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C. H. BUCK.

Tanks for Hot-Water Apparatus.

No. 148,593.

Patented March 17, 1874.

Fig. 2

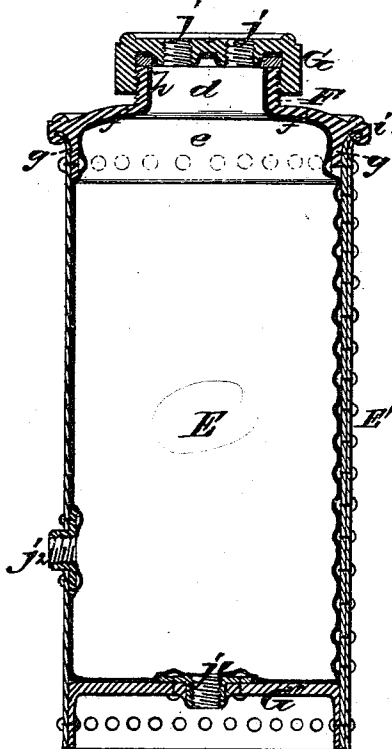


Fig. 4

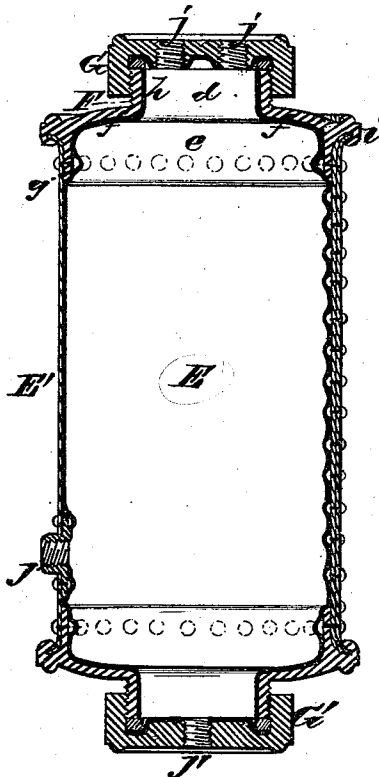


Fig. 1

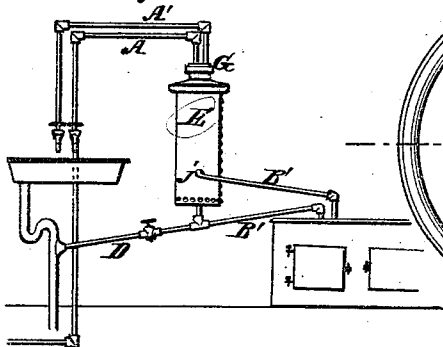
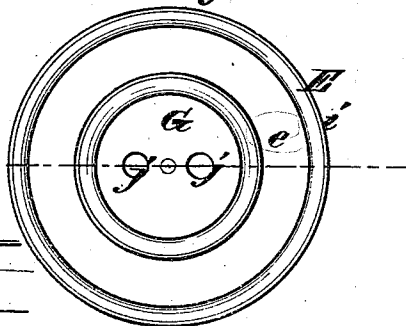


Fig. 3



Witnesses:
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UNITED STATES PATENT OFFICE.

CHARLES H. BUCK, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN TANKS FOR HOT-WATER APPARATUS.

Specification forming part of Letters Patent No. 148,593, dated March 17, 1874; application filed February 14, 1874.

To all whom it may concern:

Be it known that I, CHARLES H. BUCK, of St. Louis, in the county of St. Louis and State of Missouri, have invented an Improved Tank for Hot-Water Apparatus for Dwellings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a side elevation of a hot-water apparatus, showing my improved tank. Fig. 2 is a vertical section of my improved tank; and Fig. 3, a top view of the same. Fig. 4 is a vertical section of a modification of the tank shown in Fig. 2.

The hot-water apparatus now in use is very objectionable for several reasons, among which are, first, it gets clogged with mud and hard accumulations of sediment from water, and it is necessary to unrevet the top or bottom portions of the tank from the body portion, and, in fact, tear the whole apparatus apart, in order to remove the inlet and outlet hot-water pipes, and get into the interior of the tank; second, the tanks are very liable to corrosion, unless made of the most expensive galvanized iron or anti-corrosive metals. My invention is designed to overcome these objections by certain constructions, as hereinafter described.

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

A A' are the inlet and outlet pipes of a tank; B B', the circulation-pipes; and D, the mud or cleansing pipe. These parts are all common to the hot-water apparatus now in use, in connection with a cooking-range and supply-pipes, and a hot-water tank, E, used in dwellings. The tank E is usually made of galvanized iron or copper, and its end and body portions are of the same material, and all parts are riveted together. This tank I make of two kinds of metal, as follows: The body portion E' is of strong wrought metal, and the end portions are of cast metal. Both these metals are coated internally with white enamel, after the ordinary process of enameling metals. The upper end piece F G is composed of two parts, one tubular, constructed in circular form, with two diameters, *d e*, and the other in form of a flanged cap. By this means the horizontal

shoulder *f*, the bolting-flange *g*, and the collar *h* are formed, as shown. A projecting grooved flange, *i*, is also provided on this upper end piece. On the outside of the collar *h* a screw-thread is cut. On the inside of the flanged cap G a screw-thread to match the thread of collar is formed, and down through the horizontal part of the cap two screw-holes, *j j*, for spuds are formed. The lower end piece G' is a flanged cast-metal plate, with only one central screw spud-hole, *j'*, formed in it; or this end piece may be an exact counterpart of the upper end piece, as shown in Fig. 4, except that only one screw spud-hole will be required in it. The wrought-metal body portion E' has the usual screw spud-hole *j''* formed in it, as shown.

To unite the parts, the wrought-metal tube or cylinder is slipped upon the flanged portions of the end pieces and riveted, as shown. The upper end of the wrought tube turns into the grooved flange of the upper end piece, and if both end pieces are alike, as in Fig. 4, the same turn of metal into a groove is secured at the bottom of the wrought-metal tube.

The auxiliary screw-cap portions are applied upon the screw-collars after packing-gaskets are set upon the ends of the collars, as shown. Through the spud-holes of the capping portions of the end piece the hot and cold water pipes are inserted down into the tank, and when properly adjusted the pipes are fastened to these capping portions by screw-spuds. The lower end plate, as in Fig. 2, or the capping portion thereof, as in Fig. 4, in like manner receives one branch of the circulation-pipe.

To get access into the tank, the screw capping portion is unscrewed, and the hot and cold water pipes lifted out. This done, every facility for cleaning out is afforded. The importance of having this ready means of access to hot-water tanks will be readily appreciated by those acquainted with the difficulty attending the use of tanks of this kind in localities where the water is muddy and full of sediment.

The improvement not only prevents the annoyance, but also lessens the danger to human life and property. It also saves much expense to the public, both in the first cost and the subsequent use of the tank.

The removable auxiliary portions of the end

piece or end pieces of the tank serve a two-fold purpose, they allowing of the ready removal of the hot and cold water pipes, and ready access to the interior of the tank for cleaning it out, and permitting the enamel flux to be introduced into the tank during the enameling process, after all the other parts have been united firmly together by rivets.

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

In a hot-water apparatus, the hot-water tank, with cast-metal end piece or pieces and wrought-metal body, one or both of the end pieces being

made in two parts, one of which is flanged, screw-collared, and riveted to the wrought-metal body portion of the tank, and the other constructed in form of a flanged screw-cap, and screwed and packed upon the collared portion of the main portion, and constructed with screw-spud passages for water-pipes leading into the tank, substantially as described.

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Witnesses:

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