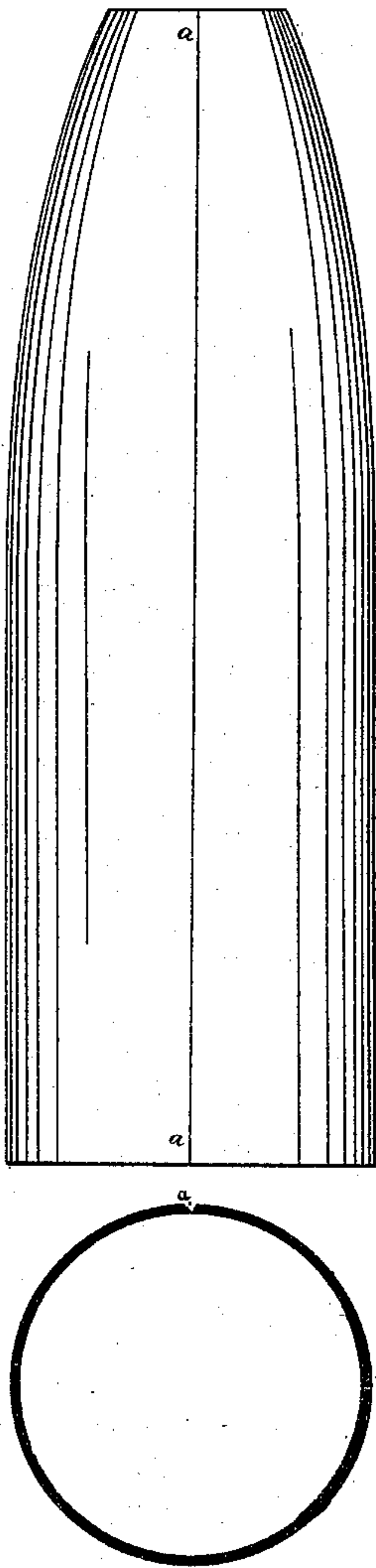


O. A. GOOLD.
Lamp-Chimneys.

No. 150,565.

Patented May 5, 1874.



Witnesses:

Josh. A. Locke

J. B. F. Navarre

Inventor:

O. A. Goold.

by Scribner and Jordan.
Attys.

UNITED STATES PATENT OFFICE.

OLIVER A. GOOLD, OF PORTLAND, MAINE.

IMPROVEMENT IN LAMP-CHIMNEYS.

Specification forming part of Letters Patent No. **150,565**, dated May 5, 1874; application filed January 27, 1873.

To all whom it may concern:

Be it known that I, OLIVER A. GOOLD, of Portland, in the county of Cumberland and State of Maine, have invented a certain new and useful Improvement in Glass Lamp-Chimneys; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, which is hereby made a part of this specification, in which—

The figures are a front elevation and horizontal section of my invention, showing at *a a* an incision made with a diamond partially through the thickness of the glass, and its entire length.

The object of my invention is to provide a means to guard against the breakage of glass lamp-chimneys, which breakage is caused by the expansion and contraction which ensue from the great difference in the temperature of the glass when the lamp is burning over its temperature when the lamp is extinguished, and at the same time provide a chimney of the ordinary kind in packing, transporting, and handling before use upon the lamp.

It is a well-known fact, that when a lamp is lighted the flame generates a heat which is very unequally distributed throughout the glass of which the chimney is made. This unequal distribution of the heat causes a very severe strain upon the chimney, and very frequently breaks it.

By making a mark with a diamond, or some similar instrument, which will cut a small distance into the glass of the chimney, this strain, when it ensues from the above-recited causes, diverts the breakage, which might otherwise be caused in a ragged or comminuted form into the line of the mark or cut *a a*, so that if the chimney breaks at all it must break in the path marked out for it by the diamond. Thus what might otherwise be a ruinous breakage in the chimney becomes really a benefit, as when broken completely through throughout the whole length of the line *a a*, is a better and safer chimney than one not so cut or divided. I have found a glazier's diamond to be the only instrument by means of which the incision *a a* can be successfully made.

It will be understood that my improvement

can be applied to any of the ordinary forms of lamp-chimneys as now made, and although it does not exempt them from the usual breakage, it not only retains their value when broken, but moreover makes them more valuable when broken than before.

This improvement may be used upon lamps which are used for burning kerosene, or any similar oil, such as are usually provided with glass-chimneys of different forms, and for burners of gas or spirit, when it is desirable to use a chimney.

It is possible that a chimney may not break in long use upon the lamp, and the line *a a* will make it less liable to break, being in the harder outside surface, thus furnishing an allowance for some expansion and contraction of this surface; but should it break it must be in the line marked for that purpose.

I am aware that chimneys are common having a slit entirely through the glass, and I do not, therefore, claim such device as any part of my invention, as my invention ends when those devices are completed. The advantage of my improvement over those is, that as my chimney is solid, it is far less liable to be broken in handling and transporting in various places before use, and, in fact, until broken by expansion or contraction, which breakage may never occur in use. The chimneys cut entirely through are more liable to be broken in handling, their object being simply to provide means for expansion and contraction at the expense of the strength of the chimney, while my improvement is to provide a means, which, should breakage occur from expansion or contraction, to insure the break in such manner as not to spoil the chimney, and until such breakage does occur, the strength of my chimney is not impaired.

Having thus fully described my improvement, what I claim is—

As a new article of manufacture, the glass chimney herein described, having the incision *a a* its entire length, and but partially through its surface or thickness, as and for the purpose specified.

OLIVER A. GOOLD.

Witnesses:

D. W. SCRIBNER,
F. E. JORDAN.