

R. N. STEWART.

Gas Burner.

No. 34,450.

Patented Feb. 18, 1862.

Fig. 1.

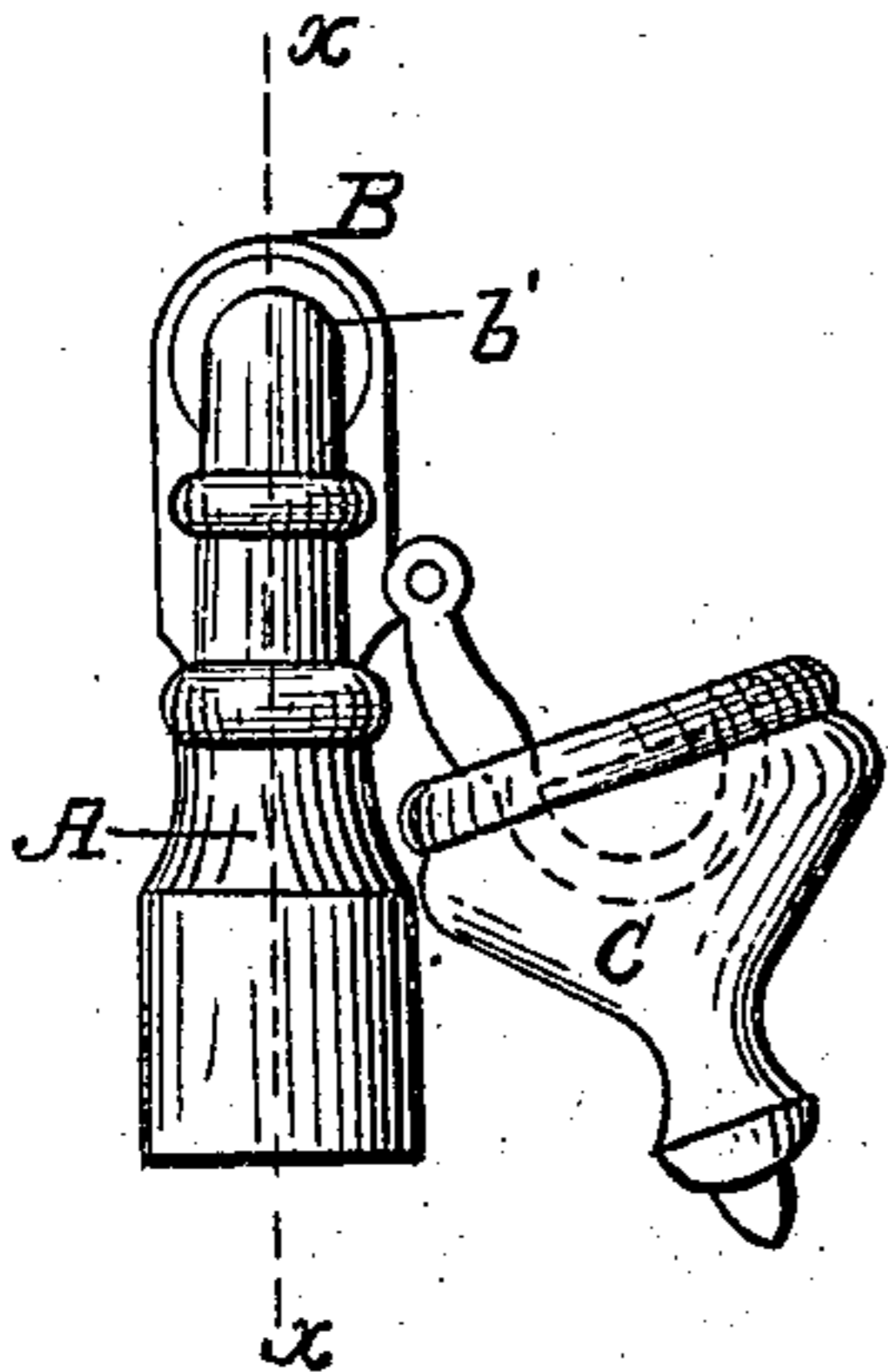


Fig. 2.

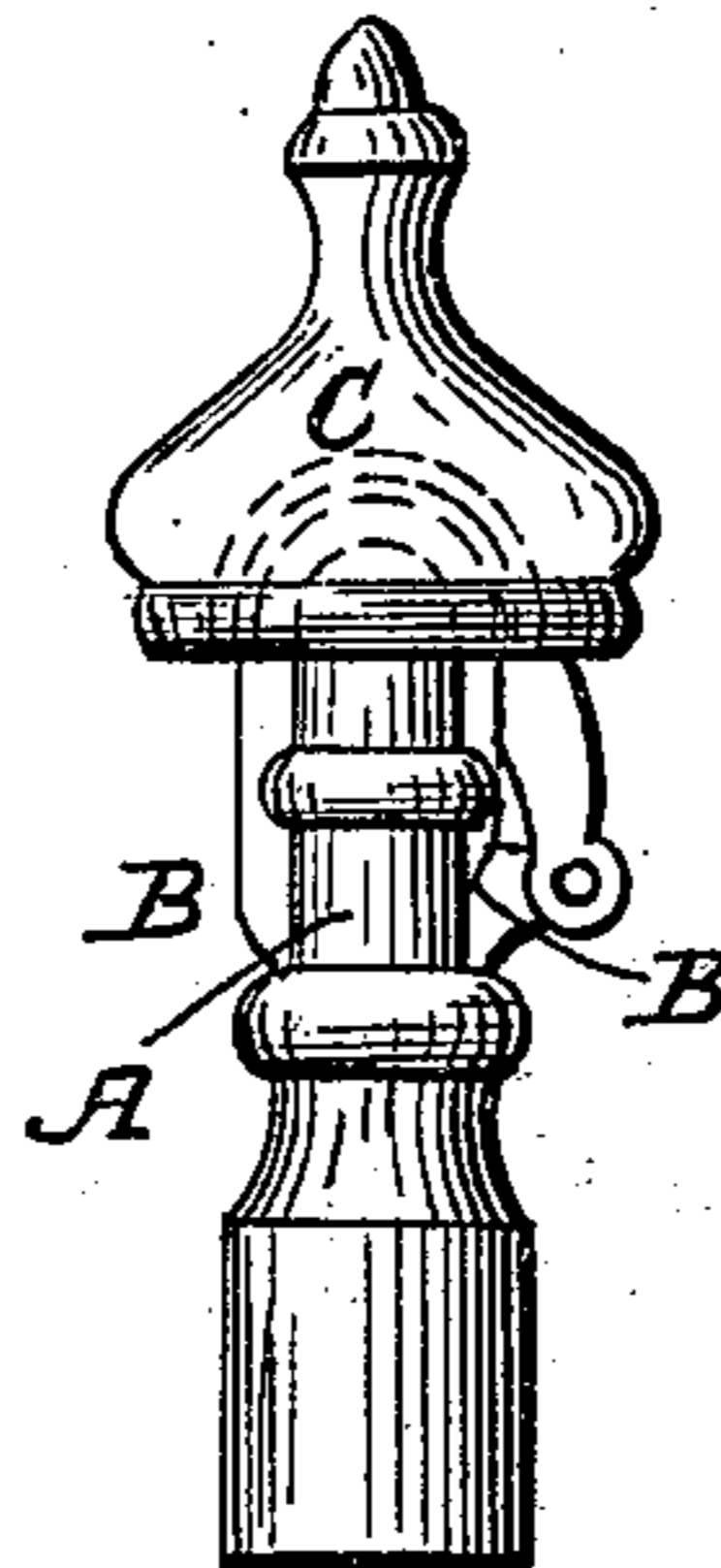


Fig. 3.

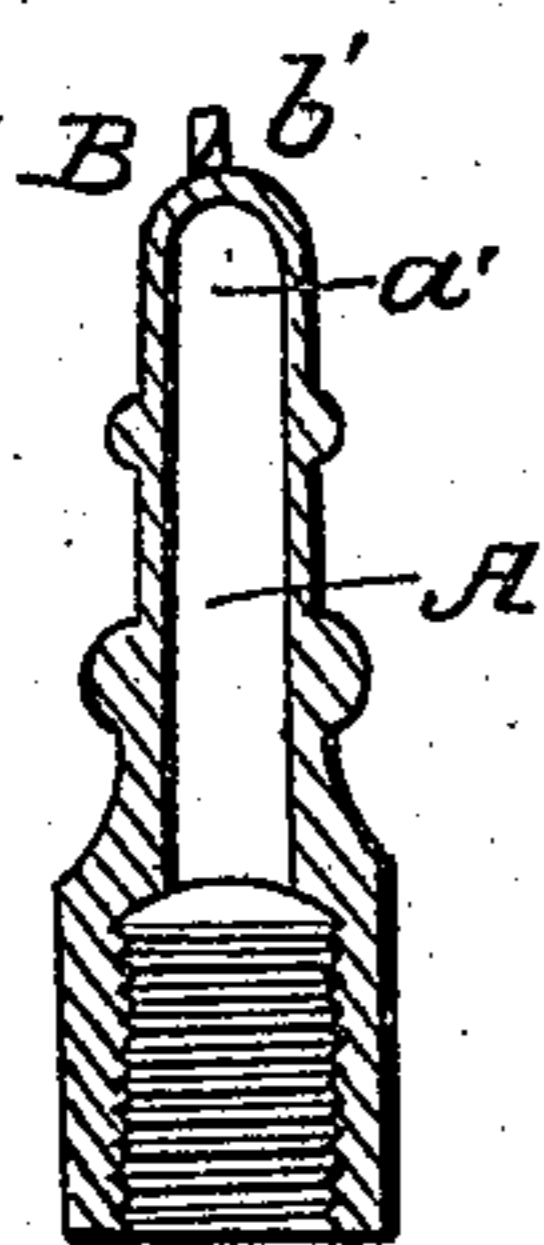
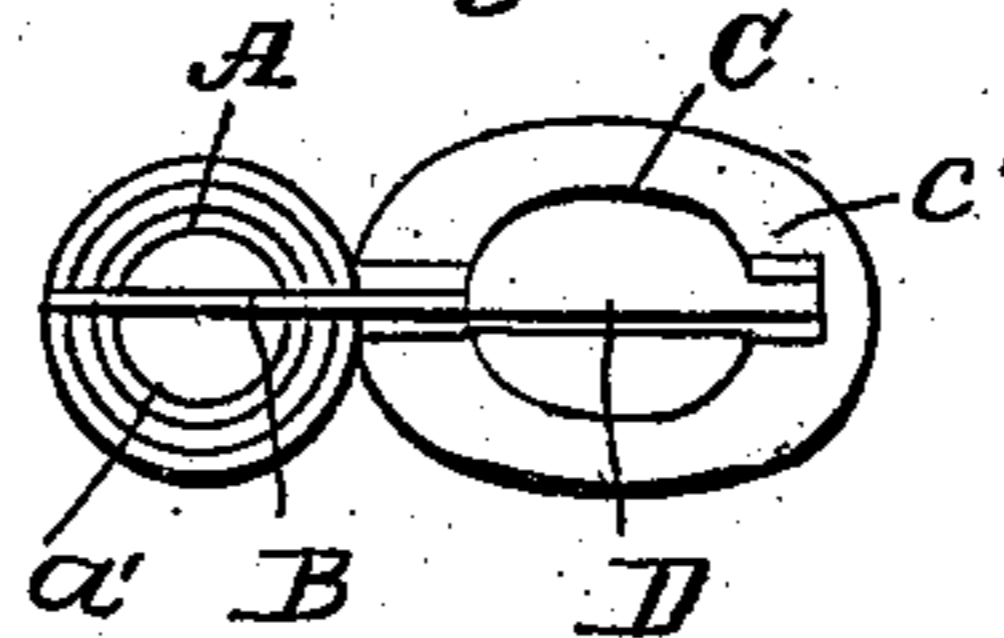


Fig. 4.



Witnesses:

*Jm Hinkle*

*Williams Oggle*

Inventor:

*Robert N. Stewart.*

# UNITED STATES PATENT OFFICE.

ROBERT N. STEWART, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. 34,450, dated February 18, 1862.

*To all whom it may concern:*

Be it known that I, ROBERT N. STEWART, 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 a part of this specification, in which—

Figures 1 and 2 are side elevations, Fig. 3 a central longitudinal section through the dotted line *x* of Fig. 1, and Fig. 4 a plan view, of a common gas-burner having my improvement applied thereto.

Like letters indicate the same parts when on the different figures.

The nature of my invention consists in providing a bat's-wing gas-burner with a hinged cap having a clearing-plate attached, in combination with an arched warming-plate, substantially as hereinafter described, so that in closing down the said cap upon the burner the cut in the latter will be cleansed and kept in perfect order for use.

In the drawings, A is the burner; B, the arched warming-plate; C, the hinged cap, and D the clearing-plate.

In Fig. 1 the cap is shown as turned down, exposing the top of the burner and the arched plate over it, while in Fig. 2 the said cap is shown as covering the said parts, its clearing-plate being in the diametral cut of the burner.

The burner A is constructed in any of the common forms, with the usual straight diametral saw-cut in its upper end for producing the "bat's-wing" flame.

The arched warming-plate B consists of a piece of metal of rectangular cross-section bent so that it shall fit firmly and closely over the convex end, and also down along the two opposite sides of the burner, as seen in Fig. 1, so that its one side or face shall be in the same plane with the diametral cut *a'* of the burner, the lower corner of the said face side of the plate B being cut away or beveled back, so as to produce a curved recess *b'* around behind the cut *a'* in the burner, as seen in Figs. 1 and 3.

The cap *c* is recessed at its under side, as indicated in Fig. 4 and by the dotted lines in

Figs. 1 and 2, and is also hinged to the warming-plate B at a suitable point on one side of the burner, as seen in Fig. 1, so that it may be turned over by one's finger upon the upper ends of the said burner and warming-plate, covering them, as seen in Fig. 2, the clearing-plate D being a thin piece of metal permanently fixed in the recess of the under side of the cap in such a manner that as the said cap passes downward in covering the end of the burner the said clearing-plate D shall accurately enter and pass down edge-wise to the full depth of the said diametral cut. To better insure the accurate entrance of the said clearing-plate D into the said diametral cut *a'*, the under side of the cap is made with a square recess *c'*, which is in line with the clearing-plate D (see Fig. 4) and comes in contact with both sides of the arched part of the warming-plate B as the cap is brought over the burner, and thus guides the clearing-plate accurately into the diametral cut *a'*.

In the operation of this invention the warming-plate B, becoming heated, expands the gas passing in contact with its face, and the said gas being thus heated and expanded immediately below the point of ignition the light is thereby very considerably increased without any consequent increase in the amount of the gas consumed, while the gas is permitted to pass the plate without becoming either deflected or divided thereby. The said plate also serves an important purpose in guiding the clearing-plate into the diametral cut of the burner as the cap containing the plate is turned down upon the burner. The clearing and covering device is of great importance in cleansing and preserving from dust the burners of street-lamps especially, as hitherto extra hands have always been required to go round at short periods with a hand-plate and clean out the cuts in the bat's-wing burners. The present clearing-cap obviates this expense.

As the cap C would become too hot to be handled if it were made entirely of metal, the upper portion is therefore to be made of wood or other poor conductor of heat.

I do not desire to claim, broadly, the application of a heating-plate to a bat's-wing gas-burner; but,

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

In combination with the plate B, arranged as described, the hinged cap C and clearing-plate D, constructed, combined, and arranged

to operate substantially in the manner described, and for the purpose specified.

ROBERT N. STEWART.

Witnesses:

WM. HINKLE,  
WILLIAMS OGLE.