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FASTENING MEANS FOR METAL PANELS

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Fig. 1.

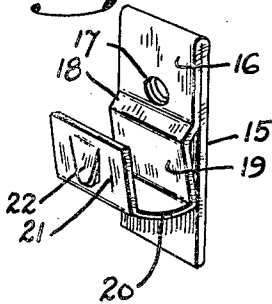


Fig. 2.

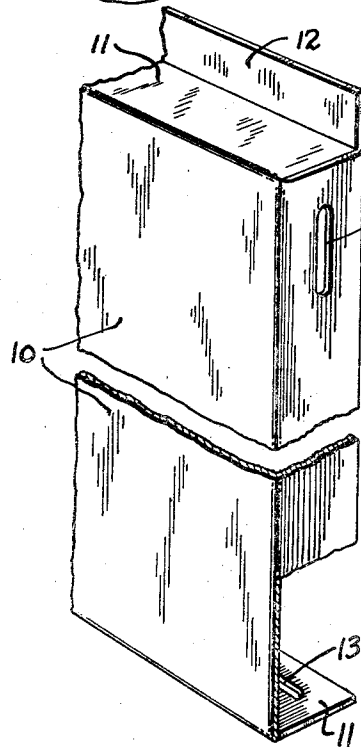


Fig. 3.

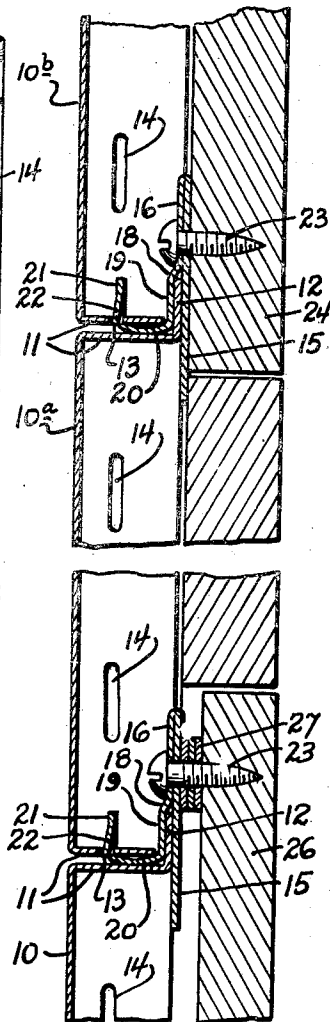
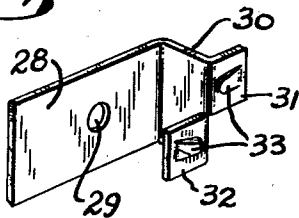


Fig. 4.



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FASTENING MEANS FOR METAL PANELS

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7 Claims. (Cl. 189—88)

The present invention relates to means for fastening metal panels on the surface of a wall, and particularly to fastening means for the large enamelled sheet metal panels which are now extensively used for decorating building exteriors.

These panels are usually in the form of shallow pan-like members formed by bending the edges of a piece of sheet metal at right angles to form flanges, and then enamelling the panels and securing them to the surface of the wall. It is common practice in fastening panels of this type to use fastening means concealed by the panels themselves, and to fill in the small spaces between the panels with mastic or other cementitious material.

It is the object of the present invention to provide fastening means for metal panels of simple and inexpensive construction, which may be easily applied.

Another object of the invention is to provide such fastening means as to insure alignment of panels secured to a wall therewith, and to hold the panels snugly so as to prevent even slight movement thereof relative to the wall.

A still further object of the invention is the provision of fastening means of this kind which are readily adaptable to walls having irregular surfaces, and which may be applied to said irregular surfaces in such manner that the panels supported by them will be held with their exposed faces in perfect alignment.

Further objects and advantages of the invention will be made apparent in the following specification, wherein detailed reference is made to the accompanying drawing.

In the drawing—

Fig. 1 is a perspective view of a fastening device constructed in accordance with the present invention;

Fig. 2 is a fragmentary view in perspective, illustrating the construction of the panels with which the device of the present invention is used;

Fig. 3 is a sectional view taken through a wall and panels secured thereto by means of the device; and

Fig. 4 is a perspective view of a different form of panel fastening means which may be used separately or in conjunction with the device shown in Fig. 1.

Referring to the drawing in detail, the construction of the panels for which the fastening means of the present invention are intended is best illustrated in Fig. 2, wherein a panel is shown as having a front face 10 which is that portion exposed when the panel is secured to a wall, and

as having flanges 11 bent rearwardly from its marginal edges. The uppermost flange 11 also has its inner edge bent upwardly to form a vertical flange 12, with which the fastening means cooperates. The bottom flange is provided with slots, as indicated at 13, and similar slots 14 are formed in the side flanges 11.

Referring now to Fig. 1, the fastening member employed for securing the panels against a wall is shown as formed of a strip of metal bent to form a vertical back portion 15, which has its upper end bent downwardly upon itself, as at 16, to form a part of double thickness through which a perforation 17 extends for reception of a screw by means of which the fastening member is secured against a wall where the panels are to be supported. At the lower edge of the portion 16 the metal strip is bent outwardly, as at 18, and then downwardly, as at 19, to form an offset, the downwardly bent portion 19 preferably inclining toward the back 15 to insure a tight fit with the portion of a panel inserted between the portions 15 and 19, as will hereinafter be described. The strip is then bent outwardly, as at 20, and upwardly, as at 21, the portions 19, 20 and 21 combining to form a hook upon which a panel may be hung. The upwardly bent portion 21 of this hook is provided with a tongue 22 which is cut and bent outwardly from the member 21 to form therewith a somewhat resilient wedge to insure a snug fit in the slot of a panel which is received by the hook-like portion of the fastening member.

The manner in which the panels are supported by the device is illustrated in Fig. 3. Referring first to the uppermost illustration of the fastening device in this figure, a screw 23 is shown as securing the member with its back 15 against a wall indicated at 24. One panel indicated at 10a has its vertical flange 12 received between the portions 15 and 19 of the fastening device, thus swinging the hook-shaped portion thereof outwardly to a vertical position so that the resiliency of the metal of which the device is formed tends to maintain the panel 10a against even the slightest movement with respect to the wall. An upper panel 10b is disposed with the slot 13 in its lower flange over the upwardly extending portion 21, and has been brought down over the wedge formed by the tongue 22 so that the wedge serves to prevent any movement between the lower edge of this panel and the wall. The spacing of the slots and flanges on the panels are uniform, and the fastening members are so designed that their front faces are perfectly flush when the upper

flange of one panel is held against the back member 15 and the lower flange of the next adjacent panel is supported by the member 21 of its hook extending through its slot.

In many cases the wall upon which the panels are to be applied is not perfectly flat, and in case of a slight offset, as might be caused by a narrow board, such as indicated at 26 in the lower half of Fig. 3, the fastening member may be applied to the wall in a manner insuring perfect alignment of the front faces of the panels. This is accomplished with the fastening member constructed in accordance with the present invention by the use of washers 27, or any suitable shims placed between the fastening member and the low portion of the wall, which will serve to support the fastening member in perfect alignment with the other fastening members, and thus present a perfectly flat surface on the front face of the panels.

While the fastening device of Fig. 1 is especially designed for use in combination with the vertical flange on one of the panels which it supports, the present invention is also applicable to fastening means for panels in which no such flange is employed. For example, the form of fastening means illustrated in Fig. 4 may be used in vertical joints formed by adjacent panels, and comprises a back member 28 perforated as at 29 for the reception of a screw and having an outwardly bent portion 30, the outer end of which is bent to the right and to the left, as indicated at 31 and 32 respectively, tongues 33 being punched from these oppositely bent wings 31 and 32 to form wedges engageable with the slots 14 in the side flanges of adjacent panels. This device, when used in a vertical position, may also be used for fastening the tops and bottoms of panels where the flange 12, illustrated in Fig. 2, is omitted.

By use of the fastening means of the present invention, the front faces of the panels are perfectly aligned through the construction of the fastening means itself, and every fastening is made secure by a wedging or clamping action.

While certain features of the invention have been more or less specifically described for purposes of illustration, it is to be understood that changes may be resorted to in details of construction and arrangement of the parts shown, all within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In fastening means for metal panels having flanged edges with slots formed therein, a

member adapted to be secured against a wall, a portion extending therefrom to enter one of said slots, and a tongue bent from said portion to form a wedge in the slot.

2. In fastening means for metal panels having flanged edges with slots formed therein, a member adapted to be secured against a wall and having a portion bent back upon itself to form an area of double thickness, a part of said portion being offset to receive a flange on one of said panels.

3. In fastening means for metal panels having flanged edges with slots formed therein, a member adapted to be secured against a wall and having a portion bent back upon itself to form an area of double thickness, a part of said portion being offset to receive a flange on one of said panels, and an extension on said portion forming a hook to enter a slot in a flange of an adjacent panel.

4. In fastening means for metal panels having flanged edges with slots formed therein, a member adapted to be secured against a wall, and having a portion bent back upon itself and offset to receive a vertical flange on one of said panels an extension on said portion bent to enter one of said slots and a tongue bent from said extension to effect a wedging thereof in the slot.

5. In fastening means for metal panels having flanged edges with slots formed therein, a member adapted to be secured against a wall, and having a portion bent back upon itself and offset to receive a vertical flange in one of said panels, and an extension on said portion forming a hook to enter a slot in a horizontal flange of an adjacent panel.

6. A fastening device for securing metal panels or the like to a wall comprising a member adapted to be secured against the wall and having a portion bent back upon itself and offset to receive a portion of a panel, said member being extended to form a hook engageable with a portion of an adjacent panel.

7. A fastening device for securing metal panels or the like to a wall comprising a member formed of a single thickness of metal adapted to be secured against the wall and having a portion extending outwardly therefrom, the outer end of said portion being separated to form two members extending in opposite directions therefrom to enter slots in adjacent panels, said members having tongues pressed therefrom to bring them into wedged relationship with said slots.

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