T. SMITH, Jr.

Elastic Cups, Dippers, &c.

No. 37,181. Patented Dec. 16, 1862.

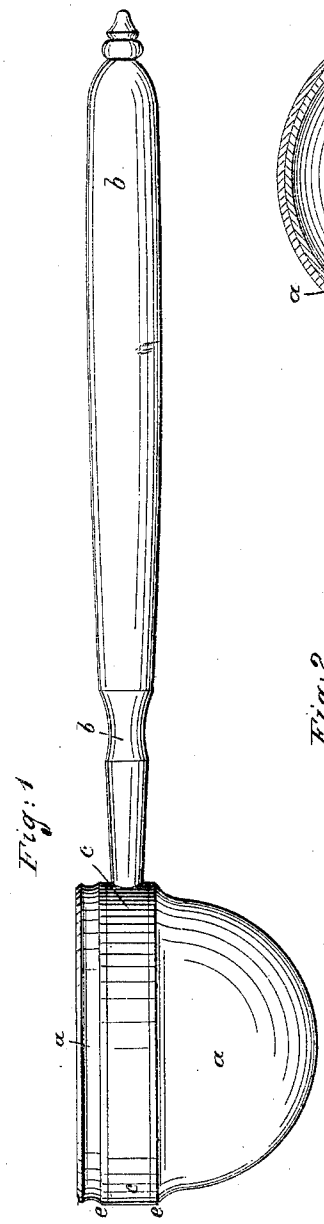

Fig: 1.

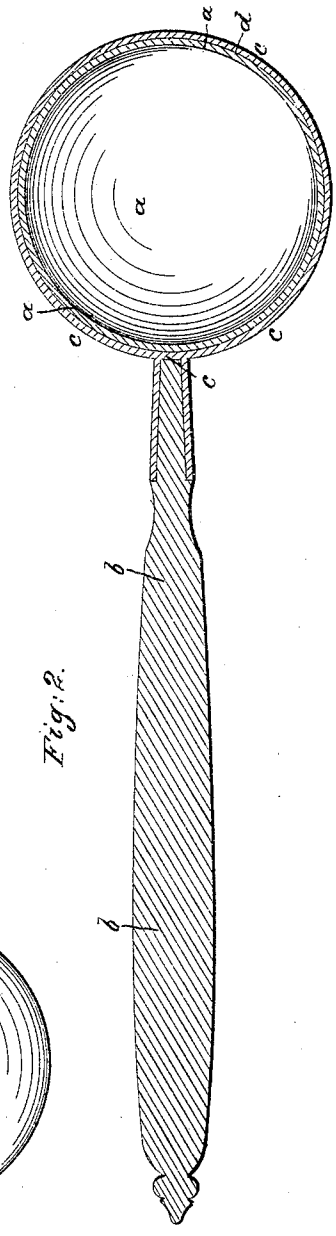

Fig: 2.

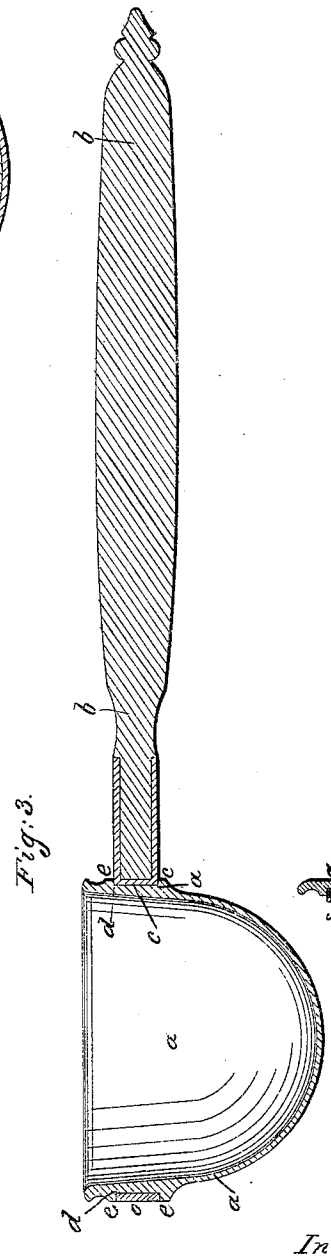

Fig: 3.

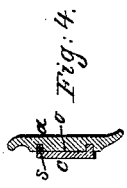

Fig: 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS SMITH, JR., OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF ELASTIC CUPS, DIPPERS, &c.

Specification forming part of Letters Patent No. **37,181**, dated December 16, 1862.

To all whom it may concern:

Be it known that I, THOMAS SMITH, JR, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Vessels for Containing Liquids; and I do hereby declare that the following description, taken in connection with the accompanying drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The figures of the accompanying plate of drawings represent my improvements.

Figure 1 is a side view. Fig. 2 is a horizontal longitudinal section through the handle and cup. Fig. 3 is a central longitudinal vertical section. Fig. 4 is a detail view.

The present invention relates to the manufacture of such vessels for containing liquids, &c., as have heretofore been made of india-rubber or gutta-percha, or of these substances compounded with such ingredients as are well known and employed in their manufacture. These vessels are used for drinking-cups, pitchers, buckets, and also for containing acids and other chemicals which are usually destructive to receptacles made of other materials.

My improvement consists in a peculiar mode of securing such vessels in metallic or other rigid bands, so that they shall be firmly held therein and prevented from slipping out of the same, which difficulty has been experienced in the methods heretofore employed for the purpose. I effect this result by forming in the surface of the vessel to be held a groove, slot, or channel, formed by two raised parallel flanges, between which, the vessel being flexible and elastic, the supporting-band is slipped and inserted, and will then be firmly wedged in and held by the flanges. The same result can, of course, be obtained by forming a grooved channel upon the inner side of the rigid band and a corresponding raised belt upon the surface of the flexible vessel.

In the figures, before referred to, of the accompanying plate of drawings, my improvements are represented as applied to an ordinary dipper or ladle.

a a represent the cup of the dipper, made in a manner and of such materials as I will presently describe in detail. *b b* is the handle, to which is attached a band of metal or other material of sufficient stiffness, *c c*, for the purpose. Around the periphery of the cup *a a* is formed a sunken belt or grooved way, *d d*, formed by two raised parallel flanges, *e e*. The sunken belt or grooved way is of about the same width as that of the band *c c*. The cup *a a*, being flexible and elastic, on being pressed within the band *c c* until its grooved way *d d* comes in apposition with the band *c c*, the latter can be readily slipped into the same, and will be firmly held therein between the raised flanges by the elastic force of the rubber or gutta-percha vessel.

The mode I employ for forming the cup *a a* is as follows: I take about twelve pounds of rubber trimmings or clippings, or the same quantity of gutta-percha, and four pounds of sulphur, and mix them thoroughly together by grinding or in any proper manner. This composition I then place in a mold of the same shape as the external surface of the vessel, and subject it to pressure by a die or follower suitably formed to press the soft rubber in and around the mold, and thereby impart the desired form to the vessel. The whole is then subjected to heat, while thus pressed, of about 260° Fahrenheit for one hour. The composition above described, and also the degree of heat used, admits of great variations; and therefore I do not intend to limit myself to the proportions named, nor to the degree of heat to be employed, nor to the particular form of vessel or cup, herein described, and represented in the drawings.

It will be evident that my improvement is applicable to the manufacture of a great variety of vessels, and that it affords an extremely secure and cheap mode of securing elastic receptacles within rigid bands of metal or other stiff material. In lieu, however, of forming a groove or channel in the exterior surface of the cup or vessel, as above

described, a lip or projection, *o*, Fig. 4, may be formed, and a corresponding depression or groove, *s*, formed in the band.

Having thus described my improvement, what I claim as my invention, and desire to have secured to me by Letters Patent, is—

The improvement in the manufacture of elastic or semi-elastic vessels, which consists in so forming them as to cause them to engage and be firmly held in a band or bands of metal or other rigid material, substantially as described.

THOMAS SMITH, JR.

Witnesses:
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