J. STRATTON.

Gas Burner.

No. 51,121. Patented Nov. 21, 1865.

Fig. 1.

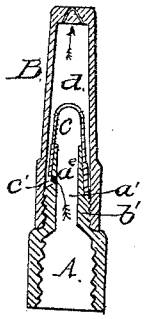
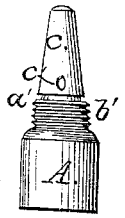



Fig. 2.

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# UNITED STATES PATENT OFFICE.

JAMES STRATTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JOHN HINSHILLWOOD, OF SAME PLACE.

## IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **51,121**, dated November 21, 1865.

*To all whom it may concern:*

Be it known that I, JAMES STRATTON, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a central longitudinal section of a gas-burner having my improvement applied thereto, and Fig. 2 a perspective view of the same without its outside or burner cap, like letters of reference indicating the same parts when in both figures.

It is a matter of considerable importance, on the ground of economy, to have a simple, effective, and durable means of permanently adjusting the burner so as to regulate the quantity of gas passing through it to suit the particular necessities of the location of the burner; and the object of the present invention is to prevent a person from burning more gas than will pass through an adjustable opening permanently secured by an external burner-cap, or one that cannot be removed for the purpose without using a nipper or its equivalent.

It consists, substantially as hereinafter described and specified, in the application of a tapered inner cap having a hole through its side to a correspondingly-tapered inner tube rising from the base of the burner and having a similar hole through its side in such a manner that by simply rotating the said inner cap upon the said inner tube the area of the hole in the latter can be varied and adjusted, as an outlet for the gas, with perfect accuracy and facility, without the parts becoming impaired by friction in use, and requiring only that the external or burner cap which covers the same be removed for the purpose and afterward replaced.

In the drawings, A is the base of the burner, and $a'$ the inner tube on the same; B, the external or burner cap, and C the inner cap which fits on the tapered tube $a'$.

The base A is tubular throughout its length, and screw-cut in its lower end, so that it can be secured to the usual gas-supplying pipe, as heretofore. Its upper part, $a'$, is reduced in diameter, and tapered, as shown in the drawings, and receives over or upon it the correspondingly-tapered inner cap, C, which is retained in place thereon simply by friction. The tube $a'$ has a small round hole, $a^2$, through one of its sides, and the cap C has also a hole, $c'$, through one of its sides, which corresponds in position with the hole $a^2$ in the tube $a'$ when the former is adjusted on the latter. The hole $c'$ in the cap C is oblong or oval, its conjugate diameter being vertical when the cap is applied.

The external or burner cap, B, is provided at its upper end with outlet holes or slits in the usual manner, and is made so as to leave a gas-space, $d$, around and above the tube $a'$ and its cap C when secured gas-tight to the base A, which is adapted at $b'$ for the purpose, as shown in Fig. 1.

Operation: The parts A B C being secured and adjusted together as shown in Fig. 1, and applied to a gas-supplying pipe, it will be seen that the gas will flow through the burner with a copiousness proportionate to the pressure and the size of the outlet-holes; but if the cap C be previously rotated sufficiently to cover one-half of the hole $a^2$ in the base-tube $a'$, as shown in Fig. 2, the current of gas flowing through the said hole will be reduced one-half; and in like manner, by varying the size of the opening $a^2$ by rotating the cap C, the current of gas passing through the burner will be varied accordingly. It will also be seen that, as the hole $c'$ in the cap C is made oblong or oval and its longer diameter vertical, the requisite conjunction of the two holes $a^2 c'$, will not be impaired by any wearing away of the cap or tube by the friction of the one upon the other in frequently adjusting the size of the hole $a^2$, if occasion shall require it, and consequently the device is not liable to get loose or easily out of order, as would be the case if the parts in rubbing-contact were cylindrical.

The improvement is simple, and can be cheaply and easily constructed and applied.

Having thus fully described my improved gas-burner and pointed out its advantages or utility, what I claim as new therein, and desire to secure by Letters Patent, is—

An adjustable gas-burner consisting of the tapered interior perforated cap, C, and the tapered interior perforated tube, *a'*, operating together as described, and inclosed within the external burner cap, B, screwed permanently down upon the base A, as and for the purpose described.

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