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COPPER BOILER OUTLET

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This invention relates to outlets or outlet members for copper boilers of the domestic or any other type, the object being to provide an outlet for copper boilers which will make a neat and pleasing appearance and at the same time present a structure of maximum strength.

Another object of the invention is to provide an outlet for copper boilers wherein the threaded portion of the outlet is welded to an extension of the boiler, whereby a mechanically strong structure is produced, as well as an air-tight formation.

An additional object is to provide an outlet for copper boilers wherein a threaded tube of a given metal is welded to an extension of the boiler with anchoring means for including solder surrounding the threaded member and assisting in connecting the same with the boiler.

In the accompanying drawings,—

Figure 1 is a side view of the upper part of a domestic boiler with certain parts broken away illustrating an embodiment of the invention;

Figure 2 is an enlarged plan view of the outlet shown in Figure 2 looking at the same from the inside, said figure being on an enlarged scale.

Figure 3 is a sectional view through Figure 2 approximately on the line 3—3; Figure 4 is a view similar to Figure 3 but showing the parts welded and soldered in place;

Figure 5 is a view similar to Figure 2 but showing a modified form of outlet;

Figure 6 is a sectional view through Figure 5 on the line 6—6.

Referring to the accompanying drawings by numerals, 1 indicates the body of a boiler which may be of the domestic boiler type or of any desired type. This boiler is provided with a number of outlets 2, the respective outlets being of identical construction, so that the description of one will apply to all. The detail form of these outlets is illustrated principally in Figures 2, 3 and 4, and from these figures it will be seen that the boiler 1 is formed with a pressed-out annular portion 3 which in turn merges into a tubular portion 4. A sleeve 5 is snugly fitted into the tubular portion 3 and extends from the line flush with the inner surface of the boiler 1 to near the outer end of the tubular portion 4. This is illustrated particularly in Figure 3. In Figure 4 the same structure is illustrated, except that the extending portion 6 has been welded or burnt down, as commonly expressed in the trade. The welded portion 7 forms a good mechanical connection, as well as a good water-tight connection. By present ing the boiler 1 so that the tubular portion 4 is formed, a proper support is provided for the threaded sleeve 5 which is held in place not only by the welded section 7 but by a supply of solder 8 which is flowed into the space 9 formed by the pressed-out portion 3. To assist the welded portion 7 in mechanically holding the parts in proper place, an extension or ear 10 is formed integral with the sleeve 5 and extends into the space 9, so that when the solder 8 is thrown into place this will assist in preventing any independent rotary movement of the sleeve 5. In this way the sleeve 5 is rigidly held in place as if it were an integral part of the boiler 1, so that when the pipe 11 is screwed into place there will be no cracking or loosening of any of the parts. Preferably the sleeve 5 is made from brass, while the body or boiler 1 is made from copper and when the welding has been finished the appearance of the outlet will be pleasing, as well as strong.

Under some circumstances instead of having a single ear 10 the sleeve 5 could have an annular extension 12, as shown in Figures 5 and 6. This annular extension is soldered to the boiler by the use of solder 13 which is preferably flowed into place.

In both forms of the invention part of the threaded sleeve 5 engages the bottom of the portion 3 and is soldered thereto. This structure greatly reinforces the welded section 7 so that not only is the outlet neat and pleasing in appearance, but it is exceptionally strong and absolutely watertight. These features are secured, and in addition, any desired thickness of wall to sleeve 5 is secured.

What we claim is:—

1. A copper boiler and its outlet, includ-
ing a copper boiler body having a pressed-out apertured portion, said portion being tubular, an internally-threaded metal sleeve snugly fitting said portion, the outer end of said sleeve and the outer end of said portion being welded together, throughout, and reinforcing means connecting said sleeve end portion coating with the welded part for preventing independent rotation of the sleeve.

2. A copper boiler outlet, comprising a boiler body of copper having a pressed-out portion formed with a tubular member, a brass sleeve snugly fitting into said tubular member, said sleeve at the outer end being welded to the outer end of said tubular member and a body of solder engaging and coating with said sleeve for assisting said welding to hold the sleeve rigidly to the body of the boiler.

3. A copper boiler outlet, including a pressed-out portion of a copper boiler, forming a pair of annular tubular portions, one being smaller than the other, a metallic sleeve fitted into the smaller tubular portion and welded thereto, said sleeve having an extension and a supply of solder filling the other tubular portion and enterlocking with said extension for locking and sealing the sleeve in place.

4. A copper boiler outlet, including a tubular member projecting from the boiler said member having an annular offset, a metallic sleeve fitting into said tubular member provided with an extension fitting into said offset, said sleeve at one end being welded to one end of said member, and solder arranged in said offset for forming auxiliary holding means for the sleeve.

5. A copper boiler outlet, including a protrusion from the boiler formed as a pair of tubular projections merging together, a metal sleeve welded to the smaller projection, said sleeve having an ear extending into the cavity formed by the other projection, and a supply of solder in the cavity of the said other projection, said solder surrounding said ear and part of the sleeve for providing an air-tight structure and a mechanical reinforcement for the welded portion.

6. A copper boiler outlet, including a pressed-out portion forming part of the boiler, said pressed-out portion being formed with an annular socket and a tubular portion, an internally-threaded sleeve fitting into said tubular portion and welded thereto at one end, said sleeve having a projection fitting into said socket, and a supply of solder surrounding said sleeve and engaging said projection for connecting the sleeve with the boiler.

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