G. W. MARTIN.
Lamp-Chimney.

No. 197,153. Patented Nov. 13, 1877.

Fig. 1.

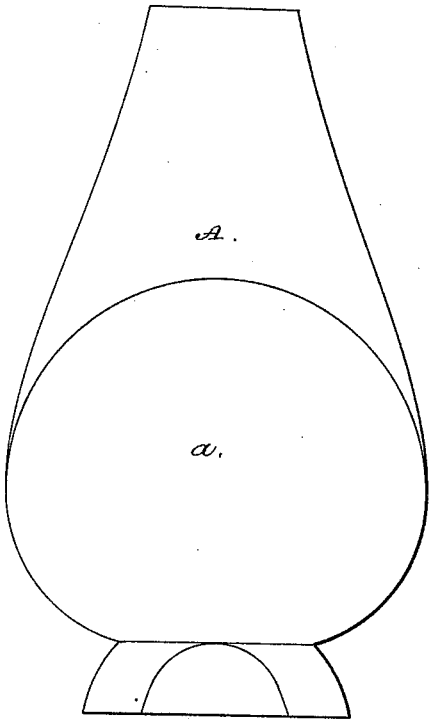


Fig. 2.

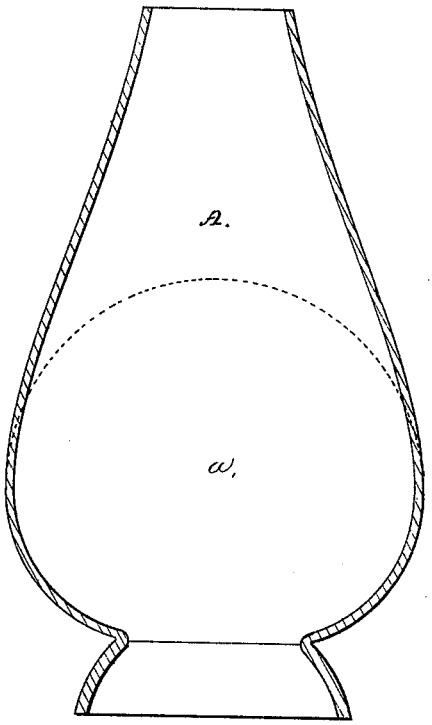
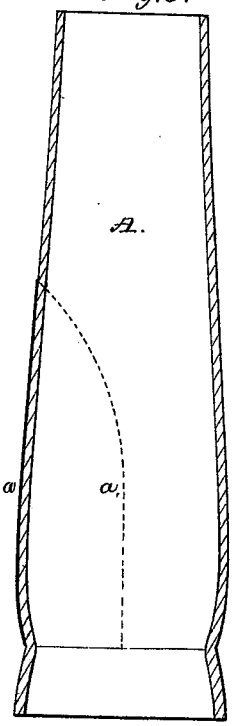


Fig. 3.



Witnesses.
Geo Gray
F. C. Hale

Inventor.
George. W. Martin.
by his attorney.
F. P. Hale

UNITED STATES PATENT OFFICE.

GEORGE W. MARTIN, OF CHELSEA, MASSACHUSETTS.

IMPROVEMENT IN LAMP-CHIMNEYS.

Specification forming part of Letters Patent No. **197,153**, dated November 13, 1877; application filed May 1, 1876.

To all whom it may concern:

Be it known that I, GEORGE W. MARTIN, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Glass Lamp-Chimneys; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

In such drawings, Figure 1 denotes a side elevation of a glass lamp-chimney embodying my improvement or invention. Figs. 2 and 3 are central and vertical sections of the same, taken in planes at right angles to each other.

My invention relates to a new or improved manufacture of lamp-chimneys, the same consisting in forming upon or applying, by means as hereinafter described, to the chimney an adhesive reflecting surface or medium, whereby the light of a burner to which such chimney may be attached may be reflected in any desired direction.

My invention is applicable to glass chimneys of any form.

In carrying out such invention, I take the chimney and make the surface of the glass to which the reflecting medium is to be applied perfectly clean. I next cover such surface with a thin heat-resisting cement; and next lay and press closely upon such coating one or more layers of pure "silver leaf" or foil, and permit such to remain until it becomes thoroughly dry, when, in order to give the reflecting medium a high degree of reflecting power on its side next the glass, I burnish the outer face of the same with a soft buffer or burnisher, and protect the outer surface of the reflecting medium by affixing one or more heat-resisting coatings thereto, as described—that is, I apply a thin coating of shellac, or a thin coating of Japan or other suitable varnish, and while such is in a tacky state I apply thereto a coating of dry "white bronze," (or other suitable bronze may be employed, if desirable,) and rub in the same with a soft brush until an even and smooth coating or surface has been produced. I next burnish the bronze coating with a soft buffer.

Instead of applying the coating of shellac or varnish and the bronze separately, a lacquer may be made of the shellac or varnish and the bronze, and be applied to the coating of silver-foil or reflecting medium, which coating, having become thoroughly dry, should be burnished as before.

The cementing solution when dry not only resists heat, to which the chimney may be subjected, but it holds strongly to the glass the leaf or foil while in the act of being burnished, and enables it to take a polish on both sides by the operation of burnishing it. The said solution, applied to the chimney and the metallic coating, prevents the varnish backing from striking through the pores or minute holes of the latter, and spreading between it and the glass, so as to produce spots on the reflecting-surface. The bronze covers and protects the metal, and gives to the whole a solid and durable finish.

In the drawings, A denotes a glass lamp-chimney, which may be of any desirable form, *a* being the reflecting medium, which consists of silver-foil cut into any desirable shape.

I do not claim coating a portion of the external surface of the glass globe of a lantern with silver or other metallic substance for giving a reflecting-surface, as such is shown in Letters Patent No. 19,867. Nor do I claim protecting such silvered surface from injury by means of a metallic cap placed over the same. Nor do I claim a lamp-shade having a portion of its external surface coated with a reflecting medium, and protected by a coating of Japan varnish and lead, as my invention relates to a different article of manufacture, and has its reflecting-surface protected by a heat-resisting compound.

Having described my invention, what I claim is—

1. As an improved article of manufacture, a lamp-chimney of glass, having applied to its outer surface a transparent heat-resisting cement, and to such one or more layers of metallic leaf or foil, subsequently burnished and covered by varnish and bronze, all as set forth.

2. The described improvement in the art of

preparing glass with reflecting metallic coating, such consisting in first applying to the surface of the glass a thin layer of a transparent heat-resisting cement, and next covering such coating or layer with one or more layers of metallic leaf or foil, and next burnishing and pressing to the glass or coating the leaf or foil on its outer surface, and finally covering it with varnish and bronze, and burnishing the latter, all as set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

GEORGE W. MARTIN.

Witnesses:
F. P. HALE,
H. W. PROUTY.