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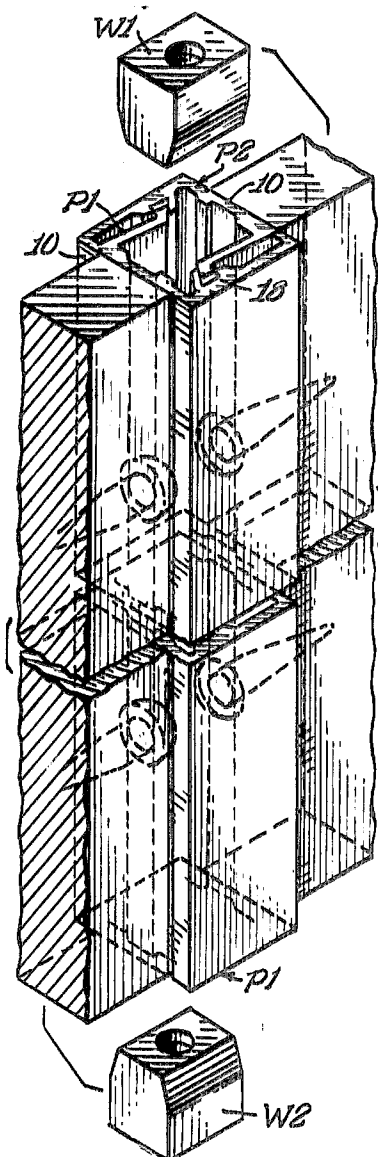
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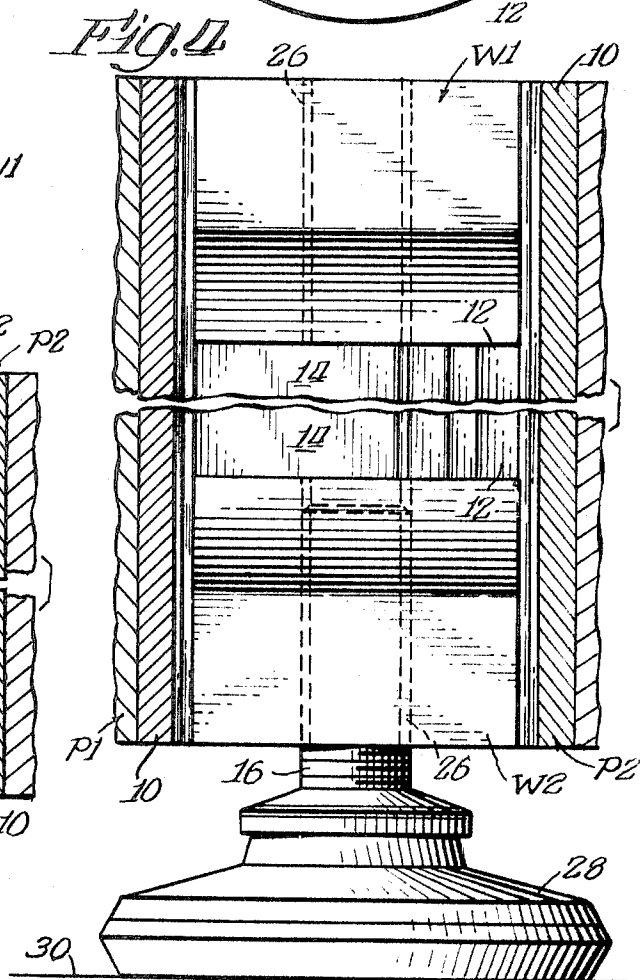
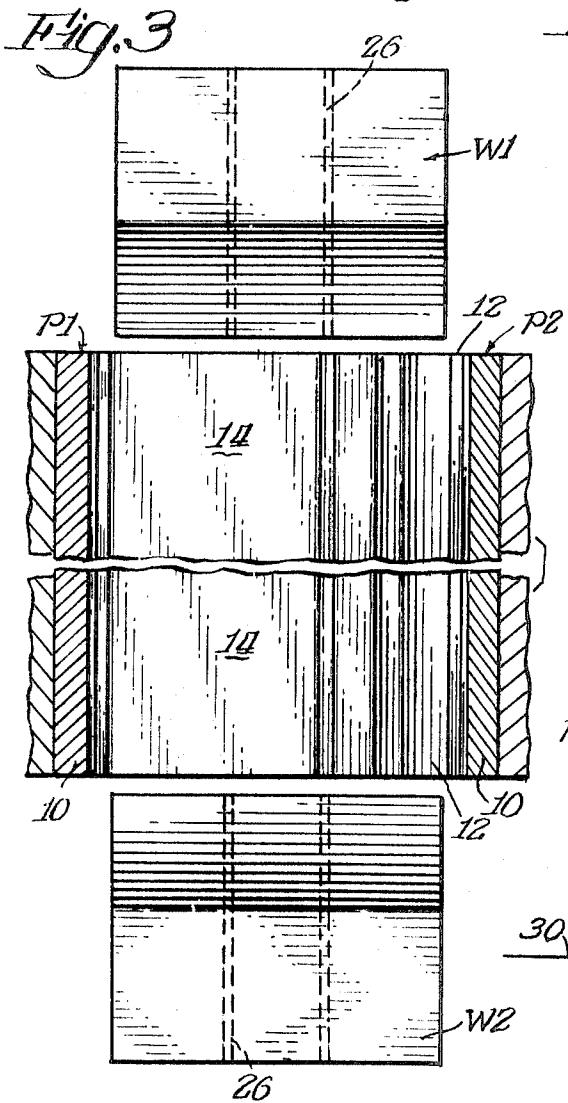
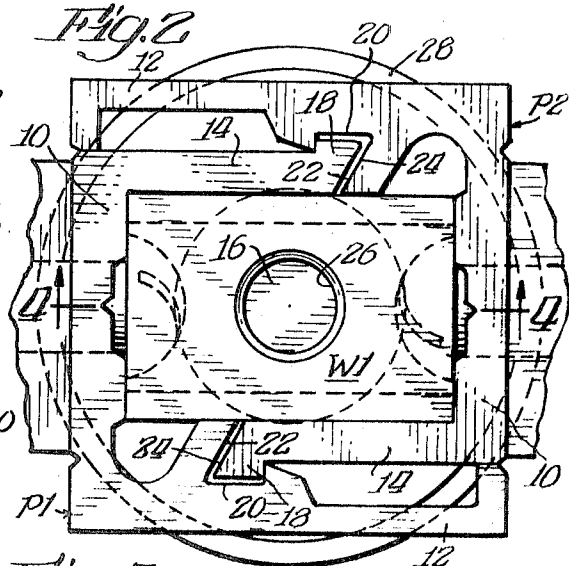
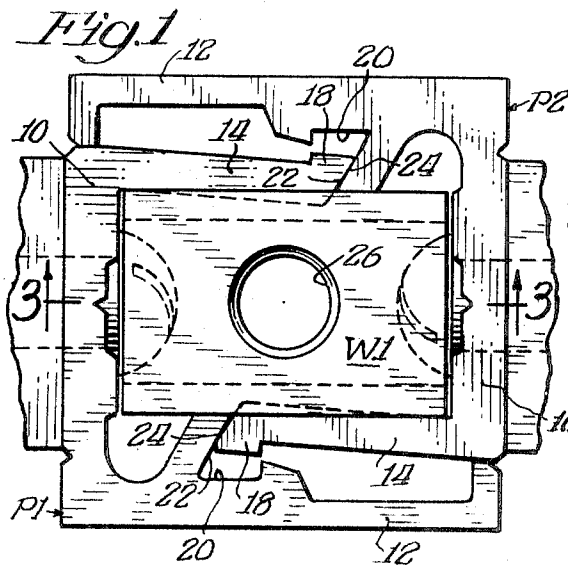
[54] **PANEL POST JOINING MEANS**
10 Claims, 7 Drawing Figs.

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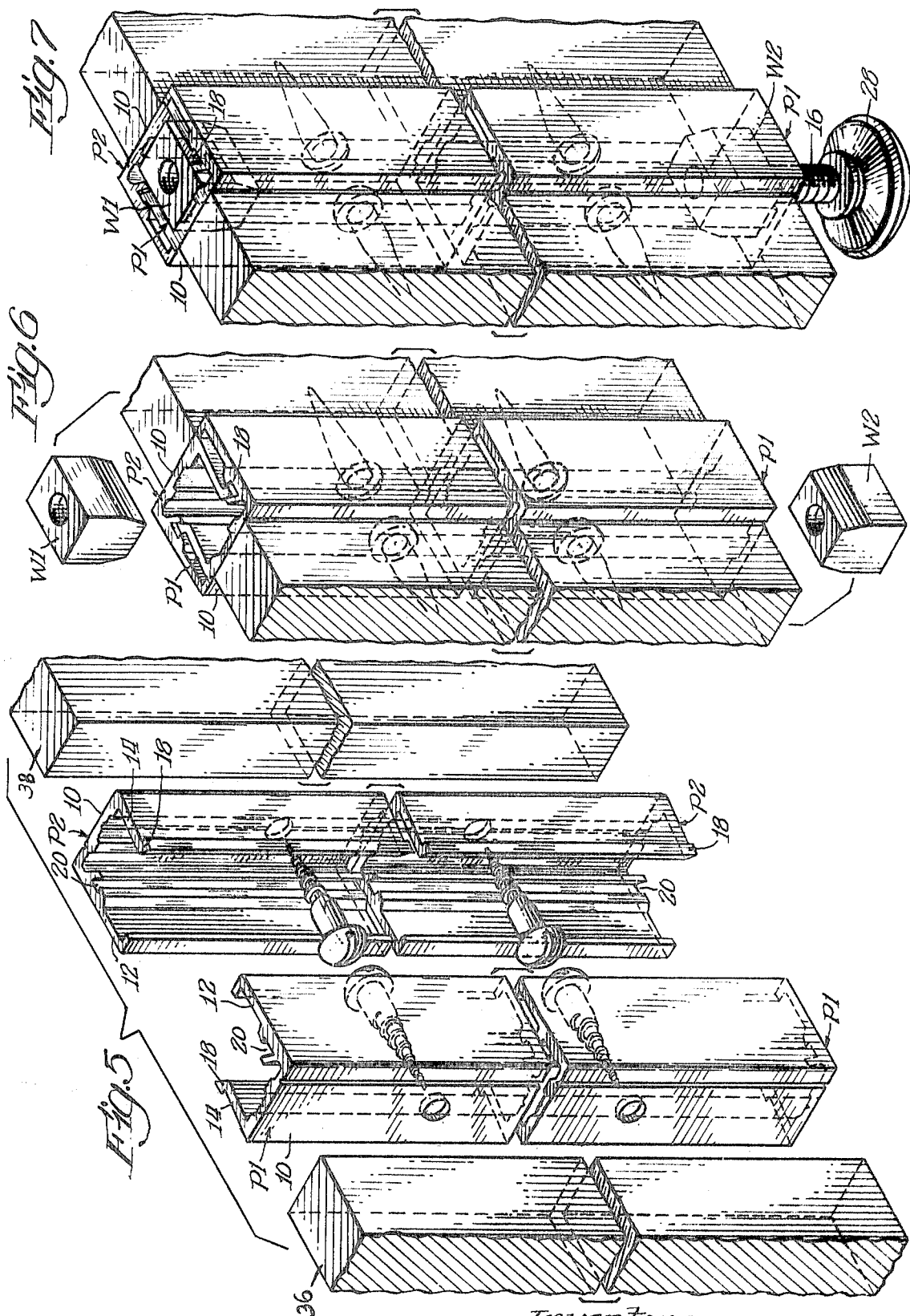
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ABSTRACT: Means is provided for joining panel posts together in such manner that partitions or the like formed of panel and post units may be readily assembled in a minimum of time, and thereafter "knocked down" with equal facility. Channel-shaped posts are provided having the flanges thereof interfitting with each other and joined as a result of plug wedges forced into the ends of the posts between the webs and flanged thereof and concealed inside the channel-shaped posts. The plug wedges are designed to coact with the webs and flanges of the posts in such manner that interlocking tongue and groove connections between the flanges of one channel-shaped post and the flanges of the other channel-shaped post so coact with each other that the two posts form a single substantially rectangular post. These channel-shaped posts may be formed as extrusions of metal, plastic or the like and used for assembling panels together by securing the channel-shaped posts to the edges of panels of wood, plastic, particle board or the like as by means of screws. For disassembling the post and panel units, the plug wedges are tapped so that pull rods can be threaded thereinto.





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PANEL POST JOINING MEANS

BACKGROUND OF THE INVENTION

Various means and fittings have heretofore been used for joining panel posts but usually they are of the exposed type whereas our disclosure involves plug wedges as a means for securing channel-shaped posts together with the wedges entirely concealed inside the channels.

One object of our invention is to provide channel-shaped posts for attachment of the edges of panels, such posts being formed economically of extruded metal.

Another object is to provide a suitable design of extrusion profile for the posts which provides for an interlocking connection between the flanges of one channel-shaped post and the flanges of the other when the plug wedges are forced into the ends of two interfitted posts.

Still another object is to provide interfitting means between the flanges of the posts in the form of tongues and grooves, together with wedge like surfaces which bend the flanges of the posts laterally into interlocking position as between the tongues and the grooves as the plug wedges are forced into the ends of the interfitted posts.

A further object is to provide plug wedges which may be withdrawn for disassembly by means of threaded pull rods entering tapped openings thereof.

BRIEF SUMMARY OF THE INVENTION

Extrusion-type channel-shaped posts are adapted to coact with each other, the flanges of one interfitting in relation to the flanges of the other and held in the assembled position by plug wedges concealed inside the channel-shaped posts. Tongue and groove connections are provided between the flanges of one post and those of the other one, the plug wedges being operable to spring the flanges laterally so the tongues enter the grooves due to wedging action by forcing the plug wedges into the ends of the interfitted posts. Certain wedging surfaces of the flanges cooperate with each other to pull the webs of the channel-shaped posts toward each other as their flanges are spread to enter the tongues of one flange of each post into the groove of the other flange of each post.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a plan view of a pair of posts and portions of adjacent panels secured thereto, the parts being shown in an initial position;

FIG. 2 is a similar plan view showing the parts in final assembled position;

FIG. 3 is a sectional view on the line 3-3 of FIG. 1 showing plug wedges beginning to enter the posts;

FIG. 4 is a sectional view on the line 4-4 of FIG. 2 showing the plug wedges completely forced into the ends of the posts and the parts therefore in final position;

FIG. 5 is an exploded perspective view of posts, panels and plug wedges before assembly;

FIG. 6 is a perspective view showing the posts, panels and plug wedges assembled and the wedges just being engaged as in FIG. 3; and

FIG. 7 is a similar perspective view showing final position of the parts as in FIG. 4.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

On the accompanying drawings I have used the reference characters P1 and P2 to indicate post and W1 and W2 to indicate wedges of plug type. The posts P1 and P2 are formed as extrusions of metal or the like having a web 10 and flanges 12 and 14. The posts P1 and P2 are further characterized by tongue 18 on the flanges 14 and groove 20 in the flange 12. Adjacent the tongues and grooves are coacting wedge surfaces 22 and 24.

The plug wedges W1 and W2 are each characterized by tapped openings 26 in either outer ends adapted to receive

pull rods for removing the plug wedges for disassembling the post and panel units. In FIG. 7 for example, a pull rod 16 is shown of the type having a knoblike foot 28. This foot may be used as a support for the assembled post relative to a floor surface 30 or the like.

Once the plug wedges, posts and panels have been assembled, the posts may be easily and quickly joined together by pushing or driving the plug wedges W1 and W2 into the ends of the posts as illustrated in FIGS. 4 and 7. A wedging action is involved to pull the posts P1 and P2 toward each other as from the position of FIGS. 1 and 3 to the position of FIGS. 2 and 4 which action produces a further interlocking of the flanges 14, that produced by laterally spreading the flanges from the position of FIG. 1 to the position of FIG. 2 by the wedge surfaces 22 sliding outwardly along the wedge surfaces 24 and consequent entry of the tongues 18 into the grooves 20. Thereupon the two channel-shaped posts are locked together as a substantially integral, hollow, square post until such time as it is desirable to knock down the partition formed by the post and panel units.

To accomplish such knockdown operation, the pull rod 16 may be threaded into the tapped opening 27 of the plug wedges W1 and W2 and they may be pulled out of position whereupon the parts can be reversely moved from the position of FIG. 4 to the position of FIG. 3, the flanges 14 springing back to their original positions as shown in FIG. 1, and the two channel-shaped posts may then be pulled laterally apart.

Form the foregoing specification it will be obvious that we have provided a relatively simple panel, post and plug wedge combination which, when the parts are once assembled, can be readily connected together for forming a wall of panels for a partition or the like with tow parts of each post securely locked together yet capable of quick disassembly when required.

The interference fit occasioned by the parts as illustrated in FIG. 3 both draws the webs of the posts P1 and P2 toward each other and interlocks the flanges thereof due to the tongue and groove connections and the wedge surfaces coaction of the wedge surfaces 22 and 24 with each other causing lateral spreading of the flanges 14 so that their tongues 18 enter the grooves 20.

We claim as our invention:

1. Panel-post-joining means comprising a pair of channel-shaped posts having the flanges thereof interfitting with each other and thereby forming together a substantially rectangular post, each of said channel-shaped posts being secured to the edge of a panel and the two panels thereby connected with each other by said channel-shaped posts, and means for joining said channel-shaped posts to each other comprising cooperable means longitudinally of said channel-shaped posts, and plug wedges adapted to enter the ends of said channel-shaped posts when interfitted to each other and effect spreading of the flanges thereof laterally to thereby effect cooperation of said cooperable means, the flanges of said channel-shaped posts having interfitting tongue and groove portions longitudinally thereof, said plug wedges being operable to move said flanges laterally of said channel-shaped posts when two of said channel-shaped posts are interfitted to each other and said wedges are forced into the ends of said interfitted channel-shaped posts.

2. Panel-post-joining means in accordance with claim 1 wherein means is provided to withdraw said plug wedges from the ends of said channel-shaped posts to permit disassembly of adjacent panel and post units.

3. Panel-post-joining means in accordance with claim 2 wherein said means to withdraw said plug wedges comprises tapped openings in the outer ends of said plug wedges adapted to receive threaded pull rods.

4. Panel-post-joining means in accordance with claim 3 wherein said tapped openings at the lower ends of said posts are adapted to receive threaded button feet to support a plurality of post and panel units relative to a floor surface or the like.

5. Panel-post-joining means in accordance with claim 1 wherein means is provided for attaching each of said channel-shaped posts to an edge of a panel comprising a screw through the web of a channel-shaped post and into the edge of a panel.

6. Panel-post-joining means comprising a pair of channel-shaped posts having the flanges thereof interfitting with each other and thereby forming together a substantially rectangular post, each of said channel-shaped posts being secured to the edge of a panel and the two panels thereby connected with each other by said channel-shaped posts, and means for joining said channel-shaped posts to each other comprising cooperable means longitudinally of said channel-shaped posts, and plug wedges adapted to enter the ends of said channel-shaped posts when interfitted to each other and effect spreading of the flanges thereof laterally to thereby effect cooperation of said cooperable means, said cooperable means comprising interfitting tongue and groove portions on said channel-shaped posts extending longitudinally thereof, said plug wedges being operable to spread said flanges laterally of said channel-shaped posts when forced into the ends thereof to in-

terlock said flanges by entry of said tongue into said grooves.

7. Panel-post-joining means in accordance with claim 6 wherein means is provided to draw the webs of said channel-shaped posts toward each other as said flange are spread by said plug wedges.

8. Panel-post-joining means in accordance with claim 7 wherein said means to draw said webs toward each other comprises wedge surfaces formed on said flanges and extending longitudinally thereof.

9. Panel-post-joining means in accordance with claim 6 wherein said means to withdraw said plug wedges comprises tapped openings in the outer ends of said plug wedges adapted to receive threaded pull rods.

10. Panel-post-joining means in accordance with claim 6 wherein said flanges are provided with wedge surfaces extending longitudinally of the flanges and operable to draw the webs of said channel-shaped posts toward each other when said plug wedges spread said flanges laterally of said channel-shaped posts.

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