

(No Model.)

C. J. HIGGINS.

LANTERN GLOBE.

No. 349,219.

Patented Sept. 14, 1886.

Fig: 1.

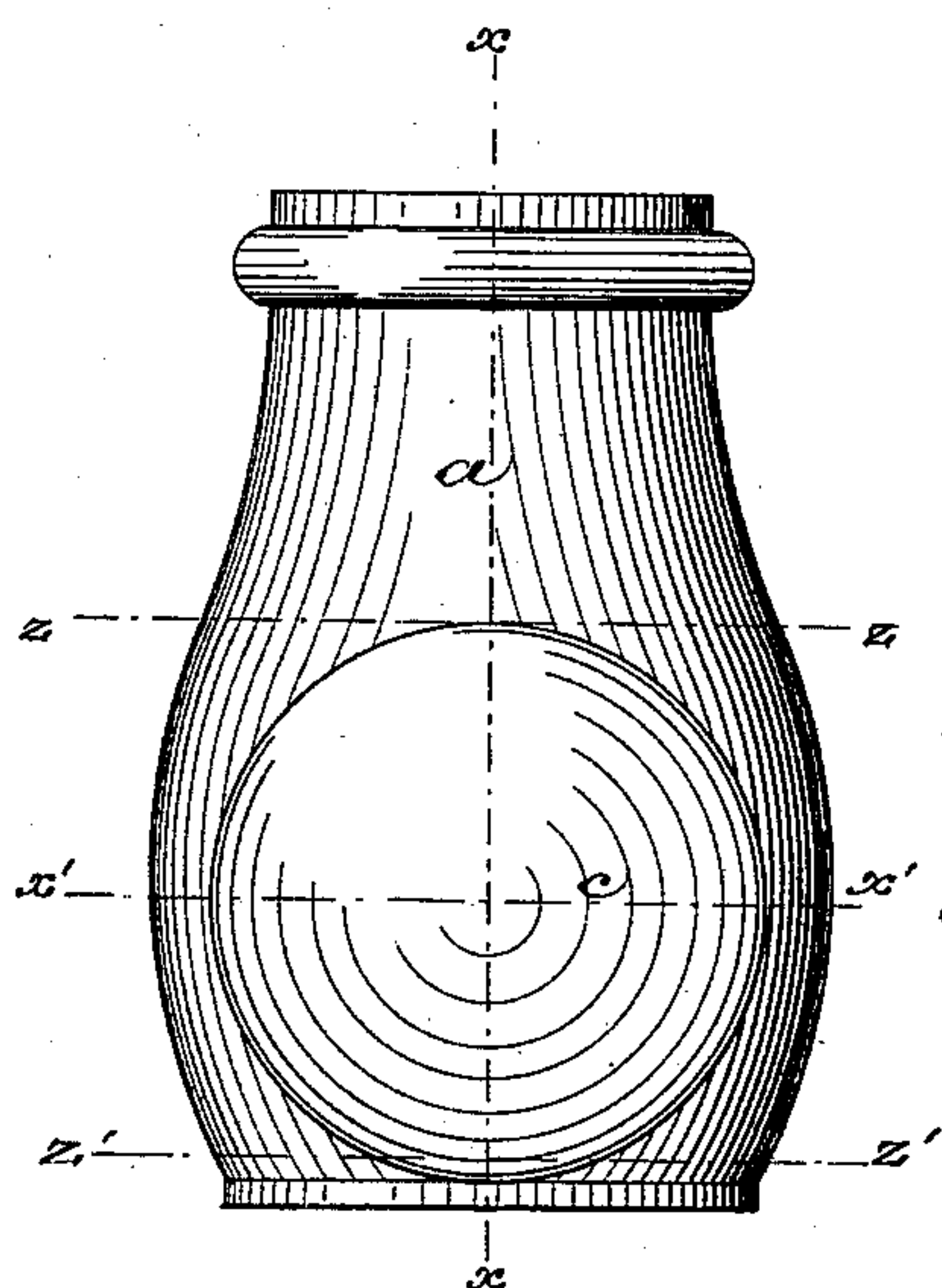


Fig: 2.

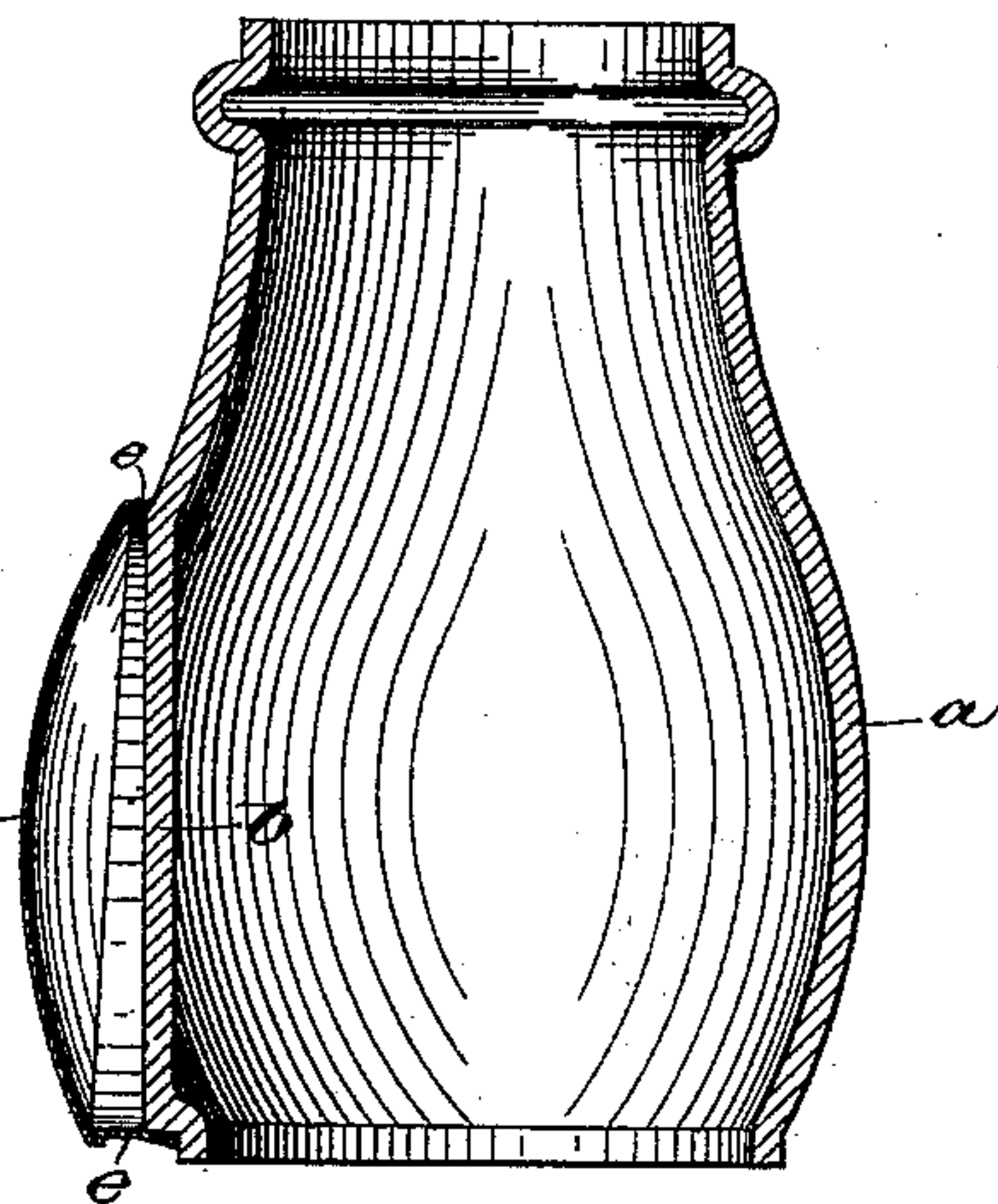


Fig: 3.

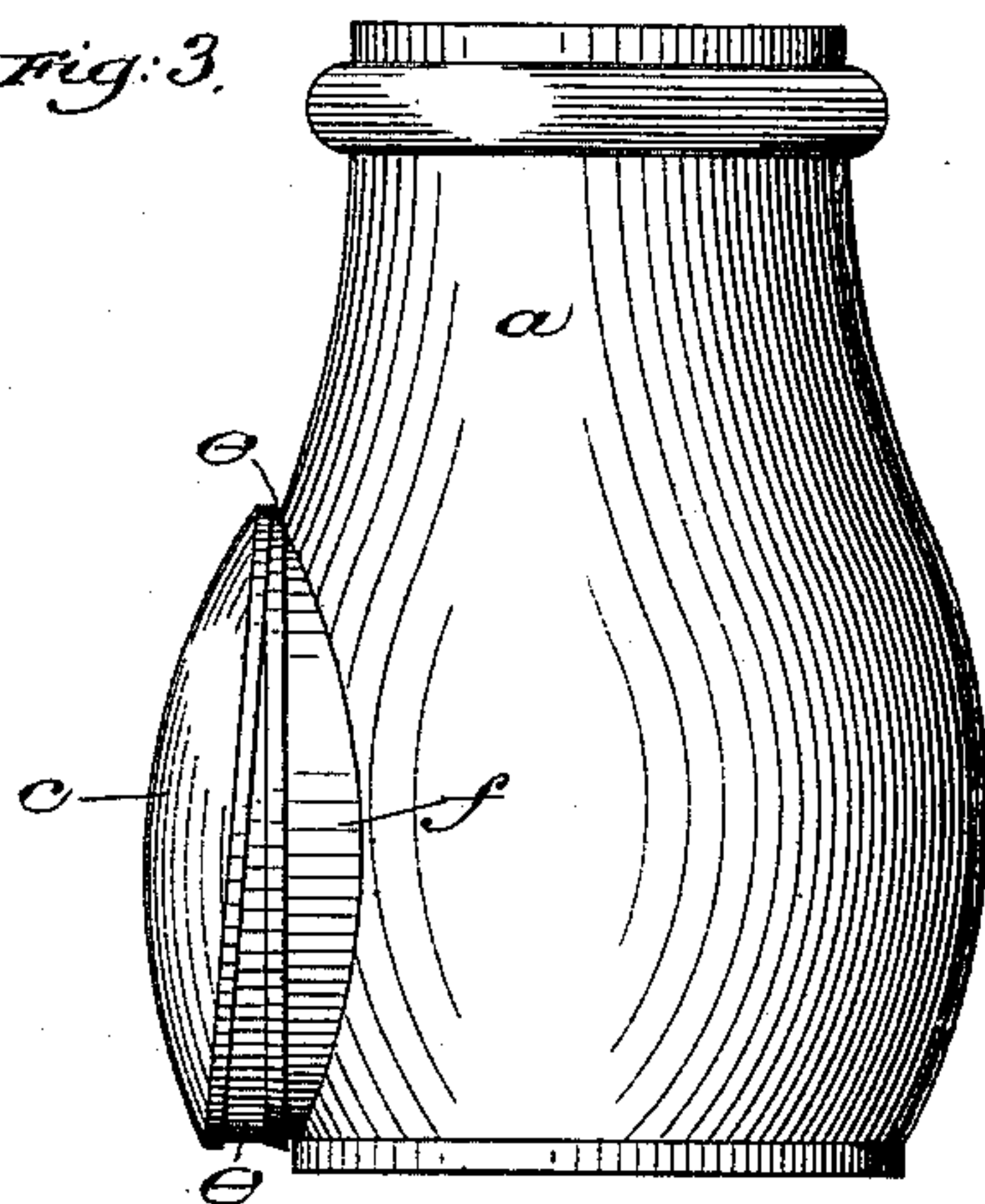
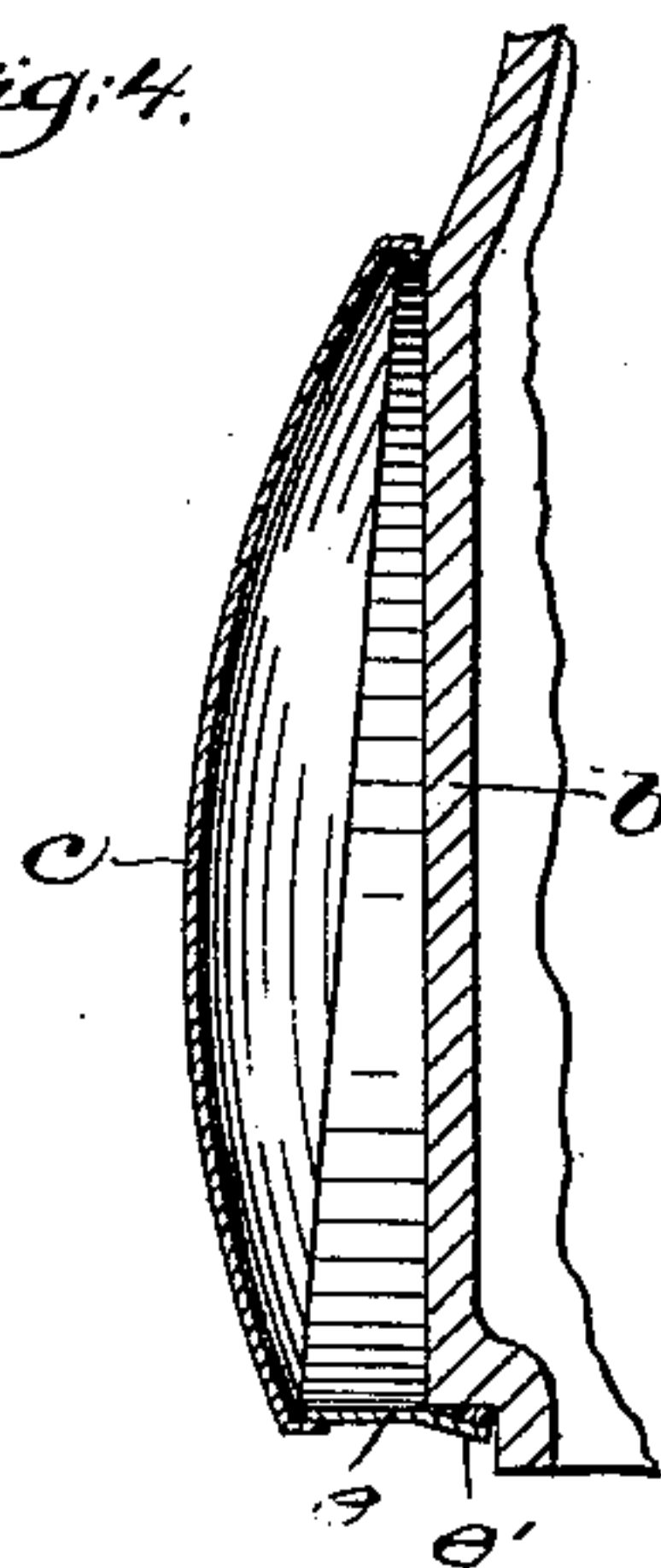


Fig: 4.



Witnesses

Frederick L. Emery.  
John F. L. Pinkish

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by Crosby & Gregory attys.



# UNITED STATES PATENT OFFICE.

CHARLES J. HIGGINS, OF HALLOWELL, MAINE.

## LANTERN-GLOBE.

SPECIFICATION forming part of Letters Patent No. 349,219, dated September 14, 1886.

Application filed May 20, 1886. Serial No. 202,731. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES J. HIGGINS, of Hallowell, county of Kennebec, and State of Maine, have invented an Improvement in  
5 Lantern-Globes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Prior to my invention it has been attempted  
10 to provide a glass globe for lanterns and other illuminating bodies with a flat side to co-operate with a reflecting-surface; but all such attempts known to me have been unsuccessful, because of the fact, as I believe, that in the  
15 formation of the flat surface in the mold by blowing, a shoulder has been left at its junction of the top of the flat side with the main body of the globe. The globe first becomes heated at the top, and the heat thence gradu-  
20 ally travels downward, and, meeting an arch as a shoulder between the main body and the flattened side, causes such unequal expansion that the glass globe is quickly broken at the junction of the flattened surface with the main  
25 body.

This invention has for its object to provide a globe or chimney having a flattened side or surface, with a reflector so constructed as to throw the rays of light at an angle with re-  
30 lation to the vertical plane of the globe, the flattened side being formed, substantially as will be described, to obviate breakage of the globe because of unequal expansion and contraction of the glass.

In accordance with this invention the glass globe is formed with a flattened side or surface, preferably circular in form, it having, however, a shoulder at its junction with the main body for but a portion of its circumfer-  
40 ence, preferably the junction of the upper portion of the flattened portion with the main body of the globe being without a shoulder—or, in other words, the junction of the top of the flattened surface with the main body of the globe is without a shoulder or sharp an-  
45 gle of any kind to resist the passage of heat, and consequently the flattened surface may expand uniformly with the main body of the globe, thus obviating the liability of fractur-  
50 ing the globe.

The reflector herein shown consists of a

concaved plate polished upon its interior to present a suitable reflecting-surface, and having a flange of varying depth, the flanges of the reflector snugly fitting or embracing the  
55 segmental shoulder formed at the junction of the flattened side with the main body, the varying depth of the flange causing the reflector to lie at an angle to the surface of the globe, to thereby divert the rays of light at an angle,  
60 and in this instance downward. The edge of the reflector is turned outward, so that when placed in position to embrace the shoulder the cementitious material employed to unite, and thereby rigidly connect, the reflector with the  
65 globe, may be placed between such outwardly-turned portion or lip of the flange and the shoulder.

Figure 1 shows in front elevation a globe embodying this invention, the reflector being  
70 removed; Fig. 2, a vertical section of Fig. 1, taken in the line  $xx$ , the reflector being placed in position; Fig. 3, a right-hand side elevation of Fig. 1, the reflector being applied; Fig. 4, an enlarged vertical section of a portion of  
75 Fig. 2.

The globe or chimney  $a$  is herein shown of suitable shape to be applied to a lantern of ordinary construction. One side of the globe  $a$  is formed with a flattened side,  $b$ , preferably  
80 of circular form and having a plane face. A shoulder,  $f$ , of varying depth, is formed at the junction of the flattened side with the main body  $a$  of the globe, that portion of the shoulder on the dotted line  $x'x'$  having the  
85 greatest depth and tapering gradually to the dotted line  $z'z'$  at the lower end of the globe, where the shoulder is only of sufficient depth to give a holding-surface for the reflector  $c$ , and the said shoulder tapers upwardly from  
90 the line  $x'x'$  toward the line  $zz$ , so that at the junction of the top portion of the flattened surface  $b$  and the main body of the globe no shoulder or sharp angle is presented. As previously stated, when a shoulder is formed  
95 at the juncture of the top side of the globe and the flattened side the globe is liable to fracture, and as a shoulder partially surrounding the flattened surface gives sufficient holding-surface for the reflector  $c$ , to be described, the  
100 top portion of the flattened surface at its junction with the main body is formed without a



shoulder, so that at such point a very slight deviation of the general outline or contour of the globe is presented.

The reflector consists of a concaved plate or disk, *c*, of circular shape, and polished upon its interior to present a suitable reflecting-surface. A flange, *e*, is attached to said concaved disk *c*, which is of unequal depth and of sufficient diameter to embrace the shoulder *f* of the globe. The edge of the flange *e* is spun or turned outward, as at *e'*, so that when the reflector is placed in position with the flange thereof embracing the shoulder *f* of the globe an upturned lip is presented, beneath which the cementitious material is placed to thereby connect the reflector with the globe, rendering it impervious to air. In practice I have found that this method of attaching the reflector to the globe is of especial advantage, as the cementitious material is prevented from entering between the reflecting-surface *c* and the globe or running down or otherwise defacing the reflecting-surface to thereby destroy its efficiency.

It will be seen that by providing the reflector or with the flange *e* of unequal depth it may be readily placed in position to present the reflecting-surface *c* at an angle with relation to the flattened side *b* of the globe or chimney, to thereby divert the rays of light in any given direction.

In this instance I have shown the reflector with the deepest portion of the flange at the bottom, thereby so positioning the reflecting-surface as to divert the rays of light downward, such position being of especial advantage under ordinary circumstances.

I claim—

1. As a new article of manufacture, a glass globe having a flattened or concaved side or surface formed with a shoulder but partially around it, substantially as described.

2. As a new article of manufacture, a glass

globe having a flat side or surface formed with a shoulder at its junction with the main body, said shoulder extending around the lower portion of the flattened surface and gradually tapering off upon each side at the top, to thereby leave the junction of the top of the flattened surface with the main body of the globe without a shoulder or other sharp bend or angle, substantially as described.

3. A globe or chimney having a flattened or concaved side and surrounded partially by a flange, the upper part of the flattened surface meeting the main body of the globe without a flange or abrupt shoulder, combined with a reflector attached to the said projection, substantially as described.

4. A globe or chimney having a flattened side, *b*, and shoulder *f*, of various depths, joining the side *b* with the main body of the globe, combined with a reflecting disk or surface and a flange of varying depth for connecting the said reflecting-disk with the globe, whereby the said disk is retained at an angle with relation to the said flattened side *b* of the globe or chimney, substantially as described.

5. A globe or chimney having a flattened side, *b*, and shoulder of varying depth, combined with a reflector having a flange to embrace the said projecting portion *b* of the globe or chimney, the edge of the said projecting flange being turned outward to form a lip to permit cementitious material to be inserted between the said lip and the shoulder *f*, to which it is attached, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES J. HIGGINS.

Witnesses:

A. K. PERRY,  
J. EDWIN NYE.