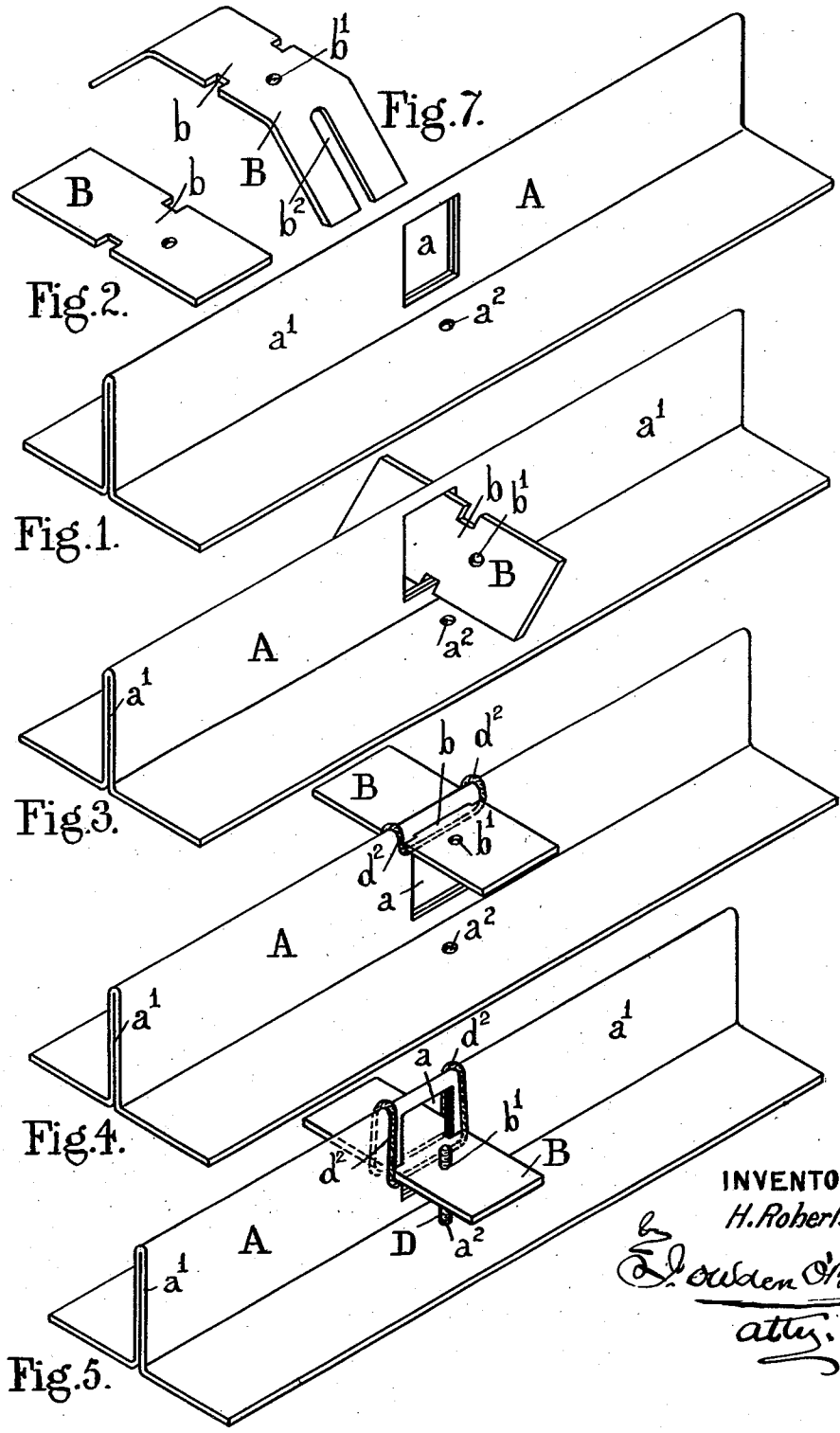
June 16, 1942. H. ROBERTS 2,286,976

MEANS FOR SECURING WALLBOARDS IN POSITION

Filed Sept. 3, 1940 2 Sheets-Sheet 1



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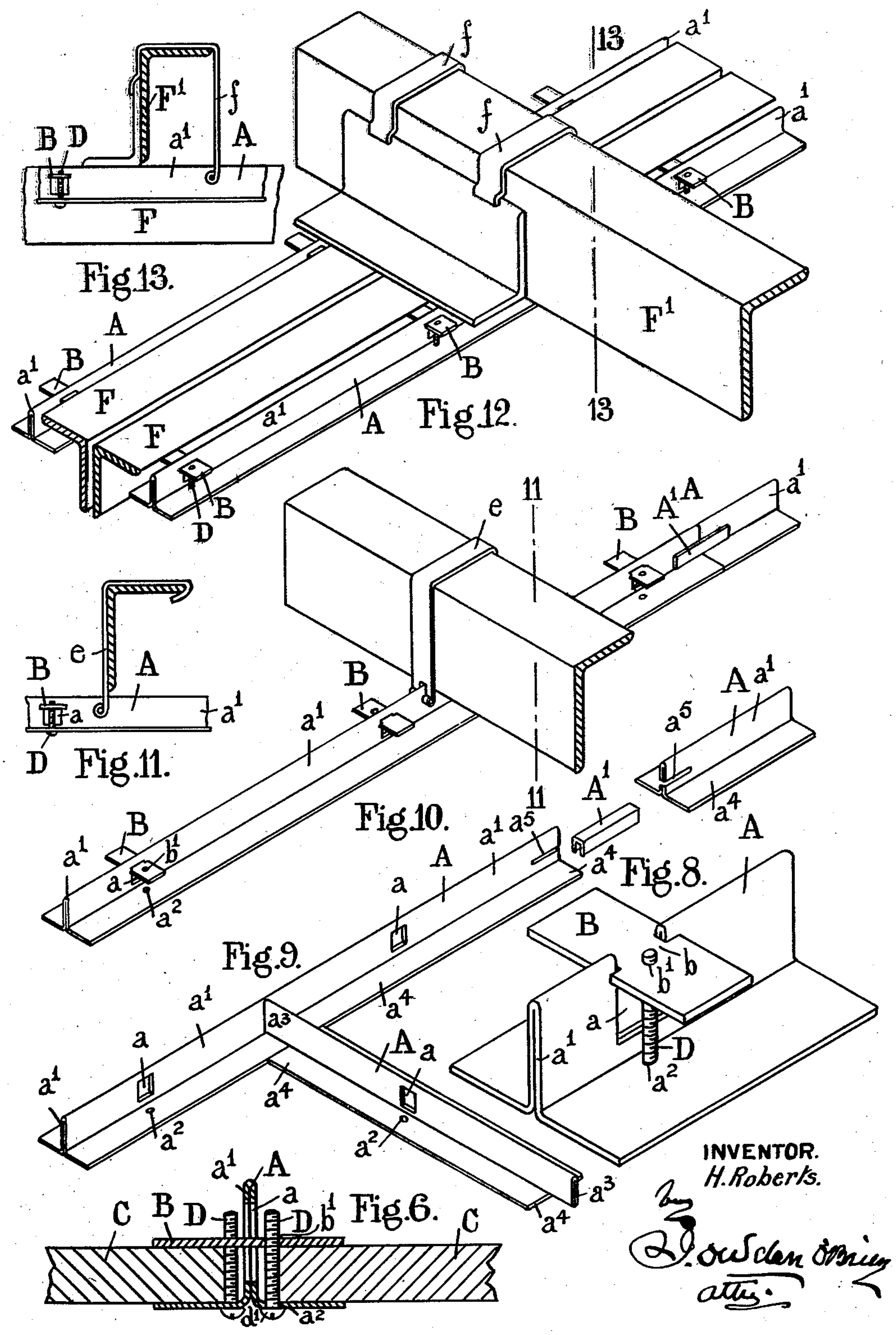

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MEANS FOR SECURING WALLBOARDS IN POSITION

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5 Claims. (Cl. 72—118)

This invention relates to improvements in means for securing wallboards such as sheets of composition boards, asbestos cement sheetings, panel boards, plaster boards, insulation boards, and all forms of lining boards to form an interior wall or ceiling lining to steel framed buildings, and can also be adapted to all other forms of building construction.

Such boards are applied by securing them to a metal strip of T section affixed to purlins of trussed or other roofs by means of hangers or brackets secured to holes drilled at suitable intervals in the web of the section strip. For lining walls and similar purposes the section strips can be affixed to stanchions or bracings in a similar manner.

With existing methods the boards are secured to the section strips either by wedges driven into holes in the web of the strips which secure the boards between the wedge and the flange of the strip or by spring clips which likewise hold the boards on the flange. In both these arrangements the securing device, i. e. the wedge or the spring clip, is situated on the upper surface of the panel in the case of ceilings or on the inner face in the case of walls making it difficult to secure them in position.

The particular advantage of the method of fixing the boards according to the present invention is that the securing device is operated from the face of the construction, whereas other methods entail working from the back or topside thereby creating constructional difficulties and increasing labour costs. Moreover, neither atmospheric conditions nor vibration can affect the boards when affixed, by this method.

According to the invention, perpendicular slots are formed at intervals in the web of the section strip and a flat securing plate is located in each slot parallel with the flanges of the strip, a screw or bolt passing through the flange from the face surface thereof and into a tapped hole in the plate, so that by inserting the edge of the panel pieces between the securing plates and the flange of the section strip and rotating the screws or bolts from the face surface of the construction the plates are drawn down on to the back of the edges of the panel and gripped between them and the flanges.

The invention is illustrated in and will be described with reference to the accompanying drawings in which:

Fig. 1 is a perspective view of a portion of a section strip formed according to the invention.

Fig. 2 is a perspective view of a securing plate.

Figs. 3, 4 and 5 are perspective views illustrating the method of inserting the securing plate into the slot of the section strip.

Fig. 6 is a transverse section showing the boards secured in position by the securing plate.

Fig. 7 is a perspective view showing a form of securing plate employed when using the section strip as a ridge finish.

Fig. 8 is a perspective view of a modified construction of section strip.

Fig. 9 is a perspective view showing the method of securing one section strip at right angles to another when the former is used as a cross member and also the means employed for securing two lengths of section strip together.

Fig. 10 is a perspective view showing the method of securing a section strip to the underside of a purlin and also showing the means employed for securing two section strips together.

Fig. 11 is a section on line 11—11 Fig. 10.

Fig. 12 is a perspective view showing the method of securing a section strip to the underside of a truss.

Fig. 13 is a section on line 13—13 Fig. 12.

Perpendicular slots a rectangular in shape are formed at intervals in the web a^1 of the T shaped section strip A. The slots a are cut out of the web a^1 without extending to the edge thereof as shown in Figs. 1 to 6 since slots of such construction do not weaken the resistance of the web to any great extent. For use with light weight boards however the slot a may extend to the edge of the web as shown in Fig. 8.

A flat securing plate B is located in each slot a, the plate being of approximately the same width as the slot or preferably and as shown in the drawings, being of greater width with narrow neck parts b to slide in the slot.

Each plate B grips the edges of two boards or panels C (see Fig. 6) one at each side of the web a^1 of the section strip A.

Each plate B is drawn down on to the back of the edges of the boards or panels C by a screw or the like D having its head d^1 on the face side of the plate B which passes through a hole a^2 in the flange of the strip A and into a tapped hole b^1 in the plate B. The screws D also function as distance pieces to prevent the edges of the boards or panels C coming into direct contact with the web a^1 of the strip A thereby allowing sufficient space for expansion of the boards or panels C between the screws should the boards or panels be subjected to changes of temperature.

The screws D are preferably staggered in relation to one another i. e. the screw operating one

plate is on the opposite side of the web a^1 to the screws operating adjacent plates.

In order to hold the securing plates B in position during erection of the panel, rubber or similar bands d^2 may secure them resiliently or otherwise to the web a^1 of the strip A. The presence of these bands after the boards or panels have been secured is not detrimental but usually being of a light nature and under tension they will break either during the securing of the plates by the screws or not long after.

The securing plates B may be made of metal or any other suitable material and be of any desired shape according to the use of which they are required.

When it is desired to secure one section strip A at right angles to another to form a cross member the flanges a^4 of the strips forming the cross member are cut away at the ends a^3 as shown in Fig. 9, so that the bottom of the web a^1 of the cross member will rest on the flanges a^2 of the other member.

To secure the ends of two section strips A together a horizontal slit a^5 is formed in each of the abutting ends of the webs a^3 and a fish plate A^1 of channel section of a length equal to that of the two slits a^5, see Fig. 9, is inserted into the slots so that when the two ends are brought together as shown in Fig. 10, they are firmly secured by the fish plates. The channel in the fish plate A^1 is of approximately the same width as the thickness of the webs a^1 of the strips A, the thickness of the horizontal member of the fish plate is approximately equal to the depth of the slits a^5 and the depth of the side members of the fish plate is preferably such that the lower edges are in contact with the surfaces of the flanges a^2.

For using the section strip A as an inside ridge finish a plate B^1 with slotted inclined ends b^2 as shown in Fig. 7 may be employed. The plate B^1 fits into one of the slots a in the strip A and the slots in the ends of the plate fit over the web of the inclined transverse strips.

To secure the section strip A to a purlin a bracket e is affixed to the web a^1 of the strip as shown in Figs. 10 and 11 and the strip is suspended from the purlin E by this bracket.

A similar method as shown in Figs. 12 and 13 is employed for attaching a section strip or strips A at the sides of a truss F, a bracket f being riveted or otherwise secured to the web a^1 of the strip and the strip suspended from the beam or purlin F^1 to which the truss F is secured.

The section strip may be made of metal, synthetic resin or other plastic material or it may be built up of laminated paper, wood or other suitable material.

What I claim as my invention and desire to protect by Letters Patent is:

1. Means for securing wallboards, ceiling boards, panels and the like in position comprising in combination a T shaped section strip with a perpendicular slot formed in the web member thereof, a securing plate extending through said slot and adjusting means passing through the flange of the section strip from the face thereof and engaging said plate for the purpose of drawing the latter on to the rear surface of the edge of the board and securing the said edge between the plate and the flange.

2. Means for securing wallboards, ceiling boards, panels and the like in position comprising in combination a T shaped section strip with a perpendicular slot formed in the web member thereof, a securing plate extending through said slot and a screw passing through the flange of the section strip from the face thereof and into a tapped hole in the securing plate for the purpose of drawing the latter on to the rear surface of the edge of the board and securing the said edge between the plate and the flange.

3. Means for securing wallboards, ceiling boards, panels and the like in position comprising in combination a T shaped section strip with a perpendicular slot formed in the web member thereof, a securing plate extending through said slot, the securing plate being wider than the slot and formed with a recess at each side to embrace the edges of the slot and a screw passing through the flange of the section strip from the face thereof and into a tapped hole in the securing plate for the purpose of drawing the latter on to the rear surface of the edge of the board and securing the said edge between the plate and the flange.

4. Means for securing wallboards, ceiling boards, panels and the like in position comprising in combination a T shaped section strip with a perpendicular slot formed in the web member thereof and a horizontal slit in an end of the web, a securing plate extending through the said perpendicular slot, adjusting means passing through the flange of the section strip from the face and engaging said securing plate thereof for the purpose of drawing the latter on to the rear surface of the edge of the board and securing the said edge between the plate and the flange and means co-acting with the horizontal slit in the web to join one section strip to another.

5. Means for securing wallboards, ceiling boards, panels and the like in position comprising in combination a T shaped section strip with a perpendicular slot formed in the web member thereof and a horizontal slit in an end of the web, a securing plate extending through the said perpendicular slot, adjusting means passing through the flange of the section strip from the face thereof and engaging said securing plate for the purpose of drawing the securing plate on to the rear surface of the edge of the board and securing the said edge between the plate and the flange and a channel shaped member, co-acting with the horizontal slit in the web to join one section strip to another.

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