W. A. THOMPSON.

BURNER FOR GAS STOVES.

No. 50,515. Patented Oct. 17, 1865.

Fig. 1.

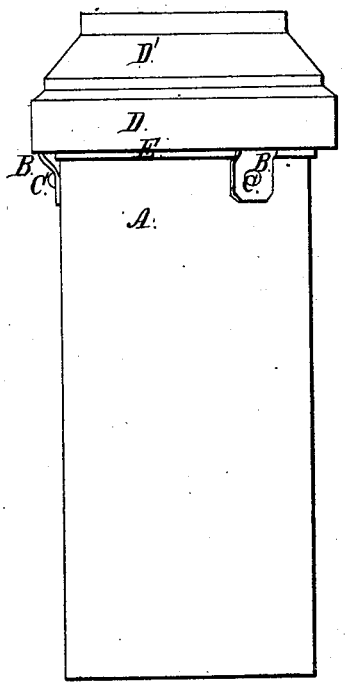
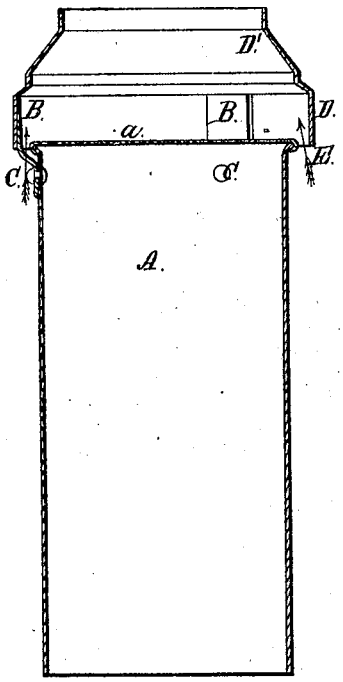


Fig. 2.



Witnesses.

Josee Johnson

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UNITED STATES PATENT OFFICE.

WM. A. THOMPSON, OF BROOKLYN, NEW YORK.

BURNER FOR GAS-STOVES.

Specification forming part of Letters Patent No. **50,515**, dated October 17, 1865.

To all whom it may concern:

Be it known that I, WILLIAM A. THOMPSON, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Etnas or Burners for Gas-Stoves; and I do hereby declare that the following is a full and exact description thereof.

The accompanying drawings form a part of this specification.

Figure 1 is a side elevation, and Fig. 2 is a central vertical section.

Similar letters of reference indicate like parts.

The portion of a gas-stove in which the gas is mingled with the atmospheric air and ignited, and which is sometimes called the "etna," is in all its forms designed with a view to effect complete combustion of the gas with the quantity of air, so as to generate the most concentrated or intense heat, and to so burn the gas that its effect shall be mainly, and, if possible, altogether available as heat, and not as light.

My invention is an etna which accomplishes these ordinary results in a very perfect manner, may be formed of sheet metal, and placed upright, near the base of the stove, as usual, and, in addition to the ordinary qualities, is adapted to be less frequently clogged or deranged and more easily set in order when such occur.

My etna, like others, has a perforated metal plate, through which the mingled gas and air is passed, and has above this a contracted top, the utility of which has been before tested and approved. The top of my etna is removable at will to allow of better clearing or cleaning the perforated plate when it becomes obstructed by the caking thereon of any gravies or other matter accidentally spilled; but the accumulation of any obstructing material thereon is much less likely than with other forms of effective etnas, in consequence of the novel formation or construction and arrangement which I have adopted.

The nature of my invention consists in providing an annular space around the perforated plate, and within the bottom of the contracting cap or top piece, so arranged as to admit a thin current of air to ascend around the interior of the top piece, not deflected inward until it has ascended to a considerable height, but lying against the top piece and affording an unobstructed egress through the perforations in the perforated plate quite to the edges. My arrangement consequently promotes the durability of the top by keeping cool air against it, and promotes the perfection of the combustion by allowing the whole area of the perforations to deliver gently and uniformly.

Another and very important effect of my arrangement and construction is to allow coffee or the like material spilled on the etna to flow freely off through the annular space, and not to be allowed to remain on the perforated plate a long time, to be there evaporated and clog the holes. My device allows this without exposing the flame to deflecting currents, and altogether accomplishes the desirable ends required in an etna, producing an even blue flame without light and smell more satisfactorily than any other known to me.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference marked thereof.

A is a plain hollow cylinder of sheet-iron, grooved together as usual in stove-pipe and like constructions, to endure heat, if necessary.

B B B are strips of stout sheet-iron or other suitable material, riveted upon A by means of rivet C, as represented.

D D′ is a cap adapted to fit over the strips or arms B and be supported thereon, with liberty to be removed by the application of a slight force when necessary to allow the parts below to be cleaned or removed. The upper edge of the part A is turned out a little, and the perforated plate *a* is secured thereon by being bent under it all around, as indicated. The part D of my cap is cylindrical or very slightly tapering. The part D′, on the contrary, is very considerably contracted. I can form the part D D′ of brass or other metal at pleasure by spinning or other ordinary means, but I propose usually to employ good sheet-iron.

My etna may be applied in the ordinary manner to any of the approved forms of gas-stoves.

I will designate the annular opening by E.

I take care to continue the top D D′ down so as to prevent the admission of any horizontal disturbing currents of air, but the precise depth to which the lower edge of the top shall be carried below the top of the perforated plate

a is not material. It may end on a level therewith or be carried considerably lower.

I do not confine myself to the use of strips or arms B attached to the cylinder A, as the same effect may obviously be produced by securing the arms B to the cap or top D D′ and letting the arms B slip over the top of the work below. In such cases I make a bead or other stop at a proper level on A to support the parts and prevent the top D D′ from sinking down too low and becoming badly adjusted.

I prefer to make the annular space E only about one-eighth ($\frac{1}{8}$) of an inch wide, but I do not confine myself to any specific width. I make the cylinder A of diameters ranging from two inches to three and find the large diameters are preferable.

Having now fully described my etna, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

In etnas or burners for gas-stoves, the annular and shielded opening E, arranged relatively to the other parts substantially in the manner and for the purposes herein set forth.

W. A. THOMPSON.

Witnesses:

JOSEE JOHNSON,

KIMBALL W. STETSON.