

Nathaniel Thompson Manufacture of Hollow Ware.

No. 119,725.

Patented Oct. 10, 1871.

Fig. 1.

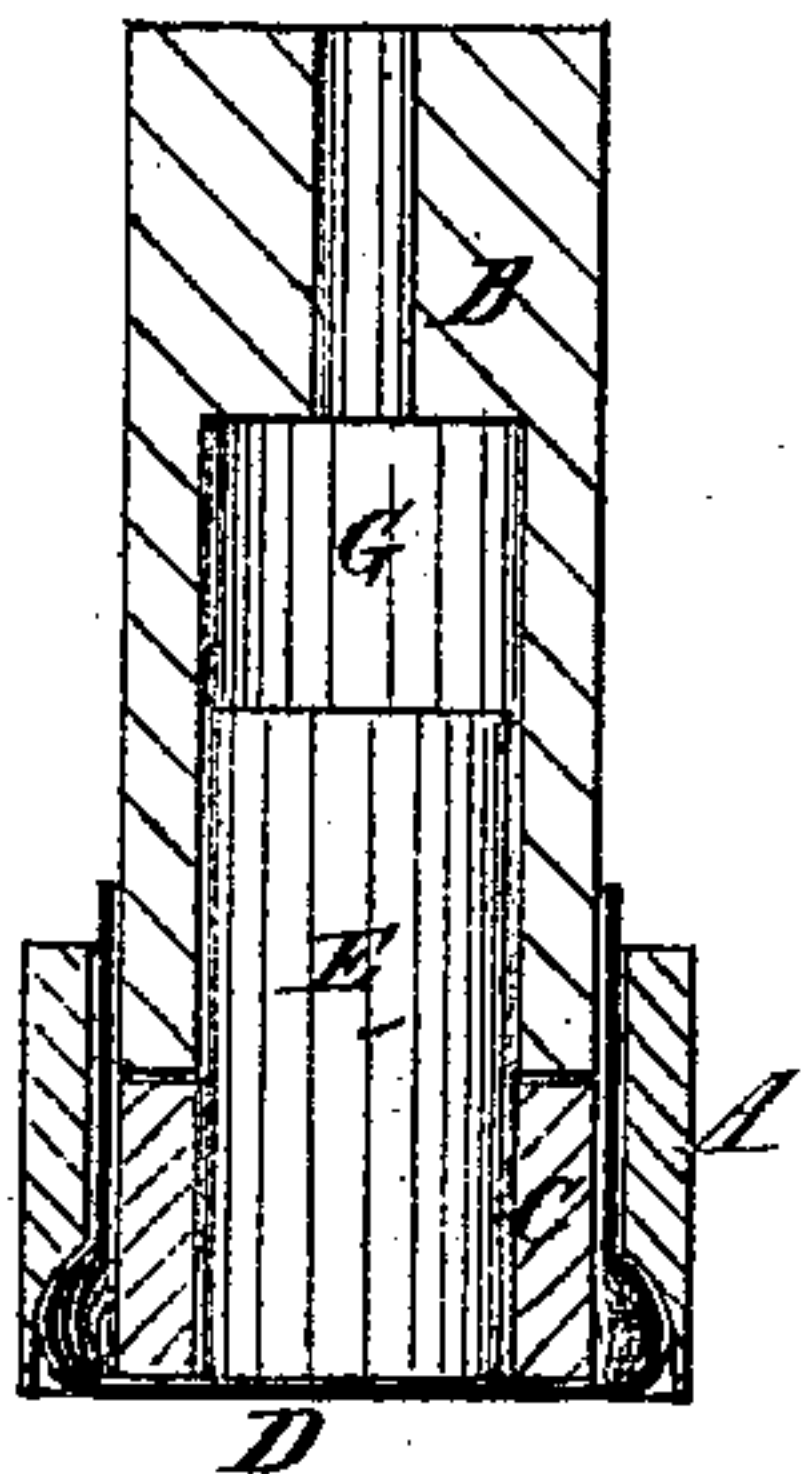


Fig. 3.

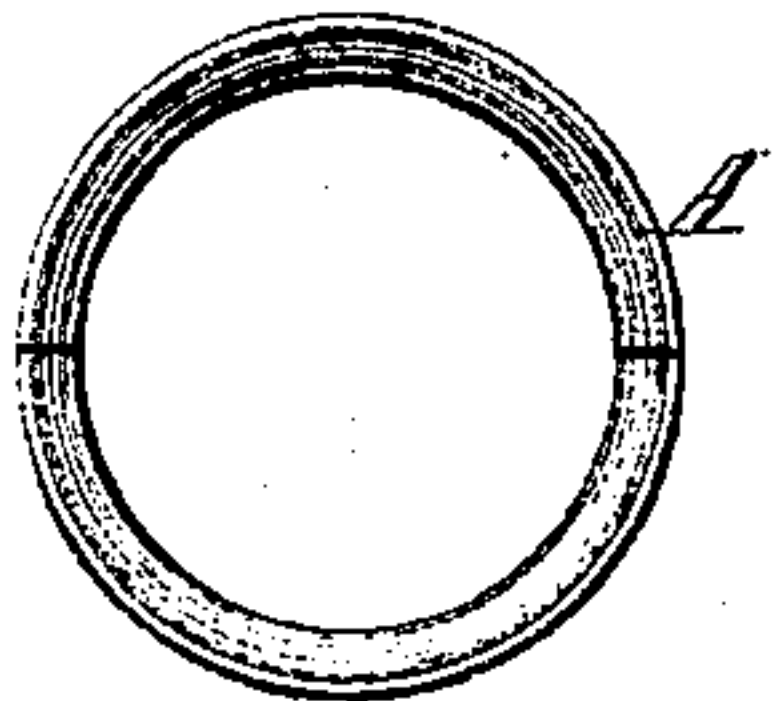
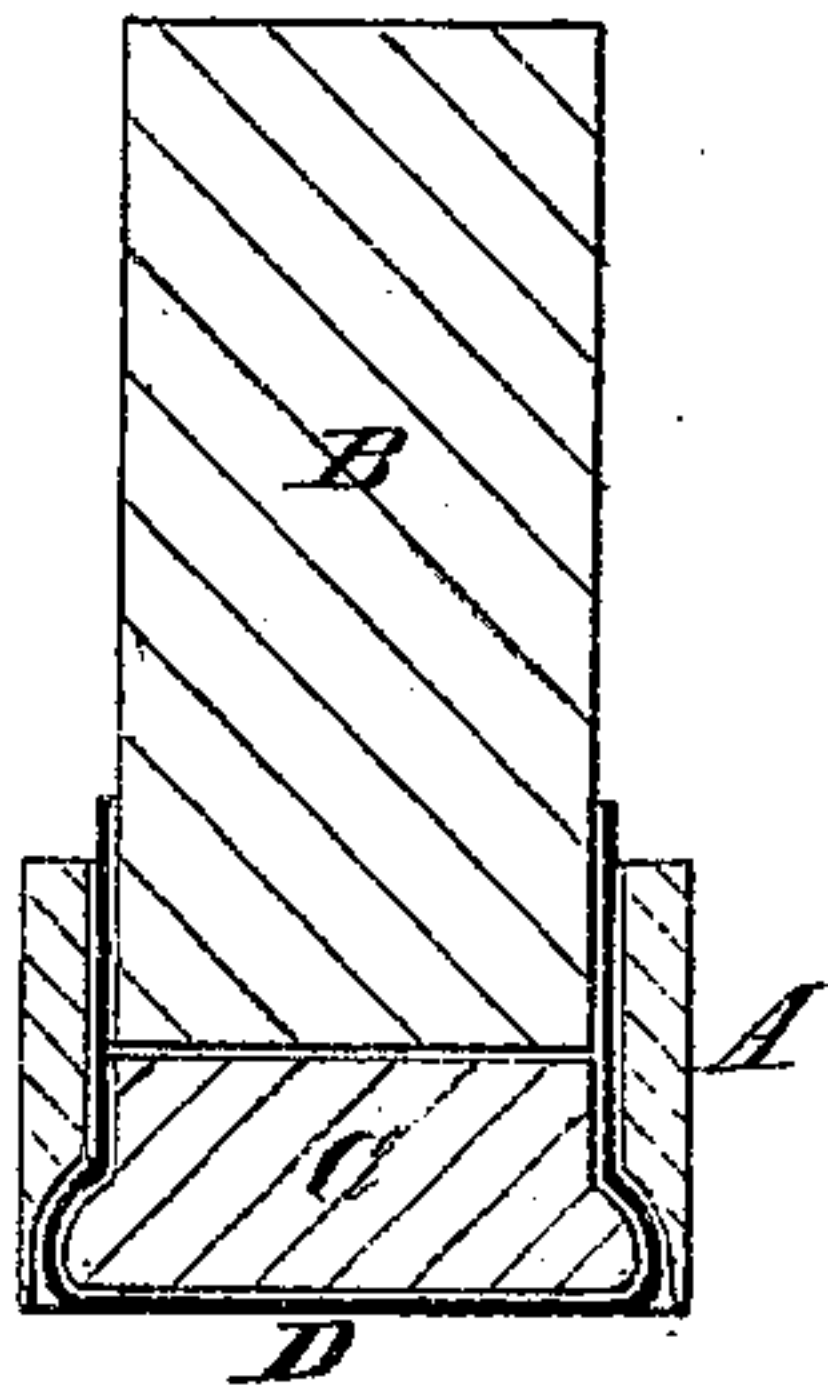


Fig. 2.



Witnesses.

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NATHAN THOMPSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN APPARATUS FOR PRESSING HOLLOW-WARE.

Specification forming part of Letters Patent No. 119,725, dated October 10, 1871; antedated September 23, 1871.

To all whom it may concern:

Be it known that I, NATHAN THOMPSON, of the city of Brooklyn, in Kings county, and State of New York, have invented a new and useful Apparatus for Producing any desired Conformation of Hollow-Ware; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing through letters of reference marked thereon forming part of this specification, and in which—

Figure 1 represents a sectional view of an instrument for carrying out my invention; Fig. 2, a modification of the same; and Fig. 3, a face view of the matrix represented in section in Figs. 1 and 2.

The same letters indicate like parts in all the figures.

My invention has reference to the manufacture of hollow-ware or other articles, such as are usually made of sheet metal, hard rubber, or other material, with volute, embossed, or relieve ornamentation or formations for utilitarian purposes. It may be advantageously adopted in the manufacture of tea-services and similar articles of silver-ware; but it will only be necessary here to describe it in its application to the formation of a hollow sheet-metal knob for drawers or the like, the same applying to the manufacture of every other article of hollow-ware with closed bottoms.

Referring to the drawing, A represents a metallic matrix, on the interior surface or periphery of which is indented or otherwise formed the converse of the surface desired to be produced on the article to be manufactured, which may be a simple swell, a convolute, a representation of fruit, statuary, or other object in basso-relievo, or any other configuration, either for ornament or utility. B represents a plunger, the diameter of which is sufficiently smaller than the interior of the matrix to admit the thickness of the sheet metal to be operated on between them; and C is an India-rubber packing, of elastic character, inserted in the cup D or other article to be formed beneath the plunger B.

In Fig. 1 the plunger B is represented as applied to a rubber ring or piece of elastic tubing; in which case a plug, E, which corresponds in diameter with the interior of the rubber tubing and slides freely in the cavity G of the plunger, is inserted in such elastic material and the plunger

B placed over it. In Fig. 2 a solid piece of rubber, C, and a solid plunger, B, are represented which would be applicable to the formation of embossed buttons, such as are used for army or navy uniforms, or to the formation or ornamentation of the covers of hollow-ware; but for operation on cylindrical or similar articles the elastic tube with a central plug, as in Fig. 1, is believed to be preferable.

The matrix for most conformations should be divided into two or more sections, hinged or clamped together to facilitate the extraction of the finished article.

Having described the several parts necessary for performing my invention, its operation will be as follows: I take a piece of sheet metal and strike it up into a form corresponding, or nearly so, with that of the finished article, and place it in the matrix; then insert the elastic material C and the plug E within it. The plunger B is then brought to bear on the rubber packing, and, by any suitable power, caused to compress said packing, by which the unsupported portions of the sheet metal are forced into the cavities of the matrix until a solid bearing is obtained. The plunger may then be withdrawn and the rubber and matrix removed from the finished article.

In some conformations, such as a series of swells, one above another, on a cylindrical article, it may be necessary to divide the rubber into a corresponding number of layers with interposed metallic plates or washers, or to form such series of swells, by a succession of operations, in a series of matrices of increasing number of volutes.

Fig. 2 of my drawing is illustrative of the application of an apparatus to the formation or ornamentation of flat surfaces as contradistinguished from the sides of a vessel; but, in this connection, I distinctly disclaim the invention specified in the patent of November 13, 1860, No. 30,647.

What is here claimed as new, and desired to be secured by Letters Patent, is—

The combination of the plunger B, plug E, matrix A, and rubber packing C, for operation substantially as set forth.

NATHAN THOMPSON.

Witnesses:

SYDNEY E. SMITH,
W. MORRIS SMITH.