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3,553,915

APPARATUS AND METHOD FOR ATTACHING WALL PANELS TO
STUDS, AND PARTITION CONSTRUCTION FORMED THEREBY

Filed Aug. 28, 1968

2 Sheets-Sheet 1

FIG. 1

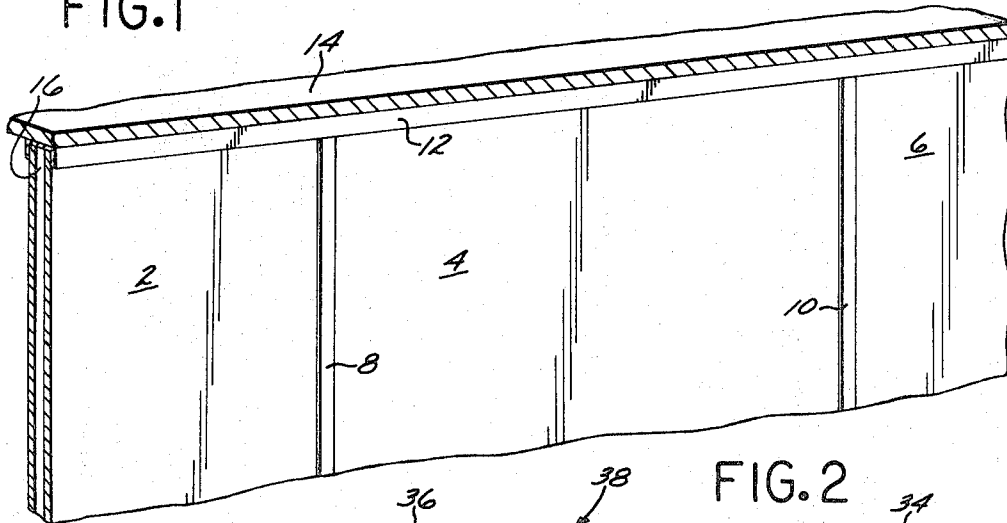


FIG. 2

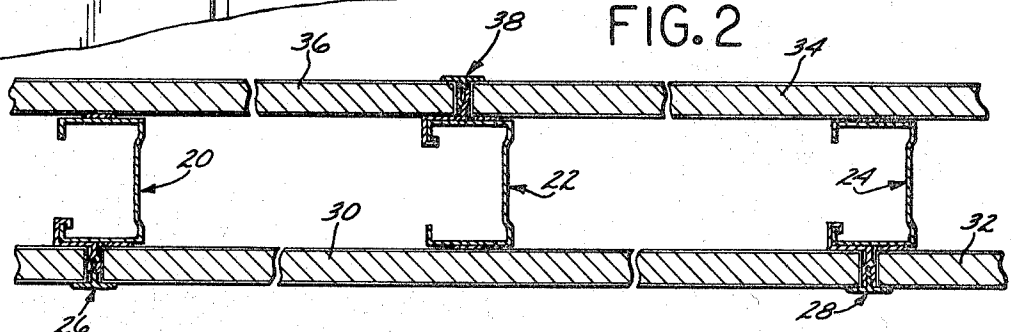


FIG. 3

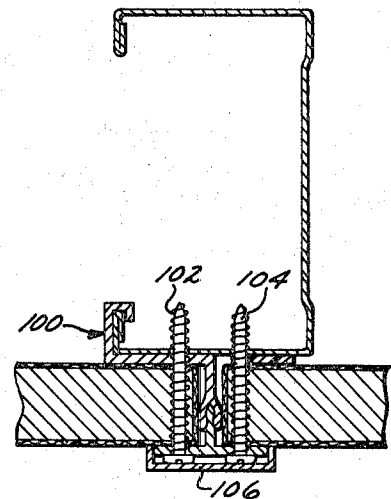
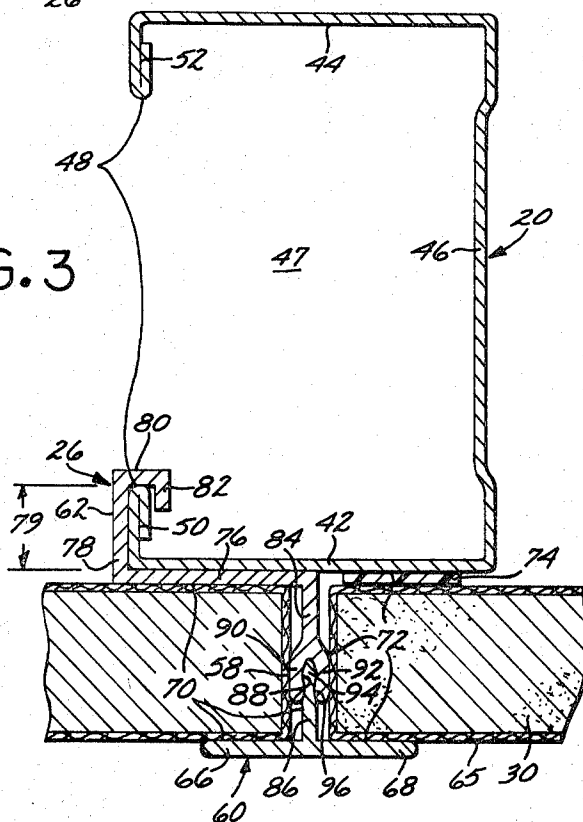


FIG. 4

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2 Sheets-Sheet 2

FIG. 5

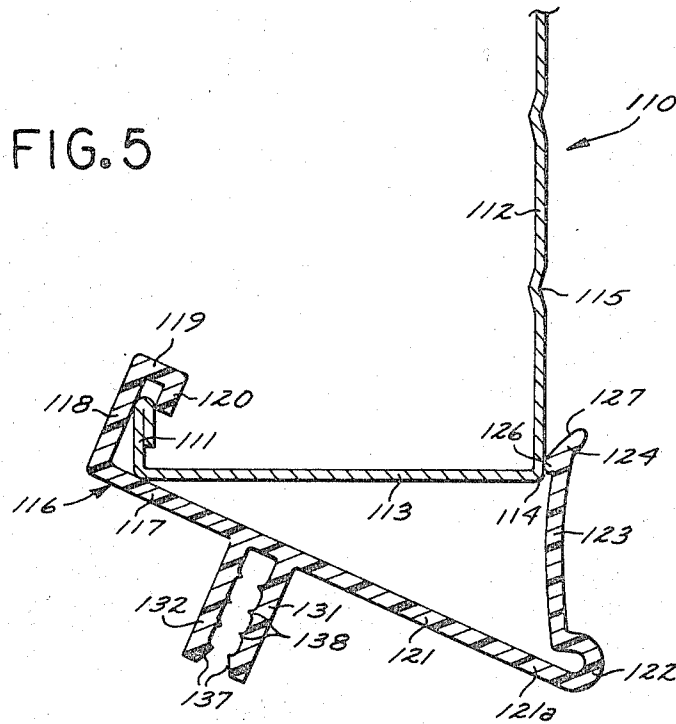
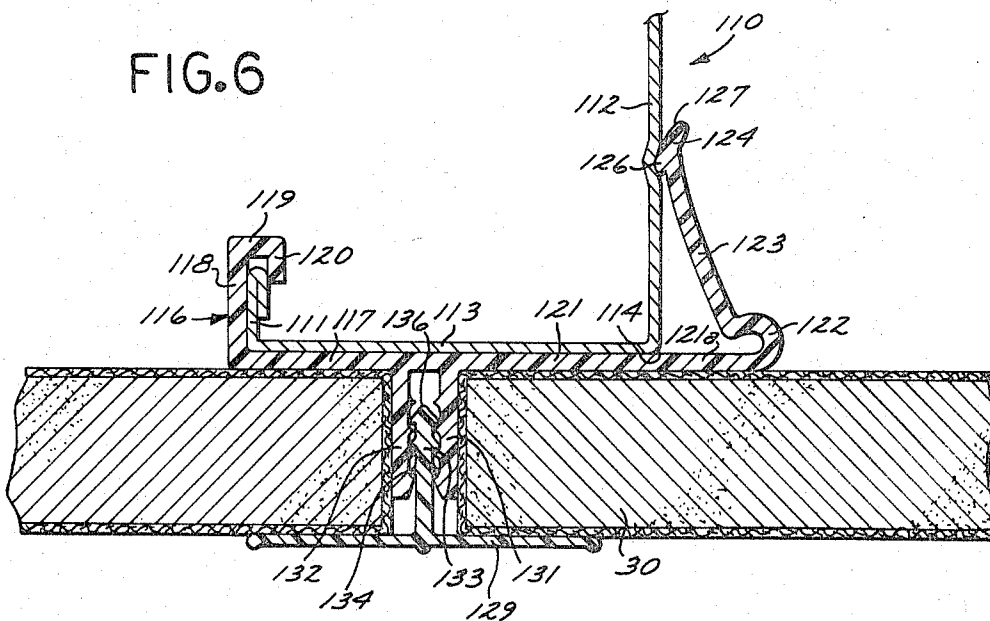


FIG. 6



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APPARATUS AND METHOD FOR ATTACHING WALL PANELS TO STUDS, AND PARTITION CONSTRUCTION FORMED THEREBY

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Continuation-in-part of application Ser. No. 649,969, June 29, 1967. This application Aug. 28, 1968, Ser. No. 777,530

Int. Cl. E04b 2/78

U.S. Cl. 52-241

11 Claims

ABSTRACT OF THE DISCLOSURE

A snap-on clip is employed to attach gypsum drywall panels to metal studs without the use of screws, the method of attaching comprising starting at one end of the wall and continuing to alternately attach to the stud system a wall panel-retaining clip and then a wall panel. In accordance with another embodiment, the clip does not necessarily snap on but instead is resiliently associated with the metal stud. In accordance with an alternative method, the clips may all be mounted in position prior to mounting of any wall panels, following which the wall panels are positioned and then held in place by external head portions which are connected to the remainders of the clips by quick connect-disconnect means.

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation-in-part of my copending patent application Ser. No. 649,969, filed June 29, 1967, for Method and Apparatus for Attaching Wall Panels to Studs, now abandoned.

BACKGROUND OF THE INVENTION**Field of the invention**

The invention relates to the construction field wherein panels or partitions are attached to support members, and more particularly to the attachment of gypsum drywall boards or panels to metal studs employed in building interiors.

Description of the prior art

Many prior-art patents, including those cited in the above-specified copending patent application, and also patents 2,729,431; 2,754,776; 2,990,650; 3,034,609 and 3,089,569, relate to various means and methods for attaching panels and similar elements to studs and the like. In addition, there is much prior art by which screws are employed to attach gypsum drywall boards to channel-shaped screwable steel studs. The latter and other attaching means are highly disadvantageous for various reasons including the following: Installation is relatively slow, may require more than one person, requires the use of tools, and requires the separate job of eliminating the unsightly seam; removal of a partition has the identical disadvantages and in addition the removed panel may have to be discarded or patched-up at the screw holes. The disadvantages of prior-art apparatus wherein no screws are employed are legion, and include difficulty of assembly, unsightliness, high cost and complexity of components, excessively insecure fastening or attachment of the panels to the studs, inability or impracticality of removing panels and replacing the same, etc.

SUMMARY OF THE INVENTION

The invention comprises a clip which is quickly secured to a metal stud without the necessity of employing screws, such clip defining back-to-back grooves which receive the adjacent edge portions of wall panels formed

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of gypsum or other material. The clip incorporates a connector portion adapted to hook over an inwardly-extending flange of the stud. In accordance with one embodiment, the clip also incorporates an arm which resiliently presses against the web of the stud in order to enhance the gripping action, such pressing occurring at an indentation or groove in the stud to thus provide an interlocking or tongue-in-groove relationship. In accordance with another embodiment, there is no such resilient arm, the connector portion instead hooking over the inwardly-extending stud flange portion in a snap relationship.

The clip portions which define the back-to-back grooves for the panel edges are formed of two components adapted to be secured together in quick connect-disconnect relationship. Thus, in accordance with one method of assembly, the panels are abutted against the inner clip portions prior to completion of formation of the back-to-back grooves by assembly of the quick-connect components. In accordance with another method of assembly, relative to that embodiment wherein there is no resilient pressing against the stud by the above-indicated resilient arm, the method comprises alternately mounting a clip and then a panel in a chain-reaction procedure.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing the appearance of a wall constructed according to the present invention;

FIG. 2 is a horizontal cross-sectional view showing the relationship between the studs, the wall panels, and the clips in a wall constructed according to a first embodiment of the present invention;

FIG. 3 is an enlarged horizontal cross-sectional view through a single stud, clip, and a pair of wall panels;

FIG. 4 is a horizontal cross-sectional view through a modified form of the first embodiment;

FIG. 5 is an enlarged horizontal cross-sectional view illustrating a second embodiment of the stud and a second embodiment of the clip, the relationship being such that the clip is secured to the stud by combined hook and resilient members; and

FIG. 6 illustrates in enlarged horizontal cross section the final assembly in accordance with the embodiment of FIG. 5, the head portion of the clip being shown in locked position defining the back-to-back grooves for the panel edges.

DESCRIPTION OF THE FIRST EMBODIMENTS AND ASSOCIATED METHOD

Throughout this specification, and in the appended claims, the terms "studs" and "wall panels" have been used to refer to the construction shown in the drawings which construction illustrates only a preferred embodiment of the invention, i.e., an interior wall partition. It is to be understood, however, that the present invention is applicable to various partitions whether in a building, airplane, boat, etc., and also whether the partition is a wall, ceiling, or floor. Therefore, the term "stud" is not to be limited in meaning to a stud of a wall, and similarly for the term "panel." Further, although the preferred construction is that of an extruded aluminum or rolled steel clip, a steel stud, and gypsum drywall board, it is to be clearly understood that this invention is not limited thereto, but that a great variety of other materials can be used.

A wall partition constructed according to this invention has the appearance shown in FIG. 1 wherein a plurality of wall panels 2, 4 and 6 have been attached to a wall stud system (not visible in FIG. 1) by means of clips 8 and 10, the head portions only of which are visible. The top edges of the wall panels are seated in a groove 16 of a ceiling channel member 12 which is attached

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to a ceiling support 14. The channel member 12 is a useful part of a wall partition constructed according to the present invention in that it aids in keeping the wall panels flat, and properly assembled.

Before describing the details of constructing a partition using the snap-on clip of this invention, it is deemed appropriate to first describe a typical stud system useful in the present invention. One such stud system comprises a series of parallel, evenly spaced, vertical studs of the type having a channel, the opening to which is in one of the inside faces of the stud, and which opening is defined by a pair of inwardly extending flanges. The studs can be mounted on the floor in an upwardly open channel member known as a floor runner in which the studs tightly fit. The upper ends of the studs are centrally positioned in a downwardly open ceiling channel member. The ceiling channel member is wider than the floor runner by a distance equal to about twice the thickness of the wall panels to be installed, whereby wall panels can be slipped up into the ceiling channel member for a snug fit on both sides of the stud system. When installed the panels are retained on each side edge by the grooves in the clips of this invention and at the top edge by the ceiling channel member. Since the stud system itself does not include any means for covering, masking or retaining the bottom edge of the panels, various baseboard members can be used as is known in the art.

A plurality of spaced, vertical, channel-shaped studs 20, 22 and 24, which are identical, are shown in FIG. 2. Attached to one face of the studs 20 and 24, according to the present invention, are identical clips 26 and 28. A wall panel 30 is shown installed between the clips 26 and 28, and another wall panel 32 is shown installed at one end in the clip 28. Although an intermediate stud 22 is shown between the ends of the wall panel 30, it is to be understood that there is no need for any intermediate stud or studs although such can be present. Whether or not there will be such intermediate studs and the number of them will depend upon the preferred spacing of the studs and the size of the wall panel used.

Attached to the other side of the stud system 20, 22 and 24 are wall panels 34 and 36 attached by means of a clip 38 fastened to the stud 22. Thus it is seen that wall panels on one side of the stud system can be installed and removed without disturbing the panels on the opposite side.

The wall panel 30 (the same is true for all of the wall panels, e.g., 34 and 36) is attached to the intermediate stud 22 by means of a strip of pressure sensitive tape (see element 74 in FIG. 3) to aid in holding the wall panel against the stud system. The panels can be glued to the intermediate studs (if any exist) rather than taped, if desired.

In order to describe in detail the preferred construction according to this invention, one of the identical studs of FIG. 2, i.e., stud 20, is shown enlarged in FIG. 3. The stud 20 has front and rear walls 42 and 44, an inside wall 46, a channel 47 and a channel opening 48 (opening to the left assuming one is looking at the front wall 42) defined by a pair of inwardly extending locking flanges 50 and 52. The flanges 50 and 52 present a double walled thickness by virtue of the fact that the metal wall has been turned back upon itself.

A wall panel retaining clip 26 is shown snapped onto the flange 50 of stud 20. The clip 26 comprises a web portion 58, a head portion 60 and a snap flange portion 62. The web portion 58 extends normally (perpendicular) from the front wall 42 of the stud 20 a distance equal to the thickness of the wall panel 30 to be installed. The head portion 60 includes two flanges 66 and 68 extending normally to the web portion 58. The clip 26 when attached defines two wall panel receiving grooves 70 and 72 in which the side edges of the wall panels to be installed are seated. The head portion 60 should have a width sufficient to hide the space separating adjacent wall

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panels. Except for this restriction the head portion can be practically as wide or as narrow as one desires and the width can be based, therefore, primarily on aesthetic values rather than on construction requirements. Further, the paper cover 65 on the panel 30 can be a decorative material, for example, it can be printed, embossed, etc., and can be of a design which will combine attractively with the metal head portion 60. The groove 72 is wider than the groove 70 by the thickness of the material forming the snap flange portion 62. A snug fit for the panel 30 in the groove 72 is achieved by means of a combination sound-seal and spacer 74. The spacer can be a strip of pressure sensitive tape attached preliminarily to either the stud 20 or the wall panel 30. The spacing means can also take the shape of a projecting bead (not shown) formed as an integral part of the stud 20 or as an added internal thickness on the flange 68.

One construction of the snap flange 62 is that shown, i.e., an integral connection of four runs 76, 78, 80 and 82, with each connection being at right angles. The first run 76 is adapted to abut up against the front wall 42 of the stud 20 and preferably has a width equal to half of the width of the front wall 42. The second run 78 has a width sufficient to allow it to be snapped onto the locking flange 50 in tight fitting engagement therewith. The third run 80 has a width equal to or just larger than the thickness of the locking flange 50 and the fourth run 82 has a width sufficient to hook around the end of the locking flange 50. The hook end (runs 78, 80 and 82 of the clip 26) is hooked over the end of the locking flange 50 and then pressure is applied to force-snap the clip 26 into the final, locked position shown in FIG. 3. The fourth run can be eliminated since as can be seen in FIG. 3 it is not needed to hold the clip 26 to the stud 20. However, it is useful in the process of attaching the clip to the stud in the first instance. It is also useful in that it would prevent the clip from being accidentally knocked off of the stud 20. Thus the hook end of the clip 26 can comprise just runs 78 and 80.

In order that the clip 26 be capable of snapping onto the flange 50 of the stud 20 in tight fitting engagement therewith, the inside width 79 (see FIG. 3) of the run 78 is critical within a certain tolerance. For example, if the inside width 79 is exactly equal to the width of the flange 50, a good fit can be achieved by means of a snap action. In this case the snap flange binds during installation at an angular position just short of the installed position. The snap flange is moved the rest of the way into position by applying force thereto. When the amount of force is great enough to cause one or more of the elements undergoing stress to bend or flex, the clip "snaps" into position.

The range of tolerances which can be employed, and still achieve a snap fit, varies with such parameters as the flexibility of each run or portion of each element and with the flexibility in each connection or joint between runs. The flexibility in turn depends on what material is used in the manufacture of the parts involved, and the thickness of the material. In the preferred embodiment the stud is a screwable steel stud and the clip is extruded aluminum. The locking flange on the stud is somewhat flexible compared to the snap flange of the clip. Using this preferred construction it has been found that a workable dimension for the inside width 79 of the run 78, for a good snap fit, is the width of the locking flange 50 plus a few thousandths of an inch. That the plus tolerance for the inside width does provide a good snap fit in practice may be attributed to the fact that the studs and clips are often eight feet long or longer, and are often bowed to some extent.

The web portion 58 is preferably, although not necessarily, constructed as two sections 84 and 86 to provide a quick connect-disconnect assembly. Section 84 terminates in a groove 88 defined by two flexible fingers 90 and 92. The entrance to the groove 88 is smaller than the groove

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itself so as to firmly hold the head 94 of the section 86. When the head 94 is inserted into the groove 88 the ends of the fingers 90 and 92 snap into a recess 96 formed behind the head 94. This construction provides a releasable connection between the head portion 60-section 86 half of the clip 26 and the remainder thereof (section 84 and snap flange 62). The reason for this releasable connection is to provide for the removal of any single wall panel without disturbing adjacent panels. The panels can all be removed without this releasable connection but one would have to start at one end and work up to the panel to be removed.

The panels are attached to a stud system such as described above by using the clip as a one piece assembly, and starting at one end and continuing along, in a chain reaction, one panel after the other. A clip is attached to the stud at one end of the wall (in FIG. 2 one would work from the right to the left, i.e., first panel 32, then panel 30, etc.) and a wall panel is slipped at an angle into the channel member 12 (FIG. 1) and then held flush against the wall and slid sideways toward the clip such that the side edge of the panel seats itself in the panel receiving groove of the clip (e.g., groove 70 in FIG. 3). Then a clip is snapped onto the next appropriate stud (the one at which said panel terminates), the snapping action of the second clip automatically seats the second side edge of the panel in a panel receiving groove in the second clip while also providing a second panel receiving groove for one end of the next panel to be installed. This chain reaction procedure continues until the partition is fully constructed.

It is noted that the clip of this invention also provides another installation procedure by virtue of the removable head portion. By removing the head portions of the clips, a series of clips can be attached to the appropriate studs, the panels placed into position and then the head portions of the clips connected to complete the installation. When this procedure is used, a clip having a different construction can be used. In this case, since there is no panel adjacent the stud when the clip is being attached, a second flange can be attached to the web portion 58 extending in a direction opposite to that of the first run 76 of the snap flange 62. This obviates the need for a spacer 74.

FIG. 4 shows a modified construction which may be necessitated by various building codes or local fire regulations requiring screws to be used. The clip 100 is identical to the clips above described except for holes in the head portion and in the snap flange to accommodate the screws 102 and 104. Installation is also the same except that the screws are installed after the wall is installed as described above. Additionally, a snap plate 106 is used to hide the screw heads.

It should be noted that various modifications of the above described apparatus can be made. For example, the clip of the present invention is not limited to use with the conventional channel-shaped stud shown. The clip will fit on any stud or support having an inwardly extending flange. In such case the T-sectioned panel retaining member would remain the same and, if necessary, the snap flange can be modified as needed to snap onto the inwardly extending flange. It is further noted that the clip is symmetric or reversible in the sense that if one stud were inadvertently facing the wrong way (e.g., if stud 24 in FIG. 2 were open to the right) the wall panels could still be installed using the clip of this invention. The feature of the releasably connected head portion would have to be used, however, at the reversed stud. The clip as shown in FIG. 1 has a vertical length sufficient to hide the space, between adjacent panels, which would otherwise show. However, it should be noted that the clip of this invention is not required to have such a length merely to operate as a fastener. One or more relatively short clips spaced along the stud, the number to be used depending on the size and weight of the wall panel, can be used where the only thing to be accomplished is the attachment of panels to studs. Further, the T-sectioned member of the clip

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can be L-sectioned, if desired, for use, for example at the end of a wall. Also the second run 78 of the snap flange of the clip can be made flexible, for example can curve out and then in, so as to tolerate a larger variation in the width of the locking flange 50. Further, the run 82 of the snap flange can be crimped, using a pair of pliers, if more permanence is desired or if the locking flange on a particular stud is not as wide as it should be. In fact the clip of this invention can rely on said crimping action rather than the preferred snap action, if desired, as for example, if a series of studs were provided having an insufficiently wide locking flange.

DESCRIPTION OF THE SECOND EMBODIMENT, FIGS. 5 AND 6, WHEREIN A RESILIENT ARM IS INCORPORATED IN THE CLIP

Except as specified hereinafter, the present embodiment is the same as that described relative to FIGS. 1, 2 and 3.

The steel stud shown in fragmentary section in FIGS. 5 and 6 is numbered 110, having an inwardly-extending locking flange 111. The stud also has a web or inside wall 112 and a forward or front wall or flange 113, the latter being integrally connected between locking flange 111 and web 112. It is to be understood that the stud also incorporates a second flange, not shown, which is parallel and opposite to flange 113. The corner where stud portions 112 and 113 join is numbered 114.

The stud 110 has formed in the web portion 112 thereof at least one longitudinal groove or indentation 115 which is spaced a substantial distance from corner 114. Groove 115 is shallow but may, if desired, be made deep and sharp-cornered. The illustrated stud 110 is one which is in commercial production, having been used heretofore for attachment of wall panels thereto by means of screws.

The clip of the embodiment of FIGS. 5-6 is illustrated as being formed of a suitable plastic, although it could be formed of metal as stated relative to the first embodiment. Conversely, the first embodiment clip could be formed of plastic. In all cases, the clips are preferably (but not necessarily) extrusions.

The clip section illustrated in FIG. 5 incorporates a connector portion 116 formed of four runs 117-120 which may correspond respectively to runs 76, 78, 80 and 82 of the previous embodiment. The connector portion 116 does not necessarily mount over the locking flange 111 in snap relationship, but may be relatively loose so that flange 111 of different sizes may be readily accommodated.

Various sections of the connector 116 are adapted to hook around, and pivot around, the locking flange 111 and the region of intersection where locking flange 111 joins front flange 113.

Provided integrally on the clip, and coplanar with run 117 of connector portion 116, is a portion 121 adapted to engage flange 113 in flatwise relationship when the elements are fully assembled as shown in FIG. 6. Portion 121 extends away from connector 116 for a substantial distance, namely to the corner 114 and substantially therebeyond. Thus, the end region 121a of portion 121 is cantilevered relative to the stud portions 113 and 114.

A resilient and generally circularly-sectioned elbow portion 122 is formed integrally with cantilevered region 121a, and connects the same resiliently to an arm 123. Such arm is arranged at an oblique angle to the stud web 112 when the elements are fully assembled (FIG. 6). Arm 123 extends sufficiently far from elbow 122 that a camming and locking region 124 at the arm end will reach the stud groove 115. Thus, a tongue portion 126 of region 124 snaps into the corresponding groove 115 and functions to prevent pivoting of the clip from the FIG. 6 position toward the FIG. 5 position.

A cam-surface portion 127 of region 124 operates in such manner that when surface 127 is adjacent corner 114 the bisectrix of the angle of such corner will be generally perpendicular to cam surface 127. Thus, cam surface 127

cooperates with corner 114 to cause clockwise pivotal or cocking moving of arm 123 relative to portion 121 in response to counterclockwise rotation of the entire clip about locking flange 111.

The described cocking of arm portion 123 increases the pressure with which tongue 126 engages the outer surface of web 112, so that the tongue 126 will remain more firmly in groove 115 than would be the case if the arm were not thus cocked or set. It is to be understood, however, that in certain cases the width of flange 113 is somewhat less than in the illustrated construction. Even in such cases, the relatively large sizes of elements 121, 122 and 123 permit a considerable degree of locking of tongue 126 in groove 115 despite the absence of any cocking of the arm.

It will thus be seen that the clip section shown in FIG. 5 is readily mounted on the stud 110 by merely hooking the connector portion 116 over locking flange 111, and then pivoting the clip counterclockwise from the FIG. 5 position to the FIG. 6 position. This automatically effects cocking of arm 123 by cam surface 127, and then effects resilient locking of the tongue 126 in groove 115 to maintain the clip in the position of FIG. 6.

As described relative to FIG. 3 of the previous embodiment, the remainder of the clip comprises a head or cover strip 129 (FIG. 6) which is associated with the elements 117 and 121 by means of a web portion, the latter being formed of several quick-connect quick-disconnect interlocking parts. More specifically, the web portion includes a bifurcated mouth or receptacle section formed by parallel members 131-132, and defining a groove adapted to receive a tongue 133 (also forming part of the web). Tongue 133 is integral with the cover strip 129, the tongue and cover strip being related in T-sectioned manner so that the flanges or edges of the cover strip extend parallel to elements 117 and 121 and fully conceal the gap between adjacent wall panels. The parallel members 131 and 132 are integral with the portions 117 and 121 of the clip.

The tongue 133 has external teeth 134 and a pointed or sharp edge region 136, the latter being adapted to cam against inclined lip portions 137 at the edges of the parallel members 131 and 132. Such members 131-132 also contain internal teeth 138 which interlock with teeth 134.

The spacing between members 131 and 132 is sufficiently small that the tongue 133 may not penetrate into the groove in the absence of outward flexing or separation of such members 131-132 relative to each other. It follows that the pointed or sharp edge 136 will cooperate with lip portions 137 to spread the members 131 and 132 apart, following which such members will spring together and provide a locking action between the teeth 134 and 138. Tongue 133 is thus firmly held between members 131 and 132 to maintain the wall panel sections in position. However, the degree of holding is not so great that the head 129 and tongue 133 may not be removed intentionally when it is desired to replace or repair one or more panels.

In forming the wall assembly, the larger sections (FIG. 5) of the described clips are first clamped on all of the studs 110 where joints are to be formed between adjacent panels. Such clamping or gripping is quickly effected, as described above, by merely pivoting the clips about locking flanges 111 until tongues 126 snap into grooves 115. Panels 30, etc., are then mounted in the positions shown in FIG. 6, in general engagement with the outer surfaces of the parallel web members 131 and 132. In thus mounting the panels, the upper edges thereof are first inserted into the upper channel 12 (FIG. 1) if such upper channel is employed.

It is then merely necessary to press the tongues 133 of the T-sectioned elements into the grooves formed between elements 131 and 132, thus causing the heads or cover strips 129 to snuggle about the outer surfaces of the panel edge portions. Such edges are thus firmly locked in the back-to-back grooves defined by heads 129, web elements 131-133, and clip portions 117 and 121.

As in the case of the previous embodiment, all of the elements illustrated in FIGS. 5 and 6 preferably run the full length of each joint. It follows that the heads 129 provide decorative covers for the gaps between the panel edge portions. The heads 129 may be shaped or decorated in any manner and may be colored to match the color of the panels. The panels may be formed of sheet rock or plaster board, as previously indicated, which is covered with decorative vinyl, vinyl cloth, paper, etc., in accordance with the desires of the particular user.

The connector 116 and the arm 123 of each clip, which are connected together by elements 117 and 121, cooperate in gripping the stud 110 despite the absence of screws. Such connector, arm, etc., may therefore be collectively referred to as a "gripping portion" of the clip.

The foregoing detailed description is to be clearly understood as given by way of illustration and example only, the spirit and scope of this invention being limited solely by the appended claims.

I claim:

1. A clip for attaching panels to the front wall of a stud system employing studs of the type which include an inwardly extending flange, said clip comprising:

a connecting flange comprising a first section adapted to abut up against the front wall of a stud and a second section connected to said first section,

said connecting flange of said clip being a snap flange,

said second section terminating in a hook adapted to engage the edge of the inwardly extending flange on said stud,

said second section of said connecting flange having an inside width effectively equal to the width of said inwardly extending flange of said stud whereby said snap flange is adapted to be snapped onto the inwardly extending flange of said stud in tight fitting engagement therewith, and

a panel retaining flange connected to said first section of said connecting flange to form therewith a panel receiving groove having a size commensurate with the thickness of the panel to be attached whereby an edge of the panel can be seated in said groove,

said panel retaining flange being T-sectioned and comprising web portion connected at one edge to said first section of said snap flange and extending normally from said first section a distance substantially equal to the thickness of the panel to be installed, and a head portion connected to the other edge of said web portion and extending transverse to said web portion and forming with said web portion and said first section of said snap flange, a first panel receiving groove, said head portion also forming with said web portion and the front wall of said stud, a second panel receiving groove.

2. The apparatus according to claim 1 in which:

said web portion comprises a pair of releasably connected portions, said portions terminating in mating, quick connect-disconnect structures.

3. The apparatus according to claim 2 in which the first portion of said web portion terminates in a pair of fingers defining a relatively large slot, the tips of the fingers defining a smaller opening, and in which the second portion of said web portion terminates in a head adapted to fit into said slot and having a recess therebehind for receiving said tips, whereby said first and second portions can be releasably connected.

4. A partition construction comprising:

a series of spaced, parallel studs of the type having a front wall and an inwardly extending locking flange, said studs comprising elongated, channel-sectioned studs, the channel opening being in an inside wall of the stud and being defined by a pair of opposite, inwardly extending locking flanges,

a plurality of wall panels attached to the front wall of said studs by means of panel retaining clips,
a series of panel retaining clips attached to appropriate ones of said studs,

each of said clips comprising a connecting flange comprising a first section adapted to abut up against a front wall of a stud and a second section connected to said first section and terminating in a hook adapted to engage the edge of said locking flange,

said connecting flange of said clip being a snap flange,

said second section of said snap flange having an inside width effectively equal to the width of said locking flange whereby said snap flange is adapted to be snapped onto said locking flange in tight fitting engagement therewith, and

a panel retaining flange connected to said first section of said connecting flange adapted to form a panel receiving groove of a size commensurate with the width of the panel to be installed whereby an edge of the panel to be installed can be seated in said groove,

said panel retaining flange being T-sectioned and comprising a web portion connected at one edge to said first section of said snap flange and extending normally therefrom a distance substantially equal to the thickness of the panel to be installed, and a head portion connected to the other edge of said web portion and extending normally therefrom, said head portion forming with said web portion and said first section of said snap flange a first panel receiving groove, and said head portion forming with said web portion and said front wall of said stud a second panel receiving groove.

5. The apparatus according to claim 4 in which:

said web portion comprises a pair of releasably connected first and second portions, said portions terminating in mating, quick connect-disconnect structures, whereby a pair of head portions from adjacent clips can be removed to remove the panel extending therebetween without disturbing other panels.

6. The apparatus according to claim 5 in which said first portion of said web portion terminates in a pair of fingers defining a relatively large slot, the tips of the fingers defining a smaller opening and in which said second portion of said web portion terminates in a head adapted to fit in said slot and having a recess therebehind for receiving said tips, whereby said portions are releasably connected.

7. The apparatus according to claim 4 including a channel-sectioned member having a downward opening panel receiving channel, said member being connected to the top of said studs and extending perpendicular thereto and adapted to receive said panels in said channel for aiding in holding said panels flat.

8. The apparatus according to claim 4 including spacer means connected to the remaining width of the front wall of said stud, said spacer means extending normally from said front wall a distance equal to the thickness of said first section of said snap flange.

9. A clip adapted to be employed in mounting decorative wall panels to the studs in a building or the like, each of said studs including a front flange or wall extending parallel to the panels, a locking flange extending inwardly from one edge of said front flange and terminating in a locking edge, and a web extending inwardly from the other edge of said front flange in generally parallel relationship relative to said locking flange, which clip comprises:

a first extrusion portion, one section of which is adapted to seat against said front flange of said stud, a second section of which is adapted to hook over said locking

flange, a third section of which is adapted to resiliently engage said web in spaced relationship from said front flange,

said one section of said first extrusion portion extending for a substantial distance past said other edge of said stud and in cantilevered relationship,

said third section of said first extrusion portion including an arm adapted to be flexed relative to said one section of such extrusion portion,

said arm connecting to said cantilevered portion of said one section at a region spaced from said other edge of said stud,

said arm extending inwardly toward said stud web at an acute angle relative thereto and relative to said one section of said first extrusion portion,

said arm being flexed relative to said one section of said first extrusion portion when said one section is parallel to said front flange of said stud, whereby the end of said arm remote from said cantilevered portion bears resiliently against said stud web, and

a second extrusion portion adapted to be removably secured to said first extrusion portion by a quick-connect, quick-disconnect joint,

said second extrusion portion including a head or cover element extending parallel to said one section of said first extrusion portion in order to aid in defining back-to-back grooves for the edges of decorative panels, and in order to cover the space between such panel edges.

10. The invention as claimed in claim 9, in which a groove is formed in said stud web remote from said other edge thereof and adapted to receive the end of said arm remote from said cantilevered portion thereof, said arm end being shaped as a tongue for seating in said groove.

11. The invention as claimed in claim 9, in which cam means are provided on the end of said arm remote from said cantilevered portion, said cam means being adapted to engage said other edge of said stud and thus flex said arm away from said one section of said first extrusion portion in response to pivotal movement of the clip about said locking flange.

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