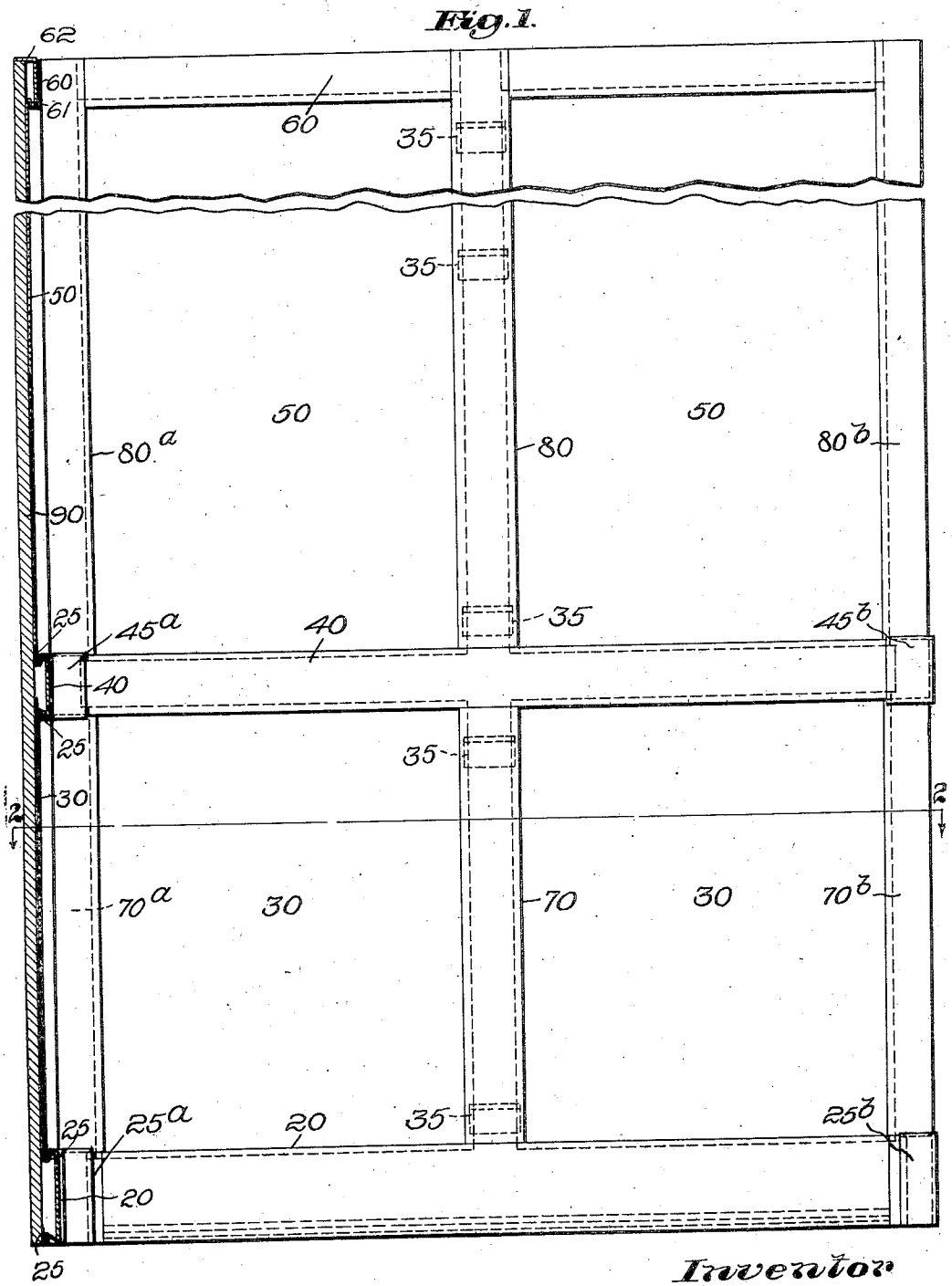
April 14, 1936. H. B. BETTINGER ET AL 2,037,560

WALL SHEATHING

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Fig. 1.



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Fig. 2.

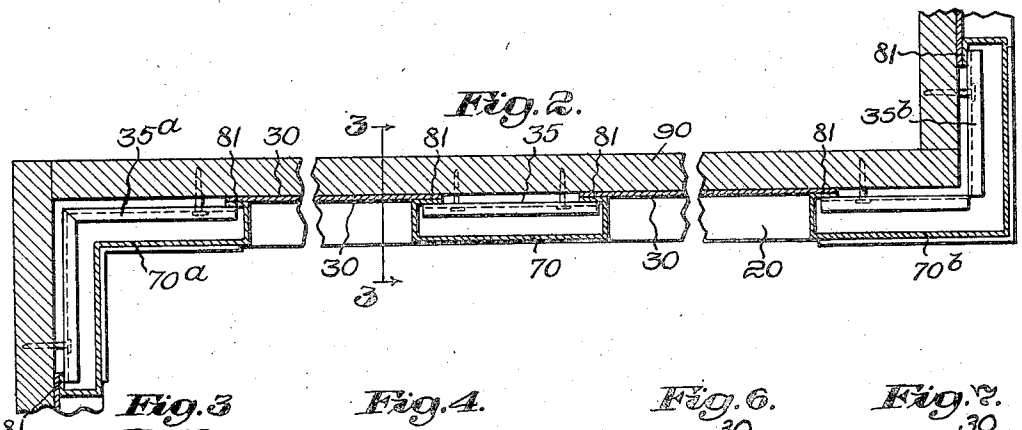


Fig. 3

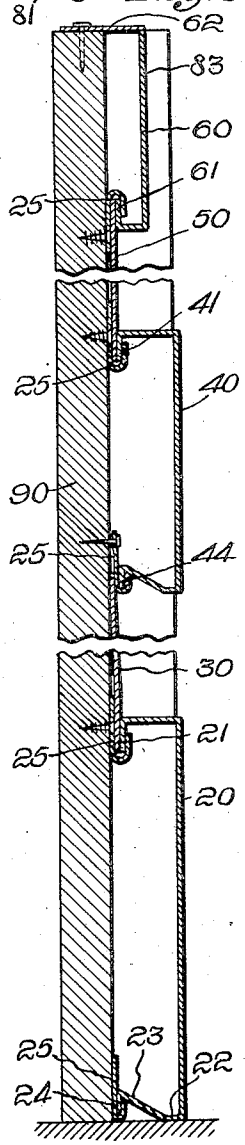


Fig. 4.

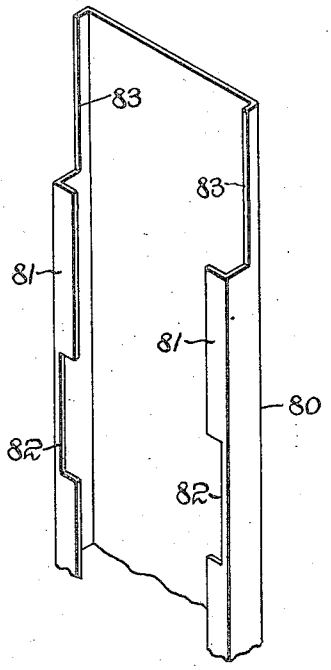


Fig. 6.

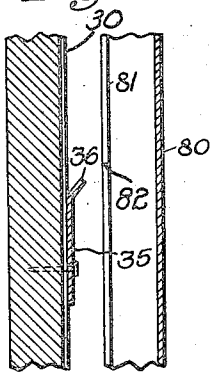


Fig. 7.

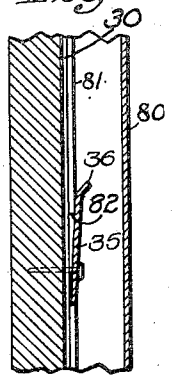


Fig. 5.

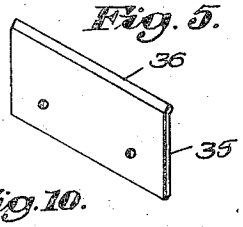


Fig. 8.

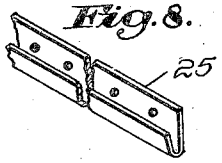


Fig. 10.

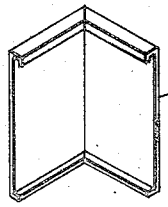
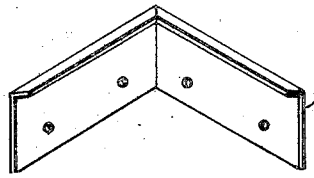


Fig. 9.



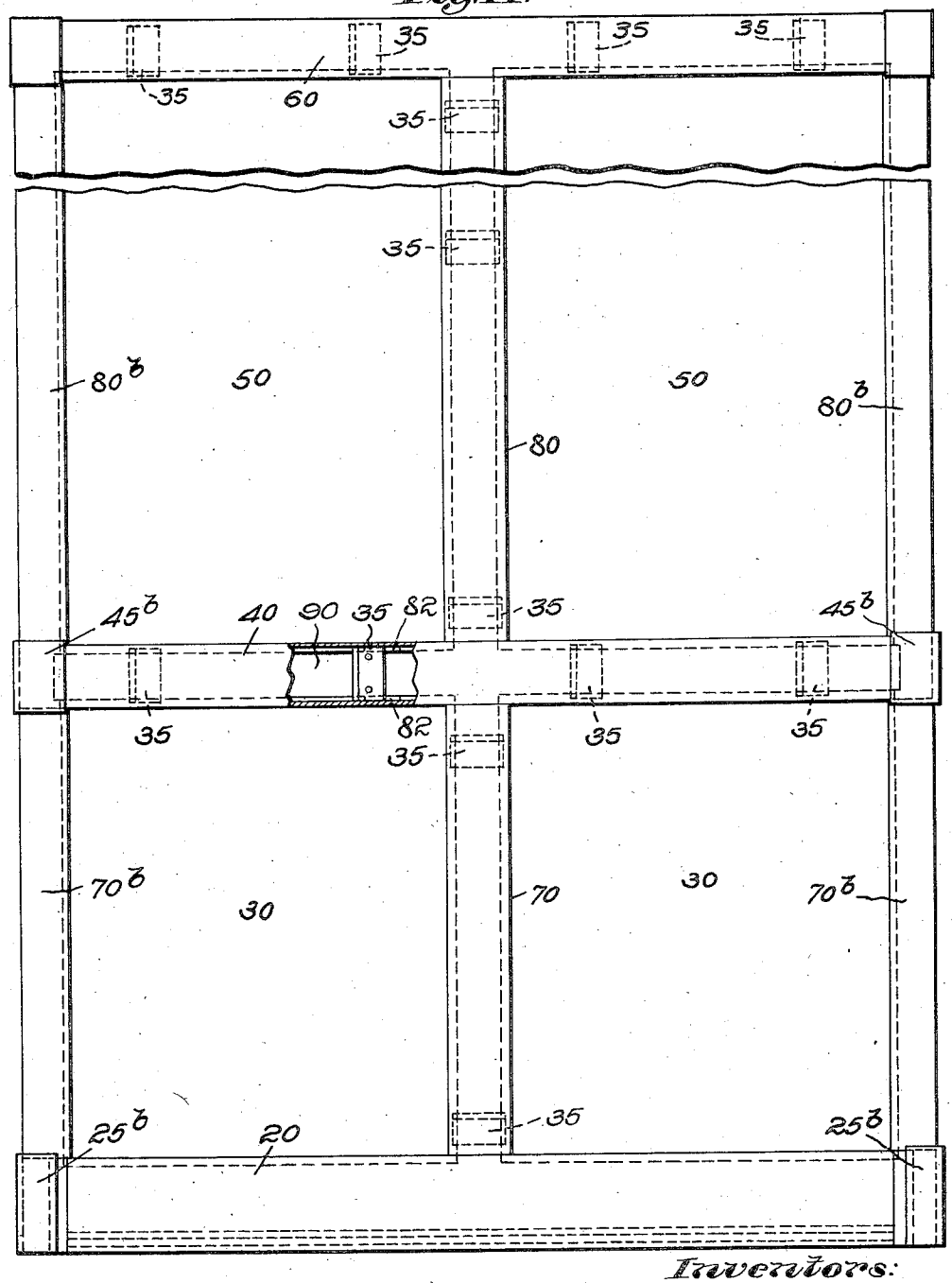
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April 14, 1936. H. B. BETTINGER ET AL 2,037,560

WALL SHEATHING

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Fig. 11.



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Patented Apr. 14, 1936 2,037,560

UNITED STATES PATENT OFFICE

2,037,560

WALL SHEATHING

Hoyland B. Bettinger and James A. Strum, Waltham, Mass., assignors to Bettinger Enamel Corporation, Waltham, Mass., a corporation of Massachusetts

Application December 8, 1934, Serial No. 756,626

8 Claims. (Cl. 189—85)

This invention relates to walls and the object is to provide for sheathing extended surfaces, such, for example, as walls, with sheet metal and more particularly with metal coated with vitreous enamel. The invention provides for rapid installation, secure anchorage and an attractive appearance of the resultant work due to the absence of visible fastenings.

The invention may be well understood by reference to the following description taken in connection with the accompanying drawings, wherein:—

Fig. 1 is a view chiefly in elevation of an angular wall surface having a sheathing in place thereon;

Fig. 2 is a transverse section on the line 2—2 of Fig. 1 on a larger scale;

Fig. 3 is a section on the line 3—3 of Fig. 2;

Fig. 4 is a fragmentary perspective view of a pilaster as seen from the rear;

Fig. 5 is a perspective view of a clip used in securing the pilaster;

Fig. 6 is a section illustrating a step in mounting the pilaster;

Fig. 7 is a similar section showing the pilaster in place;

Fig. 8 is a broken perspective of a strip utilized for mounting the panels and rails;

Fig. 9 is a perspective of a modified form of clip;

Fig. 10 is a perspective of a joining sleeve; and

Fig. 11 is a broken front elevation of a projecting wall section showing a modified construction.

For purposes of the present disclosure the invention is shown as applied to a vertical wall having a metallic sheathing comprising a bottom rail or mop-board **20**, lower panels **30**, intermediate rail **40** and a top rail or header **60**. Pilasters **70** extend between the lower or intermediate rails between the bottom panels **30** and similar pilasters **80** extend from the intermediate rail between the upper panels **50** and herein are shown as overlapping at their upper ends the top rail **60**. Viewing Fig. 1, at the left the wall forms an internal angle and the pilasters **70***a* and **80***a* have a corresponding angular form, as best seen in Fig. 2, while at the right the wall forms an external angle and the pilasters **70***b* and **80***b* are correspondingly formed. In the description and claims we shall refer to a vertical wall and use the nomenclature of rails, pilasters and the like, although it will be understood that they are in a sense relative and that the invention might be embodied in various forms in which the corresponding members would not ordinarily be denominated by these specific terms.

It is believed that the construction will be best understood by a description of a normal method of applying the parts shown, the detailed construction of these parts in so far as it is necessary to describe them being taken up as the description proceeds.

The wall or backing **90** to which the sheathing is to be applied is adapted to receive nails or similar fastenings, for example, by the application thereto of suitable furring strips. The bottom rail **20** is first installed. This is a hollow, open-backed, sheet metal structure of generally channel shape although the exterior contour obviously may vary. From the upper rear edge of the same a depending flange **21** is provided. The lower side may have a flat portion **22** to contact with the floor and an upwardly sloping portion **23** which terminates in a downwardly extending flange **24** in substantially the plane of the flange **21**. Hence both flanges **21** and **24** are received within the projected margins of the outer face of the rail and will be concealed when it is set against the wall. It is secured to the wall by means of substantially rigid metal strips **25** bent to provide hooks as shown and conveniently formed in pieces of approximately the width of the panels. These strips are nailed or similarly secured to the wall, at the floor level and at a suitable distance above, as best seen in Fig. 3, and the bottom rail is secured to the wall by inserting the flanges **21** and **24** from above into the upwardly facing throats of the hooks. The resultant fastening is permanent and unyielding as against movement perpendicular to the wall.

Panel **30**, which is a plain flat sheet, may then be placed in position, its lower edge being inserted into the throat of the upper of the two strips **25** behind the flange **21** of the rail **20**. The upper edge of the panel may now be secured by nailing a strip **25** to the wall in overlapping relation thereto.

When two adjacent panels have been secured in this manner, the lower pilaster section **70** may be applied. The vertical edges of the panels are somewhat spaced and the pilaster bridges over their opposed edges. At suitable vertical intervals there are nailed to the wall between these edges clips **35** in the form of flat plates of suitable length to extend over the edge of the panels **30**, as seen in Fig. 2, and having the outwardly flaring upper edges **36** for a purpose presently to be described. The pilaster **70** is generally sim-

ilar to the pilaster 80 in general construction except for a detail to be referred to, and it will therefore be convenient to refer to the detail of the pilaster 80 in Fig. 4. The pilaster is of a generally hollow, open-back form of any suitable exterior contour and at its rear edges is provided with inwardly facing, substantially coplanar flanges 81. At suitable intervals these flanges are cut away or notched at 82. The proportion of the parts is such that the clips 35, as seen in Fig. 5, will pass through the notches 82 but they are wider than the distance between the terminal edges of the flanges 81 so that if subsequently the pilaster is moved longitudinally, the flanges will enter behind the clips. Thus in Fig. 6 we have illustrated the pilaster 80 held spaced from the wall ready to be moved toward the left in that figure to permit the clip 35 to pass through the notches and the flanges 81 to take a position at the rear face of the clip. The pilaster may then be moved downwardly, as indicated in Fig. 7, the engagement being facilitated by the forwardly bent edge 36 of the clip and the flanges will thus be jammed in behind the ends of the clip and between the same and the edges of the adjacent panels, as 30 in Fig. 2, securely holding the pilaster to the wall and firmly clamping the edges of the panels by the broad, flat, bearing surfaces provided by the flanges 81, the joint between the pilaster and the panels being made over a substantial area. It will be understood that the longitudinal motion of the pilaster need be very slight. In the example of the invention shown the pilaster 70 bottoms and rests on top of the base board 20.

When an intermediate rail 40 is provided it may be substantially similar in construction to the bottom rail 20 and have a flange 44 at its lower edge which is placed in the upwardly facing hook of the strip 25 which overlaps the upper edge of panel 30 and a flange 41 which is received in the upwardly facing hook of a strip 25 previously nailed in proper position to the wall. The lower edge of a panel 50 is engaged in the throat of this hook behind the flange 41 of the intermediate rail. To secure the upper edge of the panel a strip 25 may be nailed on the wall in reversed position with its hook facing downwardly in position to receive the upper end of the panel 50. As this panel is a flat sheet of considerable height, it may be bowed sufficiently to permit its upper end to be engaged in this downwardly facing hook. The pilasters 80 may then be installed between panels 50, being supported by clips 35 in the manner already described with respect to the pilasters 70. Pilasters 80, as best seen in Fig. 4, may be cut away at 83 at their upper ends to receive the headers 60 in the manner shown in Fig. 3.

The top rail or header 60 is herein shown as provided at its lower rear edge with an upwardly extending flange which may be engaged from below in the downwardly facing hook of the strip 25 which secures the top edge of panel 50. The upper edge may be secured in any desired manner. In the example shown the sheathing does not extend to the ceiling of the room and the uppermost wall of the rail is extended at 62 and shown as nailed to the top of the furring. While this nailing is visible, it is disposed at such a height on the horizontal surface that that is not objectionable. In installing the top rails 83 they may be slid behind a pilaster 80 already in place at one end of their position in such manner that the other end does not project to interfere with the placing of the next adjacent pilaster 80, and after this latter is in position the top rail may be slid slightly in the hooks 60, a movement of a fraction of an inch only being required, to engage its said other end in the seat therefor provided by the cut away portion 83.

The pilasters 70*a* and 80*a* at an interior corner of the room differ from the pilasters 70 and 80 merely in exterior contour, being shaped to form an angle, as best seen in Fig. 2, while the clips 35*a* are correspondingly shaped. Similarly pilasters 70*b* and 80*b* form an exterior angle and the clips 35*b* may correspond.

In the embodiment of the invention shown the rails 20 are in sections of sufficient length to correspond to the width of two panels and telescoping, joining sleeves of suitable form such as 25*a* and 25*b* connecting the base rail 20 at the interior and exterior angles respectively and similar sleeves 45*a* and 45*b* for the intermediate rail may be provided. Plain straight sleeves, not shown, may be utilized to join sections of rail along extended wall surfaces.

Referring now to the modification of Fig. 11, we have there shown a construction in which horizontal members such as the intermediate rail 40 and the top rail 60, which latter in this instance rests on top of the pilasters 80, are constructed substantially like the pilasters with flanges 81 notched at 82, as shown in Fig. 4, and are secured against the wall by clips 35. In this construction it is convenient to position the panels by means of a small nail or two driven lightly through the margins while the rails and pilasters are being slipped into position over the clips. This, however, is merely to support the panel temporarily in position and is not effective to retain the structure upon the wall, the panels being positioned by the rails and pilasters which overlie them and which are anchored in position by the clips. In the modification shown in Fig. 1 the hooked plates 25 must be positioned quite accurately and the necessity for this is avoided in the modification of Fig. 11. Also in the construction shown in Fig. 11 a somewhat greater leeway is provided for in fitting the enameled parts, which cannot be trimmed to size, to the area of the surface to be covered by telescoping the same to a greater or less extent.

It will be noted that in the construction shown the enameled members are each formed solely from a single sheet of metal of uniform section. This is most important not only because it is simple but because such a construction is vitally necessary to good work. If the thickness of the metal is not uniform, it cannot be properly enameled. Thus it might be supposed that such an anchoring element could be welded, for example, to the back of a pilaster. This, however, could not be done after enameling as the coating would be destroyed, and if it were done before, the resulting thick spot would cause a corresponding discoloration in the enameled surface.

It will be seen that the mounting elements used in the installation are inexpensive and rugged. The installation may be effected rapidly and there is little or no danger of the enamel being chipped in the process. The construction is firm and the appearance most satisfactory, particularly because, as is apparent from the drawings, the securing means are substantially entirely concealed when the work is completed.

We are aware that the invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof,

and we therefore desire the present embodiment to be considered in all respects as illustrative and not restrictive; reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

We claim:

1. A sheet metal wall sheathing comprising horizontally disposed hooks secured to the wall, series of overlapping sheet metal sections having their edges received in said hooks, the overlying edges being formed as reversely bent flanges whereby they are concealed in the final structure, and pilasters overlying the edges of adjacent series and anchored to the wall therebetween.

2. A sheet metal wall sheathing comprising horizontally disposed hooks secured to the wall, series of overlapping sheet metal sections having their edges received in said hooks, the overlying edges being formed as reversely bent flanges whereby they are concealed in the final structure, members secured to the wall between adjacent series and overlying the edges of the elements of the series, and pilasters having engaging means at their rear faces cooperating with said members, said pilasters when in position concealing said members and said engaging means.

3. A sheet metal wall sheathing comprising sections of panelling applied to the wall in side by side relation and with spaced edges, clips in the form of flat plates having forwardly flaring edges secured against the wall in the space between adjacent edges of the sections, and hollow open-backed members having inturned, substantially coplanar flanges, which flanges are notched to pass said clips, and having the flanges disposed beneath the ends of said clips by a subsequent longitudinal movement and bearing on and covering the edges of the sections.

4. A sheet metal wall sheathing comprising a base rail having a downturned flange at its rear upper edge, a strip secured to the wall providing an upwardly facing hook receiving said flange, panelling having a plain lower edge received behind the base rail, a strip secured to the wall providing a downwardly facing hook receiving an upper edge of the panelling and a top rail having an upturned flange at its rear lower edge received in said latter hook above the panel edge.

5. A sheet metal wall sheathing comprising a hollow open-backed base rail having depending flanges at its rear edges received with the projected area of the face of the rail, strips secured to the wall providing upwardly facing hooks receiving said flanges, a panel having its lower edge received in the upper hook behind the rail, a strip secured to the wall overlying the upper edge of the panel presenting an upwardly facing hook, an intermediate rail similar to the base rail having its lower flange received in said hook, a strip providing an upwardly facing hook receiving the upper edge of the latter rail, a panel having its lower edge received in the last mentioned hook, a strip secured to the wall providing a downwardly facing hook receiving the upper edge of the panel and a top rail having an upwardly projecting flange at its rear lower edge received in the last mentioned hook and overlying the panel edge and additional means securing the top rail.

6. A wall sheathing comprising sections each consisting solely of a single sheet of metal of substantially uniform thickness having a vitreous enamel coating and comprising panels applied to the wall in side by side relation and with spaced adjacent edges, spaced clips in the form of substantially flat plates applied against the wall in the space between said edges and secured thereto by fastening devices disposed wholly between said edges, and cooperating sections of hollow, open-back form with inturned, substantially coplanar flanges, which flanges are notched to pass the clips and have the flanges disposed beneath the ends of the clips by a subsequent longitudinal movement, said flanges bearing on and covering the opposed side portions of the panels.

7. A wall sheathing comprising sections each consisting solely of a single sheet of metal of substantially uniform thickness having a vitreous enamel coating and comprising panels applied to the wall in side by side relation and with spaced adjacent edges, spaced clips disposed outwardly of the panels and secured to the wall by fastening devices extending solely through the space between said edges, the clips extending over the adjacent side portions of the panels, and cooperating sections of hollow, open-back form with inturned, substantially coplanar flanges, which flanges are notched to pass the clips and have the flanges disposed beneath the ends of the clips and between the same and the side portions of the panels by a subsequent longitudinal movement to maintain the panels pressed against the wall.

8. A wall sheathing comprising sections each consisting solely of a single sheet of metal of substantiallly uniform thickness having a vitreous enamel coating and comprising panels applied to the wall in side by side relation and with spaced adjacent edges, spaced clips in the form of flat plates having flared edges applied flatwise across the opposed edge portions of the panels and secured to the wall by fastening devices passing between said edges, and cooperating sections of hollow, open-back form with inturned, substantially coplanar flanges, which flanges are notched to pass the clips and have the portions of said flanges at the edge of the notches enter along the flaring edges of the clips to be disposed beneath the ends of the clips and between the same and the side portions of the panels by a subsequent longitudinal movement.

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