

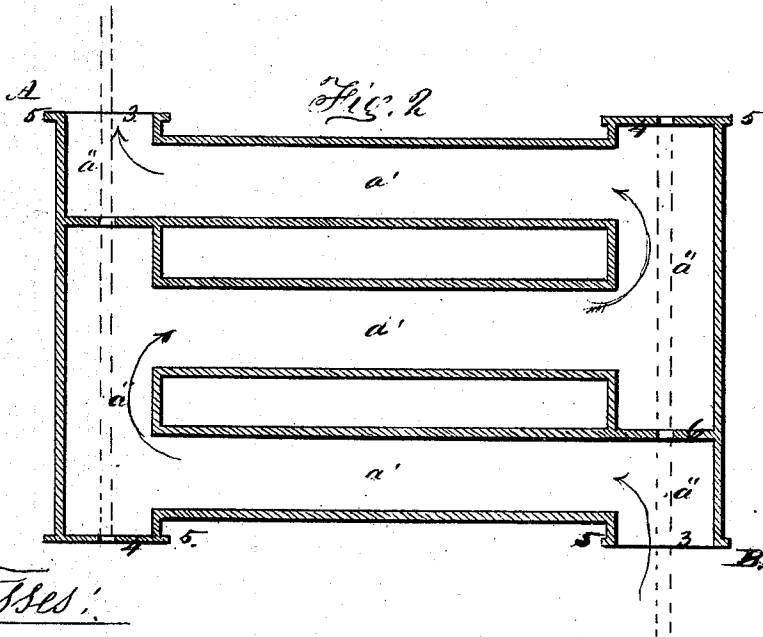
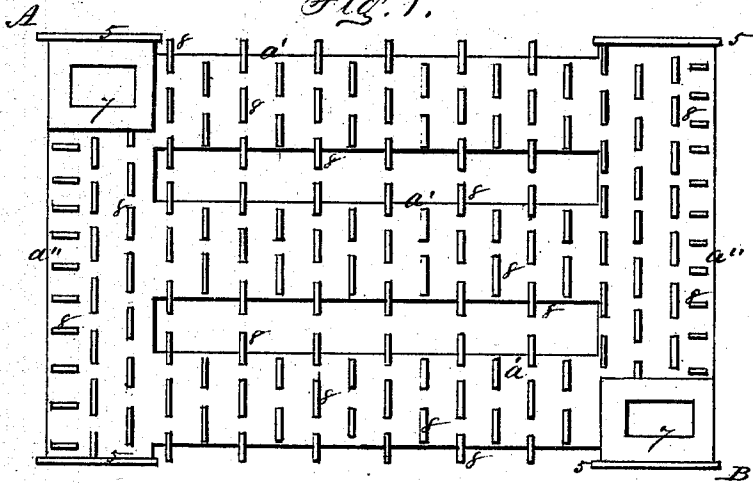
J. J. ROEPER.

Steam Heater.

No. 104,772.

Fig. 1.

Patented June 28, 1870.



Witnesses:

Wm. Morison

Wm. H. Morison

Inventor:

John J. Roeper

United States Patent Office.

JOHN J. ROEPER, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 104,772, dated June 28, 1870.

STEAM HEATER.

The Schedule referred to in these Letters Patent and making part of the same.

I, JOHN J. ROEPER, of the city of Philadelphia, in the State of Pennsylvania, have invented certain Improvements in Heat-Radiators, of which the following is a specification.

Nature and Objects of the Invention.

My improvements relate to the construction of that class of radiators which are intended to be heated by the passage through them of steam or hot water; and

My invention consists in constructing each of the sections of which they are composed in a series of intercommunicating flues, cast in one piece of iron, substantially as hereinafter described, the object of my invention being to reduce the number of joints to be packed steam-tight, and thus to facilitate the construction of an extended radiator, and lessen the liability to leaking.

Description of the Accompanying Drawings.

Figure 1 is a side elevation of one of the sections, having three communicating parallel flues cast together in one piece of iron.

Figure 2 is a vertical longitudinal section, representing the interior of the series of flues shown in fig. 1.

General Description.

Each section, A B, of the radiator, consists of parallel flues, *a' a'*, which are rectangular in their transverse section, and have open ends, which communicate with flues *a' a'*, arranged at right angles thereto, and closed at one of their ends, so that the open end, 3, of one, will be on the same edge of the section A B, which has the closed end, 4, (see fig. 2,) when the sections are intended to be united together by their edges.

In this case, both the open and the closed ends, 3 and 4, are cast with outside flanges, 5 5, so as to give them broader surfaces, for receiving the usual packing.

The sections A B are intended to be secured to-

gether by long bolts, (see dotted lines in fig. 2,) passing through holes, drilled for the purpose, in the middle of the closed ends 4 4, and also in the partitions C C, if the latter be present, so that several of the said sections A B can be firmly drawn together edgewise, with the usual packing between their flanges, by means of screw-nuts on the bolts.

If the said sections A B be intended to be connected together side by side, both of the ends of the flues *a' a'* are cast closed, and the flanged openings 7 7 made in the sides, at points near either two of the diagonally opposite corners of the said sections, as represented in fig. 1, and the sections then secured side by side, with packing between their flanges, by means of screw-bolts and nuts, in the manner before described.

In either case, the whole exterior of each of the said sections A B is cast with numerous separate or distinct fins, 8 8, consisting of thin, flat plates, projecting near each other and at right angles to the respective surfaces of the section, for the purpose of increasing the heat-radiating surfaces of the said sections. The number of the flues *a'* in each section, and the size and number of the sections required to form a complete radiator, will, of course, depend upon the locality and the temperature required in the surrounding air.

Claim.

I claim as my invention—

A section, A B, in one piece of cast-iron, the said section consisting of a series of intercommunicating flues, *a' a'*, and suitable flanged openings, for affording free intercommunication with other like sections, when connected together, substantially as and for the purpose hereinbefore described and specified.

JOHN J. ROEPER.

Witnesses:

BENJ. MORISON,
WM. H. MORISON.