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SECURING MEANS FOR CURTAIN WALL PANELS

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FIG. 2

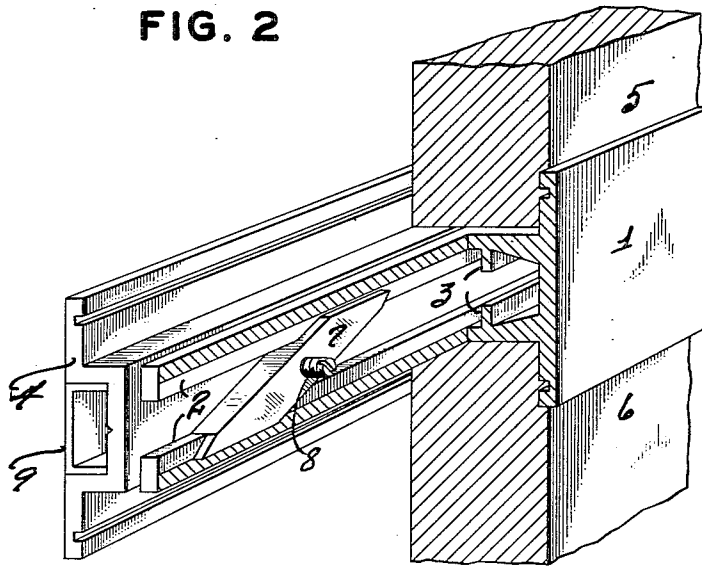


FIG. 1

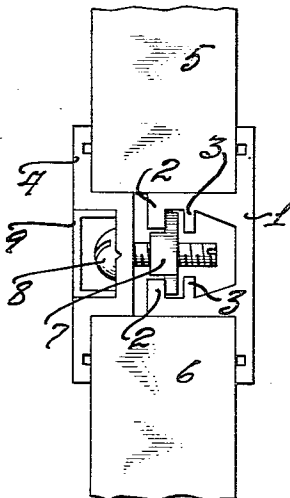


FIG. 3

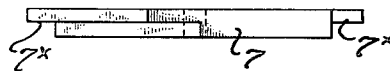
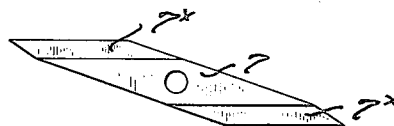


FIG. 4



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SECURING MEANS FOR CURTAIN WALL PANELS

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1 Claim. (Cl. 189—34)

The object of the present invention is to provide new and improved securing means for holding together wall panels, and more particularly large and relatively heavy panels which are to be secured together along horizontal dividing lines or vertical dividing lines.

The construction consists of two batten members, each being centrally channeled and interlocked by a special spanner nut engaging one batten and receiving a screw passed through the coacting batten. The channel of the said second batten receives the screw head, and a filler strip closes the channel and conceals the screw. The second batten member may permanently hold the required number of spanner nuts, since they may be moved into and out of engaging relation with the first batten member simply by rotation of the screws.

The batten members are of special formation to hold the panels apart for a desirable distance and to provide strong connection and support for opposed panels without exposed fastening elements.

The invention will be described with reference to the accompanying drawings, in which:

Fig. 1 is an end view in elevation showing the batten members and two panels held thereby. This may be considered as either a horizontal view wherein the battens are vertical, or an arrangement in accordance with Fig. 2.

Fig. 2 is a perspective view showing an assembly of panels engaged by our batten construction, these elements being partly broken away;

Fig. 3 is a side elevation of the spanner nut; and

Fig. 4 is a bottom plan view of the same.

In curtain wall panel constructions, the panels are exposed at both sides. In our construction, the batten supports are so faced as to be decorative and free from attaching means which connect them together and rigidly hold the panels in position. The first batten member shown at 1 is formed with a deep channel bounded at its inner face by two longitudinally extending spaced webs 2. Within the channel, and opposite said webs, we preferably form two corresponding webs 3 so that the spanner nut, later to be described, may freely ride between the sets of webs 2 and 3, for placement and adjustment.

The second and coacting batten member 4 is formed with an outwardly exposed channel extending longitudinally and throughout the length thereof.

Each batten member may be considered as a flat plate having a boxlike inner projection so that, when the battens are opposed and panels received between them, they will rest upon batten shoulders which are adequate for supporting and holding together two panels, such as those shown at 5 and 6.

Means for securing the two batten members in bonding and holding relation to the panels is a spanner "nut" of special form as shown at 7. This spanner nut is centrally apertured to receive a screw 8, and in practice a plurality will be employed for each batten length consisting of the two batten members 1 and 4. The spanner nut consists of a bar inclined at its ends, which ends are indicated at 7x. The thickness of the spanner nut relative to the thick-

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ness of the webs 2 of batten member 1, such that when the battens are designed for wall panels of specific thickness, tightening the appropriate screws 8 will bring adequate spanner nut wall surfaces into engagement with batten member 4, as indicated in Fig. 1.

The invention enables connection, either horizontally or vertically, of a relatively wide range of panels as to thickness thereof. Thus, in Fig. 1, the panels 5 and 6 are adequately held and at the same time the battens may receive panels of various widths greater than that shown, and also panels of lesser width, the deep channel area of channel member 1 toward its major face compensating for such adjustment and enabling a relatively long adjustment screw.

In applying the batten members to two panels, and assuming the battens are to be arranged horizontally and hence over one panel and under a second panel, the two batten members with the spanner nuts lying parallel with the webs 2 are placed in position over the first panel. The screws 8 will have been turned to move the spanner nuts inwardly of the webs 2 and parallel with the webs 2. Thus when the batten members are in position, turning of the screws clockwise will cause the spanner nuts to turn (by the frictional force thereon of the screws) until the shoulders of their reduced ends rest as shown in Fig. 2. Then, by turning the screws 8 inwardly, the two batten members may be moved toward each other. Before they reach clamping position the upper panel is received between them. Final turning of the screws will impose clamping and holding pressure upon the panels and they will be adequately held.

When the panels are finally clamped in position by the battens, the flanged filler strip 9 is pressed into the channel of batten member 9 to conceal the screws and to provide a smooth batten wall surface.

To remove the battens, the screws may be turned counter clockwise until the frictional engagement of the spanner nuts with the webs 2 will be released and the spanner nuts will be free. A further partial rotation of the screws will, by the frictional force of the screws upon the spanner nuts, effect turning of the spanner nuts until the upper wall of each engages the under surface of the uppermost of the two webs 2. This will manifestly bring each spanner nut parallel with the webs 2 and enable free parting of the battens. To keep the corners of the spanner nut from catching, they have been cut back at the corners, as shown more particularly in Fig. 4.

It will be understood that various modifications may be made in the specific form and arrangement of the elements constituting the embodiments of the invention.

Having described our invention, what we claim and desire to secure by Letters Patent is as follows:

In securing means for curtain walls and the like, a male batten member, a female batten member having opposed shoulders and inwardly directed spaced longitudinal webs, which shoulders and webs partially bound a channel, each web having a flange and the flanges of the webs being spaced and directed toward each other, at least one elongated spanner nut diagonally cut at each end, and each end area being reduced in width to form a shoulder, the distance between said shoulders being substantially greater than the distance between said flanges of the webs, the width of the elongated spanner nut being not greater than the spacing between the flanges of the longitudinal webs of the female batten member, so that the spanner nut, when parallel with the webs, may be bodily moved between their flanges and into the channel of said female batten member, and the spanner nut being adapted for turning when between the webs of the female batten member to bring its shoulders into engagement with the edges of said female batten member web flanges and to bring its reduced ends into engagement with sides of said flanges,

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the male batten member and spanner nut being adapted to receive a screw for rotation of the nut, and for movement thereof on the screw when said shoulders engage said web flanges.

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