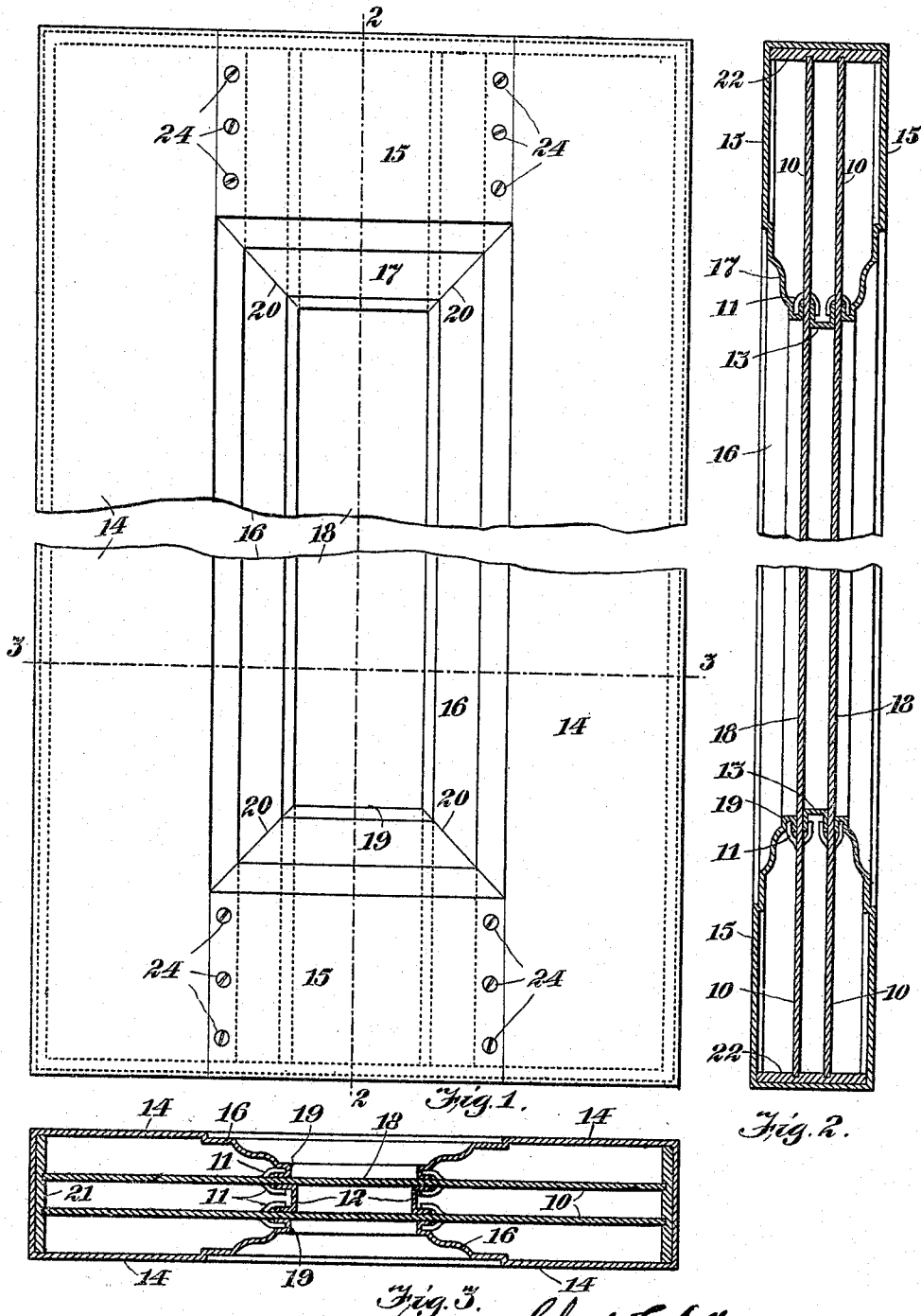


933,328.

Patented Sept. 7, 1909.
3 SHEETS—SHEET 1.



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Fig. 3.

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933,328.

Patented Sept. 7, 1909.

3 SHEETS—SHEET 2.

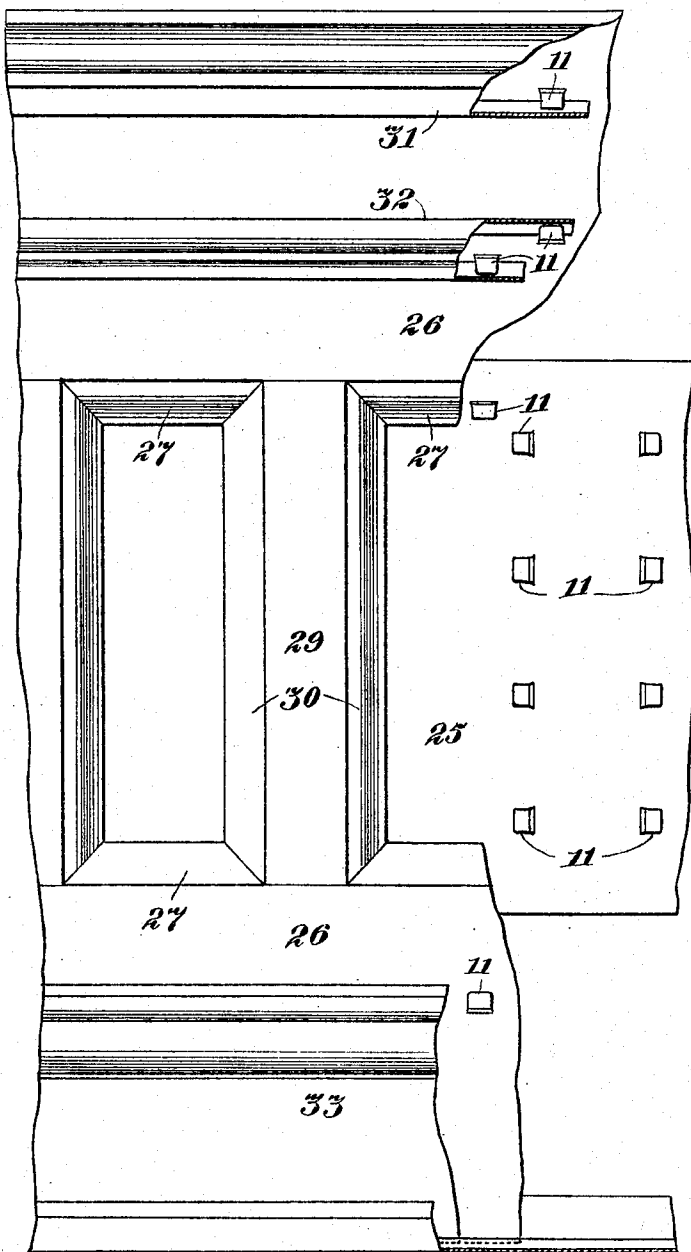


Fig. 4.

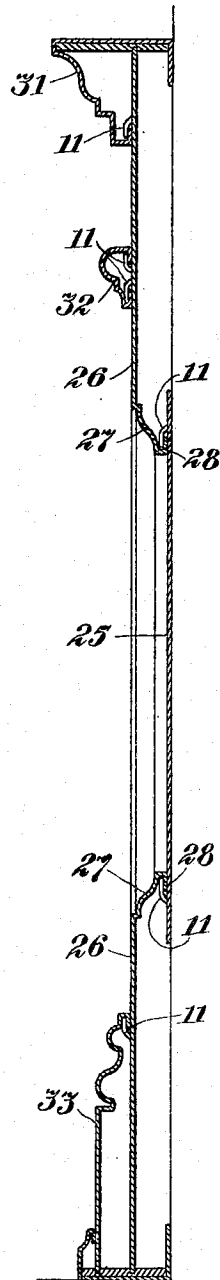


Fig. 5.

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933,328.

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3 SHEETS—SHEET 3.

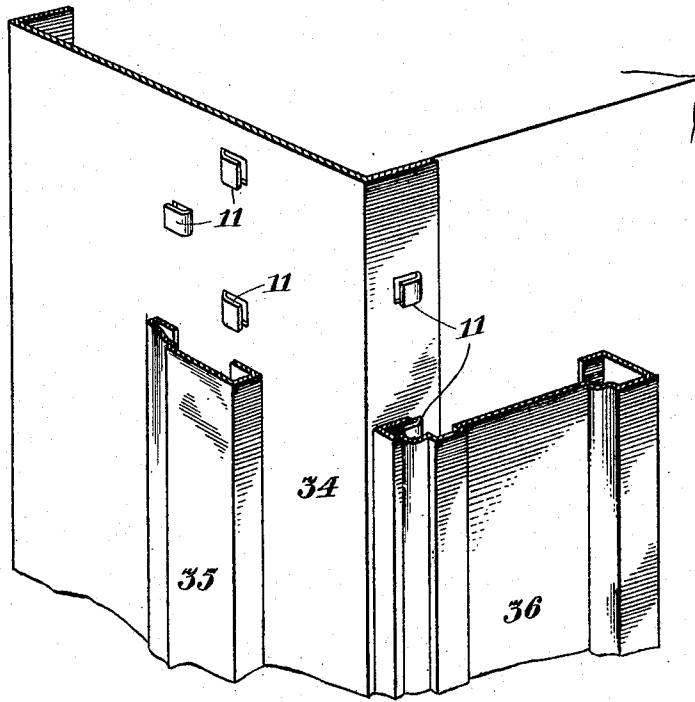


Fig. 6.

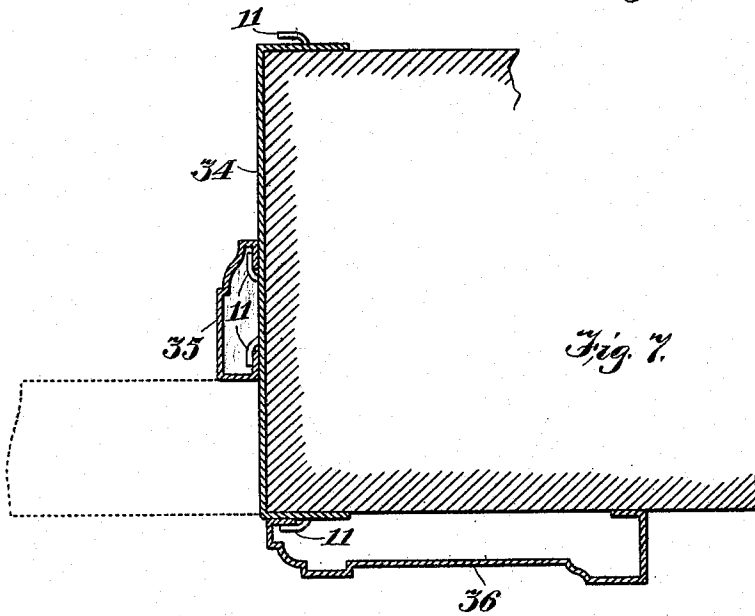


Fig. 7.

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UNITED STATES PATENT OFFICE.

CHARLES E. NELLIS, OF NEW YORK, N. Y., ASSIGNOR TO JOHN W. RAPP, OF NEW YORK, N. Y.

SHEET-METAL DOOR, WAINSCOTING, &c.

933,328.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed June 26, 1907. Serial No. 380,965.

To all whom it may concern:

Be it known that I, CHARLES E. NELLIS, a citizen of the United States, and a resident of the city and State of New York, county of Queens, have invented certain new and useful Improvements in Sheet-Metal Doors, Wainscoting, &c., of which the following is a specification.

This invention relates to sheet metal doors, wainscoting, etc., and the object of the invention is to secure the component parts of such doors, wainscoting, etc. to each other in a simple and improved manner.

I will describe structures embodying my invention and then point out the novel features in the claims.

In the accompanying drawings:—Figure 1 is a front elevation of a door constructed in accordance with my invention; Fig. 2 is a section on the line 2—2 of Fig. 1; Fig. 3 is a section on the line 3—3 of Fig. 1; Fig. 4 is an elevation, partly broken away and partly in section, of wainscoting constructed in accordance with my invention; Fig. 5 is a vertical transverse section of Fig. 4; Fig. 6 is a perspective view, partly in section, of trimmings secured to a door jamb in accordance with my invention; Fig. 7 is a horizontal section of Fig. 6; Fig. 8 is an edge view of the upper portion of the door showing a detail of construction.

Referring to Figs. 1, 2 and 3, 10, 10 indicate two plates or panels of a length and width substantially equal to the length and width of the door. Each plate is provided with a series of lugs or ears 11 which are formed by striking up portions of the metal wherever desired. As shown, these lugs project on each side of both plates and are arranged in vertical alinement and also in horizontal alinement. The lugs on the inner opposing faces of the plates receive and hold vertically extending channel bars 12 and horizontally extending channel bars 13, and these bars serve to hold the plates 10, 10, in parallel relation to each other with a space between them.

The stiles or vertical rails of the door are indicated by 14, the top and bottom rails by 15, the molding connected to the stiles by 16, and the molding connected to the rails by 17. The panels 18 on opposite sides of the door are formed by the portions of the plates 10, 10, which are surrounded by the moldings

16 and 17. The stiles 14 are longer than the plates 10 and grooved bars 21 and 23, and the edge portions thereof are cut out at the upper and lower ends so as to bring the upper and lower ends of the edge portions flush with the upper and lower ends of the bars 21 and 23 when the parts are assembled. The upper and lower ends of the plates 10 will project beyond the ends of the bars 21 and 23 to an extent substantially equal to the depth of the grooves in bars 22. As shown the inner edge of the molding is formed with a return bend as indicated at 19, and this return bend interlocks with the lugs 11. Also, as shown, each stile 14 and the moldings 16 on both faces of the door connected to it is formed from a single piece of metal which also forms a side edge of the door, and each rail 15 and the molding 17 on each face of the door connected to it is formed from a single piece of metal which also forms a portion of an end edge of the door. The molding 16 is substantially the same length as the stiles, as indicated by dotted lines in Fig. 1, but the molding 17 is mitered as indicated at 20.

The parts of the door are assembled as follows: The two plates 10, 10, are first connected together by the channel bars 12 and 13 and then one of the stiles and molding 16 is slid over the plates with the return bends 19 of the molding interlocked with the lugs 11. The bar 21, which has longitudinal grooves to receive the side edges of the plates 10, 10, is then inserted between the metal forming the edge of the door and the side edges of the plates 10, 10. The rails 15 and molding 17 are next slid over the plates with their return bends 19 interlocked with lugs 11 and the molding 17 will overlap the molding 16. The other stile and its molding is then slid over the plates 10, 10, with the return bends 19 interlocked with lugs 11 and the grooved bar 23 is then inserted in position. The grooved bars 22, 22 are then inserted in a way similar to the bars 21 and 23 and the end portions of the stiles are then folded over onto the bars 22 to complete the top and bottom edges of the door as indicated by dotted lines in Fig. 8. The ends of the bars 22 are flush with the side edges of the door. The moldings 17 overlap the moldings 16 and form copes and the mitered ends of the moldings 17 may, if desired, be

soldered to the moldings 16. Also it desired the rails 15 may be connected to the moldings 16 by screws 24.

Referring to Figs. 4 and 5 which illustrate wainscoting in which the component parts are secured to each other in accordance with my invention, a plate 25 is provided with lugs or ears 11 projecting outwardly therefrom. The plate 25 is secured to a wall in any suitable manner and to it top and bottom rails 26 having moldings 27 integral therewith and said molding having a return bend 28 at its inner end edge are secured by interlocking return bends 28 with lugs 11 as shown in Fig. 5. Vertical rails or stiles 29 having integral moldings 30 are also secured to said plate in a similar manner. In this construction, the molding 30 will overlap the molding 27 and form copes. In this construction one of the rails 26 is first fitted in position, next the vertical rails 29 and then the other rail 26. The rails 26 also have lugs 11 formed thereon with which a cap piece 31, moldings 32 and foot piece 33 are interlocked.

In Figs. 6 and 7 a sheet metal door jamb 34 is provided with projecting lugs or ears 11 with which a door stop 35 and an architrave 36 are interlocked.

It will be observed that in all the structures illustrated the ears or lugs are entirely concealed by the molding or other part interlocked with them. Also in Figs. 1, 2 and 3 the plates 10, 10, are inclosed and hidden from view by the stiles and rails except their central portions which form the panels 18.

I claim—

1. In a sheet metal door and like construction, a bottom rail and a metal panel comprising parallel spaced plates having struck out tongues, and said rail plates having a molding portion with bent free edge adapted to engage and interlock with said tongues.

2. In a sheet metal door, the combination of a plate having vertical rows of separated, integral lugs projecting from its surface and also horizontal rows of similar lugs, stiles having integral molding and the latter having a return bend at its inner edge to interlock with the vertical rows of lugs, and rails also having integral molding with a return bend at its inner edge to interlock with the horizontal rows of lugs.

3. In a sheet metal door, the combination of two opposing plates secured together in parallel relation with a space between them and each having vertical and horizontal rows of lugs projecting from its outer surface, two stiles each formed from a single strip of metal and having a return bend at each

of its longitudinal edges to interlock with the vertical rows of lugs on the respective plates, and two rails each formed from a single strip of metal and having a return bend at each of its longitudinal edges to interlock with the horizontal rows of lugs.

4. In a sheet metal door, two opposing plates arranged in parallel relation to each other and having rows of lugs projecting from their opposing surfaces, and channel bars interlocked with said lugs to connect said plates to each other and also hold them in spaced relation to each other.

5. In a sheet metal door, two opposing plates connected together with a space between them, combined with sheet metal stiles and rails connected to said plates and entirely inclosing the edge portions thereof, and the central portions of said plates forming the door panels, and grooved bars inserted between the edges of said plates and the metal forming the stiles and rails, with the edges of the plates fitting in the grooves in the bars.

6. In sheet metal structures, the combination of a plate having vertical rows of integral lugs projecting from its surface, and also horizontal rows of similar lugs, stiles having integral molding with a return bend at its free edge to interlock with the vertical rows of lugs, and rails having also integral molding with a return bend at its free edge to interlock with the horizontal rows of lugs, the molding on the rails being mitered and overlapping the molding on the stiles to form copes, or vice versa.

7. In a fireproof door and like construction, the combination with panels comprising parallel spaced plates having struck up lugs, and a portion provided with a lip to engage said lugs to secure said portion to the plates.

8. In a sheet metal door and like construction, the combination of a metal panel comprising parallel spaced plates having struck up tongues, and a molding portion with bent free edge to engage and interlock with said tongues.

9. In a sheet metal door and like construction, a metal panel comprising parallel spaced plates having struck up tongues, means for securing the plates to each other, and molding portions with bent free edges to engage and interlock with said tongues.

In witness whereof, I have hereunto set my hand to the foregoing specification in the presence of two subscribing witnesses.

CHARLES E. NELLIS.

Witnesses:

JOS. F. O'BRIEN,
H. R. BAUER.