(No Model.)

S. H. MORRILL.

STEAM RADIATOR.

No. 287,770. Patented Oct. 30, 1883.

Fig 1.

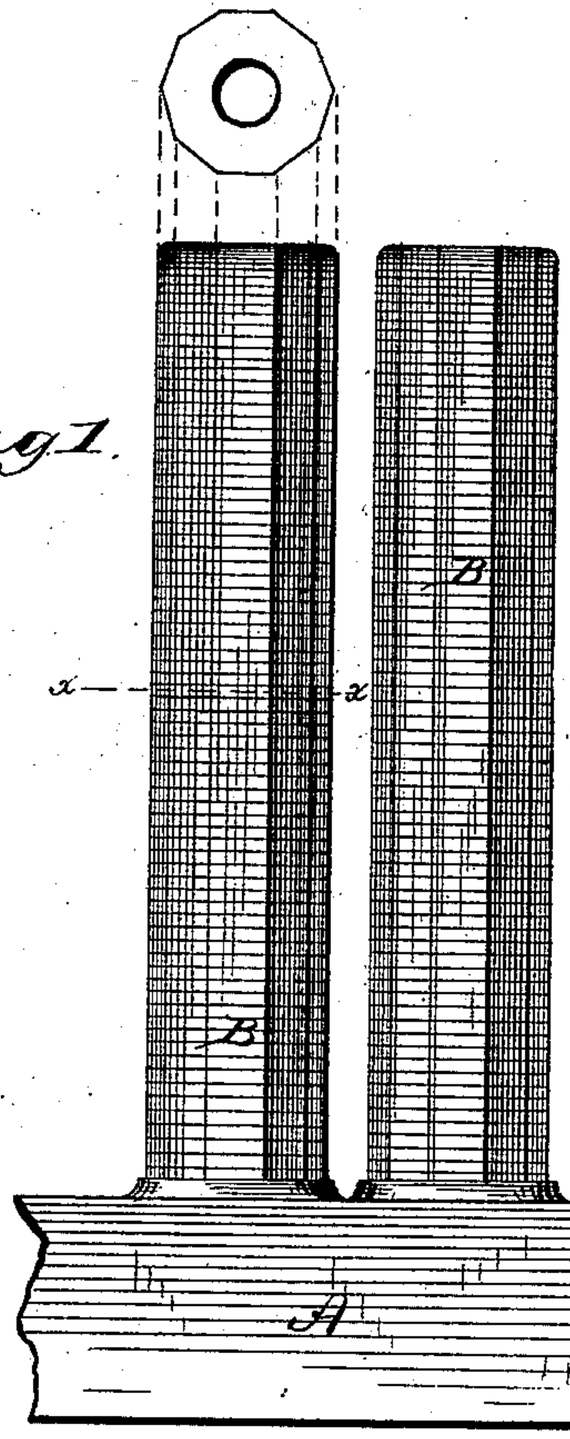


Fig. 2.

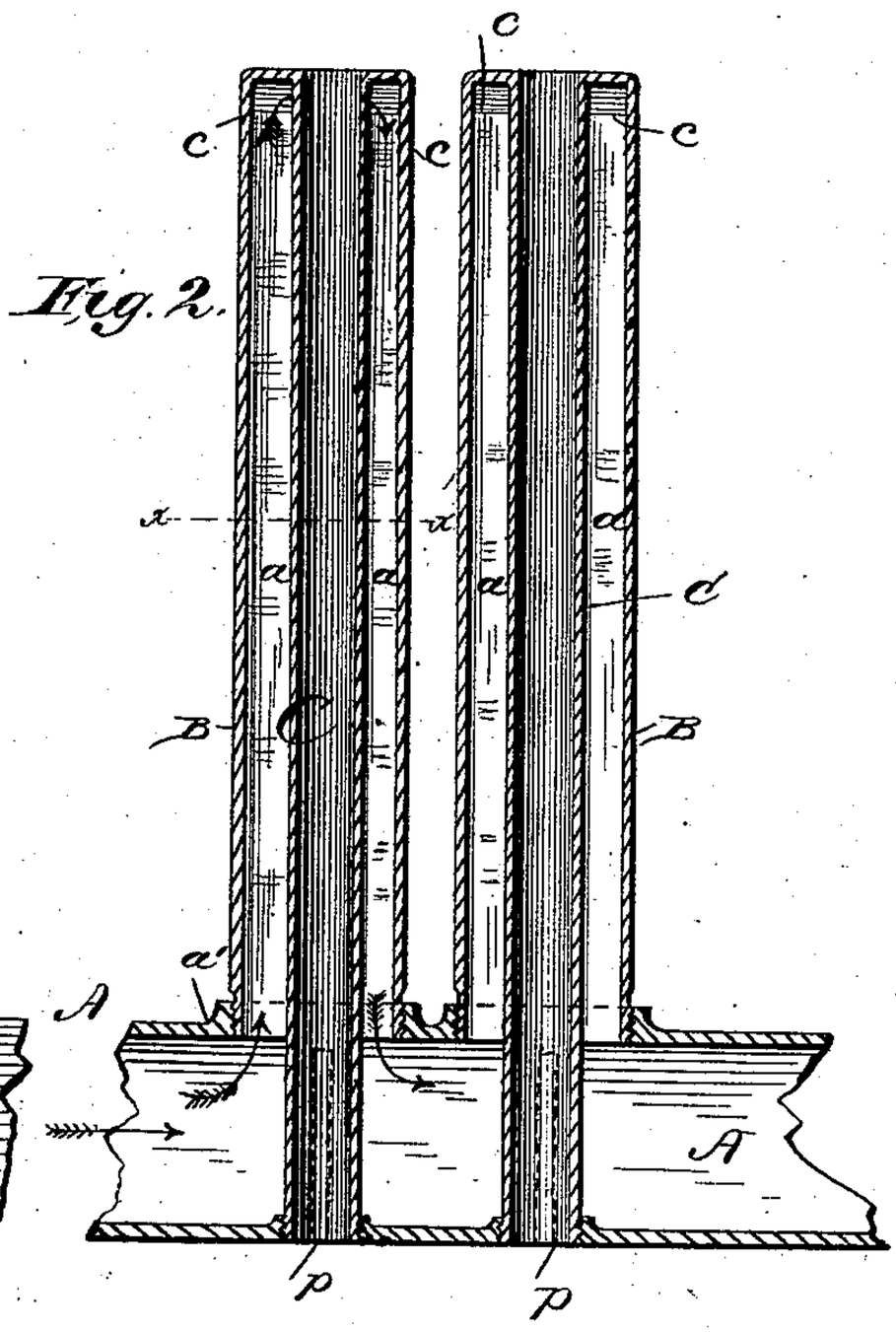


Fig. 3

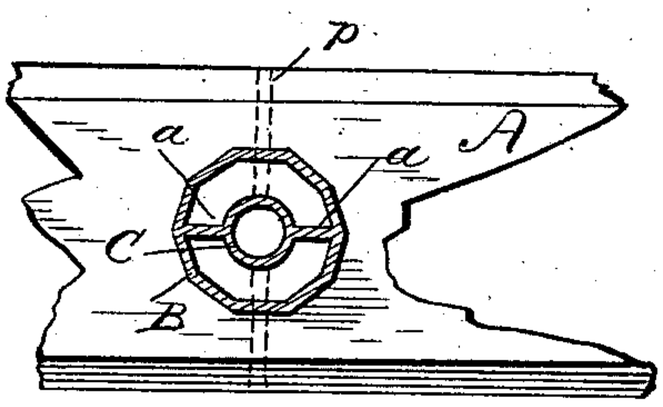
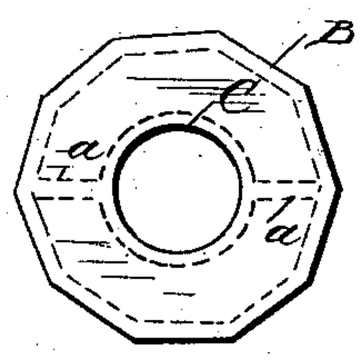


Fig 4.



WITNESSES

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STEAM-RADIATOR.

SPECIFICATION forming part of Letters Patent No. 287,770, dated October 30, 1883.

Application filed June 23, 1883. (No model.)

To all whom it may concern:

Be it known that I, SILAS H. MORRILL, a citizen of the United States, residing at Geneva, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Steam-Radiators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a side view of two of the pipes connected to the horizontal flue or hollow base of the radiator. Fig. 2 is a diametrical section of Fig. 1. Fig. 3 is a section taken horizontally through Fig. 1 in the plane indicated by dotted lines *x x* thereon. Fig. 4 is a top view of one of the stand-pipes.

My invention relates to radiators which are adapted for steam; and it consists in such improvements as will be hereinafter fully explained and claimed. My object is to dispense with couplings and joints in the construction of steam-radiators as far as possible, for which reason I have constructed the air-pipe and the steam pipe or jacket entire.

It will be observed that I construct the base A with annular lips *a'*, surrounding apertures made through this base. Inside of these lips I tap female screw-threads adapted to receive male threads, which I form on the walls or tubes B C of a heat-radiator. The tubes B C are formed entire, and the lower end of the central tube, C, is screw-threaded and adapted to fit a corresponding female thread formed at the bottom of said base A, re-enforced as shown in the drawings. The two webs *a a* are arranged diametrically opposite each other between the tubes B C, which webs extend in a plane at right angles to the length of the pipes or tubes B C, for the purpose of allowing steam to pass upward. The webs *a a* do not extend to the top of the pipes, but terminate at the point marked *c*, which points are just below the closed heads of the heat-radiating pipes. The webs or diaphragms *a a* terminate at their bases with the external pipe, B.

It will be observed from what I have described that I construct the external and internal pipes and web entire, as shown in Fig. 2; also, that the external pipe and the internal pipe are screw-threaded at their lower ends, and adapted to be fitted into the base both at the top and bottom thereof without the usual gaskets and lead joints.

The external pipe, B, is preferably made polygonal; but it may be made cylindrical, hexagonal, or of any other shape.

My object, as will be observed from what I have described, is to utilize the heat of the steam, which is conducted through the multiplicity of channels provided in the radiator, and also to effect this object by a simple construction of the heat-radiating and air-conducting channels—to wit, forming the outer tube and the inner tube and web entire and adapting these tubes to be fitted to the base of the radiator. In practice the base may have flanges, as indicated by dotted lines *p p*, extending from the inner wall of A to the inner pipe, C, which will cause the steam to pass alternately from one radiator B C to another throughout the series.

It is obvious that the radiators which I have above described may be housed or caged in the usual well-known manner.

I am aware that radiator-tubes have been made vertically corrugated and provided with two ascending and two descending steamways, and that radiator-tubes have had open-ended inside pipes to allow circulation of air.

I am aware of Patent No. 165,118; but my device differs, essentially, from what is therein shown and described, and I hereby disclaim said patent.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a steam-radiator, the external pipe, B, and internal pipe, C, united at their upper ends, the pipe C longer than B, each screw-threaded at the lower end, and having the internal webs, *a*, extending from the lower end of pipe B nearly to its top, the whole cast

in one piece, substantially as and for the purposes set forth.

2. A steam-radiator pipe, B C, made up of the external pipe, B, and longer internal pipe, C, united at their upper ends, screw-threaded at their lower ends, and provided with an internal web, *a*, all cast entire, in combination with the tubular base A, substantially in the manner described.

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

SILAS H. MORRILL.

Witnesses:
WM. A. GARNER,
L. A. CONNER.