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Dawdy et al.

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[54] WALLBOARD ATTACHMENT

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[52] **U.S. Cl.**.....**52/489**, 52/481

[51] **Int. Cl.**.....**E04b 2/28**, E04b 2/76

[58] **Field of Search**.....52/481, 511, 489, 52/483, 508, 498, 241

[56] **References Cited**

UNITED STATES PATENTS

3,037,590	6/1962	Pavlecka	52/481
3,184,013	5/1965	Pavlecka	52/481
3,429,090	2/1969	Metelnick	52/489

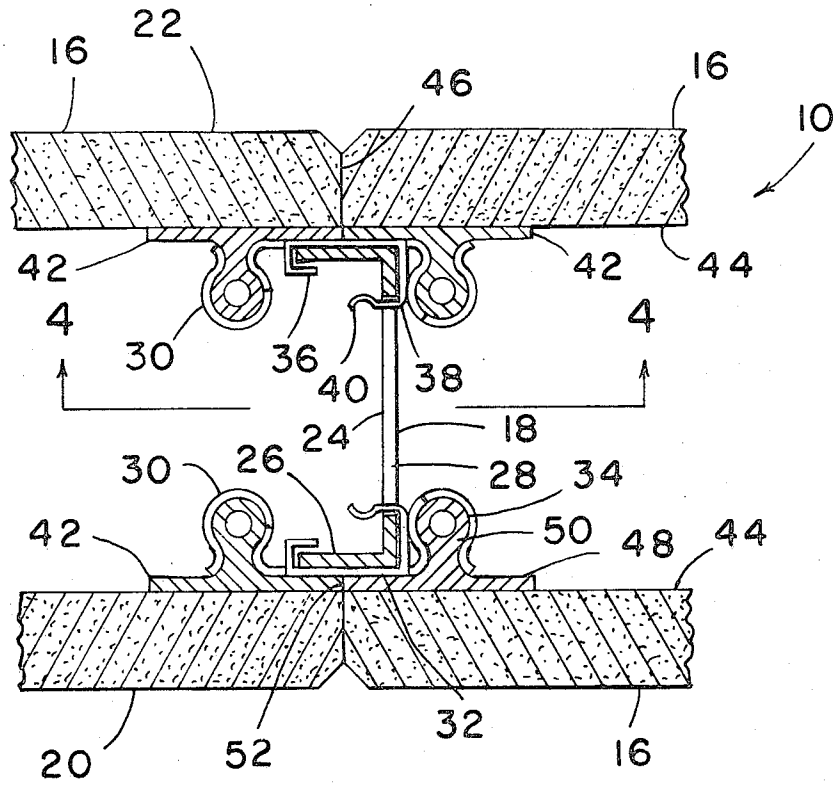
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[57] **ABSTRACT**

An elongate rigid plastic extrusion, adhered to the back face of gypsum wallboard along the vertical edges, with an elongate tubular portion, projecting rearwardly, lockingly engaged in a plurality of spring clips which are clipped onto the two opposite faces of a steel stud.

10 Claims, 5 Drawing Figures



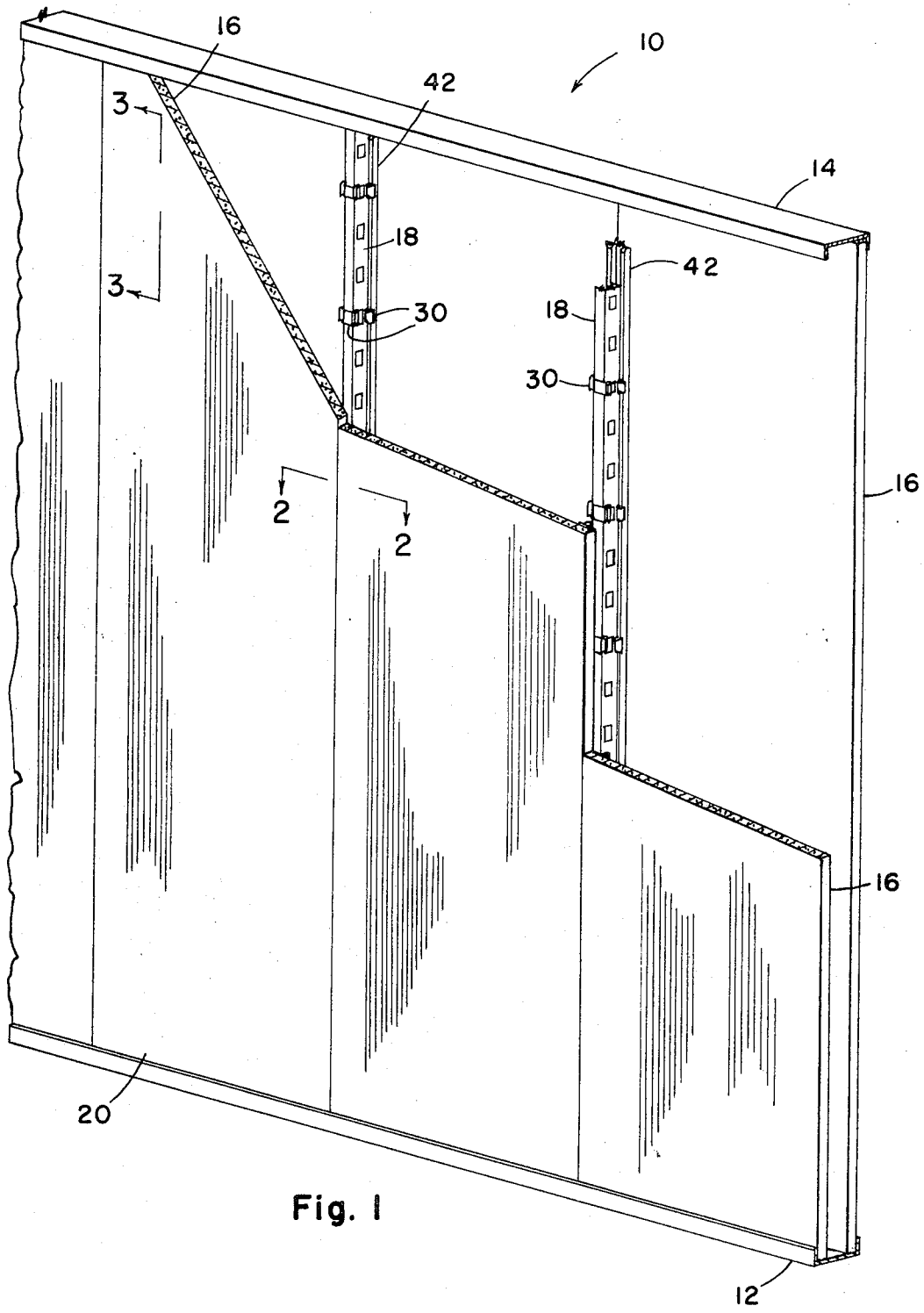


Fig. 1

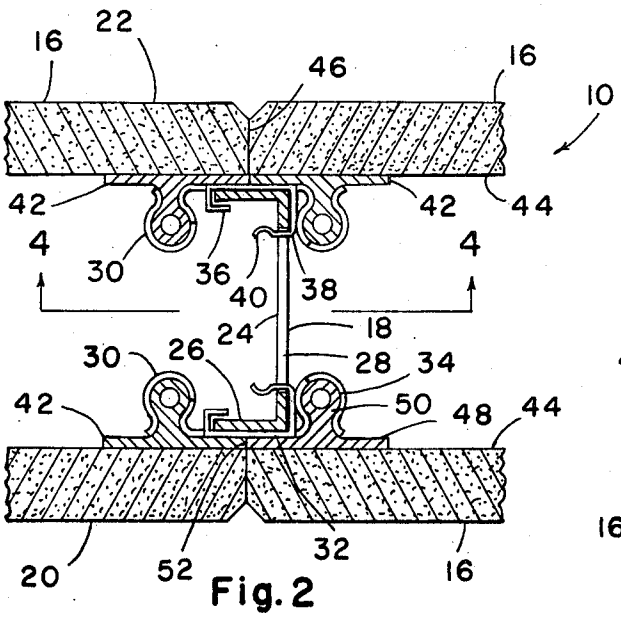


Fig. 2

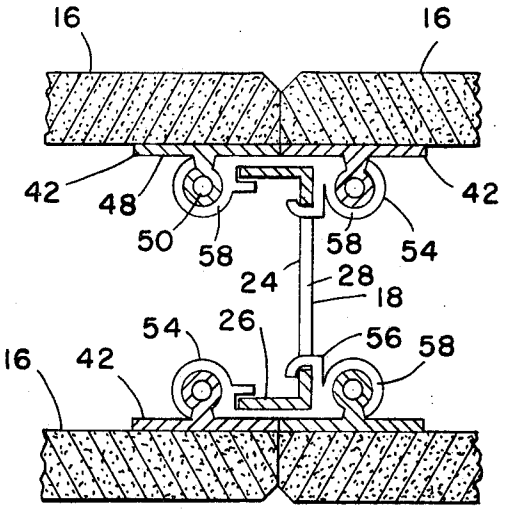


Fig. 5

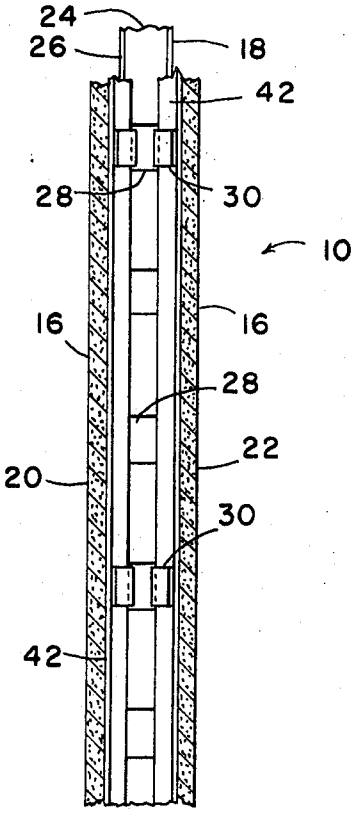


Fig. 3

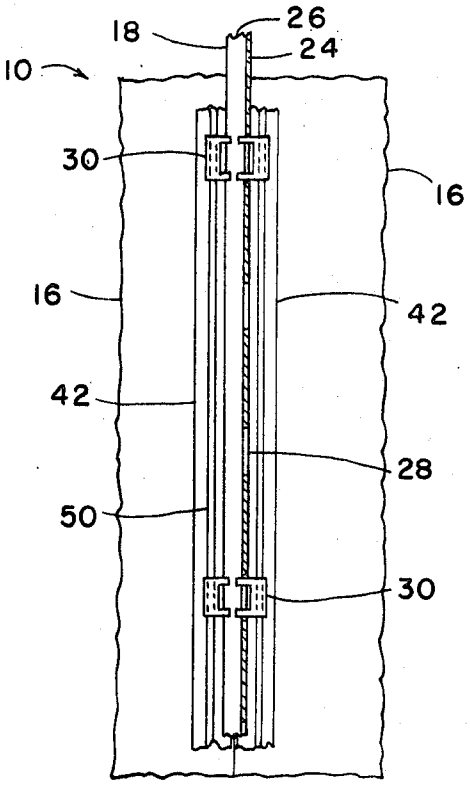


Fig. 4

WALLBOARD ATTACHMENT

BACKGROUND OF THE INVENTION

The most common method of installing drywall involves screwing or nailing gypsum wallboard to vertical studs, followed by applying cementitious materials over the screw heads or nail heads and over the joints to conceal the screw heads or nail heads and joints. Wallboard can be mounted with exposed joints which are aesthetically acceptable. These exposed joint systems are in need of improved means for affixing the wallboard which means are inherently concealed, to avoid the step of applying cementitious material over screw heads or nail heads.

The exposed joint technique of erecting wallboards is presently used with predecorated wallboards and the wallboards are affixed to studs by an adhesive. The use of adhesives has certain potential problems and disadvantages. The wallboard must be held in place by some temporary structure while the adhesive develops sufficient bond. Secondly, an adhesive bond can be improperly produced on a construction site and the existence of an insufficient bond will not be determinable because it is hidden from view.

SUMMARY OF THE INVENTION

The present invention relates to a novel wallboard attachment means and particularly to cooperating elements, one of which is factory-adhered to the back of wallboard and the other of which is clipped onto one of the two outer faces of a wall stud. The factory-adhered element is an elongate tubular rearward protrusion and the clip consists essentially of means for attachment to the stud and a pair of outwardly opening short cylindrical holding elements, open along one side of the cylinder for forced insertion therein of the board-adhered tubular protrusion.

It is an object of the present invention to provide a novel combination of elements for detachably snapping a wall-board onto concealed holding means.

It is a further object of the invention to provide novel wallboard concealed holding means which maintain the wallboard rigidly in place, yet readily detachable.

It is a further object to provide wallboard holding means readily usable by relatively unskilled applicators, and employing relatively low cost elements.

These and other objects of the invention will be more readily apparent when considered in relation to the preferred embodiment as set forth in the specification and shown in the drawings in which:

FIG. 1 is an isometric view of a building partition wall embodying the present invention, portions being broken away.

FIG. 2 is sectional plan view of the partition wall of FIG. 1 taken on line 2—2.

FIG. 3 is a vertical sectional view of the partition wall of FIG. 1 taken on line 3—3.

FIG. 4 is a vertical sectional view of the portion of wall of FIG. 2 taken on line 4—4.

FIG. 5 is a view similar to FIG. 2 of a modified form of the invention.

Referring to FIGS. 1 to 4, there is shown a partition wall **10** erected vertically between a floor track **12** and a ceiling track **14**. Wallboard **16**, preferably of two foot width and room height, is affixed to studs **18** on both the front face **20** and the rear face **22** of the wall **10**.

In erecting the wall **10**, the floor track **12** and the ceiling track **14** are first attached respectively to a floor and a ceiling, not shown. The bottom and top of each stud **18** is affixed within the floor track **12** and ceiling track **14** respectively by conventional means, not shown.

The studs **18** have a cross-sectional shape consisting of a 1 ⅝ inch wide central web **24** disposed perpendicular to the plane of the wall **10** and from each vertical edge of web **24** there extends a ½ inch wide flange **26**, forming a C-shaped cross-section. Web **24** has a plurality of openings **28**, which in the present embodiment are about 1 ⅛ inches × 1 ¼ inches openings spaced 4'' apart center to center with the 1 ⅛ inches dimension being perpendicular to the lengthwise direction of the stud.

In one out of each three openings **28** there is affixed, on each side of the stud, a clip **30**. Clip **30** is formed of spring steel and includes a central stud grasping portion **32**, and at each outer extremity of the clip **30** there is an outwardly opening, elongate, circular cross-sectional slot **34**.

The stud grasping portion **32** is formed from portions of the spring steel of the clip **30** and includes a small U-bend **36** for grasping the outer edge of flange **26** and a large U-bend **38** for fitting tightly around the adjacent 1 ¼ inches side of opening **28**. Large U-bend **38** also includes a small detent **40** for firmly retaining the clip on the stud **18**.

The slots **34**, at each end of clip **30**, are each a major portion of a cylinder formed to receive and retain a tubular element having an outside diameter equal to the inside diameter of the circular slot, which dimension may be about three-eighths inch.

Each wallboard **16** has an elongate support strip **42** adhesively affixed to the wallboard back face **44** along each vertical edge **46**, which includes an elongate base **48** adhered to the back face **44** and an elongate tubular portion **50** which is parallel to the back face **44**, spaced therefrom, and is removably affixed within the circular slots **34** of a plurality of clips **30**. Tubular portion **50** has an outside diameter substantially equal to the inside diameter of the circular slots **34**.

The support strip **42** is preferably a rigid plastic extrusion. The base **48** is disposed with one side edge **52** coplanar with one vertical edge **46** of wallboard **16**. The tubular portion **50** is spaced inwardly from the side edge **52** exactly half the distance between the two circular slots **34** on clips **30**. Each of the two adjacent wallboards abutting over a stud **18** have a support strip **42** along the edge of the back face **44** and when the wallboards are abutted, the support strip bases **48** are also abutted and the tubular portions **50** of the two abutting support strips both fit into the respective circular slots **34** of the plurality of clips **30** on that particular stud **18**.

The wallboards are preferably produced in a factory with the two support strips **42** firmly adhered to the back face **44** along each of the two board edges **46**, since a factory application can be made with greater and more consistent good bond, and the reliability of the bond can be better confirmed by the visible inspection thereof before installation.

After delivery of the precombined board and support strip to a job, the clips **30** are attached to studs, and the

board is raised into place, and lightly tapped along the edges, as by the palm of the hand, snapping the tubular portions **50** into the circular slots **34**, whereby the board is rigidly affixed to the studs, in final position, with edges automatically disposed in firm, aligned abutting relationship.

In FIG. **5** a modified rigid plastic clip **54** is shown, which is produced by a plastic extrusion, sliced into short lengths, including a stud grasping portion **56** and cylindrical cross-sectional slots **58**, which functions similar to clips **30**.

Having completed a detailed disclosure of the preferred embodiments of the invention, so that others may practice the same, we contemplate that variations may be made without departing from the essence of the invention.

We claim:

1. A demountable wall construction comprising a plurality of spaced, parallel wall supporting studs, said studs each having a pair of opposed faces to which wallboard is affixed thereby forming two opposed wall surfaces, said wallboard having elongate support strips adhered to the back face of said wallboard, said studs having a plurality of clips affixed thereto at spaced positions therealong, said clips having outwardly opening slots, said support strips having a rearwardly disposed elongate tubular portions, said tubular portions being disposed within said slots of said plurality of clips, said slots having a cross-sectional configuration including an outwardly opening portion of a dimension less than the maximum width of said tubular portion disposed within said slot, whereby said wallboard is held adjacent said studs on each side thereof.

2. A demountable wall construction as defined in claim **1** wherein said clips have a pair of slots disposed one on each end of said clips, said slots on one end of a plurality of clips holding therein a tubular portion of a support strip on one piece of wallboard, said slots on the other end of said plurality of clips holding therein a tubular portion of a support strip on an adjacent piece of wallboard.

3. A demountable wall construction as defined in claim **2** wherein said support strips include a base portion, said base portion of each said support strip being adhered to the back face of one of said wallboards, said base portion of each said support strip having one side disposed coplanar with the side edge of the said wallboard to which it is adhered.

4. A demountable partition as defined in claim **1** wherein said slots have a cross-section which forms the major portion of a circle, said tubular portion being of a circular cross-section substantially equal in diameter to the inside diameter of said slots.

5. A demountable partition as defined in claim **1** wherein said studs have a web and a pair of flanges, said web having a plurality of openings, said clips each having two U-bend portions opening towards one another, one said U-bend portion being disposed about the edge of one of said stud flanges, the other of said U-bend portions extending through one of said web openings.

6. A demountable partition as defined in claim **1** wherein said clips are formed from spring steel and said support strips are plastic extrusions.

7. A demountable partition as defined in claim **1** wherein said clips are short sections of a relatively rigid plastic extrusion and said support strips are long plastic extrusions.

8. A demountable partition as defined in claim **1** wherein said support strips are plastic extrusions including a base portion and a rearwardly protruding tubular portion, said base portion being substantially wider than the diameter of said tubular portion and having one edge coplanar with the wallboard edge, said tubular portion being centered relative to the two side edges of said base portion.

9. A demountable partition as defined in claim **8** wherein said wallboards are each about two feet wide and each has only two said support strips, said support strips being adhered to two opposite edge portions of the wallboard back face.

10. A demountable partition as defined in claim **9** wherein said studs have a web and a pair of flanges, said web having a plurality of openings, said clips each having two U-bend portions opening towards one another, one said U-bend portion being disposed about the edge of one of said stud flanges, the other of said U-bend portions extending through one of said web openings.

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