No. 35,447. PATENTED JUNE 3, 1862.

W. HOWARD.

COAL OIL LAMP CHIMNEY.

Fig. 1.

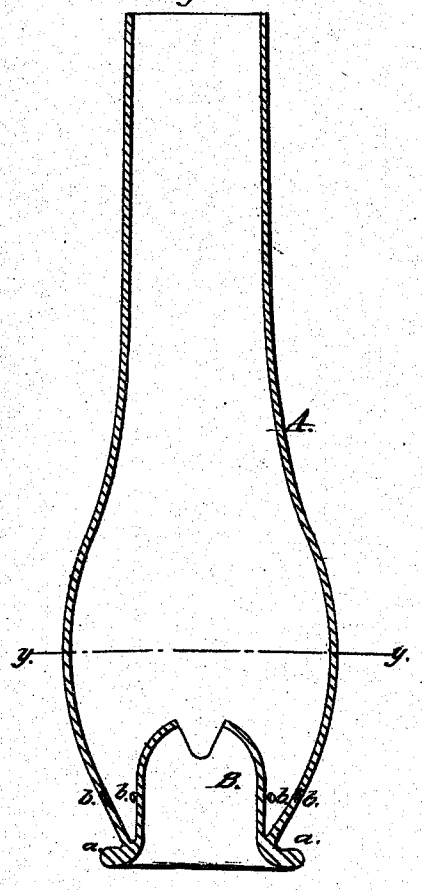
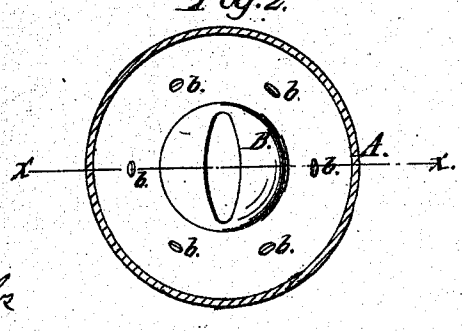


Fig. 2.



Witnesses:
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WILLIAM HOWARD, OF FLUSHING, NEW YORK.

COAL OIL LAMP CHIMNEY.

SPECIFICATION forming part of Letters Patent No. 35,447, dated June 3, 1862.

To all whom it may concern:

Be it known that I, WILLIAM HOWARD, of Flushing, in the county of Queens and State of New York, have invented a new and useful Improvement in Glass Chimneys and Cones for Coal-Oil Lamps; 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, making a part of this specification, in which—

Figure 1 is a vertical central section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a horizontal section of the same, taken in the line *y y*, Fig. 1.

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

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents a glass chimney, and B a glass cone or deflector. These parts may both be of the usual form, but instead of being detached and applied separately to the lamp-burner, as heretofore, I place the cone within the chimney and attach the lower edges of the cone and chimney together, the construction being such that the base of the chimney and the base of the cone are united together.

The cone and chimney may be blown or molded separately and then attached by fusion, or they may be blown or molded together in one piece at one operation; and in the lower part of the chimney there are made circumferentially a series of holes, *b*, in a plane which intersects the cone horizontally about at its center, as shown at Fig. 1. When the cone and chimney thus attached or connected together are applied to the burner, they have the same relative position with each other and the burner as those in common use, which are attached and applied separately to the burner. The base of the cone or flange *a* is fitted in the burner, as usual, and may be secured therein by any suitable catch or fastening.

The advantages of the invention are as follows:

First. The cone being permanently attached to the chimney, they both are removed from and applied to the burner simultaneously, and hence not only time is saved in manipulating the parts, but fracturing by casual dropping rendered less frequent, as one piece is handled instead of two, and the glass cone being small, is, when detached from the chimney as heretofore, very frequently dropped, especially by careless persons; besides the parts are stronger combined than when separate from each other.

Second. The combined chimney and cone may be manufactured at a less cost than when made separately, as heretofore.

Third. By having the holes *b* made in the chimney, as shown, the air is admitted to the exterior of the flame at a point nearer its base than formerly and acts upon or impinges against it in a more direct manner and will insure perfect combustion with a low or small flame—a result which is not attained in an ordinary burner, in consequence of said draft-holes being at or in quite close proximity to the base of the cone.

Fourth. The advantage of the ordinary detached glass cone is obtained, to wit: the radiation of the light afforded by the lower part of the flame within the cone, without the disadvantage of the latter fracturing by expansion in being heated—a result due to the fastening mechanically of the chimney to the base of the cone and directly over the draft-passages which supply the exterior of the flame with oxygen and which are formed by radial grooves or corrugations at the base of the cone. The air passing through those passages at the bottom of the chimney keeps the lower part of the latter comparatively cool, while the cone, on account of its close proximity to the flame, rapidly heats and expands, and the chimney being insulated from the cone by the air-passages does not readily expand, and the cone consequently is liable to break.

By my invention it will be seen that the chimney and cone, in consequence of being formed in one piece admit of the heat being conveyed to the lower part of the chimney from the cone, and the former is allowed to expand with the latter, and fracture thereby prevented.

I am aware that detached glass cones have been used, and these I do not claim.

I am also aware that the lower part of the chimney has been so contracted as to dispense with the use of a cone, as shown in Dickie's patent, 1862. This, therefore, I do not claim.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

As an improved article of manufacture, a chimney and cone made with the bases of the two parts joined together, the cone being placed within the chimney and the latter being provided with apertures *b* to admit air between the cone and chimney, all as herein shown and described.

WILLIAM HOWARD.

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JAMES LAIRD,
J. W. COOMBS.