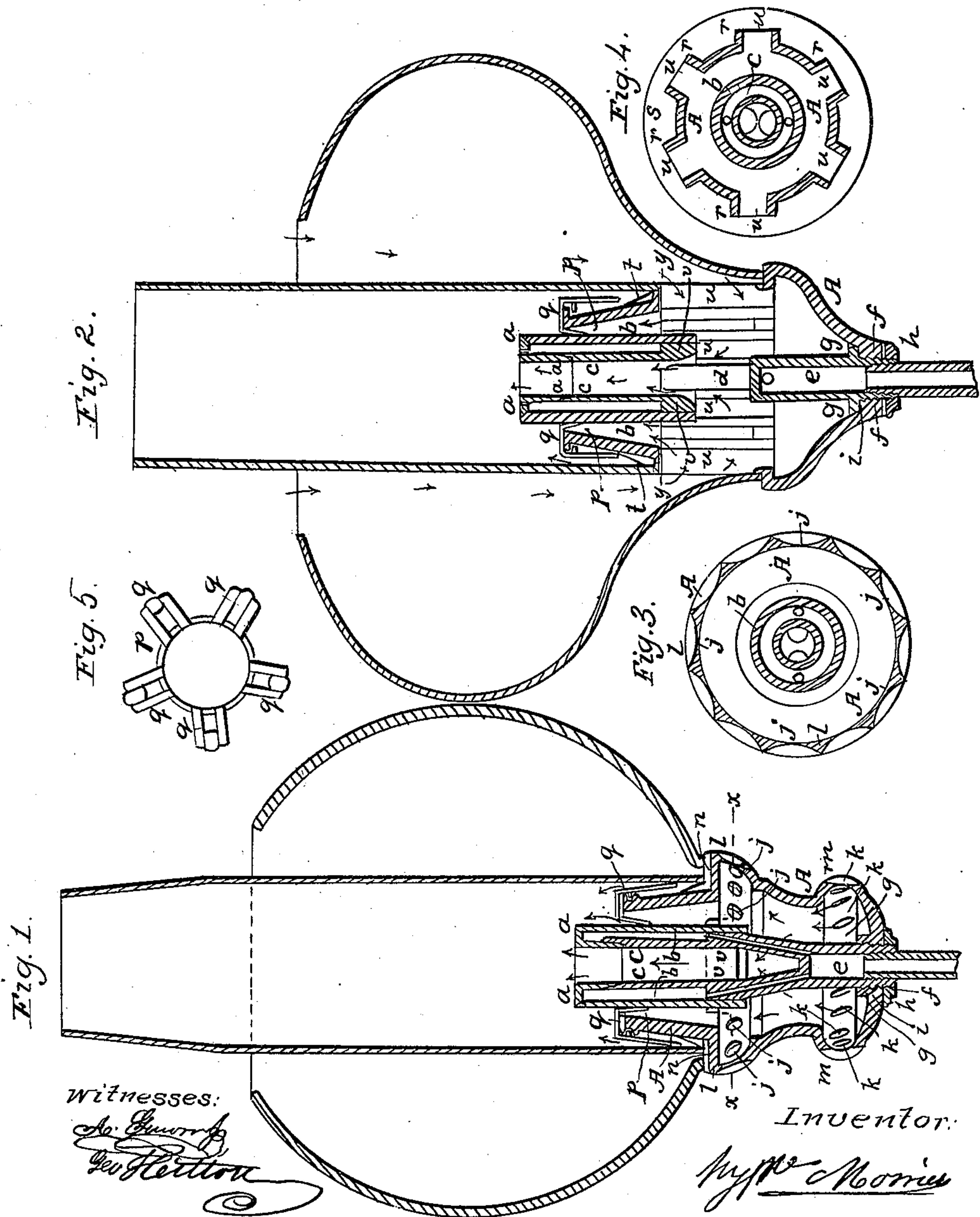


H. MONIER.
Gas Burner.

No. 25,209.

Patented Aug. 23, 1859.



UNITED STATES PATENT OFFICE.

HIPPOLYTE MONIER, OF PARIS, FRANCE.

ARGAND GAS-BURNER.

Specification of Letters Patent No. 25,209, dated August 23, 1859.

To all whom it may concern:

Be it known that I, HIPPOLYTE MONIER, of Paris, in the Empire of France, have invented certain new and useful Improvements in Argand 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 accompanying drawings, forming part of this specification, in which,—

Figure 1, exhibits a central vertical section of a burner and its appendages, constructed according to my invention. Fig. 2, exhibits a central vertical section of a precisely similar burner, taken at right angles to Fig. 1, and shows some modification in its appendages. Fig. 3, is a horizontal section, corresponding with Fig. 1, taken in the plane indicated by the line *x, x*, of that figure. Fig. 4, is a horizontal section, corresponding with Fig. 2, taken in the plane indicated by the line *y, y*, of that figure. Fig. 5, is a detail view that will be hereinafter explained.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in a certain mode of combining metal with burnt clay, porcelain, or other incorrodible refractory non-conductor in an Argand gas burner, whereby I am enabled to use such incorrodible substance for those parts of the burner for which it is desirable, and to use metal for those other parts which it serves better.

To enable others to apply my invention to use, I will now proceed to describe its construction and operation.

a, (Figs. 1 and 2) represents what is known as the "grate" of the Argand burner, consisting of a short tube whose exterior is of the form of an inverted frustum of a cone with a flange at its upper extremity, said flange containing the holes from which the gas issues, and having its edge beveled toward its underside. This grate I prefer to make of burnt plastic clay, but it may be of other incorrodible, refractory, non-conducting material. *b*, is a porcelain tube, constituting the exterior of the burner, having its upper extremity beveled to fit the bevel of the flange of the grate *a*. *c*, is a tube of metal, into which the tube of the grate *a*, fits, and which combines with the latter tube to form the inner tube of the burner. The said tube *c*, has a deep flange *v*, at the bottom to fit the interior of the

other tube *b*, and it is made in the same piece with the hollow fork *d, d*, and hollow stem *e*, of the burner. The said stem *e*, has, besides the usual internal screw-thread which screws on to the gaspipe, an external screw-thread *f*, and a collar *g*, above the said thread, whose duties will be presently described. The piece *c, d, e, f, g*, being protected from the heat, by the non-conducting nature of the substances composing the other two pieces *a*, and *b*, may be made of lead or other fusible metal when cheapness is an object. The three pieces of which the burner is composed are united by a suitable cement, and the burner thus constructed presents essentially the same appearance as any ordinary Argand gas burner. The metal portion may be painted white to harmonize in appearance with the tube *b*.

A, A, (Figs. 1, 2, 3, and 4) represent glass air baskets of different forms constructed to support the chimney and the glass globe or shade; that shown in Figs. 1 and 3, differs in form from that shown in Figs. 2 and 4, but each is attached to the stem *e*, of the burner by having a hole provided in its bottom to fit the bottom part of the stem, and is secured against the collar *g*, by a nut *h*, fitted to the screw-thread *f*, as shown in Figs. 1 and 3. A washer *i*, of soft metal or leather should be interposed between the basket and the collar *g*.

The basket shown in Figs. 1 and 3 has two rows of holes *j, j*, and *k, k*, formed in projecting portions *l*, and *m*, which are provided to facilitate the cutting of said holes. The upper projecting portion *l*, serves also to support the chimney and the glass shade, as illustrated in Fig. 1; and to provide for the entrance of air between the chimney and the conical-shaped upper portion of the basket, there are narrow rib-like projections *n, n*, on the top of the said projecting portion *l*, uniting with rib-like projections *o, o*, on the sides of the conical-shaped upper portion. The top of the basket is lower than the top of the burner, and its interior somewhat larger than the exterior of the burner; but it is steadied by a metal ring *p*, which fits to the exterior of the burner, and which is provided with arms *q, q*, which hook over the top of the basket. Fig. 5 is a top view of this ring. This basket, when the chimney is applied, provides for the supply of air to the burner by three different ways, viz, by the holes *j, j*, by the holes *k, k*,

and by the openings left under the chimney and shade, between the projections *n*, *n*, as indicated by arrows in Fig. 1.

The basket shown in Figs. 2 and 4, has but one series of openings *u*, *u*, which are in the form of long vertical slits and made in square projections *r*, *r*, from the exterior of the basket. There is a still more prominent projection *s*, below the said projections *r*, *r*, extending all around the basket for the support of the shade, and above the said projections *r*, *r*, the basket terminates in a cone like that first described. The tops of the projections *r*, *r*, constitute a resting place for the chimney which is kept in place by a series of small taper rib-like projections *t*, *t*, on the tops of *r*, *r*. This basket is steadied upon the burner, like the other basket, by a similar ring *p*, and arms *q*, *q*. The air supplied to the burner by this basket, when a glass shade is employed, has to pass downward from the top of the shade and is heated by contact with the exterior of the chimney, and after entering the openings *q*, *q*, some of it passes through the central tube of the burner and some around the exterior of said burner. Besides what enters the

openings *q*, *q*, some air passes under the chimney through the spaces between the projections *r*, *r*, and passes up around the conical part of the basket to the exterior of the burner. 30

Either of the above baskets supplies the place of the ordinary metal air basket, the gallery and the globe support commonly used in combination with Argand gas burners; and being transparent, it casts no shadow. Baskets may be made of other forms to effect the same results, and of other transparent vitrifiable materials. 40

What I claim as my invention and desire to secure by Letters Patent, is:—

The construction of the Argand burner with its grate *a*, and external tube *b*, of clay, porcelain, or other incorrodible refractory non-conducting material, and with its inner tube and stem of metal; the several parts being combined substantially as herein described. 45

HYPT. MONIER.

Witnesses to the above signature:

A. GUION, Jr.,
GEVE. HUTTON.