W. A. BUTLER.

Drain-Screw Attachment for Stench-Traps.

No. 163,737. Patented May 25, 1875.

Fig: 1

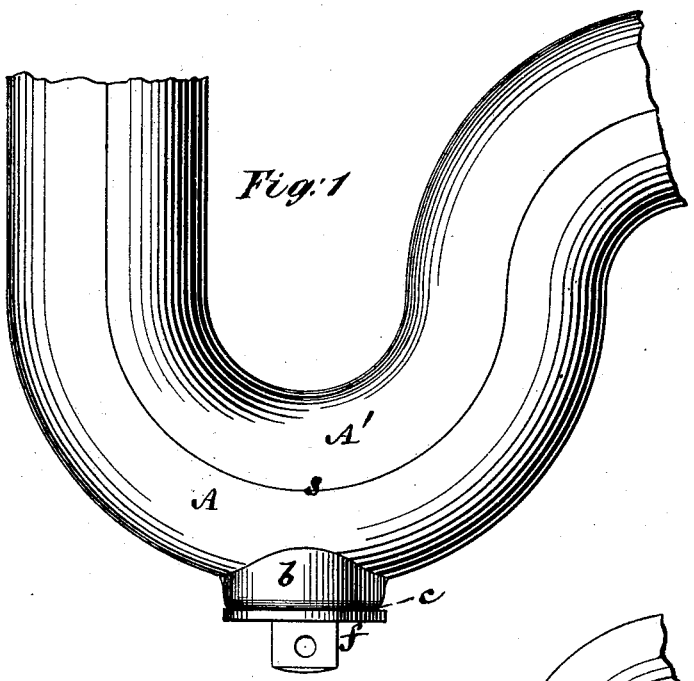



Fig: 2

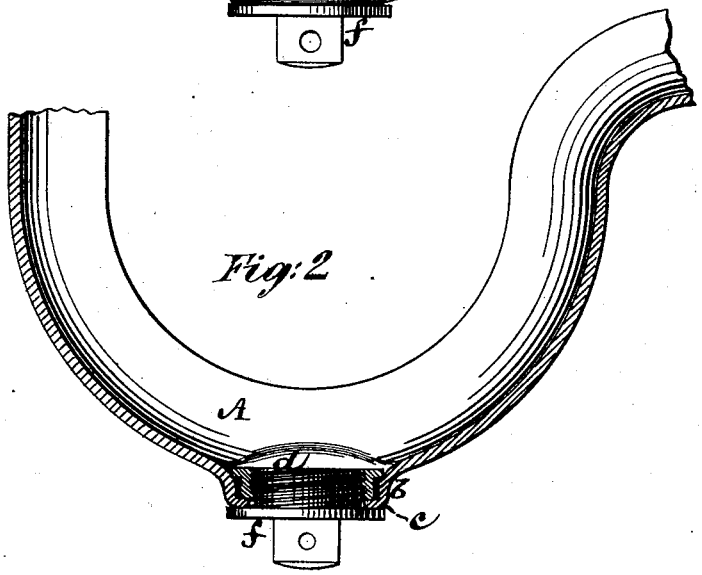
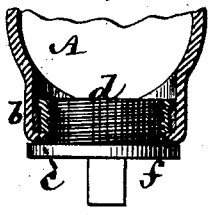



Fig: 3

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN DRAIN-SCREW ATTACHMENTS FOR STENCH-TRAPS.

Specification forming part of Letters Patent No. **163,737**, dated May 25, 1875; application filed April 19, 1875.

*To all whom it may concern:*

Be it known that I, WILLIAM A. BUTLER, of the city, county, and State of New York, have invented a new and useful Improvement in Drain-Screw Attachments for Stench-Traps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figure 1 represents a side view of a stench-trap having my improvement applied; Fig. 2, a vertical longitudinal section of the same; and Fig. 3, a vertical transverse section thereof through the drain-screw socket or opening.

This invention relates to a drain-screw attachment for stench or water traps made of sheet-lead or other ductile metal in two longitudinal half-sections, each of which is produced cold by rolling or drawing, or otherwise than by casting—as, for instance, by the machine for which Letters Patent No. 144,057 were granted to me on the 28th day of October, 1873, said sections as thus produced from sheet metal matching each other, and being placed together with their edges meeting, and then soldered together at their longitudinal joint.

This invention consists in the construction of the lower half-section of such a trap with a drain-screw socket struck up by stamping or otherwise, and having its lower edge turned in to form an annular flange, which forms a seat for a hard metal screw-box within the socket, and serves to receive a drain-screw, the head of which bears on the outer surface of the soft metal of the internal flange of the socket to make a close joint.

In the accompanying drawing, A A′ are the lower and upper longitudinal half-sections of the sheet-metal trap soldered together at their joint *s*. Before thus uniting the two half-sections of the trap, which may be of S or other suitable shape, I place the lower half-section A in a suitable mold or female die and strike up, by a stamper or male die, a socket, *b*, in the lower portion of said trap-section, said dies being constructed to turn in the outer edges of the socket, and a hole being made in the bottom of the socket for reception of the drain-screw. This turned-in portion of the outer edge or end of the socket *b* constitutes an internal flange, *c*, which becomes a seat for a hard-metal screw-box, *d*, placed within the socket, and which may or may not be soldered therein, but which I prefer to secure by soldering. Thus, said screw-box *d* may be of a size to enter freely within the socket, and be formed with an upper flange cut away on its edges, which are adjacent to the side or sides of the trap-section, in order that a sufficient body of solder may be introduced between the screw-box and trap-section, and around the former to firmly unite the screw-box by sweating, and to prevent the screw-box from turning within the socket. The flange *c* not only forms a seat for the screw-box, but also a soft-metal bearing or packing-surface for the head or flange of the drain-screw *f*, when the latter is screwed to its place within the box *d*.

By thus constructing the socket for the screw-box of the drain-screw, I am enabled to use a much shorter or shallower socket and screw-box than when the latter is embedded in the former by casting, and my invention in no wise relates to a cast-metal trap, which has many objections that a sheet-metal trap avoids. Furthermore, the striking up of the socket in the sheet-metal trap solidifies although it does thicken the metal at such portion, and all possibility of leakage by air-holes is prevented, and, if necessary, the screw-box may be removed and a new box inserted, by wire, to its place down the trap without permanently destroying the latter. This cannot be done in a trap having the screw-box embedded in it by casting.

I claim—

In a sheet-metal trap composed of longitudinal half-sections, as described, the combination, with the lower half-section A, of the socket *b*, for reception and retention of the screw-box of the drain-screw, said socket being struck up from the metal of said half-section A, and being formed with an interior flange, *c*, at its lower end, substantially as and for the purposes herein set forth.

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