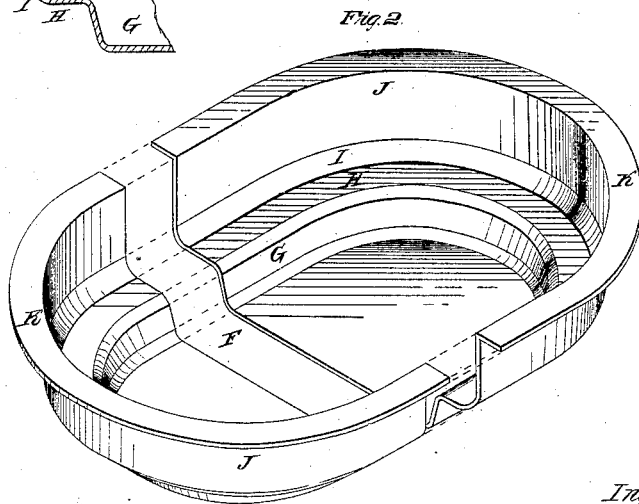
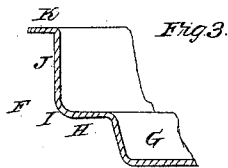


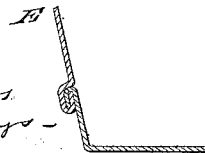
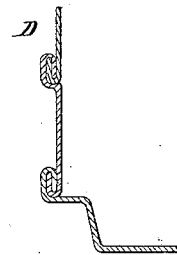
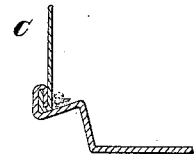
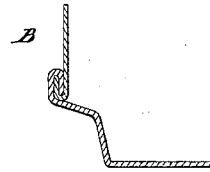
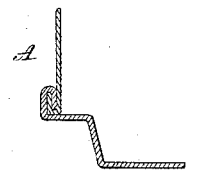
Wash Boiler,

Patented Aug 22, 1865



Witnesses:
James H. Layman
J. P. Magee

Inventor:
Andrew C. Neil
By Leigh & Sons
Atty -



UNITED STATES PATENT OFFICE.

ANDREW O'NEILL, OF PORTSMOUTH, OHIO.

IMPROVEMENT IN SHEET-METAL BOILERS.

Specification forming part of Letters Patent No. **49,546**, dated August 22, 1865.

To all whom it may concern:

Be it known that I, ANDREW O'NEILL, of Portsmouth, Scioto county, Ohio, have invented a new and useful Improvement in Sheet-Metal Boiling-Vessels; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and in which—

Figure 1 is a sectional perspective view of a vessel embodying my improvement. Fig. 2 is a sectional perspective view of my improved struck bottom. Fig. 3 is a section of the shoulder and contiguous parts.

A, B, C, D, and E are diagrams illustrating pre-existing devices.

My invention is an improvement upon the customary boiling-vessel, whose bottom (usually of copper) has a depression or "pit" to enter the stove, and whose body (usually of tinned iron) is united to the bottom in such a manner as to form a seamed or jointed angular shoulder for contact with the stove. (See Diagram A.) Such vessels are well known to suffer rapid and destructive deterioration at the shoulder and lower portion of the body—a result in part of the laying bare of the sheet-iron by the melting of those portions of the tin in contact with or close proximity to the stove and in part, of the opening and closing of the joint (see Diagrams B and C) by the frequent lifting and setting down of the full vessel, so as to permit the entrance of dirt and moisture to the seam, and the consequent oxidation and giving way of the metal, accompanied by a settling of the marginal portion of the bottom, so as to form a gutter or valley which retains water and other corrodents. (See Diagram C.) These evils are especially observable at those portions of the common oblong wash-boiler where the flat sides join the bottom. Boilers which have thus given out cannot be repaired by cutting away the corroded zone of tin and seaming anew to the bottom, because the portion of the bottom which has formed part of the old seam cannot be used a second time, and to remove it would make the bottom too small to fit the body. Hence such bottoms can be made available only by attaching a new body of smaller circumference or by covering the corroded parts of the old body with a patch.

The above difficulties, so far as they related

to the direct contact of tin with the stove, were about fifteen years ago essayed to be overcome by Fenton H. Lawson, of 176 Main street, Cincinnati, and many others, by providing a copper band or zone whose upper edge was seamed to the body and whose lower edge was seamed rectilinearly to the bottom in the common way, (see Diagram D;) but this expedient left undisturbed the evils attendant on a joint at the angle, and was otherwise objectionable owing to the serious additional cost and the patched appearance of the vessel. Subsequent operators have constructed buckets by taking a simple flangeless struck-up pan and seaming its raised edge directly to the body, (see Diagram E;) but it is believed that no pitted boiling-vessel of sheet metal has heretofore been constructed otherwise than with a seam or joint at the very angle or shoulder of the vessel.

In the accompanying drawings, F is my struck or stamped copper bottom, having a customary pit, G, surrounded by an elevated horizontal portion, H, which differs from the common form in having its outer edge struck upward so as to present a round shoulder, I, and a raised rim, J, having a brim or marginal lip, K, (see Fig. 2,) which being folded and doubled (see Fig. 1) becomes a portion of the elevated double-seamed joint K L, which unites my improved bottom to the body M.

One great advantage of removing the seam entirely from the shoulder in boiling-vessels is that the cost and labor of soldering and the injurious melting action of the soldering-bit upon the tin may be wholly avoided, because the very ductile nature of copper and the very slight strain upon a seam thus situated enable a perfectly tight joint to be made by double-seaming alone.

Another advantage of my improvement is that tinsmiths may be furnished with copper bottoms stamped perfectly true and of an exact uniform size and pattern, which bottom may be double-seamed directly to their bodies without the labor and wastage incident to scribing and trimming.

My invention is intended more particularly for boiling-vessels having copper bottoms and tin bodies, but may be used advantageously in such vessels when composed of but one material, whether of copper, tin, galvanized iron, or other sheet metal.

Disclaiming, broadly, the construction of vessels having struck or stamped bottoms and elevated seams,

I claim herein as new and of my invention—
A sheet-metal boiling-vessel whose bottom is struck or stamped with a "pit" or "drop," a seamless shoulder, and an elevated margin.

In testimony of which invention I hereunto set my hand.

ANDREW O'NEILL.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.