

(No Model.)

L. HENKLE.
GAS BURNER.

No. 405,735.

Patented June 25, 1889.

Fig. 1.

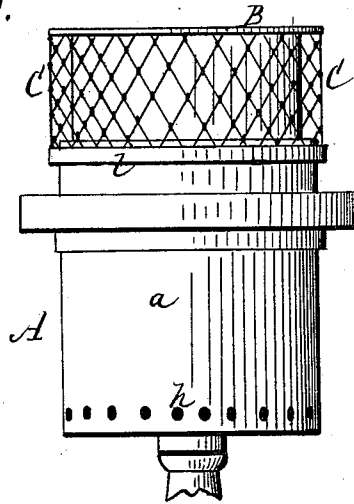


Fig. 3.

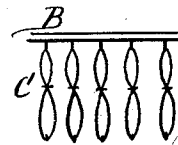
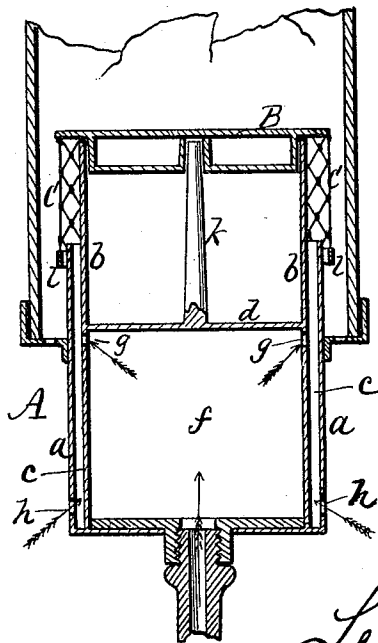


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

LEONARD HENKLE, OF ROCHESTER, NEW YORK.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 405,735, dated June 25, 1889.

Application filed August 30, 1888. Serial No. 284,198. (No model.)

To all whom it may concern:

Be it known that I, LEONARD HENKLE, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Gas-Burners; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My invention involves the use of a woven or braided platinum-wire basket, cylinder, or thimble, in combination with a compound burner for burning gas and air, or in connection with an ordinary burner designed for the combustion of fuel-gas, water-gas, or any other gaseous substance capable of producing a high degree of heat by which the platinum basket, cylinder, or thimble can be maintained at a high degree of incandescence; and it consists of the construction, combination, and arrangement of parts disclosed in the following specification, reference being had to the accompanying drawings, which form a part thereof, and in which similar letters of reference indicate like or equivalent parts wherever found throughout the several views.

Figure 1 is an elevation of the burner. Fig. 2 is a central longitudinal vertical section of the same; and Fig. 3 is an elevation of a portion of the burner, showing a modification in the form of a platinum-wire covering.

Referring to the drawings, A indicates the body of the burner, which consists of an exterior shell *a* and an interior shell *b*, an annular space forming a mixing-chamber being provided between them. The bottom of this space is closed, but the top is open, and the inner shell extends some distance above the outer one, as shown in the sectional view, Fig. 2. A partition or diaphragm *d* extends across the space within the interior shell, forming a compartment *f* at the bottom, which receives the gas from the supply-pipe. Holes *g g* open from the top of this compartment into the annular space *c*, and holes *h h* at the bottom are provided for the purpose of admitting atmospheric air into the space *c*. The air and gas thus admitted into said space are mingled and discharged at the discharge-point or the burner-tip at the top of the

burner, where it is ignited, and produces, as in the well-known Bunsen burner, very effective combustion and a high degree of heat with but little visible flame.

B is a covering-cap at the top of the burner, which cap fits removably on a spindle *k*, and projects outward over the combustion space or opening of the burner, from which the mingled gas and air escapes.

C is the platinum covering, cylinder, or thimble, woven or braided from platinum wire, and attached to the outer edge of the cap B and extending down to or below the top of the outer shell *a* of the burner-body, thereby inclosing an annular space above the top of the outer shell and around the projecting upper-end of the inner shell and below the projecting edges of the covering-cap B. Into this space the mingled gas and air is discharged, and in this space combustion takes place. The mingling of the gas and air before ignition produces, as in the ordinary Bunsen burner, almost perfect combustion, and the result is a very high degree of heat with but little, if any, visible flame. The platinum basket or cylinder is at once raised to a high degree of incandescence, and remains in a highly-luminous condition as long as the burner is ignited. The platinum wire may be woven or connected in any desired manner or ornamental form, and Figs. 1 and 2 show it in the form of annular meshes attached to a pendent ring *l*, which hangs down over the top of the outer shell, and in Fig. 3 it is made in the form of pendants that hang loose from the rim of the covering-cap. Any other desired form may be used. The covering-cap B and the wire attachment are connected as one fixture, and can be removed and replaced at any time.

By the use of the platinum covering or cylinder, in combination with the burner, constructed as described, a very intense incandescent light is produced at a very great saving of gas. The wire, though made very fine and the covering or thimble frail and delicate, is practically indestructible by heat, and with proper care in handling may be used for an indefinite length of time. When the platinum covering or thimble is in position upon the burner, the band *l* surrounds the top thereof,

and the circular burner opens just within said band. This band serves to keep the cylinder or covering in position upon the burner around the combustion-chamber and to maintain the base thereof in a circular shape. If, however, the body of the covering, cylinder, or thimble should be crushed, indented, or otherwise gotten out of symmetrical form by handling, shipping, or otherwise, the bottom being retained in an annular or circular form by the band *l*, the entire covering or thimble may be easily restored to its original shape by inserting the finger or any cylindrical object within the band *l* and gently pressing the threads thereof back into their original cylindrical shape, and this may be done as often as is necessary. The covering or thimble may be removed from the burner whenever desired by taking hold of the plate B and lifting it from its support.

Having fully described my invention, its construction and operation, I claim and desire to secure by Letters Patent—

1. The combination, with a gas-burner consisting of two cylindrical shells joined at the bottom to form a mixing-chamber, said chamber being provided with inlets for gas and air, the inner shell projecting above the top of

the outer one, of a cap projecting over the top of the inner shell, and a platinum cylinder or basket inclosing the space around the inner shell and beneath the cap, as and for the purpose set forth.

2. The combination, with a gas-burner consisting of inner and outer cylindrical shells joined at the bottom and having a space between them, forming a mixing-chamber, said chamber being provided with air and gas inlets, and the inner shell extending above the top of the outer one, of a platinum cylinder or covering which extends upward from the outer shell, substantially as shown and described.

3. A gas-burner consisting of two annular shells, as *a* and *b*, having a space between them, forming a mixing-chamber closed at the bottom, a gas-chamber, as *f*, within the inner shell, the outer shell being provided with air-inlets *b* and the inner shell with gas-outlets *g*, substantially as and for the purposes set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

LEONARD HENKLE.

Witnesses:

P. A. COSTICH,
R. F. OSGOOD.