Dec. 15, 1931. G. D. HAUSER 1,836,070

METAL CASING

Filed July 30, 1928

Fig. 1.

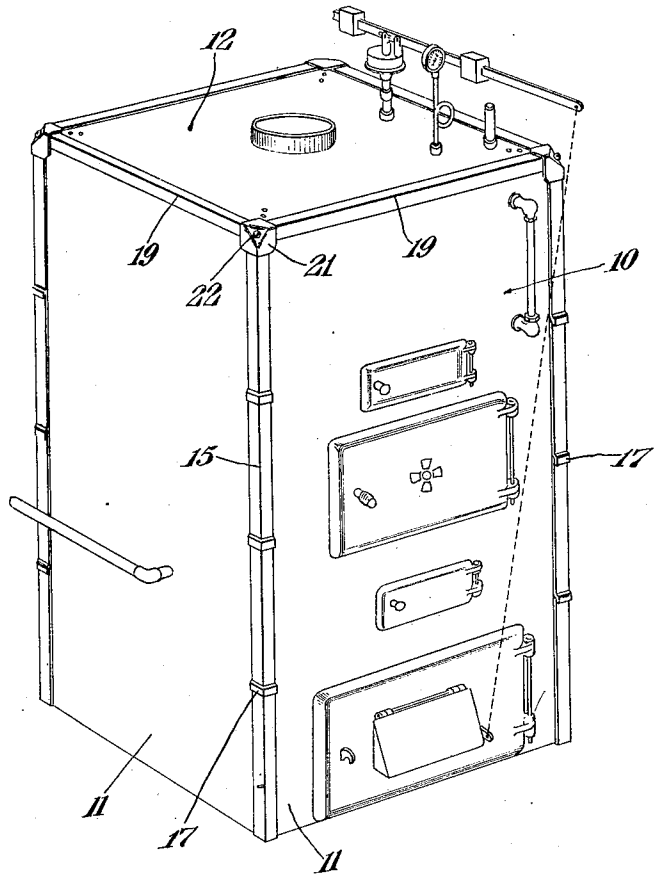


Fig. 2

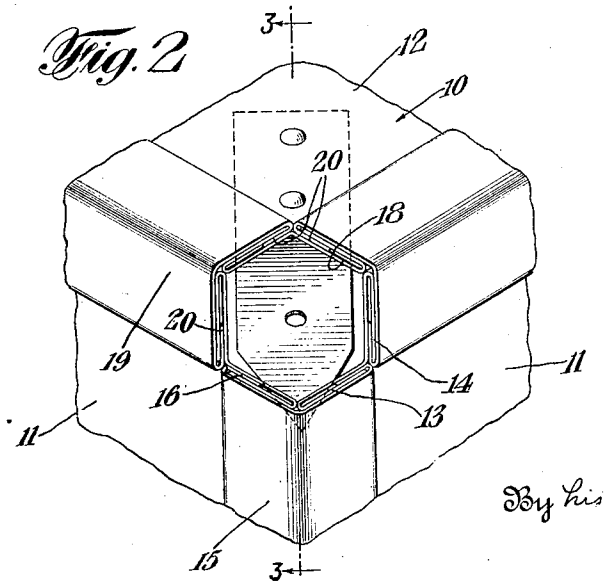
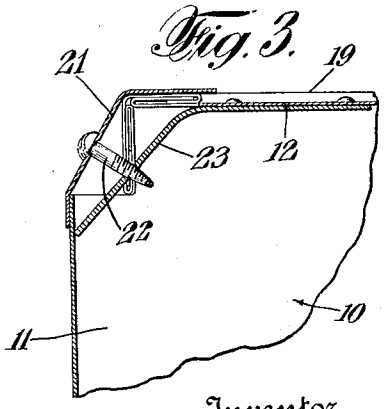


Fig. 3.



Inventor

George D. Hauser

By his Attorneys

Kenyon & Kenyon

Patented Dec. 15, 1931 1,836,070

UNITED STATES PATENT OFFICE

GEORGE D. HAUSER, OF UTICA, NEW YORK, ASSIGNOR TO UTICA PRODUCTS, INC., OF UTICA, NEW YORK, A CORPORATION OF NEW YORK

METAL CASING

Application filed July 30, 1928. Serial No. 296,295.

This invention relates to sheet metal casings and pertains more especially to an enclosing casing for furnaces and the like. Until recently furnace casings have commonly been cylindrical in form and have been constructed by arranging one or more strips of sheet metal around the furnace and joining together the vertical edges. Of late, however, furnace casings are being made square in cross-section from flat pieces of metal.

An object of this invention is a furnace casing having flat sides and a rectangular top provided with improved means for attaching together the sides and the top by means of which the casing may be quickly, inexensively and easily assembled around the furnace without the use of any special tools and even though the furnace be arranged in a place where there is but little space left to work.

Other objects, novel features and advantages of this invention will be apparent from the following specification and accompanying drawings wherein:

Fig. 1 is a perspective view of a furnace provided with a casing constructed in accordance with this invention;

Fig. 2 is a perspective view of one corner of the casing with one element omitted and

Fig. 3 is a section on the line 3—3 of Fig. 2 with the omitted element in place.

The casing 10 is made up of vertical rectangular metal sheets 11 and a top square metal sheet 12. Each vertical edge of the side plates 11 is turned back to form outwardly reversely bent flanges 13. Also at each upper edge of the plates 11 there are provided outwardly extending reversely bent flanges 14. At each upper corner of the plates 11 the metal is cut away to an extent slightly greater than the width of the flanges 13 and 14. Angle strips 15 join together the edges of the plates 11. These angle strips 15 are provided with inwardly extending reversely bent flanges 16 which engage the flanges 13 and securely lock the plates together. These angle strips are brought into locking relationship to the plates 11 by sliding the flanges 16 along the flanges 12. The angle strips 15 are preferably relatively short in length and several of them are used at each corner of the casing. By having these strips 15 relatively short they may be slid into operative relationship to the plates 11 where there is but little head room above the furnace. Each angle strip is provided with a flange 17 to overlie the end of the next angle strip, thus preventing any gap between the ends of the strips and also presenting a neat appearance and making a stronger joint. The angle strips 15 terminate just slightly below the cut out at each of the corners of the plates 11.

The edges of the top plate 12 are provided with outwardly extending reversely bent flanges 18 and the top plate 12 is connected to the vertical side plates by means of angle strips 19 having reversely bent inwardly extending flanges 20. The flanges 20 of the angle strips 19 are engaged with the flanges 18 by sliding the angle strips into position. Each corner of the top plate 12 is cut away for a distance slightly in excess of the width of the flanges 18, thus permitting the various strips 19 to be slid into position. The strips 15 do not interfere with the sliding of the strips 19 into position as they terminate below the cut out corners of the plates 11.

When the casing has been assembled as previously described there is left at each of the corners an open space. This space is closed by a corner 21 having a triangular face and three triangular ears. Each apex of the triangular face engages one end of an angle strip and prevents movement thereof and each triangular ear overlies the cut out corner of one plate. This corner is held in position by a screw 22 passing through it and threaded into a lug 23 carried preferably by the top plate 12 and extending obliquely downwardly into the corner between two side plates 11.

The casing above described can be easily and quickly assembled in place about a furnace even though the working space is very limited. The angle strips hold the plates 11 and 12 securely in place and are themselves held securely in place by the corners 20. This casing may be used in connection with any type of furnace but preferably with a hot water or steam furnace. The various parts

of the furnace disclosed in Fig. 1 are not described as they form no part of this invention.

In assembling the casing the vertical or side plates or sheets 11 are placed around the furnace and their vertical edges connected by the strips 15 which are slid downwardly to engage their flanges 16 with the flanges 13. The top plate 12 is then arranged in position and its edges connected to the top edges of the plates 11 by the angle strips 19 which are slid horizontally to engage the flanges 20 with the flanges 14 of the plates 11 and the flanges 18 of the top plate 12. Since the corners of the plates 11 and 12 are cut out and the angle strips terminate at the edges of these cut-outs, no one of the angle strips interferes with any other and each angle strip may be easily slid into position after the edges of the plates 11 and 12 have been connected by the angle strips 15 and 19. The corners 21 are placed in position and locked by means of screws or bolts 22, thus completing the assembling of the casing.

I claim:

1. In a casing comprising a plurality of side plates having reversely bent flanges at their top and side edges, a top plate having reversely bent flanges at its edges, angle strips having reversely bent flanges and engaging the flanges of said side and top plates, a corner member overlying the top end of each vertical angle strip and the adjacent ends of the horizontal angle strips, lugs carried by one of said plates adjacent the corners thereof, and means for attaching said corner members to said lugs.

2. In a casing comprising a plurality of vertical side plates having reversely bent flanges at their top and side edges, a top plate having reversely bent flanges at its edges, the said side plates being cut away at the top corners to a depth equal to the width of its flanges and said top plate being cut away at each corner to a depth equal to the width of its flanges, angle strips having reversely bent flanges and engaging the flanges of said side and top plates, a corner member overlying the top end of each vertical angle strip and the adjacent ends of the horizontal angle strips and means for attaching said corner members to the corners of one of said plates.

3. In a casing comprising a plurality of vertical side plates having reversely bent flanges at their top and side edges, a top plate having reversely bent flanges at its edges, the said side plates having cut away at the top corners to a depth equal to the width of its flanges and said top plate being cut away at each corner to a depth equal to the width of its flanges, angle strips having reversely bent flanges and engaging the flanges of said side and top plates, a corner member overlying the top end of each vertical angle strip and the adjacent ends of the horizontal angle strips and means for attaching said corner members to the corners of said top plate.

4. In a casing comprising a plurality of vertical side plates having reversely bent flanges at their top and side edges, a top plate having reversely bent flanges at its edges, the said side plates being cut away at the top corners to a depth equal to the width of its flanges and said top plate being cut away at each corner to a depth equal to the width of its flanges, angle strips having reversely bent flanges and engaging the flanges of said side and top plates, a corner member overlying the top end of each vertical angle strip and the adjacent ends of the horizontal angle strips, lugs carried by said top plates adjacent the corners thereof and screw members for attaching the corner members to said lugs.

5. In a casing comprising a plurality of side plates having reversely bent flanges at their top and side edges, a top plate having reversely bent flanges at its edges, angle strips having reversely bent flanges and engaging the flanges of said side and top plates, a corner member overlying the top end of each vertical angle strip and the adjacent ends of the horizontal angle strips, lugs carried by said top plate adjacent the corners thereof and means for attaching said corner members to said lugs.

6. A casing comprising a plurality of vertical side plates having reversely bent flanges at their top and side edges, a top plate having reversely bent flanges at its edges to the said side plates having cut away at the top corners to a depth equal to the width of its flanges and said top plate being cut away at each corner to a depth equal to the width of its flanges, angle strips having reversely bent flanges and engaging the flanges of said side and top plates, a corner member overlying the top end of each vertical angle strip and the adjacent ends of the horizontal angle strips, lugs carried by said top plate adjacent the corners thereof and means for attaching said corner members to said lugs.

In testimony whereof, I have signed my name to this specification.

GEORGE D. HAUSER.