

(No Model.)

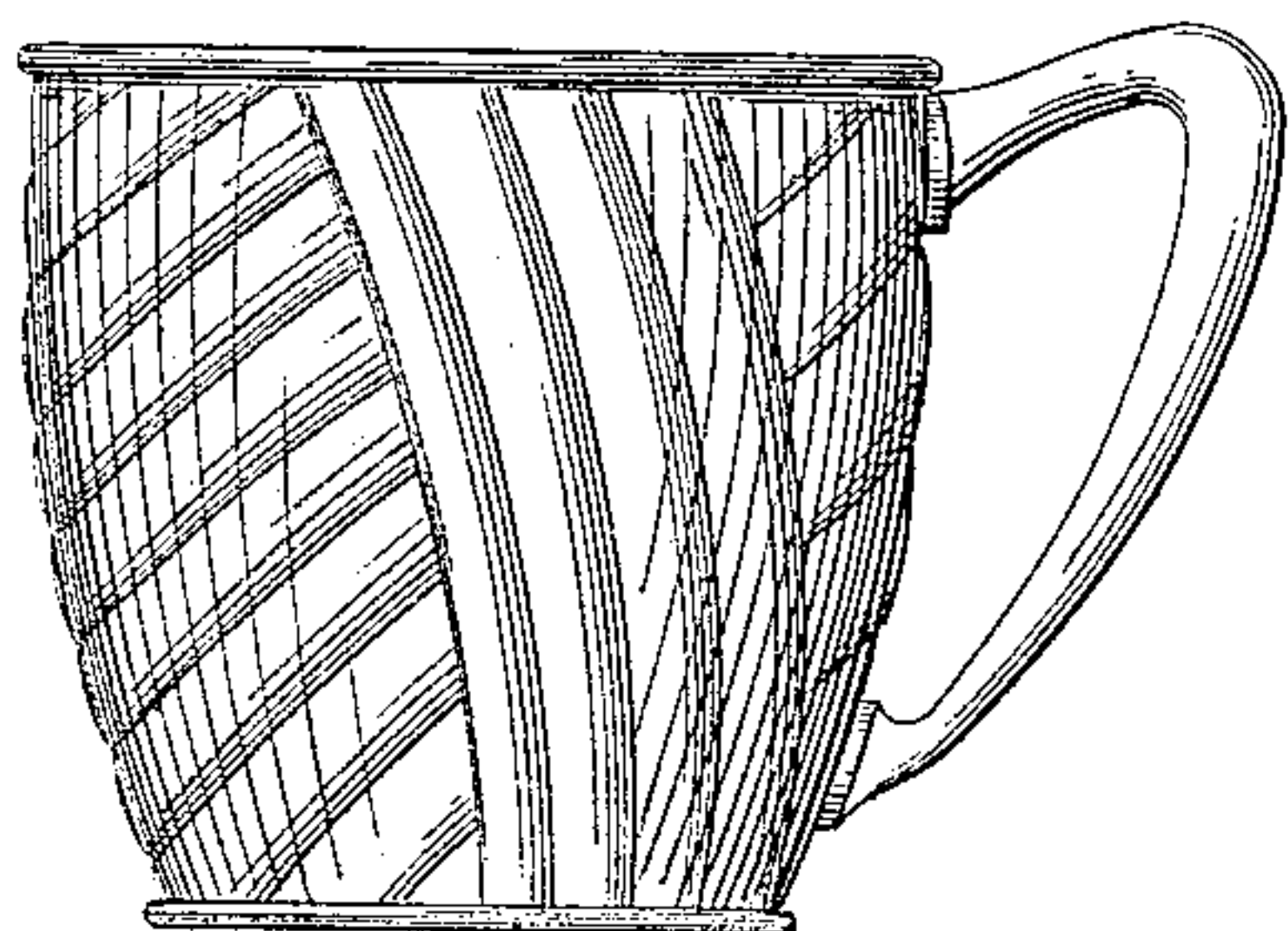
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METHOD OF ORNAMENTING HOLLOW METAL ARTICLES.

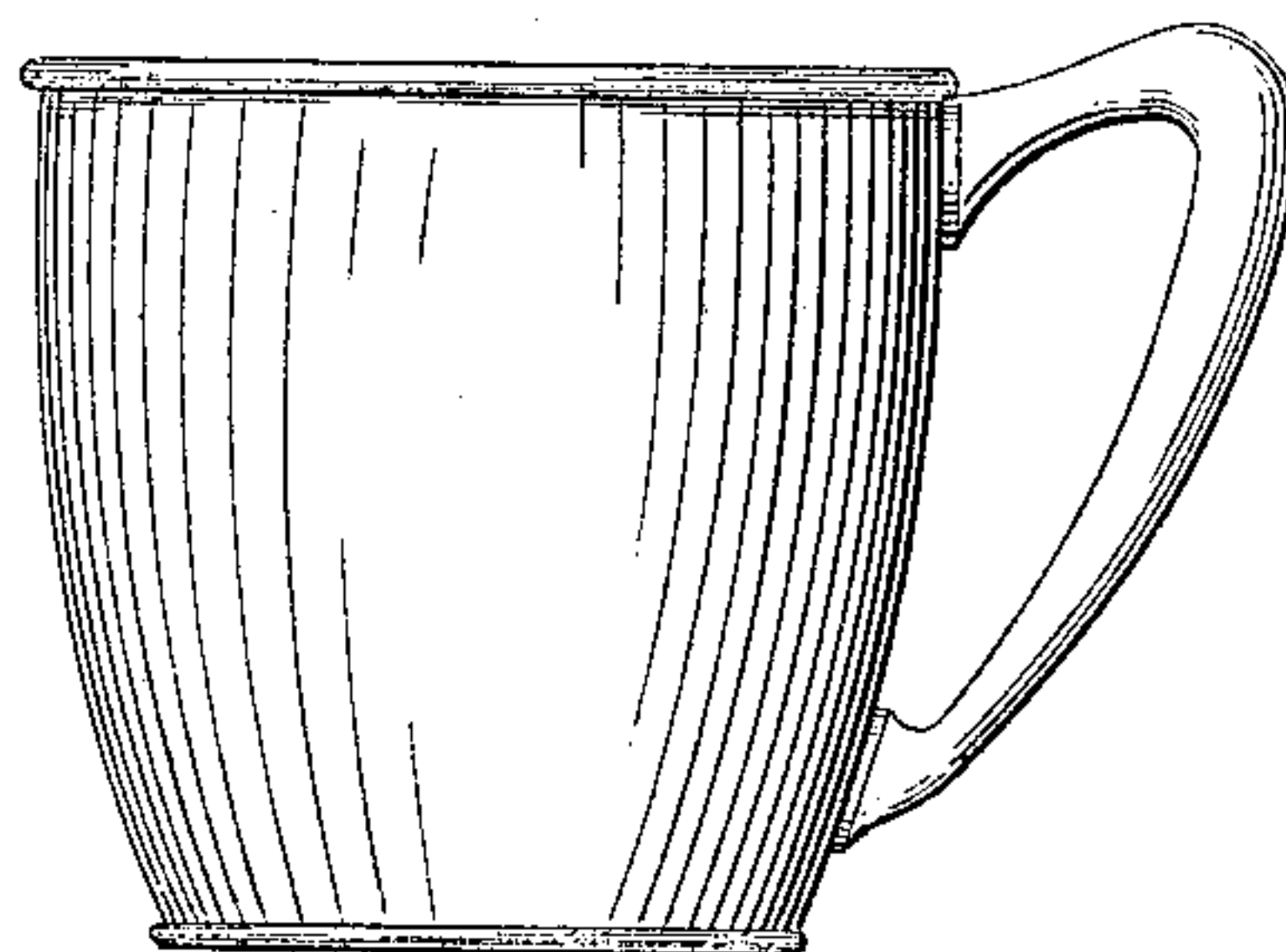
No. 362,815.

Patented May 10, 1887.

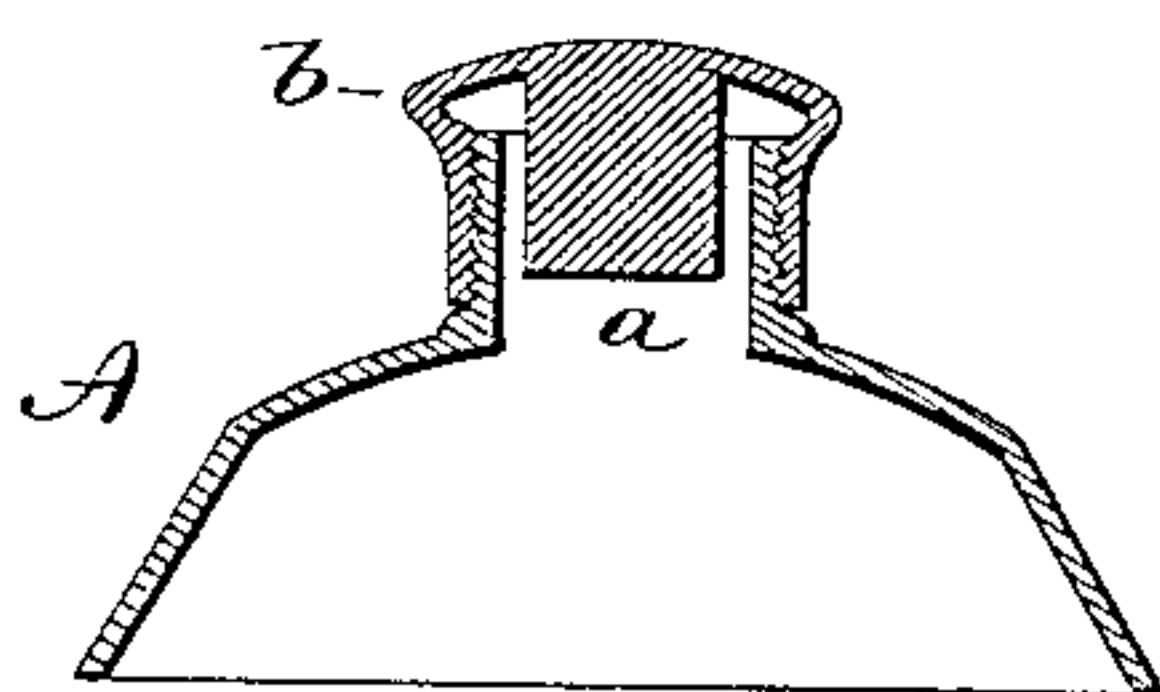
*Fig. 1*



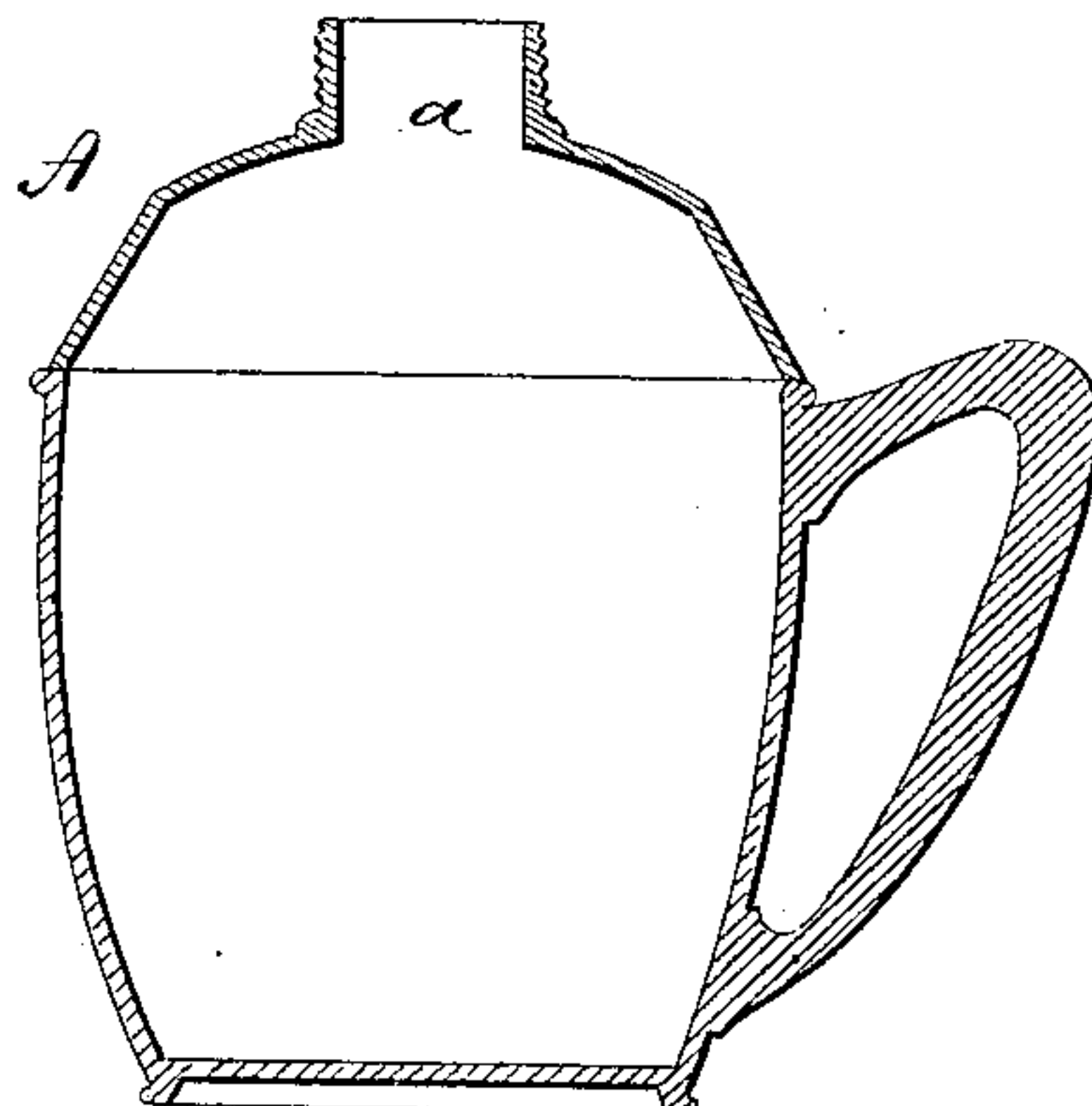
*Fig. 2*



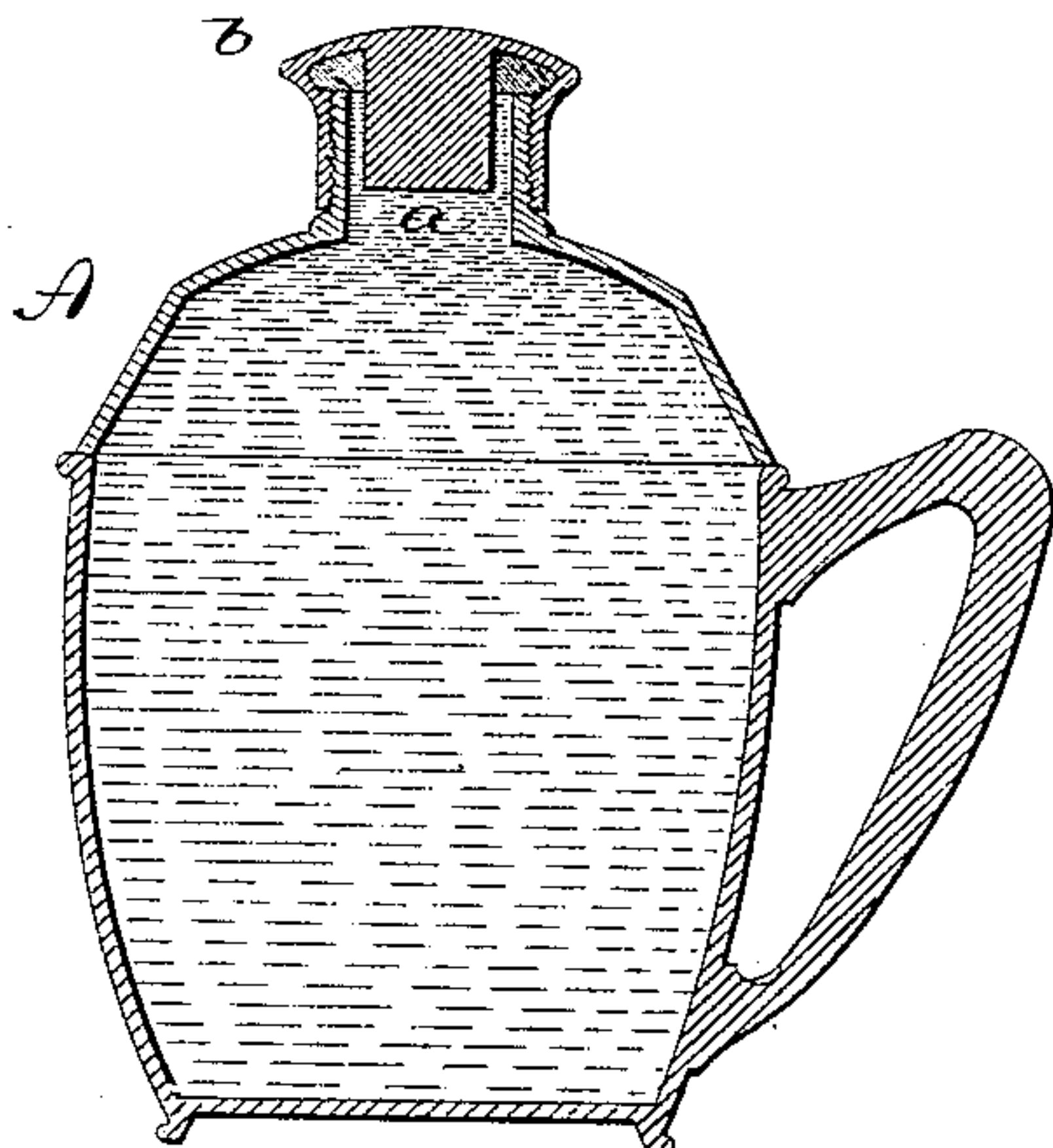
*Fig. 3*



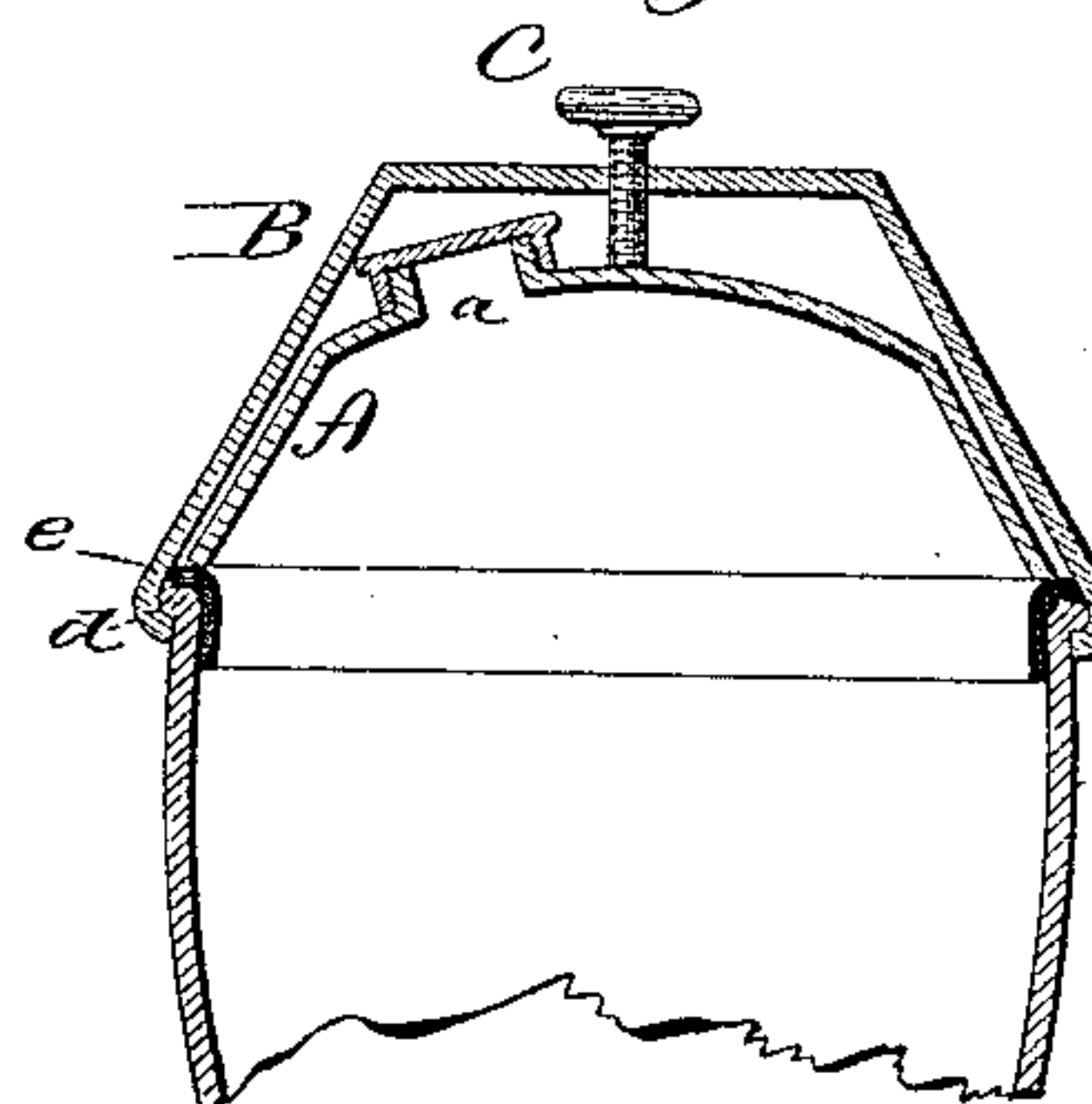
*Fig. 4*



*Fig. 5*



*Fig. 6*



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# UNITED STATES PATENT OFFICE.

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## METHOD OF ORNAMENTING HOLLOW METAL ARTICLES.

SPECIFICATION forming part of Letters Patent No. 362,815, dated May 10, 1887.

Application filed March 20, 1887. Serial No. 232,959. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT H. BUDDE, of Middletown, in the county of Middlesex and State of Connecticut, have invented a new Improvement in Methods of Ornamenting Hollow Metal Articles; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of a drinking-cup ornamented; Fig. 2, a side view of the cup previous to ornamenting; Fig. 3, a vertical section of the cover to be removably applied to the top of the cup; Fig. 4, a vertical central section through the cup with the cover applied preparatory to filling; Fig. 5, the same section as Fig. 4 represented as filled; Fig. 6, a modification in removably attaching the cover to the cup.

This invention relates to an improvement in the method of ornamenting the surface of ductile metal hollow-ware—such, for illustration, as articles of table-service, drinking-cups, &c.

Heretofore in the class of ornamentation to which my invention particularly relates the hollow article has been filled with a soft metal—such as rosin—which is poured into the article in a heated state and there hardens. The work of ornamentation is then performed upon the outside, the filling upon the interior giving a support for the work, but yielding for depressions upon the outside. After the ornamentation has been completed, the contents of the article are melted and poured out, and then the article cleaned. This filling and clearing of the article occupies considerable time, making great delays in the process of ornamentation, as the contents must be thoroughly cooled before the work can proceed. Again, great care must be exercised in filling the article, that it be perfectly done, or the ornamentation will be imperfect.

The object of my invention is to facilitate the filling of the hollow article preparatory to ornamentation and insure its complete and perfect filling; and it consists in first applying to the open end or mouth of the hollow article a removable cover, so as to completely close that

end; then through an aperture in the cover introduce a liquid or fluid to completely fill the interior of the covered article, and while so filled with the liquid or fluid perform the work upon the outside against the said liquid or fluid filling as a support.

In illustrating my invention I show it as applied in the ornamentation of a drinking-cup.

The cup is cast or formed with a plane surface, as seen in Fig. 2. A cover, A, Fig. 3, is prepared, corresponding to the top or open end of the cup, and this is best made from metal similar to that of the cup, but may be of any suitable metal, and should be of a dome shape. Through the cover is an opening, *a*, provided with a closing-plug, *b*. This cover is secured to the open end of the cup, as seen in Fig. 4, by soldering or otherwise. I prefer solder, as being simple and secure. When the closing-plug *b* is removed, the space within the cup and cover is completely filled with fluid or liquid, as indicated in Fig. 5. This filling may be oil, water, glycerine, air, or gas. If air or gas is used, it should be under pressure sufficient to give the requisite solidity to the inside to support the surface of the cup. After the filling is complete, the aperture through which the filling was introduced is closed—say as by the plug *b*—and this plug may be of a piston-like character, extending into the aperture *a*, so as to produce a pressure upon the contents of the cup to insure the complete and perfect filling of the cup. Thus filled, the ornamenter proceeds in the same manner as with the usual plastic filling—that is, a suitable instrument, with a hammer or under pressure, is applied to the surface to indent that surface in the lines of ornamentation. The filling supports the surface against such action upon the outside in the same manner as does the usual plastic filling, and by this method not only is the most perfect support given to the article to be ornamented, but the filling is quickly done, and so soon as the ornamentation is complete the filling may be poured out without the usual heating, and because of the liquid or fluid like character of the filling the cleaning of the article after pouring out the contents is comparatively a slight operation.

This illustration of the method as applied

to a drinking-cup will be sufficient to enable those skilled in the art to apply the invention to the ornamentation of hollow articles generally.

5 I have said the cover may be attached by other means than soldering. To illustrate one such other means, take the same cup, (see Fig. 6,) around the opening of which is a bead, *d*.  
10 Onto the upper edge of the cup an india-rubber packing, *e*, is set. Then the cover A is pressed upon the packing, and then a clamp, B, placed over the cover and so as to engage under the bead and bear upon the cover, as  
15 by a screw, C, or otherwise, which will securely hold the cover and insure a perfect joint between the two. It is only necessary, therefore, that the cover shall be removably attached to the cup.

In the case of the solder, the cover is removed by simply breaking the solder. The 20 pressure required upon the inside is not great, only sufficient to completely fill the cup.

I claim—

The herein-described improvement in the method of ornamenting hollow metal articles, 25 consisting in removably applying a cover to the opening of the article to be ornamented, then filling the article with liquid or fluid as a support upon the interior for the ornamentation of the exterior, and after ornamentation 30 removing the cover, substantially as described.

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Witnesses:

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