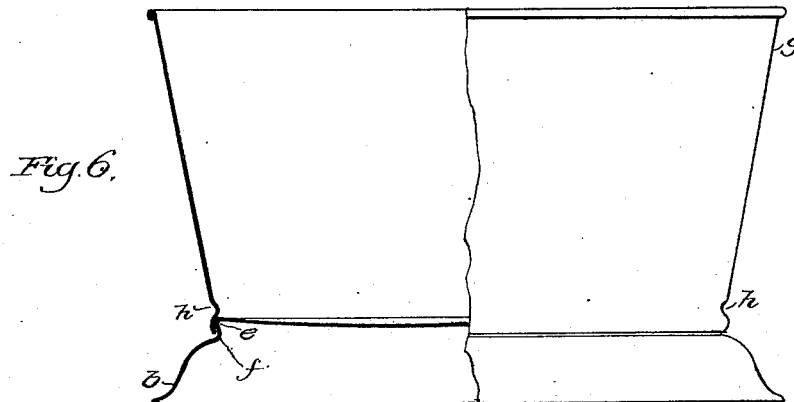
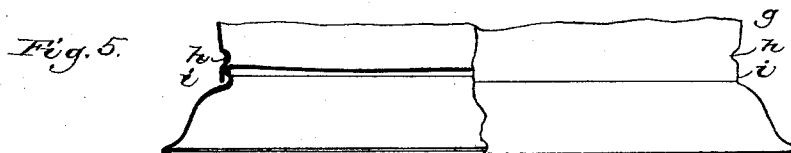
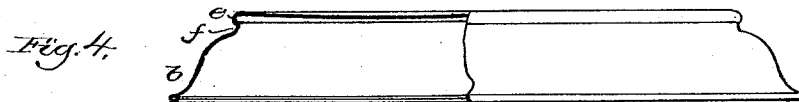
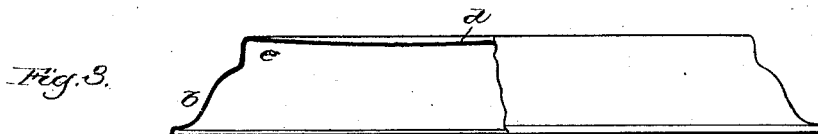


(No Model.)

G. F. SEAVEY.  
SHEET METAL VESSEL.

No. 303,670.

Patented Aug. 19, 1884.



witnesses  
Henry Marsh.  
B. J. Royer.

Inventor:  
George F. Seavey.  
by Crosby & Gregory  
attys.

# UNITED STATES PATENT OFFICE.

GEORGE F. SEAVEY, OF BOSTON, MASSACHUSETTS.

## SHEET-METAL VESSEL.

SPECIFICATION forming part of Letters Patent No. 303,670, dated August 19, 1884.

Application filed February 11, 1884. (No model.)

### *To all whom it may concern:*

Be it known that I, GEORGE F. SEAVEY, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Sheet-Metal Vessels, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In sheet-metal vessels as heretofore made it has been customary, in the case of tin vessels, to solder the bottoms to the bodies, but in case of galvanized iron riveting has been resorted to. In accordance with my invention, the body of the vessel, made in any usual manner, is provided near its lower end with an inwardly-pressed annular bead. The bottom to be used is formed from sheet metal, which is struck up to form a projecting center in cross-section, the same as that of the lower end of the body of the article, and thereafter the projecting center is partially upset, to form at one end of it an annularly and outwardly projecting collar or head, with a space of less diameter from side to side of the projecting center between the said collar or head and the flange of the bottom. The bottom, formed as stated, is inserted in the beaded end of the body, and the collar or head of the bottom is pushed against the inwardly-projecting shoulder, formed by beading the body, and then the lower end of the body is spun or turned over, so as to embrace the collar or head of the bottom, thus making a fast and practically water-tight joint between the body and bottom, and without the employment of either solder or rivets. If desired, white lead, shellac, or other usual material employed to tighten joints, may be used between the bottom and body.

Figure 1, in edge view, represents a piece of sheet metal, called a "blank," from which to produce the bottom. Figs. 2, 3, 4 represent the successive shapes into which the said piece of metal is placed by suitable dies. Fig. 5 represents the body and bottom placed together to be attached, both being broken out; and Fig. 6 shows the body and bottom united, parts of both the body and bottom being broken out.

A piece of sheet metal, *a*, of suitable size, is subjected to the action of a press, to give to it the form represented in Fig. 2, and in a second press, or by a second operation, the par-

tially-formed bottom (seen in Fig. 2) is further shaped, as represented in Fig. 3, wherein it will be seen that the flange *b* is substantially in its ultimate shape, and that there is left a projecting center, *c*, with the part *d* somewhat concave. The partially-formed sheet-metal bottom (represented in Fig. 3) is next subjected to pressure in a die of such shape as to partially upset the projecting center *c*, leaving an annularly-projecting collar or head, *e*, with a space or recess, *f*, below it and between it and the flanged part *b* of the bottom. The body *g*, of sheet metal properly joined, has made in it, near its lower end, an annular bead, *h*, to constitute a shoulder, against which the collar or head *e* of the bottom may be placed, as in Fig. 5, after which, while the body and bottom are held, preferably, in a suitable lathe, the flange *i* at the end of the body may be acted upon by a roller or other suitable tool, and be spun or turned clearly over, and so as to embrace the collar and head *e*, as in Fig. 6, making a strong tight joint without solder or rivets. In this manner heat is not necessary to effect the union of the bottom and body, and any sheet metal, galvanized or otherwise finished, may be employed with equal facility.

If desired, white lead or other similar plastic vehicle commonly used in joints for gas or water may be applied to the head where overlapped by the flange *i*.

I claim—

1. As an improved article of manufacture, a sheet-metal article composed of a bottom having a collar or head, *e*, and a body provided with an inwardly-turned bead, and a flange below the bead, the said flange spun or turned over to embrace the collar, substantially as described.

2. The sheet-metal body having an inwardly-turned bead, *h*, and flange *i*, combined with a bottom having a flange, *b*, a collar or head, *e*, and a space, *f*, between them, into which the flange *i* is turned to embrace the said head, substantially as described.

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

GEORGE F. SEAVEY.

Witnesses:

GEO. W. GREGORY,  
B. J. NOYES.