No. 670,110. Patented Mar. 19, 1901.

C. PHELPS.

SHEET METAL RADIATOR.

(Application filed May 15, 1900.)

(No Model.)

Fig. 1.

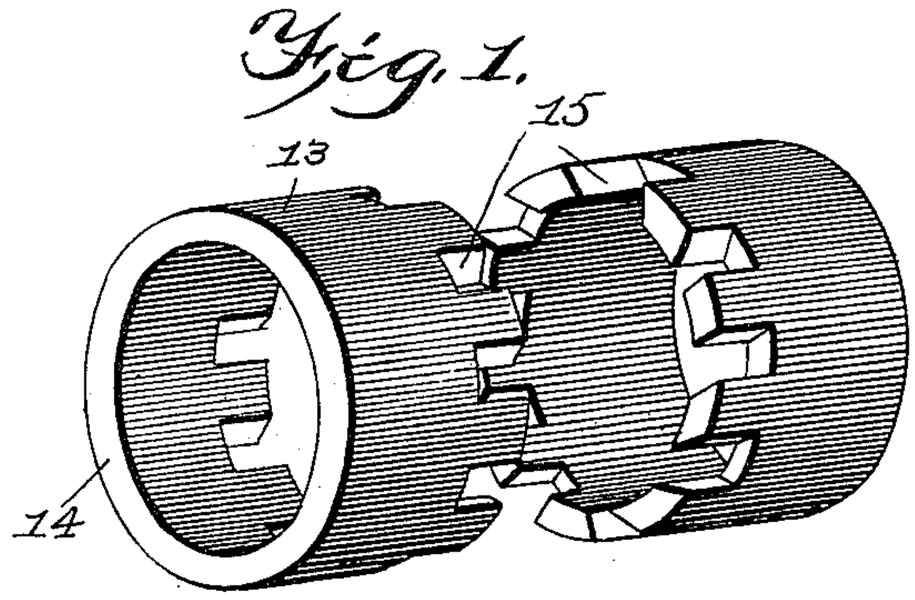
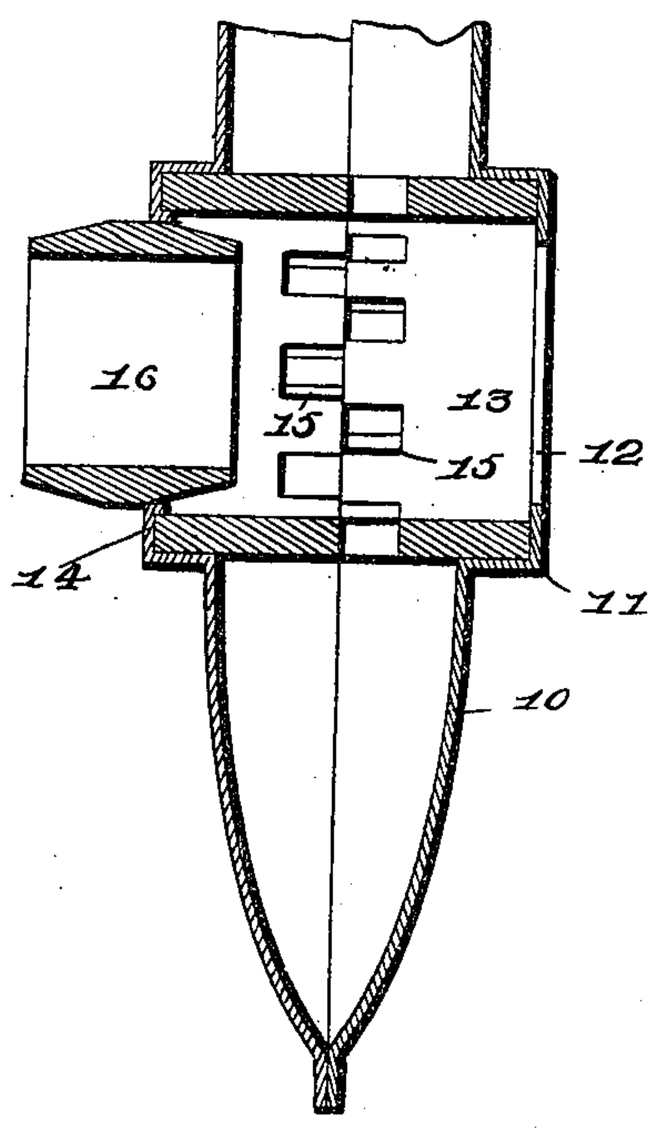


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES PHELPS, OF OSKALOOSA, IOWA.

SHEET-METAL RADIATOR.

SPECIFICATION forming part of Letters Patent No. 670,110, dated March 19, 1901.

Application filed May 15, 1900. Serial No. 16,742. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PHELPS, a citizen of the United States, residing at Oskaloosa, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in Sheet-Metal Radiators, of which the following is a specification.

My object is to provide an inexpensive device for holding the sides of a sheet-metal radiator-section rigid at the point where coupling is made between two radiator-sections and at the same time to so construct such parts as to adapt them for being connected by means of ordinary push-nipples, and, further, in this connection to provide devices of this class in which the expense of drilling holes for the circulation of water or steam therethrough is avoided.

My invention consists in certain details of construction, arrangement, and combination of the parts whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows in perspective my preferred form of base for holding the sides of a sheet-metal radiator separated and providing means for attaching other radiator-sections thereto. Fig. 2 shows a vertical transverse sectional view of the lower portion of a sheet-metal radiator-section having therein my preferred form of device for rigidly supporting the sides of the sheet-metal radiator-section at the point where same is coupled to an adjacent radiator-section and also showing in one end of said device a push-nipple.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate a sheet-metal radiator-section, and at the central portion of each side thereof near the lower end is an integral outwardly-projecting circular part 11, having a round opening 12 in its central portion.

The base for holding the sides of the radiator-section rigid at the point where two radiator-sections are coupled together comprises a cast-metal collar 13, having the flat-faced smooth outer end 14, with a concentric opening therein. On the other end of the collar 13 a series of notches 15 is formed. These notches are arranged on lines other than radial and made of any desired depth or size, the object being to make as large notches as may be practicable. A similar collar is provided to mate with the collar just described, and obviously with the construction shown the notched edges of these collars may come together without the possibility of the projections of one entering the interdental spaces of the other. The central opening through these collars is preferably slightly larger in diameter than the diameter of the opening 12, thus leaving a flange in the sheet-metal sides of the radiating portion surrounding the opening. In use two of these collars are placed in the shoulders formed by the outwardly-projecting portion 11, with their smooth faces outwardly, and the said collars are of such a length that when combined they will entirely fill the space between the parts 11 of the opposite sides of the radiator-section.

The numeral 16 indicates a push-nipple of ordinary construction, and obviously when this nipple is forced into one of the openings 12 the flanges surrounding said opening will be bent inwardly to lie parallel with the inner surface of the base 13, and obviously a tight joint will be provided at this point on account of the elasticity or resiliency of the said sheet-metal flange, so that when two radiator-sections are coupled together in the manner described a joint will be provided that is rigid and firm and not liable to leak.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. The combination, with a sheet-metal radiator-section, of a base, to enter between the sides of the sections and hold them separated, said base comprising two rigid collars having smooth outer ends and notches on their inner or meeting ends leading from the interior of the collars outwardly into the section and of such shape as to be incapable of admitting the projections of one collar into the interdental spaces of the other.

2. The combination, with a sheet-metal radiator-section, of a base, to enter between the sides of the sections and hold them separated, said base comprising two rigid collars having smooth outer ends and notches on their inner or meeting ends leading from the interior of the collars outwardly into the section, and arranged on lines other than radial, the notches on one standing in an opposite direction from the notches on the other.

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Witnesses:
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