W. P. Trowbridge.

Bathometer.

No. 1,091.
32,095.

Patented Apr. 16, 1861.

Fig. 1.

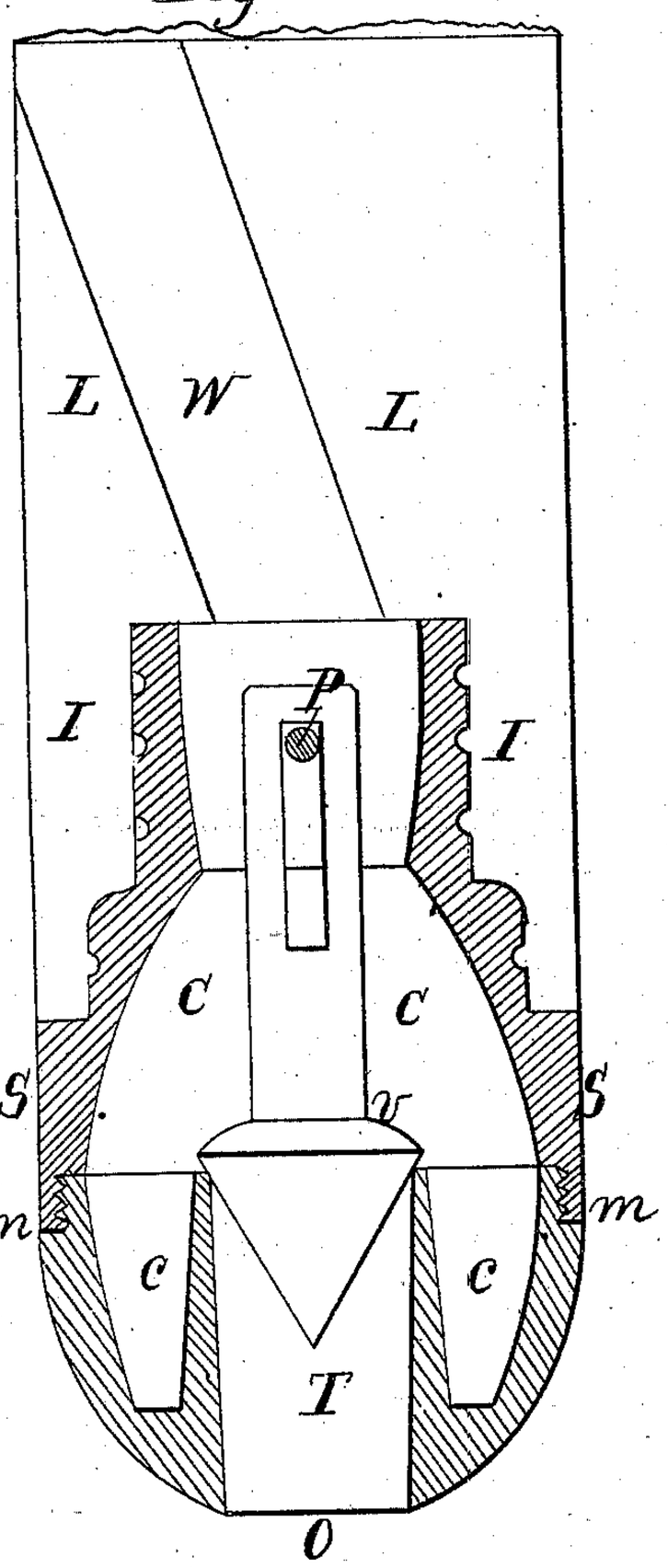


Fig. 2.

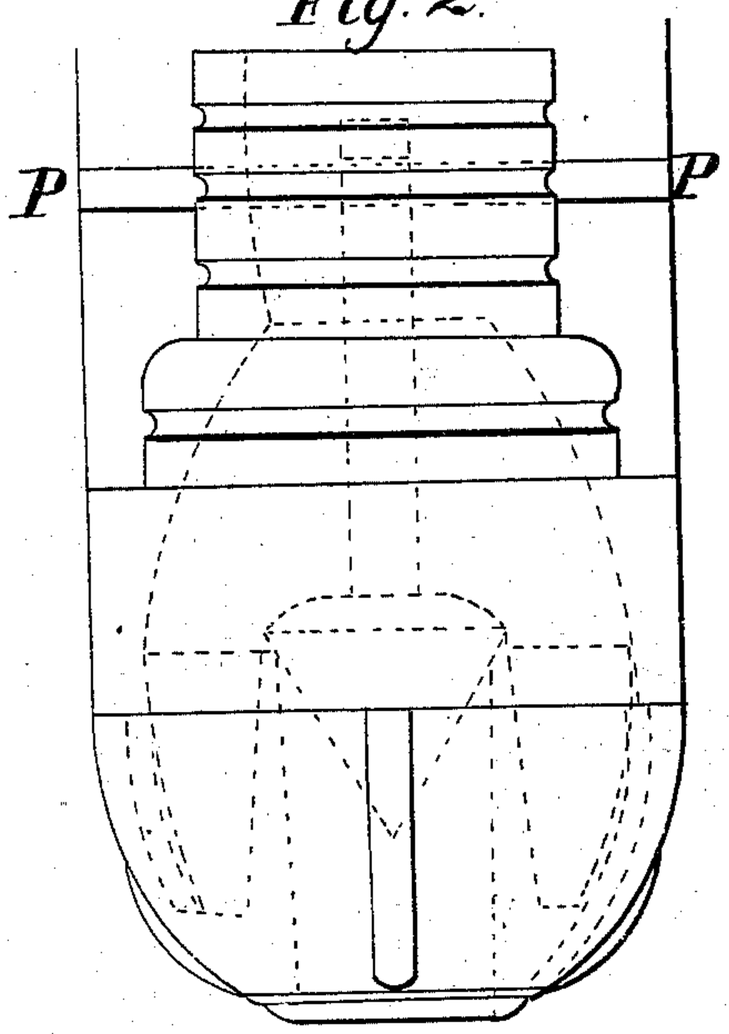
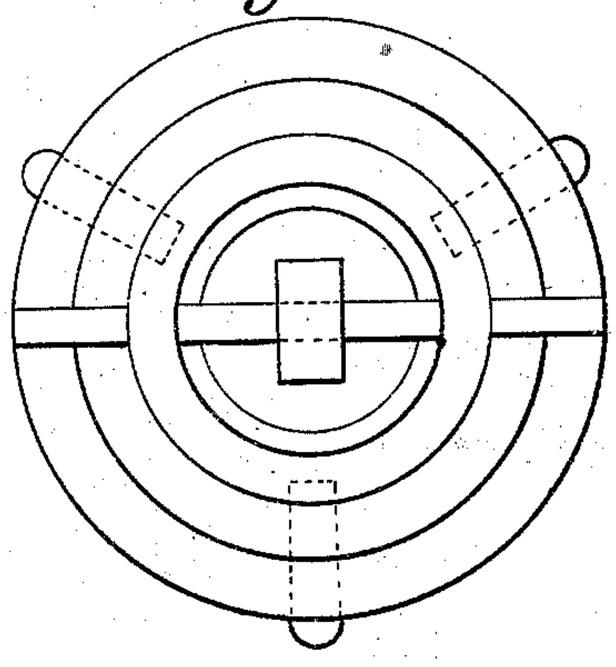


Fig. 3.



Witnesses
Thomas Wilson
C. A. Trowbridge

Inventor.
W. P. Trowbridge

UNITED STATES PATENT OFFICE.

WILLIAM P. TROWBRIDGE, OF WASHINGTON, DISTRICT OF COLUMBIA.

SPECIMEN-CUP FOR DEEP-SEA SOUNDING.

Specification of Letters Patent No. 32,095, dated April 16, 1861.

To all whom it may concern:

Be it known that I, WILLIAM P. TROWBRIDGE, of the city of Washington, District of Columbia, have invented a new and Improved Specimen-Cup for Bringing up Bottom in Soundings; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in providing a cup or box (to be attached to the lower end of the sounding lead) of such a form and construction that when the lead strikes the bottom, a portion of the sand, mud or other material of the bottom will be forced through a hole or opening in the bottom of the cup into the enlarged cavity of the cup, through a short tube which projects above the bottom of the cavity; the sand or other material then falling over the top of the tube into the cavity where it is retained secure until taken out by hand. The top of the tube may be closed by a valve which is forced upward when the specimen enters and falls when the lead is drawn up.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawing Figure 1. represents a section of a portion of the sounding-lead with the cup attached.

L. L. represents a portion of the lead and S. S. the cup.

The cup is made in two parts united by a screw, the lower having the general form of a hollow hemisphere, and the upper a form convenient for fastening to the lead. These parts are screwed together as represented in the drawing at M M. The upper part is elongated so as to be inserted into the bottom of the lead as represented at I. I. The lead may be cast around this part.

O. represents the opening in the bottom; T. the tube through which the specimen is forced, and *c. c.* the enlarged cavity around the tube into which the specimen falls.

V. represents the valve the stem of which runs up into the hollow neck of the cup, and is kept from falling out by a pin *p. p.* which passes through an elongated slit in the stem of the valve, allowing it to play up and down without falling out; the play being just sufficient to close the top of the tube when the valve is down, and when the valve is up to allow the water to pass up through a hollow channel W and out of the side of the lead, thus allowing the water that was in the cup to give place to the specimen.

The operation of using this cup is as follows. Supposing it to be attached to the bottom of the lead, the two parts screwed together, when the lead strikes the bottom a portion of the bottom will be forced into the cavity of the cup at O. and being pressed through the tube will fall into or fill the cavity *c. c.* the valve V. being lifted by the operation. When the lead is drawn up the specimen remains in the cavity and cannot escape, the valve adding to the security by falling and closing the top of the tube. When the lead is drawn to the surface, the lower part of the cup is taken off and the specimen removed, and the parts put together again for another cast.

It is proper to remark that the tube T. is larger at the top than at the bottom to prevent the material of the bottom from becoming wedged in the tube.

Figs. 2. and 3. represent other views of the cup, perspective and horizontal.

The material of which the cup is made may be brass or iron, lead, or any suitable material. Brass is probably preferable as it does not easily corrode in sea water, and is harder than lead, easily washed &c.

I do not limit my invention to the exact exterior form described, nor to the mode described for attaching the cup to the lead or the parts to each other. The drawing represents the lead as being cast around the neck of the upper part of the cup. This mode of attachment is deemed the best, as it makes the cup a permanent fixture of the lead, a useful mode of combining the cup and lead, to avoid the trouble of fastening the cup to the lead while sounding, while the cup in no manner interferes with the ordinary use of the lead.

What I claim and desire to secure by Letters Patent is—

A form and construction of a specimen cup having a single hole or opening in the bottom of the cup which leads by a short

conical tube to an enlarged cavity within, the tube rising above the bottom of the cavity, so that the specimen on being forced through the tube when the lead strikes the bottom will fall over the top of the tube into the cavity around it; the top of the tube being closed by a valve, which is not however deemed an indispensable part of the invention, all constructed and arranged as set forth.

W. P. TROWBRIDGE.

Witnesses:
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