T. E. MURRAY.

STEAM OR HOT WATER RADIATOR.

APPLICATION FILED FEB. 4, 1920.

1,397,325. Patented Nov. 15, 1921.

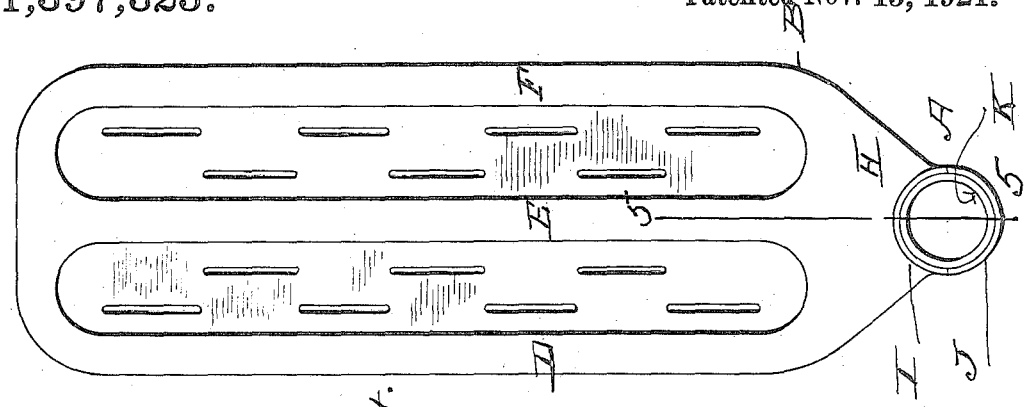

Fig. 4.

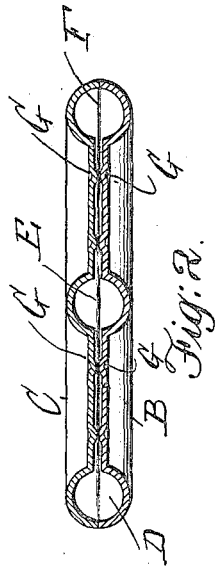

Fig. 6.

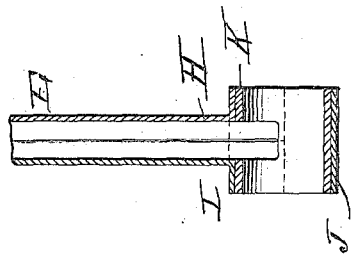

Fig. 5.

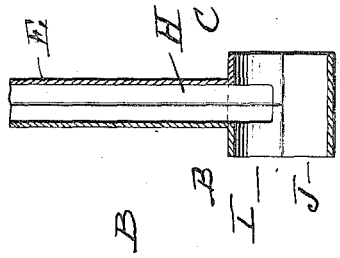

Fig. 3.

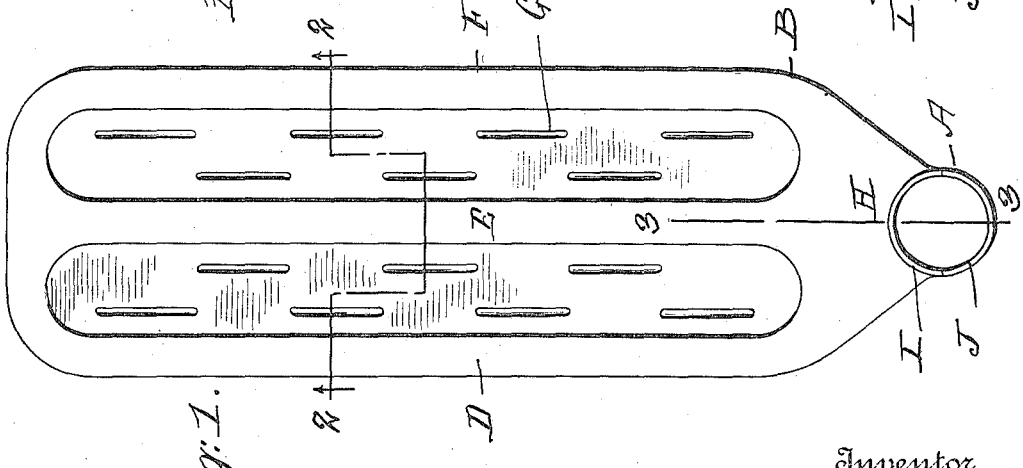

Fig. 1.

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UNITED STATES PATENT OFFICE.

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STEAM OR HOT-WATER RADIATOR.

1,397,325. Specification of Letters Patent. Patented Nov. 15, 1921.

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To all whom it may concern:

Be it known that I, THOMAS E. MURRAY, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Steam or Hot-Water Radiators, of which the following is a specification.

The invention relates to steam or hot water radiators of the type built up of units, usually vertical, connected by a supporting tube. In such radiators the supporting tube is apt to become abraded, corroded or oxidized, especially on its inner bottom surface, more than the other ducts of the radiator. The problem which I have sought to solve is to make the radiator of comparatively thin sheet metal, such as sheet steel, whereby I can get ample strength with considerable decrease in weight, besides cheapness of manufacture. But to make the supporting tube wholly of the same thin metal is to render it relatively to the rest of the unit still more abradable, corrodible or oxidizable than before. This difficulty I overcome by my present invention, whereby I construct said tube so that the inner bottom surface thereof becomes of metal more resistant to abrasion or oxidization than the metal of the unit.

In the accompanying drawing—

Figure 1 is an elevation of my radiator unit. Fig. 2 is a section on the line 2, 2 of Fig. 1. Fig. 3 is a section on the line 3, 3 of Fig. 1. Fig. 4 is an elevation similar to Fig. 1, showing a modified arrangement of the supporting tube. Fig. 5 is a section on the line 5, 5 of Fig. 4.

Similar letters of reference indicate like parts.

My radiator unit is made up of a supporting tube A and two identical half sections B, C formed by striking up or stamping sheet steel or the like. Each section has a plurality of half tubular ducts which, when said sections are placed together, come into registry to form tubular ducts D, E, F. Upon the metal between the half ducts are formed struck up ribs G. When the half sections are placed together, the ribs G of one section register with the similar ribs of the other section, as shown in Fig. 2. During the welding, the current melts the ribs G, so that the metal webs between the ducts D, E, F become united. At one end of the unit the ducts D, E, F communicate with one another; at the opposite end, said ducts communicate with a chamber H, which chamber communicates with the supporting tube A.

In order to protect the tube A from deterioration, I make its inner bottom surface of copper, brass or other metal less oxidizable and abradable than the metal of the unit elsewhere. I may accomplish this in different ways. Thus in Fig. 1, I make the tube A in two longitudinal half sections I, J. The half section I may be of the same metal as the unit generally, and the half section J, which is electrically welded to half section I, may be of copper, brass or the like. In this case, one half of the upper half section I may be formed integrally with the unit section B, and the other half with the unit section C, as shown in Fig. 2. In Figs. 3 and 4, I make the half section I as just described, and the half section J of the same metal as said half section I, and I protect the tube by inserting therein a tubular copper lining K.

I claim:

1. A radiator unit formed in two united longitudinal half sections and a supporting tube for said united sections, each half section comprising a plurality of longitudinal ducts struck up from the metal thereof, and the half ducts of one section being disposed in registry with the half ducts of the associated section and the said half sections being electrically welded together at their edges and at the surfaces between said ducts, the said ducts at one end of said unit communicating with said tube and at the other end with one another.

2. A radiator unit, comprising a plurality of parallel ducts communicating with one another, a semitubular duct integral with and disposed at a right angle to and communicating with said parallel ducts, and, registering with and electrically welded to said last-named duct, a semitubular duct of metal less oxidizable and less abradable than the metal of said previously named ducts.

3. A radiator unit, comprising a plurality of parallel vertical ducts of sheet steel, and a horizontal supporting tube therefor; the said tube being made in two longitudinal

half sections electrically welded together, one of which half sections is integral with said vertical ducts, and the other of copper.

4. A radiator unit, comprising a plurality of parallel vertical ducts of sheet steel, and a horizontal supporting tube therefor, the said tube being made in two longitudinal half sections electrically welded together, one of said half sections being integral with said vertical ducts, and a tubular copper lining in said tube.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS E. MURRAY.

Witnesses:
GERTRUDE T. PORTER,
MAY T. MCGARRY.