Nov. 15, 1932. G. D. HAUSER 1,887,761

FURNACE JACKET

Original Filed Nov. 21, 1929

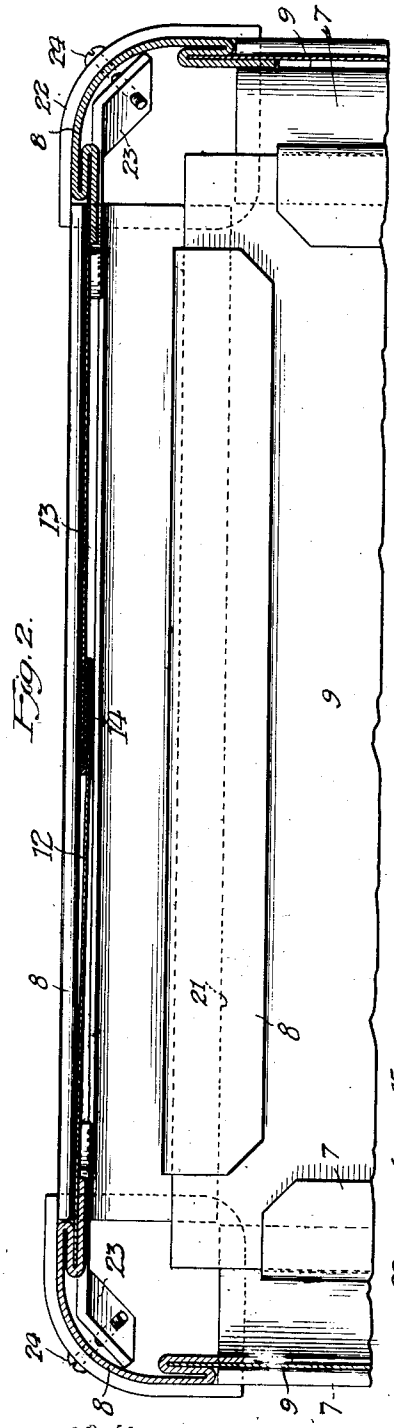


Fig. 2.

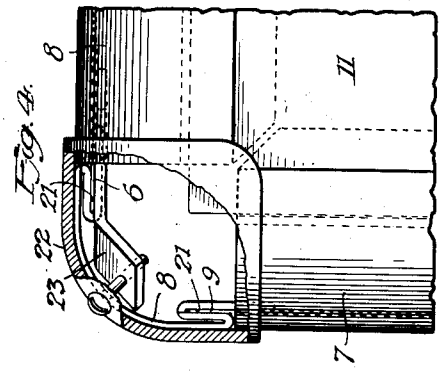


Fig. 4.

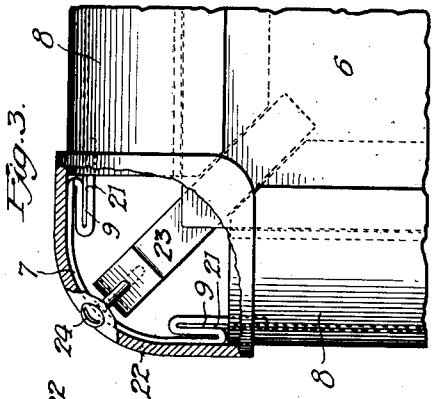


Fig. 3.

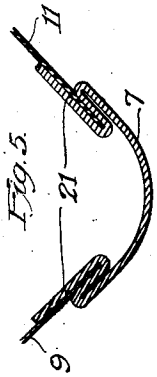


Fig. 5.

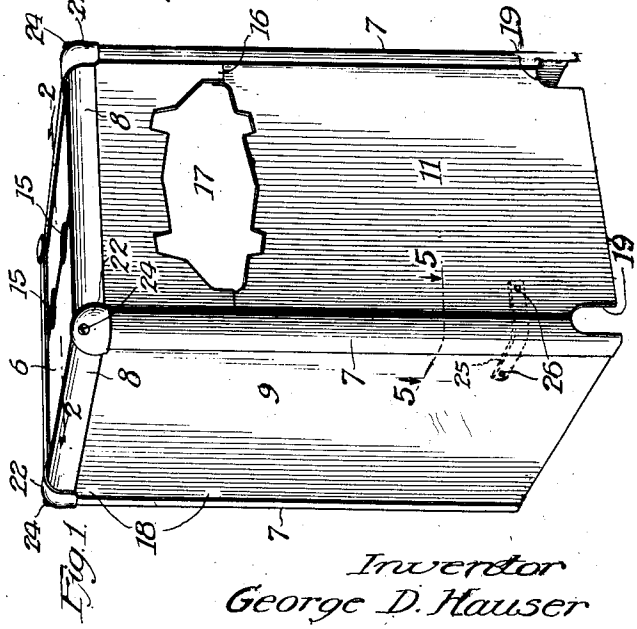


Fig. 1.

Witness
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UNITED STATES PATENT OFFICE

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FURNACE JACKET

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This invention pertains to jackets or casings for boilers of the type designed for heating water or generating steam for household or institution heating purposes. Jackets of this type are employed primarily for insulation purposes to promote the efficiency of the furnace and incidentally to render the boiler or furnace more attractive in appearance.

While I am aware that jackets of this general type have been commonly used, considerable difficulty has been encountered with most of them in assembling them upon the furnace or boiler and even when assembled, due to irregularities in the furnace structure, its mounting, or in the floor upon which it rests, the jackets are prone to warp or pull apart at the joints so as to render them not only unsightly but inefficient as well.

One of the primary purposes of my present invention is to provide a furnace or boiler jacket which can be shipped in knocked down condition so as to occupy a minimum of space and require a minimum transportation charge and which can be quickly and easily assembled around a furnace already installed and without the necessity of cutting or trimming any of the parts.

Another object is to provide a jacket of this character which will afford not only considerable flexibility and adjustability to facilitate its assembly but will also be sufficiently flexible when assembled to conform to irregularities or imperfections in the furnace structure or in its mounting, so that the jacket will not become distorted or separated at any of its seams or joints.

Other objects and advantages of this invention should be readily appreciated as the same becomes better understood by reference to the following description when considered in connection with the accompanying drawing.

Referring to the drawing:

Fig. 1 is a perspective view from the rear of a jacket embodying my invention.

Fig. 2 is a sectional view on the line 2—2 of Fig. 1.

Figs. 3 and 4 are enlarged fragmentary views partially in section showing the manner of connection of the parts at the upper corners of the jacket.

Fig. 5 is a fragmentary sectional view on the line 5—5 of Fig. 1.

Referring now to the drawing more in detail it will be observed that the jacket comprises essentially a top wall 6 and four upright walls, all joined together and held in position by vertical corner strips 7 and horizontal corner strips 8. The upright wall indicated by reference character 9 is one of the side walls of the jacket, while wall 11 is the rear wall enclosing the back of the furnace. The front wall (not shown) is provided with suitably shaped and positioned openings to conform to the doors of the furnace and permit accessibility thereto.

As will be apparent from Figs. 1 and 2 the top wall 6 is composed of two or more sections 12 and 13 telescopically associated together so as to permit of expansion and adjustability without disrupting or opening the joints between the sections. The joint illustrated in Fig. 2 is formed by bending one margin of one section backward upon itself and then forwardly in slightly spaced relation so as to provide a groove 14 for the reception of the opposed flat marginal edge of the other section. It will be apparent that this joint enables the sections to move relatively to each other within any range required by irregularities and without permitting the joint to open. From Fig. 1 it will be apparent that the joint between the two sections shown is made along the line intersecting the pipes which leave the top of the furnace and by forming a portion of each opening 15 necessary for the reception of these pipes in each of the sections the top

may be assembled around the pipes without disconnecting them from the furnace.

Likewise the rear wall 11 is provided with a similar telescopic joint 16 which adjustably and yieldably connects the opposed margins of the sections, and these sections also are cut on either side of the joint to provide the opening 17 for the smoke box of the furnace or any other portions or pipes which project therefrom. Obviously this wall also may be assembled without disconnecting any of the projections from the furnace. The other walls may likewise be provided with openings and made in sections to accommodate any projections, but where pipes enter or leave the furnace adjacent a corner the edge of the wall may be provided with slotted openings as indicated at 18 to receive the pipes, or if they be at the bottom similar slotted openings 19 may be formed as shown in the back wall 11, the openings shown being for the reception of the cold water pipes entering the water legs of the boiler.

The corner strips 7 and 8 are each formed of sheet metal bent to arcuate shape, the longitudinal margins of each strip being folded back upon themselves and then bent outwardly again to form outwardly opening grooves 21 for the reception of the marginal edges of the jacket walls. These walls are indicated in Fig. 5 by reference characters 9 and 11, although it should be understood that all of the corner strips 7 and 8 are similarly formed to receive the marginal edges of their associated walls.

In assembling the structure the upright walls are assembled about the furnace with their edges engaged in the grooves of the respective upright corner strips 7; the top wall is assembled around the projections from the top of the furnace; the horizontal corner strips 8 are assembled around the perimeter of the top wall and these corner strips are then set down over the upper margin of the vertical walls. It should be apparent that this assembly may be readily made since all of the parts slide together readily and each joint is flexible and adjustable within a considerable range so that the joints will still be tight even though the imperfections or irregularities in the furnace structure itself or in its setting may be considerable.

When all of the corner strips and jacket walls have been assembled as described, the parts are firmly united into a unitary structure by the corner caps 22 and cooperating elements shown in Figs. 2 to 4 inclusive. From these figures it will be observed that the top wall 6 is provided at each corner with an inclined tapped lug 23 welded or otherwise secured to the under face of the wall and disposed substantially at an angle of 45° to the edges of the wall. The shape and location of these lugs dispose them in proximity to their respective corner caps 22 so that a screw 24 inserted through an opening in each cap and threaded into its cooperating lug serves to firmly and securely bind all of the assembled parts together into a unitary and practically rigid, although somewhat flexible, structure.

The lower edges of the upright walls and upright corner strips may be retained in position against separation by supporting them in a grooved flange or in grooved or angle-shaped lugs cast on and projecting outwardly from the base of the furnace. In the event that the furnace is not equipped with such lugs or flange the parts may be united by employing angle-shaped iron straps 25 disposed in the corners of the jacket near the lower end, each of these straps being tapped to receive a plurality of screws 26 extending through openings correspondingly located near the sides of the walls as shown in Fig. 1.

For heat insulation purposes the top and side walls of the jacket are all lined on the inside with asbestos or other suitable insulating material preferably formed in sheets or slabs and attached to the inner faces of the walls or wall sections in any well known or approved manner.

It is believed that the construction, the manner of assembly, and the inherent advantages of my invention including its flexibility, adjustability, and capability of assembly upon a previously assembled furnace will be clearly apparent from the foregoing, and it should be manifest that the details of construction illustrated and described are capable of considerable modification and variation without departing from the essence of my invention as defined in the following claims.

I claim:

1. A furnace jacket comprising sheet metal top and upright walls, corner strips provided with outwardly opening grooves into which the peripheral margins of said top wall and the top and side margins of said upright walls extend, and means at the upper corners of the jacket for securing said walls and corner strips together into a unitary structure.

2. A furnace jacket comprising sheet metal top and upright walls, corner strips provided with outwardly opening grooves constructed to slidingly receive the marginal edges of said walls, caps disposed over the junctures of said strips at the upper corners of the jacket, and means for securing said caps to the top wall whereby the component parts of the jacket are held together.

3. A furnace jacket comprising sheet metal top and upright walls, grooved corner strips provided with outwardly opening grooves adapted to slidably embrace the marginal edges of said walls, one or more of said walls being formed of sections telescopically connected together to permit of relative adjustment, caps embracing the corner strips at

the upper corners of the jacket, and means projecting inwardly from said caps and connected to said top wall for holding the elements of said jacket together.

4. A furnace jacket comprising a top wall including a plurality of telescopically associated sections, upright walls including one or more telescopically associated sections, corner strips having outwardly opening grooves disposed substantially at right angles to each other and adapted to receive the marginal edges of said walls, caps disposed over the upper corners of said jacket, means cooperating with said caps to bind said strips and walls together, and means whereby the lower portions of said corner strips and walls are secured together.

5. A furnace jacket comprising a top wall made in sections and suitably shaped for assembly around projections from the top of the furnace, upright walls one or more of which is formed in sections for assembly around lateral projections from the furnace, said wall sections being telescopically associated for adjustability in assembling, corner strips provided with outwardly opening grooves adapted to adjustably receive the marginal edges of said walls, corner caps embracing the ends of the corner strips at the upper corners of the jacket, lugs projecting from said top wall into proximity to said caps and connections between said caps and lugs for holding the parts in assembled position.

6. A furnace jacket comprising a top wall, upright walls, corner strips, and means for securing all of said parts into a unitary structure, said corner strips being formed of metal, arcuate in cross section and provided along their longitudinal edges with outwardly opening grooves adapted to slidably receive the marginal edges of said walls and one or more of said walls being composed of sections slidably associated together to provide for adjustability in assembling and for flexibility of the assembled jacket.

7. A furnace jacket comprising sheet metal top and upright walls, one or more of said walls being formed of sections slidably associated together to provide for adjustability in assembling and flexibility of the assembled structure, sheet metal corner strips of arcuate cross section provided along their longitudinal edges with outwardly opening grooves adapted to slidably receive the marginal edges of said walls, corner caps engaging adjacent corner strips at the upper corner of the jacket and means cooperating with said corner caps for securing said parts in assembled position.

In witness of the foregoing I affix my signature.

GEORGE D. HAUSER.