Feb. 26, 1935. L. KUEHN 1,992,312

SHEET METAL PIPE T

Filed Feb. 16, 1933

Fig. 1.

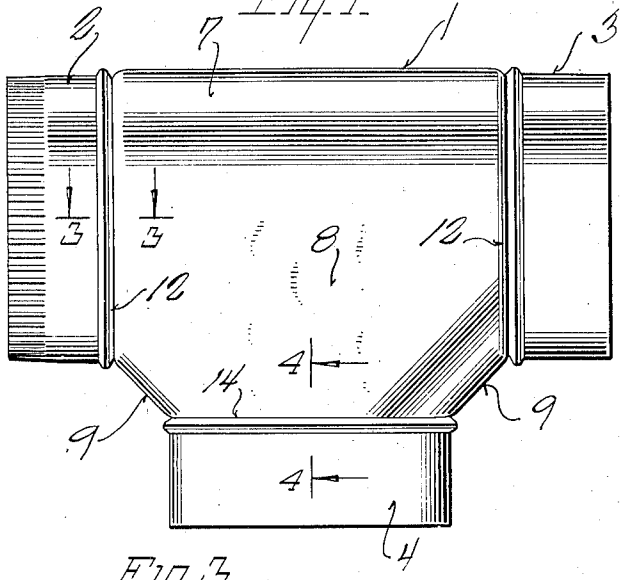


Fig. 2.

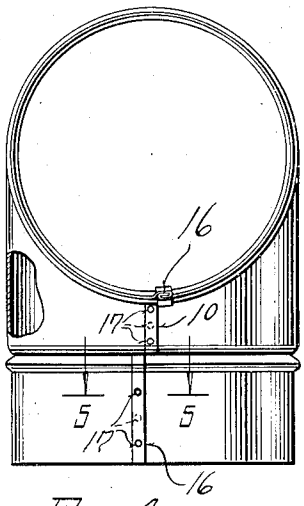


Fig. 3.

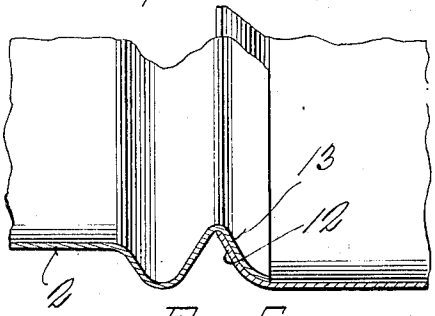


Fig. 4.

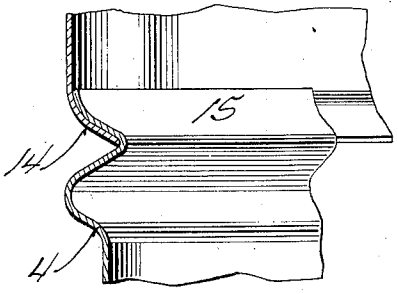


Fig. 6.

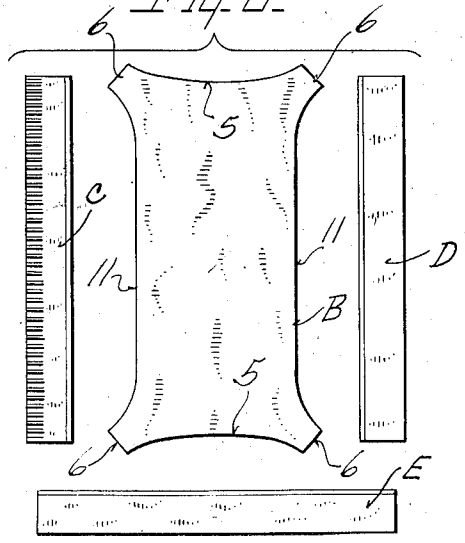
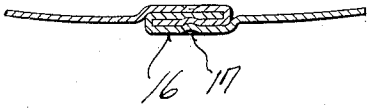


Fig. 5.



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SHEET METAL PIPE T

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Application February 16, 1933, Serial No. 657,020

3 Claims. (Cl. 285—203)

This invention relates to an improvement in sheet metal pipe T's and may be employed in furnace pipe or in stove pipe and in fact wherever it is desirable to employ a sheet metal T.

One of the objects of the invention is to provide a sheet metal pipe T of this character in which the walls of the T at the intersection of the axial and transverse or lateral passages are sloped or flared whereby to facilitate the passage of gases through the T and hence assure better draft. The resistance which the T presents to the passage of gas therethrough is minimized and tendency of the T to cause disturbing currents in the gases due to the abrupt change of direction of flow is avoided.

Another object of the invention is to provide a T of this character which is substantially air-tight and yet is of enhanced strength and rigidity. The use of rivets is avoided and preferably the meeting edges of the single piece of metal which makes up the body of the T are seamed or otherwise effectively united.

Other objects and advantages reside in certain novel features of the construction, arrangement and combination of parts which will be hereinafter more fully described and particularly pointed out in the apended claims, reference being had to the accompanying drawing, forming a part of this specification, and in which:

Figure 1 is a view in side elevation showing a metal pipe T embodying the present invention;

Figure 2 is a view in end elevation further illustrating the T with a portion broken away and shown in section for the sake of illustration;

Figure 3 is a fragmentary view in section taken on line 3—3 of Figure 1;

Figure 4 is a similar view in vertical section taken on line 4—4 of Figure 1;

Figure 5 is a similar view in horizontal cross section taken on line 5—5 of Figure 2; and

Figure 6 is a group view in plan showing the blanks from which the body of the T and collars therefor are formed.

Referring to the drawing, it will be seen that the sheet metal pipe T embodying the present invention comprises a body portion 1 having a lateral extension 1^a intermediate its ends and collars 2, 3 and 4, the collars 2 and 3 being interconnected with the body portion at the ends of the axial passage therethrough and the collar 4 being interconnected with the lateral extension 1^a at the outer end of the transverse lateral passage.

The body portion 1 of the T is formed up from a single piece sheet metal blank shown at B in Figure 6. The blank B has curved cut-outs or recesses 5 at its ends and at its corners has tabs or extensions 6 which extend at an angle or diagonally from the blank.

In forming the body portion 1 of the T and its extension 1^a the blank is bent or shaped to form a rounded top portion 7, parallel vertical side walls 8 and inclined or flaring end walls 9, the tabs 6 being bent in and around and having their edges united by seams 10 to form the rounded or flaring end walls 9. Such bending or folding of the blank causes the edges 11 thereof to provide openings at the ends of the axial passage of the body portion of the T, which openings are of circular cross section whereas the edges 5 during this shaping or bending are made to form an opening of circular cross section at the outer end of the transverse passage through the lateral extension 1^a of the T. At the ends of the axial passage, the peripheral edge of the body portion of the T is bent inwardly or flanged as indicated at 12 in Figure 3 and such flanged formation fits over and interlocks with the correspondingly outwardly bent flange structure 13 formed on the collar 2. A similar interconnection is provided between the opposite end of the body portion of the T and the collar 3. The lower end of the extension 1^a of the body portion of the T which defines the opening at the lower end of the transverse passage is also similarly flanged or bent inwardly as indicated at 14 about a corresponding flange structure 15 provided on the collar 4. The collars 2, 3 and 4 are formed from blanks C, D and E, the blanks being bent into circular form and having their meeting edges united by a seam 16 as illustrated in Figures 2 and 5.

By employing seams between the meeting edges of the blank forming the body of the T and between the meeting edges of the blanks forming the collars the use of rivets is avoided and a strong and substantially air-tight structure is had. The seams may be effectively locked by punching portions thereof sufficiently to deform the metal of the seam slightly as indicated at 17.

In use, the T has the distinct advantage of assuring better draft therethrough, the flaring or sloping end walls 9 offering minimum resistance to the passage of the gases from the transverse to the axial passage or vice versa. By capping one of the collars 2 or 3, the T may be used as an elbow.

While possessing the advantages of light weight and durability the T is extremely simple

in its construction and may be manufactured with economy from materials and by means of facilities ordinarily available.

While I have shown and described one construction in which the invention may be embodied, it is to be understood that this construction has been selected merely for the purposes of illustration and that various changes in the size, shape and arrangement of the parts may be made without departing from the spirit of the invention or the scope of the subjoined claims.

The invention claimed is:

1. A sheet metal pipe T comprising a body portion made of a sheet metal blank having curved recesses at its ends and formed with extension tabs at its corners, said blank being bent and certain of said tabs being secured together to form axial and transverse passages terminating in open ends of circular cross sections, said body portion having a top portion whose surface is defined by straight elements running between the peripheries of the upper halves of two of said open ends, side portions whose surfaces are defined by two planes tangentially disposed to the peripheries of all of said open ends, and connecting portions whose surfaces are defined by straight elements running between the peripheries of the lower halves of the two said open ends and respective halves of another open end.

2. A sheet metal pipe T comprising a body portion made up of a sheet metal blank having curved recesses at its ends and formed with extension tabs at its corners, said blank being bent and certain of said tabs being secured together to form axial and transverse passages terminating in open ends of circular cross sections, said body portion having a surface defined by three sections of a half cylinder intersecting to form three circular cross sections, and two planes tangent to all of said cross sections.

3. A sheet metal pipe T comprising a body portion made up of a sheet metal blank having curved recesses at its ends and formed with extension tabs at its corners, said blank being bent and certain of said tabs being secured together to form axial and transverse passages terminating in open ends of circular cross section.

LOUIS KUEHN.