Dec. 10, 1935. R. W. SHANNON 2,024,068

PANEL SUPPORTING STRIP

Filed April 1, 1933 2 Sheets-Sheet 1

Fig. 1.

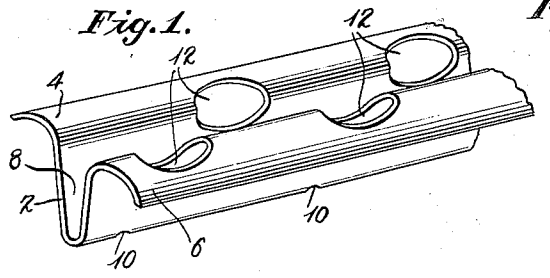


Fig. 13.

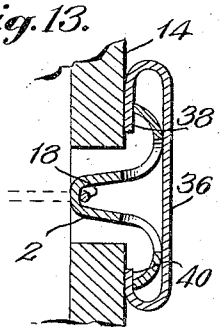


Fig. 2.

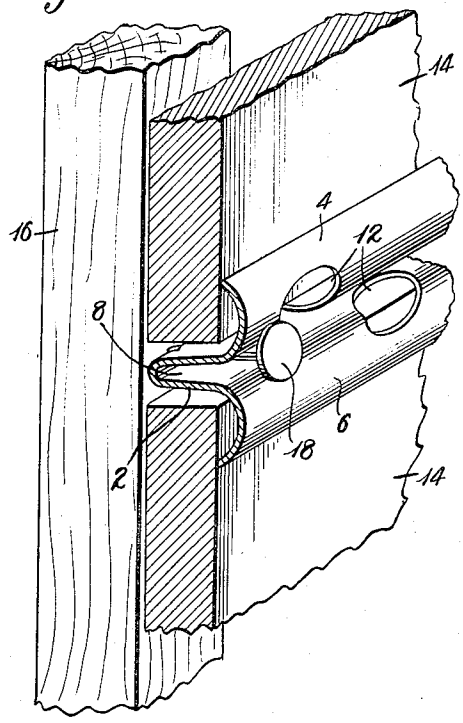


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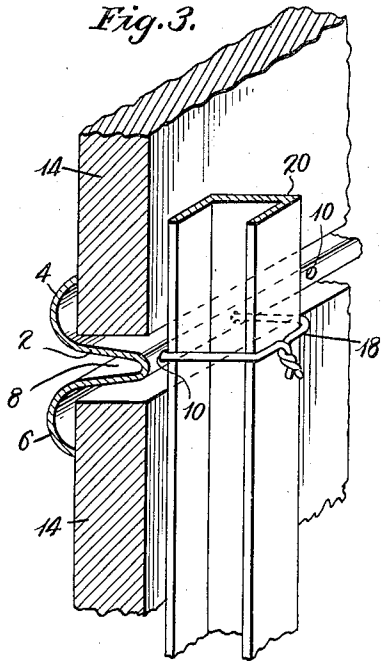


Fig. 4.

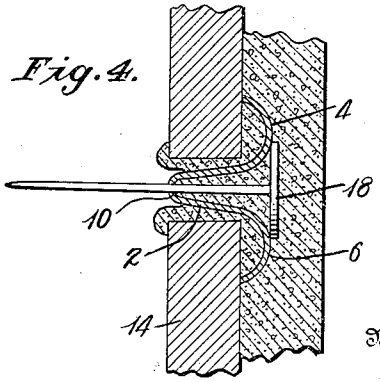
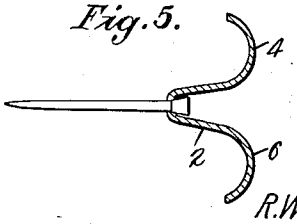


Fig. 5.



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Dec. 10, 1935. R. W. SHANNON 2,024,068

PANEL SUPPORTING STRIP

Filed April 1, 1933 2 Sheets-Sheet 2

Fig. 6.

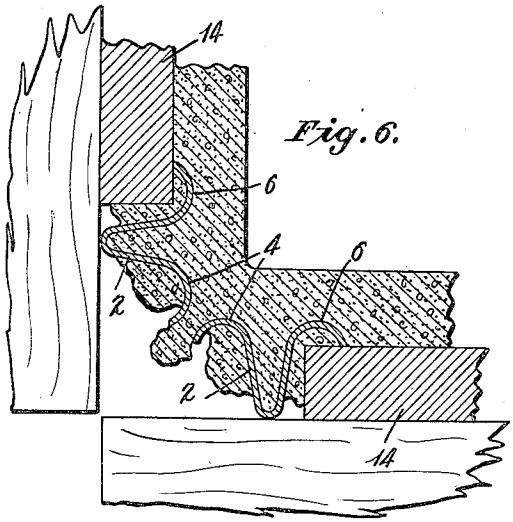


Fig. 7.

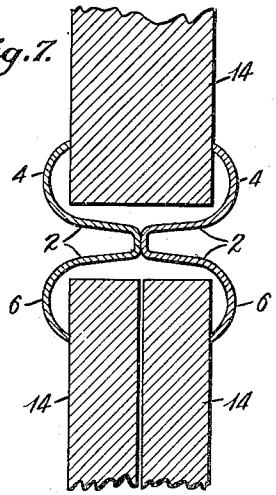


Fig. 8.

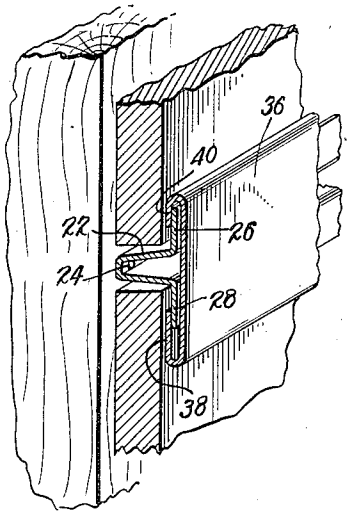


Fig. 9.

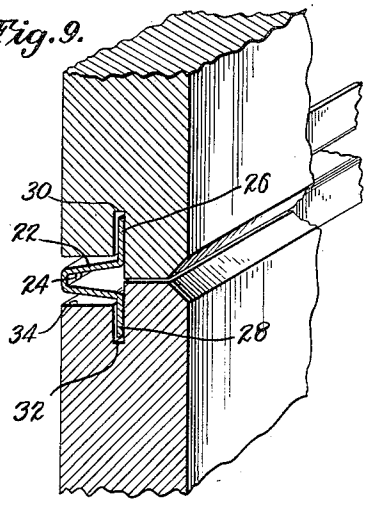


Fig. 10.

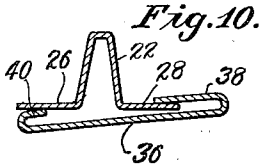


Fig. 11.

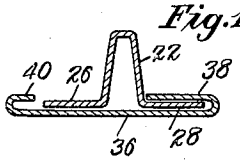
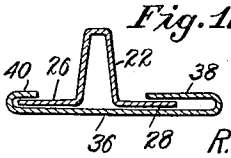


Fig. 12.



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UNITED STATES PATENT OFFICE

2,024,068

PANEL SUPPORTING STRIP

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Application April 1, 1933, Serial No. 664,036

10 Claims. (Cl. 72—118)

This invention relates to improvements in means for supporting panels, and more particularly, to strips for supporting panel boards, or the like.

The principal object of this invention is to provide a substantially rigid strip, preferably of metal, which is adapted to support panel boards, and which strip may be attached to any portion of building framework, such as studs, joists, furring strips, or the like, by any desired means, such as nails, wires, and the like. The strip is further adapted to support panels of any material, such as plaster fibre, wood, metal, glass, and the like, and the term "panel board" is used herein in its broadest sense to include any sheet of material having a suitable thickness and rigidity.

Another object of this invention is to provide a metal strip adapted to support panel boards, or the like, which strip is provided with novel means for keying thereto plaster, which may be applied to the outer surface of the panels and which further serves as a reinforcing medium for the plaster at the jointure of the panels.

Another object is to provide a substantially rigid metallic strip adapted for supporting panel boards to which plaster or the like is not applied.

A further object is to provide a separate closure or cap member for the strip which will conceal the joint and which may, if desired, possess some decorative feature, and which cap may be readily positioned.

Still another object is to provide panel supporting means which are inexpensive in manufacture, extremely simple in application and which lend themselves to a variety of uses.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a fragmentary end side perspective of my improved supporting strip;

Figure 2 is a fragmentary end front perspective of the strip nailed to a support and holding a panel in position;

Figure 3 is a fragmentary end back perspective of my improved strip supporting a panel and being wired to a support;

Figure 4 is a cross-section of the arrangement shown in Fig. 2, with the plaster applied and exemplifies the novel manner in which the plaster is secured in place and reinforced;

Figure 5 shows a modified manner of nailing the strip to a support;

Figure 6 is a cross-section of a preferred application of my improved strips for supporting panels at angles to each other and further exemplifies the novel manner in which plaster is keyed thereto;

Figure 7 shows the modified use of a pair of the improved strips wherein panels are joined and reinforced between their points of support;

Figure 8 is a fragmentary end front perspective of a modified form of strip and with cap attached thereto;

Figure 9 is a fragmentary end top perspective of another form of strip which is adapted to engage and support panels provided with edge slots, and

Figures 10, 11, and 12 are cross-sections of the modified strip and cap shown in Fig. 8, exemplifying the preferred manner of attaching the cap to the strip flanges.

Figure 13 is a cross section of the cap shown in Figures 10, 11, and 12 as applied to the strip shown in Figure 1.

Referring more particularly to the drawings, a preferred form of my improved supporting strip comprises a web 2 which has outwardly flaring flanges 4 and 6. Web 2 is double-walled and substantially U-shaped in cross-section, whereby channel 8 is provided between opposing walls of the web. At the bottom portion of web 2 are provided openings 10 through which a suitable fastening means may pass. Flanges 4 and 6 are provided with perforations 12 which may extend somewhat into the web 2, and which are adapted to serve as a key for plaster, cement, or like material, which may be applied to the panels which flanges 4 and 6 support, and likewise to the flanges themselves.

Figure 2 exemplifies a preferred use of the strip above described wherein panels 14 are disposed between a wooden structural joist 16 and flanges 4 and 6 of the strip, which strip is attached to the joist by means of nails 18. If desired, my improved strip may be attached to a structural member by wiring instead of nailing, as shown in Fig. 3, wherein a suitable wire 18 is passed through a plurality of the openings 10 and twisted together around metal channel member 20. It is thus apparent that my novel panel supporting strip is equally well adapted to be attached to either wood or metal supporting means.

As hereinbefore stated, a particularly important feature of my novel supporting strip resides in the fact that perforations 12 thereof provide a key or fastening means for plastic substances, such as plaster, which may be applied to the outer surface of the panels and to the joints therebe-

tween where the panels are supported by the strip. As clearly shown in Fig. 4, such plaster will be forced through apertures 12 and will spread out in contact with the inner surface of flanges 4 and 6, will extend between the ends of the supported panels and web 2 of the strip, some of it emerging through apertures 10, and depositing upon the back surface of the panels.

It is obvious that when the plaster has hardened, it will be securely keyed at the panel board joints, thereby precluding any probability of the plaster cracking or breaking loose at this point, and remedying a common defect of prior art structures in this respect. The plaster may be further secured by the use of a relatively large headed nail 18. The use of this type of nail, however, is not necessary to support the strip to the structural beam, and any other type of nail may be used whenever desirable, as shown in Fig. 5.

To form corners or to support panel boards at angles to each other, I prefer to use the improved strips in the manner shown in Fig. 6, wherein an end of the panel 14 is inserted under one flange only of the strip, the other flanges of the strips being positioned slightly apart from one another and the strips fastened in the usual manner to a supporting member. The plaster, which is applied to this jointure, will project through not only apertures 12, provided expressly for this purpose, but will also extrude between the adjacent flanges which, in this instance, provide a further keying means.

Another novel use of the improved strips is exemplified in Fig. 7, wherein a pair of strips are welded or otherwise secured at their lower web extremities and thus provide a pair of clasps into which ends of panels may be inserted and securely held in a fixed position. This form of construction is particularly advantageous for studs or where it is desired to join panels intermediate their points of support and further serves as a useful reinforcing and securing means for plaster.

For supporting panels to which plaster or the like is not intended to be applied, my invention comprises the modified form of strip portrayed in Fig. 8, wherein the usual U-shaped double web member 22 has apertures 24 at its base, through which suitable fastening means may pass. The plaster key perforations above described may be dispensed with and the flanges 26 and 28 may, if desired, be flat instead of curved, as preferably are the flanges 4 and 6 of the previously described modification. The flanges 26 and 28 of the non-plaster strip may overlie the ends of the panel boards at the outer surfaces thereof, as shown in Fig. 8, or in some instances, particularly where a relatively thick tile element is supported, the flanges 26 and 28 may project into slots 30 and 32 respectively, which are formed in the edges of the panel. Preferably, a space between the slots and the rear face of the panel may be cut away as at 34 to provide a suitable space for housing the web portion 22 of the strip. It is readily seen that, in this use of the strip, the open joint between the panels is dispensed with to a large extent and the edges of the panels can lie closely adjacent each other, while at the same time, the panels are securely supported by the unexposed strip. It is important that this modified strip be formed of substantially rigid material, as, for example, steel, in order that the strip will not become bent out of its original shape.

A further important feature of the invention comprises the cap or strip concealing means represented by numeral 36 which, although exemplified in the drawings as applied only to the non-plaster type of strip, is equally well adapted to be used in conjunction with the plaster supporting type strip, if desired. Cap 36 is adapted to serve the useful purpose of enclosing the joint between the supported panels, and, in addition, may, if desired, serve to produce a decorative effect to the entire wall by providing on its outer surface a contrasting color or design of any desired character. If preferred, the cap 36 may be constructed of a material contrasting from that of the strip. For example, the cap may be of plated steel or other polished metal, while the strip itself may, of course, be formed of any suitable less expensive rigid material or other substance not having a polished or finished surface.

Cap 36 is provided with wings 38 and 40 of varying widths, the function of which are to assist in the ready application of the cap to the flanges 26 and 28 of the supporting strip, which may have been previously fastened to its joist or other support against which it is holding the panels in engagement. As clearly shown in Figs. 10, 11, and 12, the side of the cap having long wing 38 may first be inserted under flange 28 of the supporting strip and pressure applied until shorter wing 40 of the cap extends beyond the end of flange 26. Thereupon a slight pull upon the cap or pressure upon its opposite side will then securely position both its wings 38 and 40 underneath flanges 26 and 28, where it will remain securely in position. In the event it is desired to remove the cap for repairs, dismantling, or the like, the above steps are reversed.

It is intended that the various applications of my novel supporting means described herein are exemplary only and many other uses will be apparent to those skilled in the art. It is also understood that these devices are capable of various structural modifications without departing from my inventive concept thereof.

Having thus described the invention, I claim:

1. A strip for supporting panels to which a plastic substance may be applied, comprising a channel shaped web, oppositely disposed flanges extending laterally therefrom and adapted to engage the outer surface of the panel, said strip including integral means for keying the plaster.

2. A panel supporting strip comprising a channel shaped web, oppositely disposed flanges extending laterally therefrom and a covering cap for said flanges, said cap having wings of different widths whereby insertion and removal of said cap is facilitated.

3. A covering cap for a panel supporting strip having laterally extending flanges, said cap comprising an elongated body portion, a wing carried by each longitudinal edge of said body portion, said wings being of different widths whereby insertion and removal of said cap is facilitated.

4. A panel supporting strip and plaster keying means comprising a channel shaped web, oppositely disposed perforated flanges extending laterally therefrom, the outer extremity of each of said flanges being adapted to engage an adjacent panel surface and the remaining portion of each of said flanges being spacedly disposed from said panel surface.

5. A strip for supporting panels to which a plastic substance may be applied, comprising a channel-shaped web, oppositely disposed flanges

extending outwardly therefrom and adapted to engage the outer surface of the panel, said flanges including means for keying the plaster.

6. A panel supporting strip and plaster retaining means comprising a web, perforated flanges extending laterally therefrom, a portion of said flanges adapted to engage the panels and the remaining portion of said flanges adapted to remain offset from the surface of said panels to provide a recess between the flanges and the panel surface for retaining plaster.

7. A panel supporting strip comprising a web, oppositely disposed flanges extending outwardly therefrom, a covering cap for said flanges, and inwardly extending wings carried by said cap and adapted to engage said flanges, one of said extending members being of less width than the extending member adapted to be engaged thereby, whereby insertion and removal of said cap are facilitated.

8. A covering cap for a panel supporting strip having outwardly extending flanges, said cap comprising an elongated body portion, and an inwardly extending wing carried by each longitudinal edge of said body portion, one of said extending members being of less width than the extending member adapted to be engaged thereby, whereby insertion and removal of said cap are facilitated.

9. A panel supporting strip comprising a channel-shaped web, and oppositely disposed flanges extending laterally therefrom and adapted to engage an adjacent panel, said strip being provided with perforations which remain spaced from the panel when the strip and panel are assembled.

10. A panel supporting strip and plaster retaining means comprising a channel-shaped web, and flanges extending outwardly therefrom and adapted to engage a panel surface, said strip being provided with perforations through which plaster may extrude when applied to the assembled panel and strip, said web adapted to be spaced from the end of the panel whereby the extruded plaster may flow into said space and become anchored therein.

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