug through orifices *o o* below the partition *i*, and when the opening *i'* is open passes through said opening to the burner. By screwing up the plug *j* the orifice *i* may be closed or obstructed to any desired extent.

Modifications of this arrangement are shown in Figs. 2, 3, 4, 5, 6, 7, and 8. In Figs. 2 and 3 the plug is provided with orifices *k* in the bottom, and these orifices are adapted to be covered by the head *h* of a screw, *h'*. In Fig. 4 a hollow threaded tube, *t*, is employed, through which the gas is adapted to pass. This tube is provided at its upper end with a button-valve, *v'*, which rests loosely on the tube, and is raised by the pressure of the gas. By screwing up the tube until the valve *v'* abuts against the tip T the flow of gas may be shut off. The plug is provided with orifices *o o*, as in Fig. 1. In Fig. 5 the threaded tube *t* is employed in connection with an inverted cup-shaped valve, *v*. In Figs. 6 and 7 a thimble, *t*, is fitted closely to the end of the plug, and provided with a handle by which it may be turned. The plug and thimble are provided with orifices *o*, and when these orifices coincide they form passages for the gas. By turning the thimble the orifices are disconnected and the gas is shut off. In Fig. 8 a cup-shaped valve, *v*, is employed, which rests upon an opening, *o'*, in the bottom of the plug.

It will be seen that the plug P and its gas-regulating devices are adapted to be readily applied to or detached from the shell S and tip T. I prefer to make the plug P of thin copper, and attach it to the other parts by simply forcing it firmly into the shell, and crowding the tip into the upper end, this operation insuring tight joints. Or the tip may be first placed in the plug and then both may be forced into the shell. If desired, the plug may be screwed to the shell and the tip may be screwed to the plug, or the joints between the tip and plug, and the plug and shell may be leaded or otherwise tightened.

The tapering form of the plug P enables it to fit different-sized tips and pillars, and when the tip is inserted in the plug it is protected and prevented from cracking; hence the plug

acts as a holder and protector for the tip, and as a means for holding the gas-regulating devices in close proximity to the tip.

If desired, the plug P may be formed with or rigidly attached to the shell or tube S.

I claim—

1. The hollow tapering plug P, adapted to receive the tapering tip T, and to be inserted into the upper end of the shell or tube S, and provided with means, substantially as described, for checking and regulating the flow of gas from the shell to the tip, as set forth.

2. The combination of the plug P, provided with gas regulating and checking devices, the tip T, and the shell or tube S, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS F. McGANN.

Witnesses:
E. B. FAIRCHILD,
C. F. BROWN.