C. JOHNSON.

WALL PIPE FOR FURNACES.

APPLICATION FILED AUG. 6, 1915.

1,179,322. Patented Apr. 11, 1916.

Fig. 1.

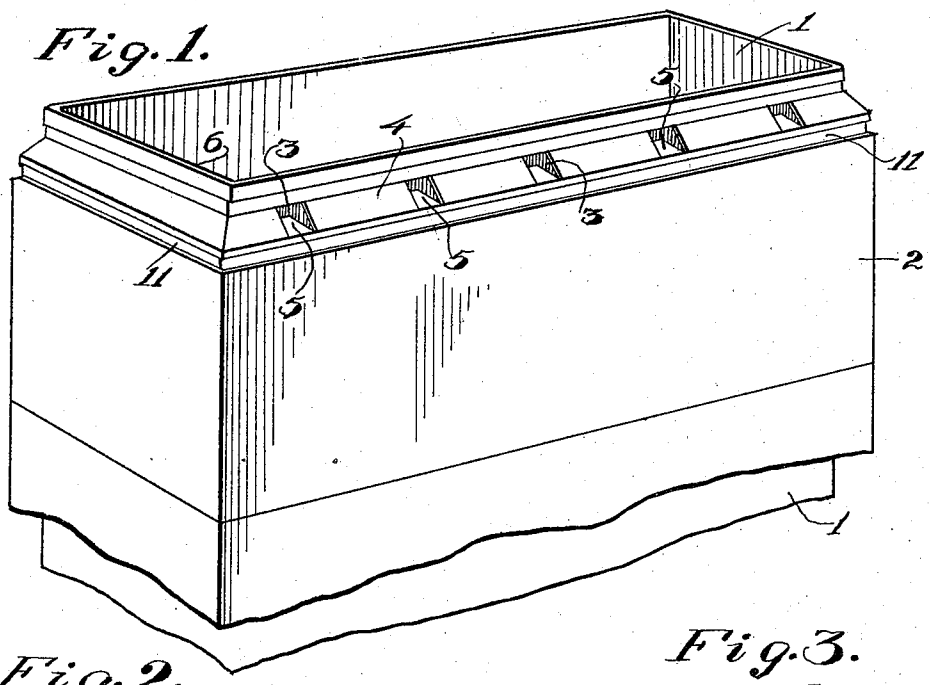


Fig. 2.

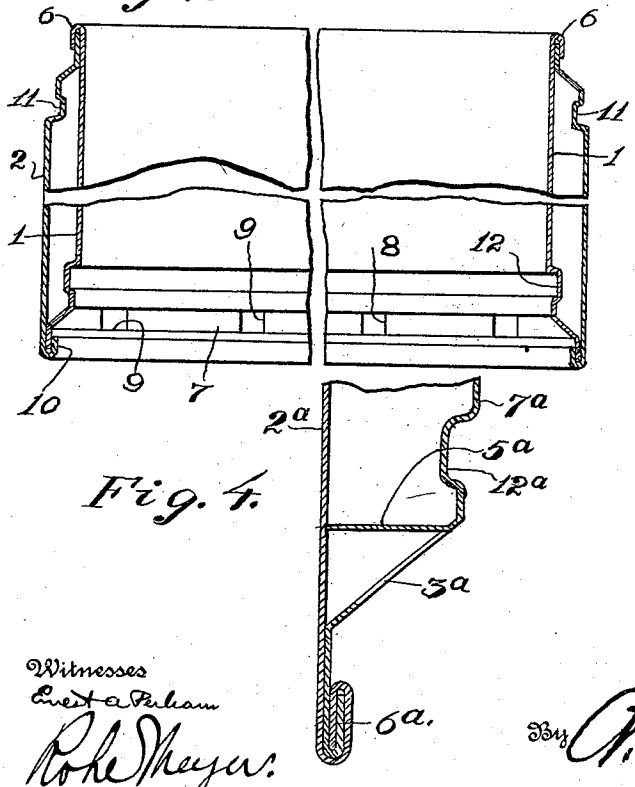


Fig. 3.

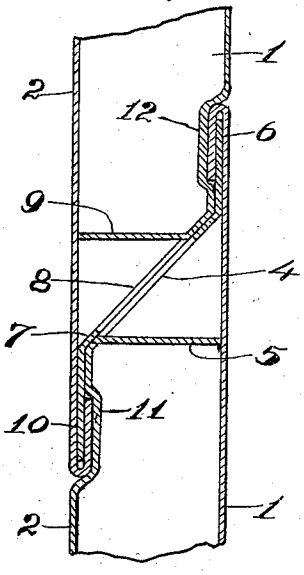


Fig. 4.

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UNITED STATES PATENT OFFICE.

CHARLES JOHNSON, OF PEORIA, ILLINOIS.

WALL-PIPE FOR FURNACES.

1,179,322. Specification of Letters Patent. Patented Apr. 11, 1916.

Application filed August 6, 1915. Serial No. 44,032.

To all whom it may concern:

Be it known that I, CHARLES JOHNSON, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Wall-Pipes for Furnaces; 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.

This invention relates to wall pipes for furnaces, and is an improvement on the wall pipe for furnaces disclosed in the application filed October 13th, 1914, Serial No. 866,531, and the primary object of the invention is to provide means for securely holding the various sections of a wall pipe connection.

Another object of this invention is to provide each of the sections of the wall pipe with annular grooves formed therein, at the inner terminals of the inclined portions of the pipe, for receiving the seams formed at the connection of the inner and outer walls of the sections.

With the foregoing and other objects in view this invention consists in such novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings and claimed.

In describing the invention in detail reference will be had to the accompanying drawings wherein like characters designate like and corresponding parts throughout the several views, and in which:—

Figure 1 is a perspective view of one section, showing a fragment of another section attached thereto, Fig. 2 is a sectional view through the engaging and connecting portions of two sections, Fig. 3 is a sectional view similar to Fig. 2, taken at a different position, and Fig. 4 is a sectional view of a modified form of the wall pipe, showing the method of double seaming the ends of the inner and outer walls together.

Referring more particularly to the drawings, the numeral 1 designates the inner member, and 2 the outer member of each section. The members are preferably formed of tin or other sheet metal, of the required thickness, and the outer member is provided with openings 3 formed in the inclined portions 4. The openings 3 are formed by cutting tongues or braces 5 out of the material and bending said tongues inwardly to bear against the outer surface of the inner member 1 of each of the pipe sections. The inner section 1 at its upper end is bent over the outer section to form an inclosing flange or seam 6 adapted to hold the two members together firmly. The inner member 1 is provided with an inclined portion 7, having openings 8 formed therein, and tongues cut from the inclined portion 7 for forming the openings. The tongues 9 form braces against the outer member of the wall 2. The outer member 2 is seamed or flanged over the lower edges of the member 1, as is shown at 10. The outer member 2 is provided with an annular groove 11 formed therein a short distance below the outer ends of the inclined portions 4, which is provided for receiving the flange or seam 10 when two sections are connected, as is clearly shown in Fig. 3, for locking the two sections securely connected. The inner member 1 is provided with an annular groove 12 formed therein a short distance above the upper inner end of the inclined portion 7 for receiving the flange or seam 6 for facilitating the action of the groove 11 for securely locking the sections connected.

In Fig. 4 of the drawings, a modified form of the invention is shown, which includes inner and outer members 1^a and 2^a respectively. The inner member 1^a is provided with an angled portion, in which openings 3^a are formed by cutting tongues or braces 5^a therefrom. The edges of the inner and outer members are bent over each other to form a double flange or seam 6^a.

In reducing the invention to practice, certain minor features of construction, combination, and arrangement of parts may necessitate alteration, to which the patentee is entitled, provided such alterations are comprehended within the scope of what is claimed.

What is claimed is:—

1. A wall pipe section for furnaces comprising an inner member and an outer member, said outer member having an inclined upper portion, openings formed in said inclined portion, braces cut to form said openings and bent down to brace the outer and inner members, one from the other, said inner member being similarly provided at the bottom with an inclined portion, tongues or braces cut therefrom to form openings, said two members being oppositely flanged,

said inner member being provided with an annular groove formed a short distance inwardly from the outer terminal of said inclined portion, said outer member being provided with an annular groove formed therein a short distance downwardly from the outer terminal of its inclined portion, said groove being adapted for receiving said flanges for securely locking two sections connected to each other.

2. A wall pipe for furnaces comprising a plurality of sections, each section comprising an inner and an outer wall, said outer wall being inclined inwardly at its upper edge toward the inner wall, said inner wall being inclined outwardly toward the outer wall, whereby said sections are fitted one to the other, the walls of said sections being oppositely flanged to secure them together, the outer wall having tongues cut out from the inclined portion below the flange, the inner wall having similar tongues cut from the inclined portion above the flange, said tongues being bent inwardly, whereby said walls are held in braced spaced relation, the apertures just formed being adapted to register with similarly formed apertures in another section when the sections are fitted together for permitting of air circulation through the sections, said tongues serving to spread the air, said inner member being provided with an annular flange formed therein a short distance upwardly from the outer terminal of its inclined portion, said outer member being provided with an annular groove formed therein a short distance downwardly from the outer terminal of its inclined portion, said grooves being provided for receiving said flanges for securely locking two sections together.

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

CHARLES JOHNSON.

Witnesses:

EDWARD G. MILLER,

HARRY E. BLYE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."