Feb. 24, 1925.

1,527,679

N. FROST

INSULATED CASING

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Fig. 1.

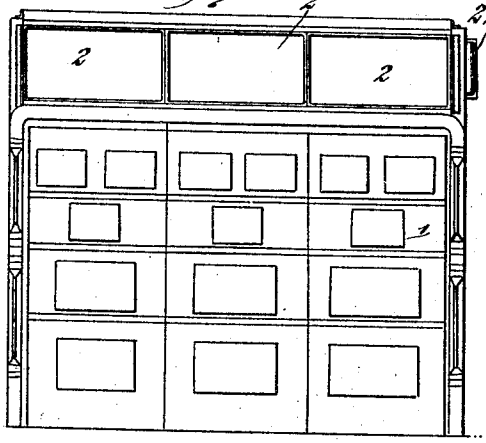


Fig. 2.

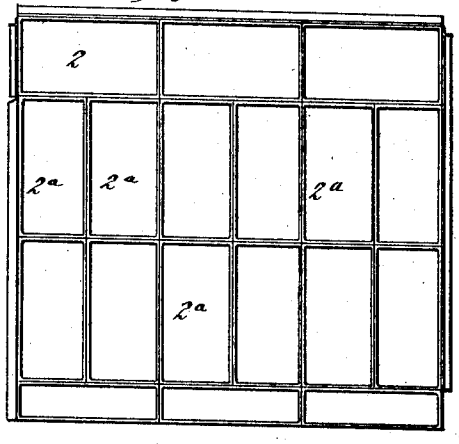


Fig. 3.

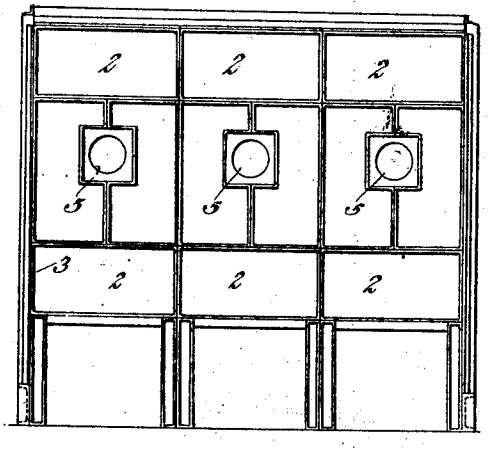
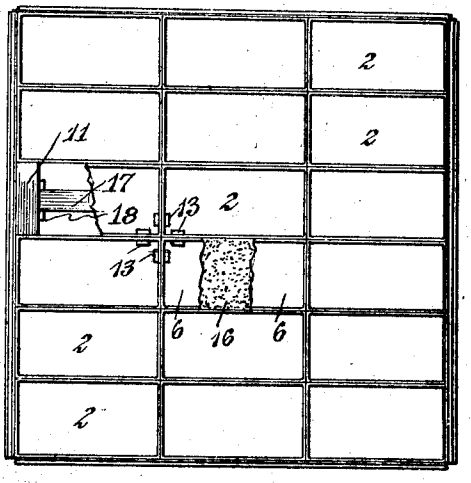


Fig. 4.



WITNESSES

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INSULATED CASING

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Fig. 5.

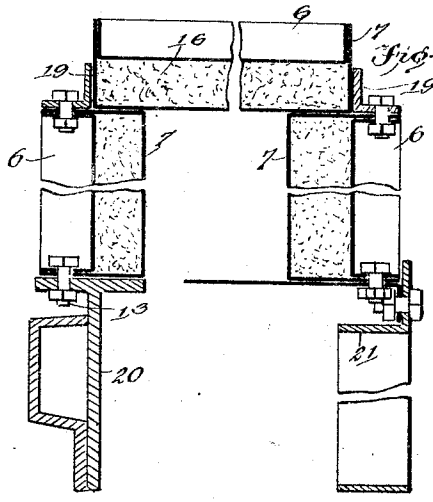


Fig. 6.

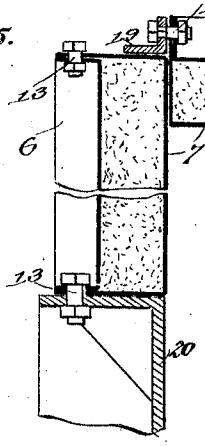


Fig. 7.

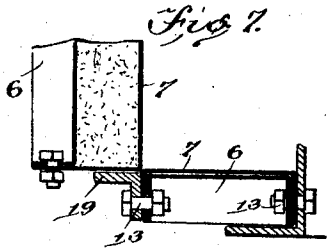


Fig. 8.

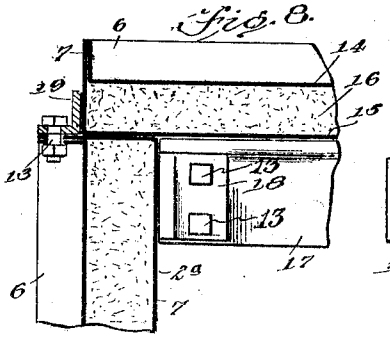


Fig. 9.

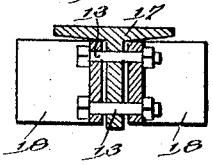


Fig. 10.

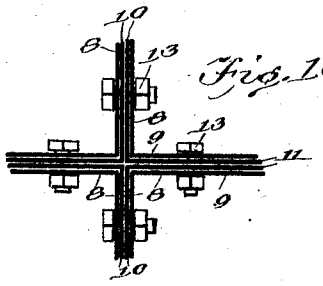
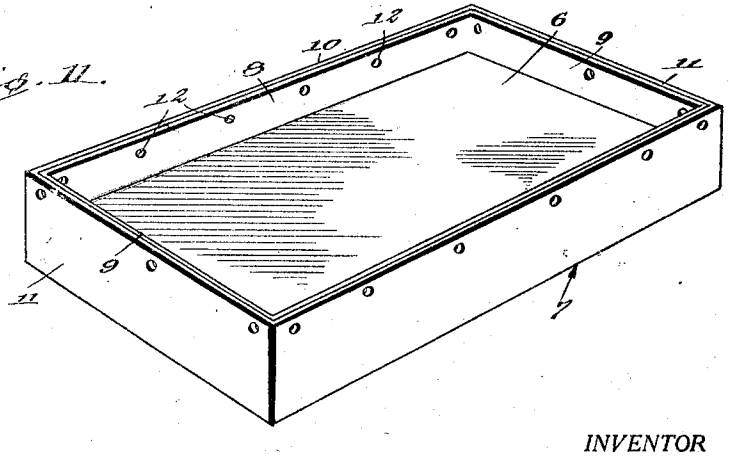


Fig. 11.



WITNESSES

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UNITED STATES PATENT OFFICE.

NATHANIEL FROST, OF BLOOMINGTON, ILLINOIS, ASSIGNOR TO AMERICAN FOUNDRY & FURNACE COMPANY, OF BLOOMINGTON, ILLINOIS, A CORPORATION OF ILLINOIS.

INSULATED CASING.

Application filed June 18, 1924. Serial No. 720,826.

To all whom it may concern:

Be it known that I, NATHANIEL FROST, a citizen of the United States, and a resident of Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Insulated Casings, of which the following is a specification.

This invention relates in general to furnaces for heating air to be circulated through rooms in a building and is more particlularly directed to the type of casing described and claimed in my Patent #1,394,821.

An object of the invention is the provision of a device for confining air to be heated which is supplied under pressure and for conserving the heated air and for reducing to a minimum the leakage of the heated air or radiation from said casing.

A further object of the invention is the provision of a casing constructed of interfitting sheet metal pans and asbestos or other insulating material made up in panels or sections adapted to be readily bolted together, the sectional construction of the panels providing a more convenient article for handling, shipment and assembly or disassembly when the necessity arises for replacement or repairs.

This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawings forming a part of the specification; nevertheless it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications which shall define no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 is a front elevation of my improvement to be installed in the furnace room of a building.

Figure 2 is a side elevation of the furnace.

Figure 3 is a rear elevation of the same.

Figure 4 is a top plan view of the furnace with parts broken away and partly in section.

Figure 5 is a vertical section of the casing showing the construction, more particularly of the top of the casing.

Figure 6 is a fragmentary view in section taken through a side of the casing.

Figure 7 is a fragmentary horizontal section showing the connection between the side and rear panels.

Figure 8 is a fragmentary vertical section of the casing showing the supports for the top deck.

Figure 9 is a section through the supports shown in Figure 8.

Figure 10 is a fragmentary view detailing the joint connection.

Figure 11 is a view in perspective of the interfitted pans forming a panel.

Referring more particularly to the drawings, 1 designates the front of the furnace which is equipped at its upper end with panels 2 constructed in accordance with the principles of my invention. The rear wall 3 has spaced panels 2 and intermediate these panels are other panels especially constructed to provide openings 5 for the smoke pipes passing through the casing.

Each of the panels 2, whether shown in horizontal or vertical position, are composed of a pair of pans 6 and 7 with the pan 6 having less depth than the pan 7 and of slightly less width and length than the same. The pan 6 is fitted within the pan 7 having its side walls 8 and end walls 9 in juxta-position with the respective side walls 10 and end walls 11 of the pan 7. The side walls and end walls are provided with a plurality of alined perforations 12 through which are inserted rivets or bolts 13 for not only securing the side walls and end walls of the interfitted pans together, but for securing the abutting side wall and end wall of adjacent panels, as shown in Figure 10. Interposed between the bottom 14 of pan 6 and the bottom 15 of pan 7 is insulating material 16 which may be formed of asbestos or any well known substance.

As shown in Figure 2, a plurality of horizontally disposed panels 2 form the upper end of a side wall while vertically disposed panels 2^a are alined in pairs and form the greater portion of the side wall below the horizontally disposed panels 2.

The top deck is formed of a plurality of panels 2 which are joined together at their corners as shown in Figure 10 and rest upon beams 17 which are secured by means of angle irons 18 brazed or secured in any approved manner to the outer face of the bottom of the vertically disposed panels 2^a of the side walls.

Where the sides of the outer pans 7 project when formed into either side or end walls of the casing, the bolt 13 is passed not only through perforations in the sides of the pans 6 and 7 but through perforations in one flange of angle irons 19. The other flange of the angle iron is brazed or secured in any approved manner to the sides or ends of the pans 7 and brazing, it will be noted, is employed where the angle irons are located adjacent the insulating material 16.

Wherever expedient or necessary the interfitted pans are secured by means of bolts 13, as shown in Figures 5 and 6 to the heavy metal plates 20 on the louvre damper section 21.

Pipe flanges 22 are provided to receive the usual pipes or conduits for carrying the heated air to the rooms to be warmed.

What I claim is:

1. A panel for sectional furnace casings comprising pairs of interfitting pan-shaped metal members, a heat insulating filling located between the bottoms of the pan-shaped members, the juxta-positioned sides of the interfitting pan-shaped members being provided with alined perforations, and means inserted through the alined perforations for securing the pan-shaped members together.

2. A sectional furnace casing consisting of a plurality of panels connected together, each panel comprising pairs of interfitting pan-shaped metal members, a heat insulating filling located between the bottoms of the pan-shaped members, the juxta-positioned sides of the interfitting pan-shaped members being provided with alined perforations, and means for securing the side and end walls of the adjacent panels together.

3. A sectional furnace casing comprising a plurality of panels having corresponding end and side walls in abutting relation, each panel comprising pairs of interfitting pan-shaped metal members, and means for securing the abutting side and end walls together.

4. In a sectional furnace casing having side walls, a top deck comprising a plurality of panels having corresponding end and side walls in abutting relation, each panel comprising pairs of interfitting pan-shaped metal members, insulating material located between the bottom of the pan-shaped members, means for securing the abutting end and side walls of the panels together, a beam in engagement with the bottom of the top deck, and angle irons secured to the ends of the beam and the opposed walls of the casing.

5. A panel for the furnace casing comprising a pair of interfitting pan-shaped metal members, the outer pan having a greater depth than the inner pan, and insulating material located between the bottom walls of the interfitting pan-shaped members.

NATHANIEL FROST.