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O. P. NYSTROM ET AL
FURNACE JACKET CONSTRUCTION

1,975,613

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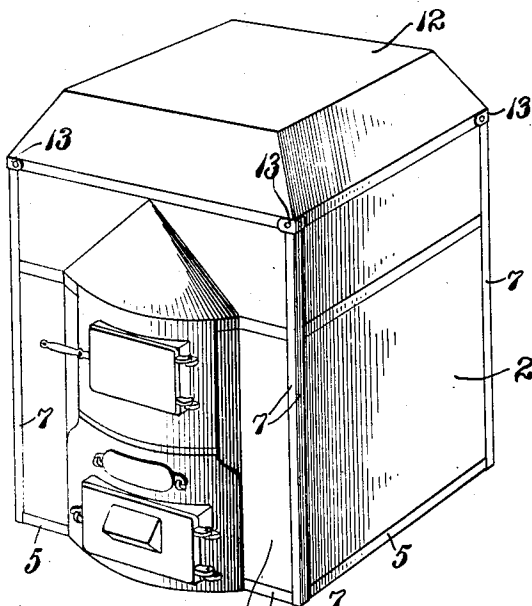


Fig. 1.

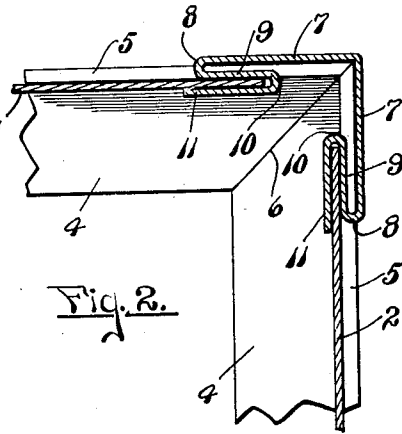


Fig. 2.

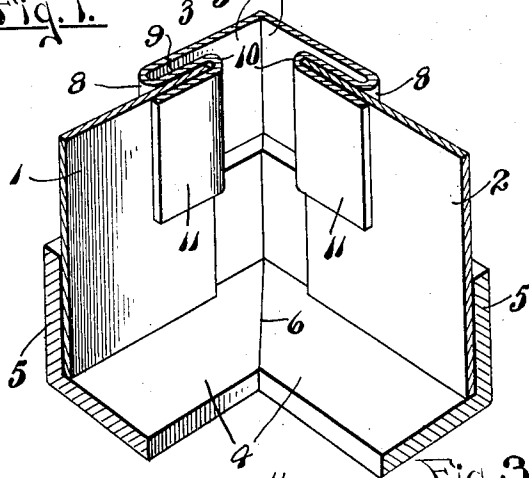


Fig. 3.

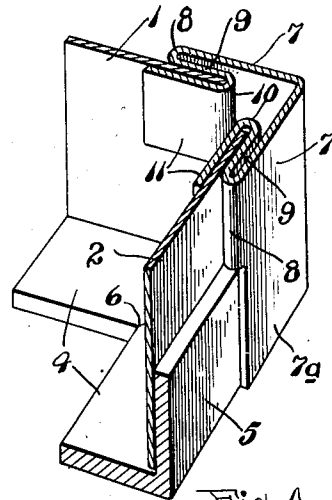


Fig. 4.

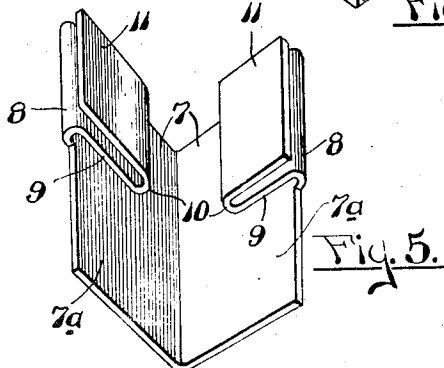


Fig. 5.

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UNITED STATES PATENT OFFICE

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FURNACE JACKET CONSTRUCTION

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3 Claims. (Cl. 126—114)

This invention relates to furnace casing or jacket constructions, and is more particularly concerned with a novel construction for a so-called square outer enclosing casing or jacket for a furnace, the major portion of which casing is of sheet metal. It is a primary object and purpose of our invention to provide a very practical, durable and economical construction of furnace casing or jacket which may be readily assembled and held securely against disconnection, the assembly being accomplished substantially without the use of tools or machine operations. More specifically, the invention has for one of its objects the provision of corner connecting means for the sides and front and back sheet metal panels of the furnace casing whereby such panels may be of plain sheet metal cut merely to size and readily installed and assembled, the corner members of the casing or jacket serving not only to hold the sheet metal panels in place but also serving as reinforcing and protective members for the casing. Various other objects and purposes than those stated will be apparent upon understanding the invention from the following description, taken in connection with the accompanying drawing, in which,

Fig. 1 is a perspective view of the furnace casing or jacket of our invention showing the same assembled and in operative position with respect to the inner furnace structure.

Fig. 2 is a fragmentary enlarged horizontal section through one corner of the furnace jacket.

Fig. 3 is a perspective view thereof looking at the same against the inside of said corner.

Fig. 4 is a similar fragmentary perspective, the view being taken at and looking toward the outer side of the corner, and

Fig. 5 is a fragmentary perspective view of the lower end portion of a corner post or clamping member.

Like reference characters refer to like parts in the different figures of the drawing.

The furnace casing construction includes a back panel 1 of sheet metal of rectangular form, side panel 2 likewise of sheet metal and rectangular form, and a front 3 which is of rectangular outline but has its intermediate portion cut away where the same is connected to outwardly extending portions of the inner furnace structure as set forth in our copending application for patent Serial No. 623,569, filed herewith. The lower edge portions of the panels 1, 2 and 3 are adapted to rest upon the horizontal flanges 4 and lie against the inner sides of the vertical flanges 5 of members of a base frame.

The base frame of angle bar form is of rectangular shape and has mitered corners 6 so that the flanges 4 may be located in the same horizontal plane. These frame members may be secured together at their corners by welding

though after the parts of the casing are assembled it is impossible for the base frame members to separate from each other.

Corner connecting posts of sheet metal are provided having two vertically extending flanges 7 bent to lie at right angles to each other. Each of the flanges has a return U-shaped bend 8, the metal being continued back in a section 9 inside of and parallel to the flange 7 for a distance, again bent in a return U-shaped bend 10, and terminating in a section 11 spaced from and parallel to the section 9 as shown.

At the lower end each post has, for a short distance, equal substantially to the height of the flanges 5 of the base frame members, the parts which make the bends 8 and 10 and the sections 9 and 11 cut away leaving the plain extensions 7a to the flanges, as shown in Fig. 5.

The corner posts are located at the corners of the base member, the parts 7a extending downwardly at the outside of the flanges 5, and the lower edges of the bend 8 and section 9 resting upon the upper edges of said flanges 5. The panels 1, 2 and 3 are inserted between the sections 9 and 11 and at their lower edge portions come within and bear against the inner sides of the vertical flanges 5 of the base frame members and rest at their lower edges on their horizontal flanges 4 thereof. The panels are yieldably held between the several sections 9 and 11, and thus both vertical and horizontal adjustments may be had. The sections 9 and 11, being parallel, tightly engage the panels and leakage is prevented. Moreover, the U-shaped bend 8, being flexible, yields to permit accommodation of different thicknesses of flanges 5.

The furnace casing is completed at its upper end by any suitable top or cover 12 which may be secured at the upper ends of the corner posts and upper edges of the panels 1, 2 and 3 in any suitable manner. Securing angle clips 13 may be used.

It will be apparent that the flanges 7 of the connecting posts may be located at any desired angle relative to each other. For example, by bending these flanges to an obtuse angle, the connecting means could be readily used to join the top or cover 12 onto the upper edges of the panels. Also, by locating the flanges in the same plane, connecting means is provided for joining two panel members together as shown in Fig. 1 immediately below and parallel to the juncture between the cover 12 and the several panels.

The construction described is very practical and durable and with it an air tight enclosing casing or jacket for a furnace may be provided. The assembly of the parts is easily accomplished and there is provided a secure connection and holding of the side, front and back sheet metal panels of the furnace jacket or casing which are

held firmly against any tendency to separate from each other. The construction is also economical to manufacture. The invention has proved exceptionally satisfactory for the purposes for which it is designed.

The claims appended hereto define the invention which is to be considered comprehensive of all forms of structure coming within the scope thereof.

10 We claim:

1. In a construction having a corner formed by the meeting of two angle bars, said angle bars being of substantially equal dimension, the combination of, a post separate from said angle bars and extending upwardly at right angles to the axes of the said angle bars, said post having flanges and a portion of each of said flanges extending outwardly therefrom along the outer faces of the angle bars, portions of said flanges being bent to form grooves opening away from the corner and each being in a plane overlying the inner face of the upwardly extending flanges and panel means adapted to be received in said grooves, said panel means extending downwardly along the inner face of the upwardly extending portions of the angle bars to maintain the post in position.

2. In combination, a base frame comprising an

angle member, a post extending upwardly at right angles to the plane of said angle member, said post having a portion extending exteriorly of the vertical flange of said angle member, a portion of said post being bent inwardly to form a yielding connection and then terminating in connecting means, said connecting means being located in a plane overlying the vertical flange of the said base member, a resilient panel member received in said connecting means and extending interiorly of the vertical flange of said base member whereby the post is frictionally held in position.

3. In a construction of the class described, a base frame having an upwardly extending flange, a post separately formed from the base frame, said post having a portion extending at one side of the said flange, the post having a portion bent over and resting upon the said flange, said bent over portion continuing and forming holding means and panel means cooperating with the said holding means and adapted to extend downwardly along the opposite side of the flange on the base frame whereby the post is maintained in position.

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