

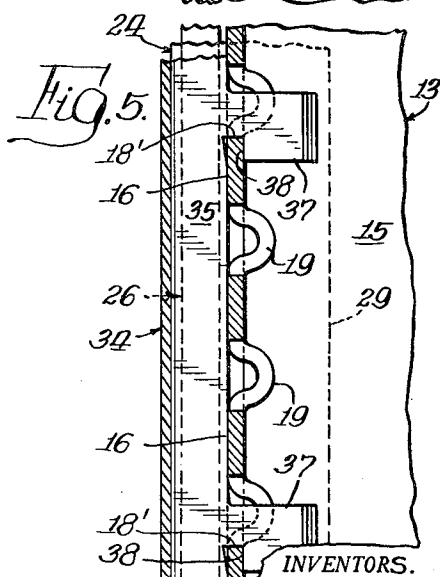
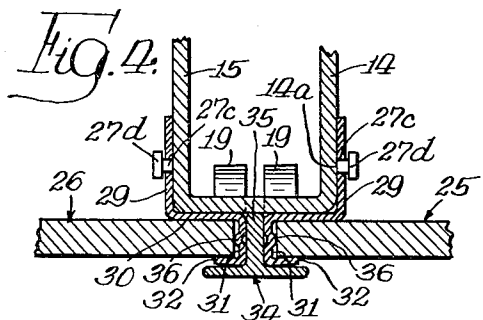
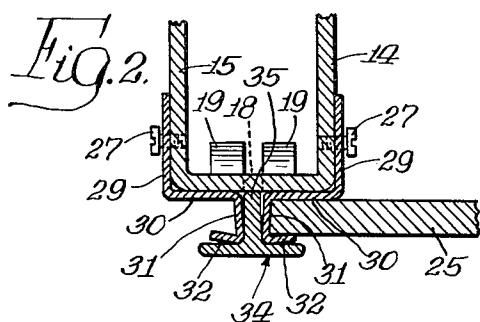
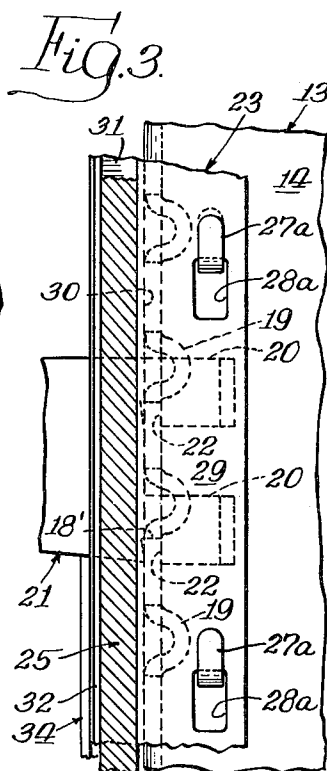
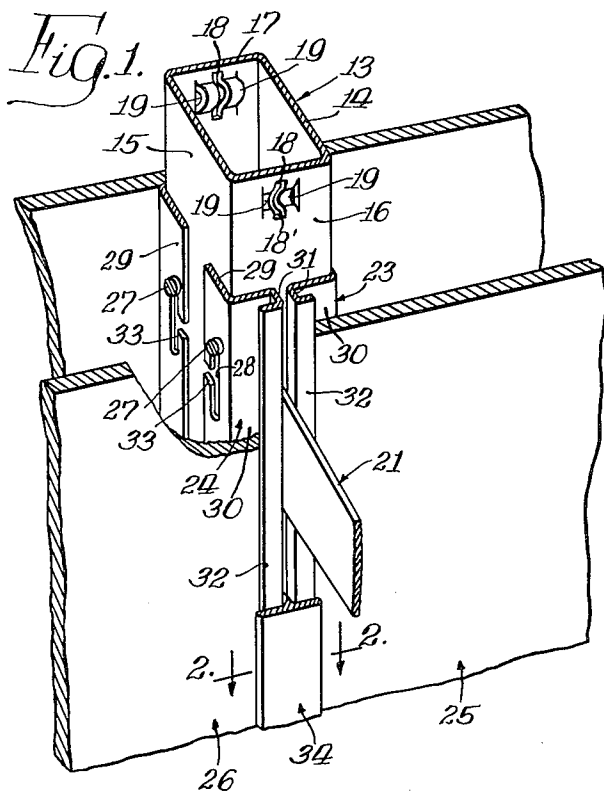
Aug. 1, 1961

E. M. LEVY ET AL
WALL CONSTRUCTION

2,994,413

Original Filed Aug. 14, 1956

2 Sheets-Sheet 1



INVENTORS.
Edward M. Levy
BY Dale R. Lopatka
Prangley, Baird, Clayton, Miller & Vogel
Attys.

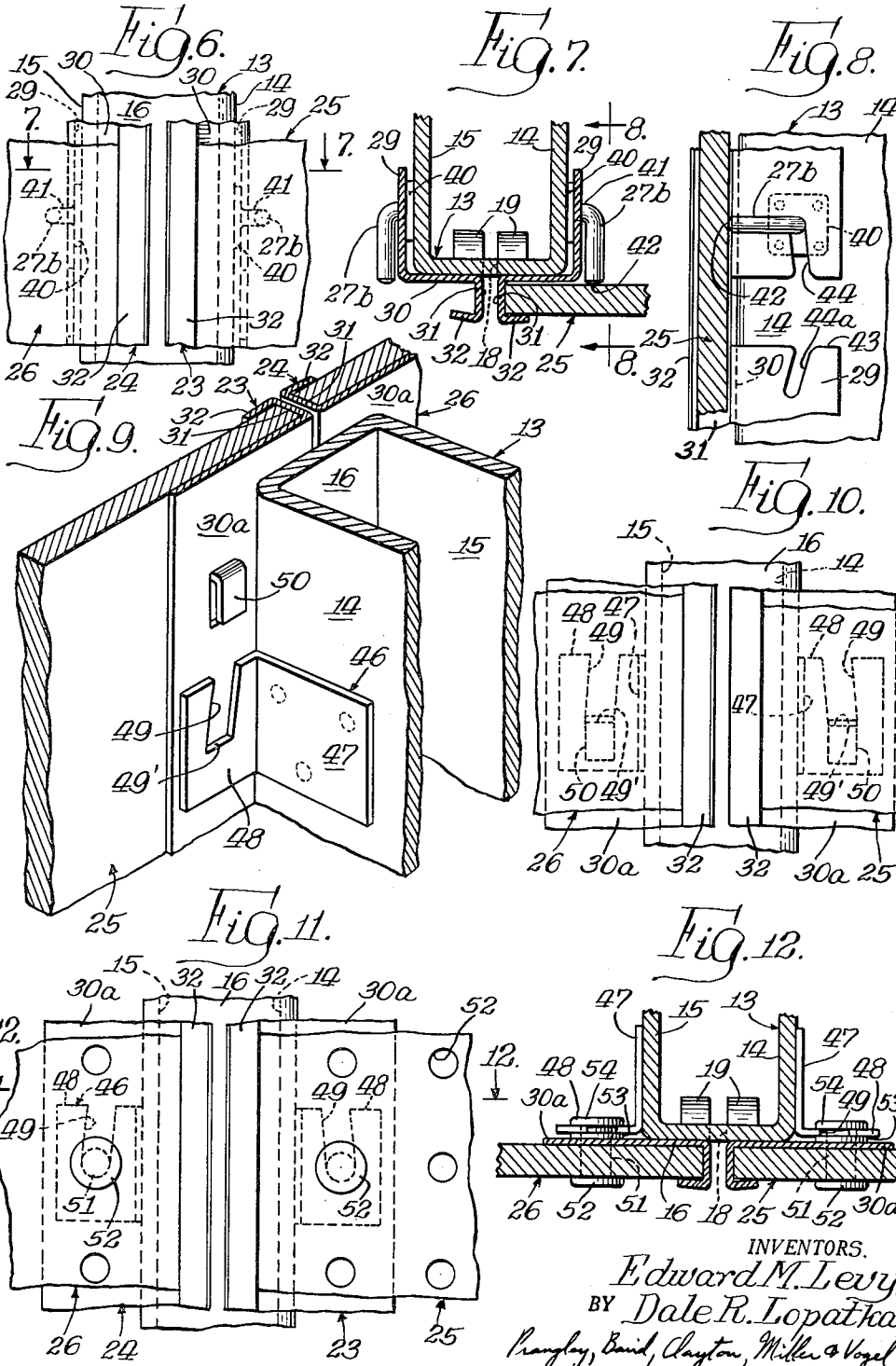
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WALL CONSTRUCTION

Edward M. Levy, Evanston, and Dale R. Lopatka, Glenview, Ill., assignors to Reflector-Hardware Corporation, Melrose Park, Ill., a corporation of Illinois
Original application Aug. 14, 1956, Ser. No. 603,907, now Patent No. 2,966,967, dated Jan. 3, 1961. Divided and this application Aug. 9, 1960, Ser. No. 48,416

4 Claims. (Cl. 189—34)

This invention relates to merchandise display equipment, and more particularly to improvements in merchandise supporting and display background wall constructions of a type that are useful not only as conventional dividing walls or partitions and false walls, but also as attractive wall structures upon which merchandise may be supported so as to be displayed before a pleasing background provided by the wall itself.

The present application is a division of our copending application Serial No. 603,907, filed August 14, 1956, now Patent No. 2,966,967, issued January 3, 1961.

Background wall structures for merchandise displays have previously been used to good advantage in department stores and elsewhere, but these prior wall constructions, for the most part, have been of the conventional lath and plaster type that are expensive to build and are also expensive to change or remodel once they have been constructed. Conventional dry wall constructions using plaster-board wall surfaces have also been used in retail establishments and elsewhere as background walls for merchandise displays, but these constructions are also relatively expensive, and their remodeling, like that of the conventional plaster type walls, requires a considerable amount of time during which the entire area of the store adjacent the site of the remodeling is disagreeably dirty and noisy and not available for ordinary use. These prior wall constructions, once they have been erected, also have not been capable of immediate conversion to alternate uses. For example, if the earlier walls have been constructed to serve as supports for merchandise, the conversion of the walls to ordinary background wall structures, or to use merely as plain dividing partitions or false walls, has required remodeling operations that involve the service of carpenters, plasterers and other skilled laborers.

One of the principal objects of the present invention is to provide a wall construction that is extremely easy to assemble and disassemble and is particularly well adapted for use in retail stores and the like in that the wall, without substantial modification, may be used as a merchandise supporting and background display wall, or it may be used for ordinary partition or false wall purposes, in either of which events the outer surface of the wall presents the pleasing appearance of a panelled wall. Another object of the present invention is to provide a wall construction of the character just stated wherein the wall comprises a plurality of spaced apart upright stud members that are joined or bridged by vertical wall panels that provide the outer surfaces of the wall, the panels being secured at their opposite ends to the studs by means of vertical molding members that are carried by the ends of the panels and are removably hooked to hangers carried by the studs. The hangers are hidden within the assembled wall and are so positioned that a small space is provided between adjacent molding members to permit merchandise supports to project outwardly therebetween from the studs themselves when the wall is being used as a merchandise support.

One of the principal advantages of the present wall construction is that the panels and molding members may be first assembled by slipping the molding members onto

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the panels, and these assemblies may then be raised and secured in place by simply hooking the back portions of the molding members over the hangers on the studs, the entire assembly of the panel elements upon the studs being accomplished from the front side of the wall and without the use of tools. Similarly, the panel elements may be quickly removed from the studs simply by lifting the panels slightly to unhook the molding members from the hangers, whereupon the panels and their molding members may be removed from the studs. The disassembly of the wall, like its assembly, may be accomplished entirely from the front side of the wall and without the use of tools, thus permitting quick, easy and inexpensive remodeling and rearrangement of any merchandise display or store area in which the present wall construction is employed.

Another object of the invention is to provide a wall construction of the character described above, wherein the molding members cooperative with the hanger members on the studs in such a manner as to prevent lateral motion of the panels when the assembly is complete. Still another object of the invention is to provide in combination with the wall construction, trim strips that may easily be removably secured in place upon an assembled wall so as to cover adjacent moldings and that portion of the space therebetween not occupied by a merchandise support, thereby giving to the outer wall surface an appearance of continuity.

These and other objects and advantages of the present invention will be apparent from the following description of a preferred embodiment and several variations thereof, taken with the accompanying drawings, wherein:

FIG. 1 is a fragmentary perspective view of a wall constructed in accordance with the present invention, with various portions of the wall being cut away in order to illustrate the internal and external features of its construction;

FIG. 2 is a fragmentary horizontal cross-section taken substantially along the line 2—2 in FIG. 1, with one of the panels having been removed from its retaining molding;

FIG. 3 is a fragmentary vertical cross-section taken through the wall and looking toward one of the studs thereof, the view showing an alternate means by which the panel retaining molding members may be removably secured to the upstanding studs;

FIG. 4 is a horizontal cross-sectional view similar to FIG. 2, but showing an alternate means by which a trim strip may be removably secured between adjacent flanges of the panel retaining molding members, and showing a variation in the molding hanger members of FIG. 2;

FIG. 5 is a vertical cross-section similar to FIG. 3, showing still another means by which the trim strip may be removably secured in place;

FIG. 6 is a fragmentary elevational view of a portion of the wall structure showing still another hanger means by which the panel retaining molding members may be removably secured to the upstanding rigid structural members or studs;

FIG. 7 is a fragmentary horizontal cross-section taken substantially along the line 7—7 in FIG. 6, showing one of the panels having been removed from its retaining molding member;

FIG. 8 is a vertical cross-section taken substantially along the line 8—8 in FIG. 7;

FIG. 9 is a fragmentary perspective view of a portion of the wall employing still another hanger means for removably mounting the panel retaining molding members upon the upright rigid stud member, the panels and molding members being shown in a raised position prior to being lowered so as to hook the molding members onto the hanger members on the stud;

FIG. 10 is a fragmentary elevational view of the front side of that portion of the wall shown in FIG. 9, the panels and molding members being shown in their lowered position.

FIG. 11 is a fragmentary elevational view of the front side of a portion of a wall employing still another hanger means for securing the panel retaining molding members to the upright rigid studs, the panels in this view being of the perforated type; and

FIG. 12 is a fragmentary horizontal cross-section taken substantially along the line 12—12 in FIG. 11.

In the drawings the numeral 13 indicates, generally, one of a plurality of upstanding rigid structural members which are adapted to be arranged in spaced apart vertical position along a line to serve as the stud members of a wall constructed in accordance with the present invention. Each of these studs or rigid structural members may be mounted in upright fixed position in any appropriate manner. In their preferred form, the studs are fabricated of sheet metal and are of hollow, rectangular construction having side walls 14 and 15 and front and rear walls respectively designated by the numerals 16 and 17. A stud of the particular type illustrated is disclosed and claimed in the co-pending application of Edward M. Levy, Serial No. 580,301, filed April 24, 1956, now abandoned. Each stud, as shown, has a plurality of vertically aligned slots 18 formed in its front and rear walls, with the slots 18 being of identical size and shape and all being equally spaced apart along vertical lines running along the center of the respective front and rear walls of the stud. Portions of the front and rear walls of the stud alongside each of the respective slots 18 are struck rearwardly to provide pairs of rearwardly projecting arcuate segments 19 which serve to engage the opposite sides of rearwardly projecting blade-like ends 20 (FIG. 3) which are formed on the rear of a merchandise support 21. These ends 20 have upwardly directed hook-like slots 22 formed on their undersides so that the merchandise support may be removably hooked over the lower edges 18' of any adjacent pair of slots, the arcuate segments 19 on the stud serving to engage the sides of the blade-like ends 20 of the support to prevent lateral swinging of the support. It will be appreciated that, with a merchandise support of the type just described, the support may be selectively hooked over the lower edges of any adjacent pair of slots 18 so that the merchandise support may be removably hung upon the upright stud 13 at any elevation desired. In the present instance, only one such merchandise support is shown projecting forwardly from that portion of the wall illustrated in FIG. 1 and in FIG. 3, but it will be understood that other like merchandise supporting elements may be similarly mounted in adjacent slots 18 in the rear wall 17 of the stud and it will also be appreciated that a plurality of these merchandise supports may be mounted upon the studs, if desired, one above the other.

The forward and rear faces 16 and 17 of the stud are respectively overlapped by a pair of molding members 23 and 24 which are removably secured to the stud member 13 and serve to secure adjacent panels 25 and 26 to the stud. For this purpose hanger members 27 are provided on the opposite side walls 14 and 15 of the stud. In the form of the invention illustrated in FIG. 1, these hanger members comprise screws which are threaded into the walls 14 and 15, but the hanger members may take other forms, as will presently be described. In the form shown in FIGS. 1 and 2, the hanger members or screws are threaded into suitable openings provided in the walls 14 and 15, with portions of the shanks of the screws exposed and extending outwardly from these walls. A similar form of hanger member is shown in FIG. 4 wherein, instead of employing screws, each hanger member comprises a short projecting rivet-like shank element 27c welded at one of its ends, as at 14a, to the side wall of the stud 13, and having a head 27d on its outer end.

These exposed shanks are adapted slidably to receive openings or slots 28 which are provided at regular intervals in rearwardly extending legs 29 formed on the molding members 23 and 24. These rearwardly extending legs, at their forward ends are integral with the laterally directed webs 30 of the molding members and these webs engageably overlie the forward and rear faces 16 and 17 of the vertical stud. The adjacent edges of the webs 30 lie on opposite sides of the slots 18 and each has formed thereon a forwardly projecting flange 31 which has its outer edge portion 32 turned laterally so that the respective webs 30, flanges 31, and edge portions 32 of each of the molding members 23 and 24, provide a vertically directed slot for receiving the adjacent edge portions of the panels 25 and 26.

The hanger receiving slots 28 in the molding members shown in FIG. 1 are of vertically elongated configuration and each is provided with a mouth 33 which, if desired, may be slightly bell-shaped with the wider portion of the mouth being directed toward the rear edge of the leg 29 of the molding so that the mouth of the slot may more easily be directed over the shank of the hanger screw 27. Consideration of FIG. 1 reveals that the molding members 23 and 24 may be of identical construction and may be used interchangeably on the right or left sides of the front or rear faces of the upright stud member 13 due to the elongated configuration of the slots 28 therein.

In assembling a wall of the construction shown in FIGS. 1 and 2, the panels 25 and 26 have the molding members 23 and 24 applied to their adjacent vertical edges before the panels and moldings are applied to the stud member. If desired, the outer edge portions 34 of each of the molding members may be somewhat resilient so as to grip the outer surface of the panels, as suggested in FIG. 2, when the moldings are applied to the panel edges. With the molding members installed upon the panels 25 and 26, the panel units are applied to the upright stud 13 simply by raising the panels to their vertical position and moving the same so as to cause the mouths 33 of the slots 28 to be received over the hanger member screws 27, whereupon further slight movement of the panels toward the stud causes the screws to enter the slots 28. Slight downward movement of the panels thereupon causes the molding members 23 and 24 to move downwardly upon the hanger members, thereby hooking the molding members upon the hanger members. The molding members are thus removably secured in fixed position upon the upright stud, as illustrated in FIG. 1, and these molding members in turn secure the panels 25 and 26 to the stud, the entire assembly of the panels upon the stud being accomplished from the front side of the wall and without the use of tools. In the position of the molding members and panels illustrated in FIG. 1, it will be appreciated that the forwardly projecting flanges 31 of each molding member lies slightly to one side of the adjacent lateral edges of the respective slots 18 in the stud member so that the merchandise support 21 may be selectively hooked into the slots 18 or removed therefrom without interference.

Removal of the panels 25 and 26 from the vertical stud member 13, shown in FIG. 1, is easily accomplished merely by moving the panels and their respective molding members 23 and 24 slightly upwardly so as to align the mouths 33 of the slots 28 with the shanks of the hanger member screws 27, whereupon the panels and their molding members may be removed in a forward direction from the stud 13. This disassembly of the wall, like its assembly, may be accomplished quickly and easily from the front side of the wall without the use of tools.

In order to improve the appearance of the assembly, a T-shaped trim strip 34 is applied to the joint between the adjacent vertical edges of the panels 25 and 26 so as to cover that portion of the space therebetween not occupied by the merchandise support or supports 21. In

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the form of the invention shown in FIGS. 1 and 2, this trim strip 34 overlies the forward edge portions 32 of the moldings 23 and 24, and the trim strip has a rearwardly projecting leg 35 which is wedged between the flanges 31 of the adjacent molding members to retain the trim strip in place. If desired, this rearwardly projecting leg 35 of the trim strip may be provided on its opposite sides with small spherical outwardly projecting detent members 36 which cooperate with corresponding dimples provided on the adjacent faces of the flanges 31 of each of the molding members, as shown in FIG. 4. With this latter construction the trim strip 34 will snap into place as its rearwardly projecting leg 35 is inserted between the flanges 31. As an alternate means for applying and securing the trim strip 34 in place, the rearwardly projecting leg 35 thereof, as shown in FIG. 5, may have blade-like extensions 37 formed on the rear edge thereof, each of these extensions being of the same size and shape as the rearward extensions or ends 20 of the merchandise support 21 so that they may be received by certain of the slots 18 in the upright stud 13. As shown in FIG. 5, each of the rearward extensions 37 is provided with an upwardly directed slot 38 in its underside that is adapted to be removably hooked over the lower edge 18' of one of the slots 18. It will be appreciated that the trim strips 34 may be of any length required and that when the trim strip is of the type shown in FIG. 5, it may have a plurality of rearward extensions 37 formed thereon which are properly spaced apart so as to cooperate with certain multiples of the slots 18 in the vertical stud 13, as illustrated in FIG. 5.

The embodiment of the invention shown in FIG. 3 is substantially like that shown in FIGS. 1 and 2, except that the hanger members 27a comprise upstanding hooks which may be struck from the body of the respective side walls 14 and 15 of the upright stud member 13. These hooks 27a are adapted to receive openings 28a formed in the rearwardly directed legs 29 of the molding members 23 and 24. The installation of the molding and panel units on the studs in this embodiment is accomplished in substantially the same manner as that previously described above with respect to the embodiment illustrated in FIGS. 1 and 2. The molding members are first applied to the vertical edges of each panel and the panel units are then lifted into position in front of the stud and then lowered slightly to cause the upper edges of the several openings 28a in the molding members to be hooked over the hooks 27a. This secures the molding members in place and they, in turn, retain the panels upon the studs. It will, of course, be understood that the molding members of the kind shown in FIG. 3, like those of FIG. 1, may be used interchangeably on the right or left hand side of the stud merely by inverting the molding members. This has the advantage that only one kind of molding stock needs to be provided.

The embodiment of the invention shown in FIGS. 6, 7 and 8 is similar to the embodiment shown in the preceding figures, except as to the formation of the hanger members and the manner in which these hanger members are adapted to receive the molding members 23 and 24. As illustrated in FIGS. 6, 7 and 8, the hanger members comprise relatively short round rods 27b which are welded or otherwise secured to rectangular plates 40 that are welded upon the side walls 14 and 15 of the upright stud element 13. The round rods 27b adjacent the plates 40 provide short base portions which are the equivalent of the outwardly projecting and exposed shank portions of the screw-type hanger members 27 illustrated in FIGS. 1 and 2, but the remaining portion of the rods 27b are bent forwardly and their extremities 42 are engaged by the back sides of the panels 25 and 26 to serve as a backing therefor to reinforce and rigidify the panel mounting. When hanger members of this type are employed, the rearwardly projecting legs 29 of the molding members 23 and 24 are provided with large horizontally

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and forwardly extending slots 43, each of which has a smaller slot 44 extending upwardly from its upper edge, as best seen in FIG. 8. This latter slot 44 is hooked over the base portion 41 of the rod-like hanger members 27b when the moldings 23 and 24 and the panels 25 and 26 are applied to the stud member in the manner previously described. Each of the large forwardly extending slots 43 in the rearwardly projecting legs 29 of the molding members may also be provided in its lower edge with a downwardly extending smaller slot 44a which corresponds to the slot 44 and will be received by the hanger rod 27b on the other side of the stud 13 in the event the molding members are inverted and interchanged on the right and left sides of the stud. The provision of the second small slot 44a thus permits interchangeable use of the molding members 23 and 24 on the right and left sides of the stud and, again, makes necessary the use of only one type of molding stock. As illustrated in FIG. 8, the longitudinal axes of the respective slots 44 and 44a slants slightly toward the forward portions of the molding members so that the webs 30 of the molding members are caused to move rearwardly slightly and into close engagement with the face 16 or 17 of the stud, as the case may be, as the molding members are lowered onto the hanger members 27b.

FIGS. 9 and 10 illustrate a further modified means by which the panels 25 and 26 may be applied to the stud member 13. In this embodiment each of the side walls 14 and 15 of the stud is provided with a bracket 46 having a leg 47 welded to the side wall of the stud member and having a laterally turned leg 48 extending outwardly from the stud, with the forward face of the leg 48 lying in the plane of the forward face of the forward wall 16 of the stud. This leg 48 of each bracket 46 has a downwardly extending slot 49 formed therein which is adapted to receive a hook 50 that is struck from the body of the web portion 30a of the molding members 23 and 24, it being understood that the molding members in this instance do not have rearwardly projecting legs 29 thereon as shown in FIG. 1, but have web portions 30a which extend laterally well to each side of the stud member. In applying the panels 25 and 26 to the stud member, when the construction shown in FIGS. 9 and 10 is employed, the molding members are applied to the adjacent edges of the panels 25 and 26, as previously described, and the panels are raised to a vertical position with the hooks 50 on the rear side of the molding members in a position directly above the mouths of the respective slots 49 in the brackets 46. The panels and their moldings are then lowered so that the hooks 50 are received within the slots 49 and are hooked over the lower edges 49' thereof. It will be noted that the slots 49 are arranged slightly angularly with respect to the vertical so that, as the panels are lowered, the molding members on the opposite vertical edges of each panel are urged slightly toward each other, thereby causing the molding members, in effect, to fit snugly against the edges of the panels. As the panels and the molding members are lowered, the hooks 50 on the molding members come to rest with the hooks seated upon the lower edges 49' of the slots 49, as illustrated in FIG. 10.

A still further variation of the invention is illustrated in FIGS. 11 and 12, this variation being especially useful when the panels 25 and 26 are of the well known perforated type. This latter embodiment of the invention is like that illustrated in FIGS. 9 and 10, except that instead of providing hooks 50 on the web portions 30a of the molding members, the edge portions of each of the panels 25 and 26 are provided with a plurality of vertically spaced pins 51 which extend through the perforations 52 of the panels and through appropriate aligned openings in the respective web portions 30a of the moldings 23 and 24. The outer end of each pin 51 is provided with a head 52, as shown, and the pin is held in fixed position within the panel by a shoulder 53 which is

formed or otherwise provided upon the pin and lies against the web portion 30a of the moldings. The rear end of each pin has another head 54 formed thereon and is spaced rearwardly from the shoulder 53 so as to provide a space therebetween for receiving the body portion of the legs 48 of the brackets 46. In applying the panels and moldings to the stud member when the construction illustrated in FIGS. 11 and 12 is employed, the molding members are applied to the vertical edges of the panels and the pins 51 are permanently fixed in the panels. The panel and molding assemblies are then raised to their desired position on the front of the stud members 13 and are then lowered so that the rear portions of the pins 51 between the shoulders 53 and rear heads 54 thereof are received downwardly into the slots 49 provided in the legs 48 of the brackets 46, with this portion of the pins seating upon the lower edges of the slots.

It will be noted that each of the various hanger means illustrated and described not only retains the molding members against forward movement with respect to the stud members 13, but also retains the molding members against lateral movement with respect to the stud members. In the embodiment shown in FIG. 1, the heads of the hanger screws 27 cooperate with the side walls of the stud to prevent lateral movement of the legs 29 of the molding members, and the hangers 27b in FIGS. 6 to 8 serve the same purpose in substantially the same way. In the embodiments shown in FIGS. 9 to 12, the side walls of the slots 49 serve to prevent lateral movement of the molding members once the molding members are installed.

While several variations of the present invention have been illustrated and described above, it will be noted that the hanger means in each instance has the advantage that the panels 25 and 26, with their respective molding members 23 and 24 thereon, may be easily and quickly manually hung onto the studs 13 from the forward side of the wall structure and may likewise be removed from the forward side of the wall by a simple reversal of the installation procedure. Furthermore, each variation is such that the merchandise supports 21 may be installed in the studs 13 at any elevation desired so that the wall structure may serve as a merchandise supporting and merchandise background wall structure, or, if desired, the merchandise supports may be entirely removed and the wall structure may serve as an attractive partition or as a false wall. When the structure is employed as a false wall, the panels 25 and 26 will ordinarily be applied only to one side of the studs, but it will be understood that the structure has a great variety of uses to which it may be put, and the owner has complete freedom as to the particular way he will arrange the structure from time to time. Since the panel units may be removed and reinstalled in a minimum of time and without the aid of skilled labor, panels of different surface colors or design may be installed at will so as to redecorate the assembly from time to time, and when different color schemes are used, trim strips 34 of a corresponding color may be employed. These trim strips may be inexpensively produced of either metal, plastic or wood, and the exchange of trim strips will represent no substantial expense. It has furthermore been found that the trim strips may be eliminated in many installations since the closely adjacent edge portions 32 are separated only by a small space and they are themselves attractive.

The foregoing description has been given for clearness of understanding only and no unnecessary limitations should be understood to be intended thereby, for it will be apparent to those skilled in the art that numerous variations and modifications may be made in the present invention within the spirit and scope of the appended claims.

We claim:

1. In a wall construction including an upstanding substantially rigid stud member having opposite side faces and having a forward face with a row of vertically aligned slots therein for removably receiving a forwardly projecting merchandise support, the combination comprising, a plurality of vertically spaced apart brackets on the opposite sides of said stud member, each bracket having a laterally extending leg thereon having a forward face disposed in a position substantially flush with the forward face of said stud member and each laterally extending leg having a downwardly extending slot provided in its upper edge, a vertically extending molding member having a web portion overlying the forward face of said stud member on one side of said vertically aligned slots therein and also overlying said forward faces of those of said brackets on that side of said stud member, a second vertically extending molding member having a web portion overlying the forward face of said stud member on the other side of said vertically aligned slots therein and also overlying the forward faces of said brackets on said last mentioned side of said stud member, molding securing means on the rear side of said web portions of said molding members removably received in said slots in said legs of said brackets and hooked over the lower edges thereof to support said molding members, a forwardly projecting flange on each of the respective adjacent edges of said web portions of said molding members, said flanges being spaced apart to permit access to the slots in said stud member and to permit said merchandise support to project forwardly between said flanges without interference therewith, a laterally turned outer edge portion on each of said flanges, said edge portions defining with said flanges and with said web portions of said molding members a vertically elongated recess in each of said molding members, and a pair of wall panels having corresponding adjacent vertical edges respectively residing in said recesses, said molding members serving to secure said wall panels to said upstanding stud member, said panels and said molding members being readily removable from said stud member from the forward side of said wall by lifting said molding members to disengage said molding securing means from said slots in said laterally extending legs of said brackets.

2. The combination set forth in claim 1, wherein said molding securing means comprise hooks struck from the bodies of said web portions of said molding members.

3. The combination set forth in claim 1, wherein said panels are of the perforated type and wherein said molding securing means comprise rearwardly projecting pins fixed in certain of the perforations of said panels.

4. The combination set forth in claim 1, wherein the sides of said slots in said laterally extending legs of said brackets are disposed at an angle with respect to the horizontal, so that said sides of said slots cooperate with said molding securing means to spread said molding members slightly with respect to each other as said molding securing means are received by said slots.

No references cited.