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Nelsson

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[54] **DEMOUNTABLE PARTITIONS AND STUDS THEREFOR**

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[52] **U.S. Cl.** **52/241,** 52/424, 52/481, 52/731

[51] **Int. Cl.** **E04b 2/78**

[58] **Field of Search** 52/241, 242, 243, 281, 52/481, 495, 496, 498, 493, 588, 731, 354, 355, 424

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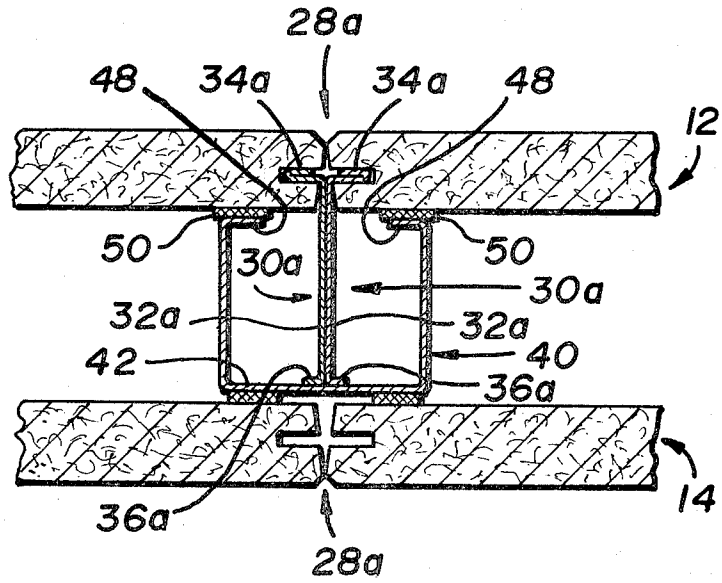
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[57] **ABSTRACT**

A demountable partition assembly featuring independent but mutually reinforcing mounting of the two rows of panels defining the partition assembly, the studs of one row being confined within those of the other row to permit opposite joints to be directly aligned.

5 Claims, 4 Drawing Figures



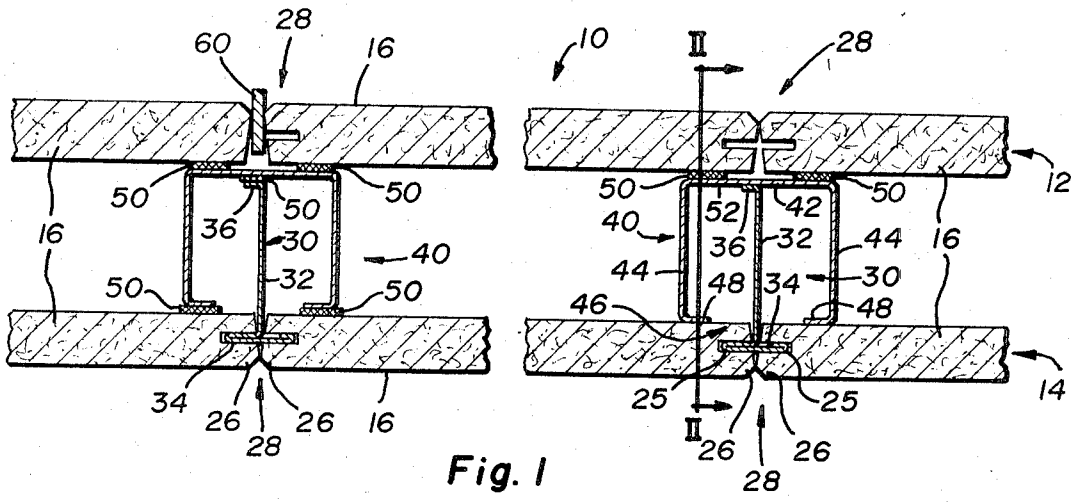


Fig. 1

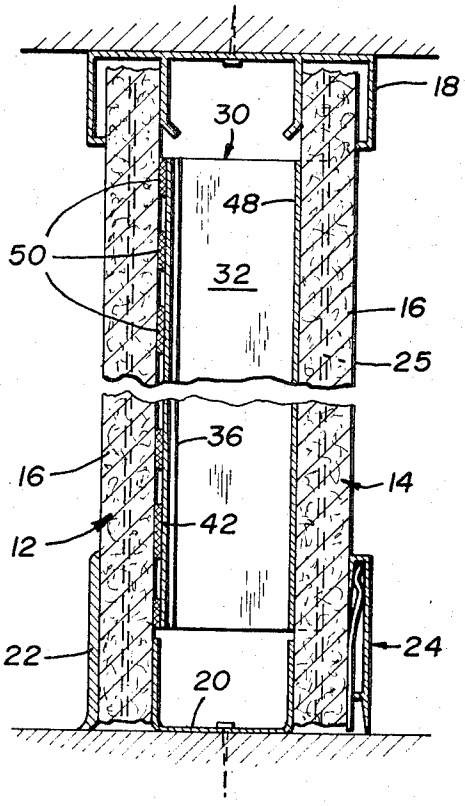


Fig. 2

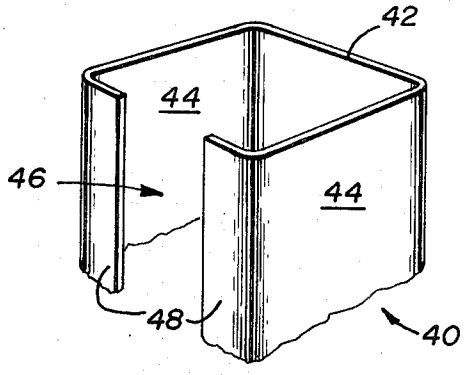


Fig. 3

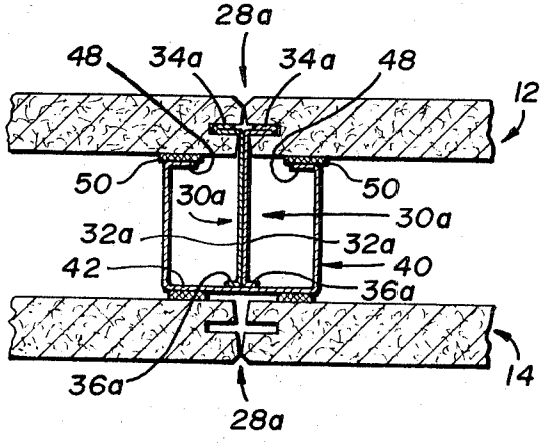


Fig. 4

DEMOUNTABLE PARTITIONS AND STUDS THEREFOR

BACKGROUND OF THE INVENTION

Demountable partition assemblies have been provided for the erection of a hollow wall defined by two opposed rows of panels, wherein each row may be assembled and disassembled independently of the other. Further, either one of the rows may be supported by studs which will permit accessibility of individual panels, without requiring the progressive disassembly of that row. At the same time, however, the studs of one row give lateral support to those of the opposite row without being structurally engaged therein. Such a system is disclosed in my copending U.S. Application Ser. No. 77,997 filed Oct. 5, 1970, now U.S. Pat. No. 3,732,657. Some of the studs therein described have a J-shaped cross-section which progressively assembles the one row independently of the other. Such a system, while providing a unique flexibility, is susceptible to a crowding of the studs in those rare instances where the wallboard joint of one row lines up directly opposite the joint of the opposite row. It is desirable, therefore, to provide a construction wherein a substitution of studs can be made at such joints which will accommodate both rows' studs without crowding, and yet still maintain the other advantages present in the construction disclosed in my aforesaid application.

Wall structures have been provided many years ago wherein each of two opposite rows abutted against, without being engaged to, box-shaped supports of the opposite row, such supports featuring angle clips that are confined within the other part of the support to eliminate crowding. An example is shown in U.S. Pat. No. 2,412,404. However, this did not provide for adjacent studs from opposite rows which were in close proximity, as in the case of opposed joints, without requiring a complicated splicing or connector arrangement with at least twice the spacing between rows that was otherwise used.

One solution has been to provide studs which do not extend more than half-way across the space between the two rows of wallboard. Thus, these studs do not crowd each other, but of necessity they also provide no lateral support to the opposite row. See, as an example, Swedish Pat. No. 334,994 published on Aug. 19, 1971.

Still other recent constructions have utilized pressure-sensitive adhesive tape which is capable of permitting independent mounting of opposite rows, as shown in U.S. Pat. No. 3,553,915. Again, one problem with such a construction is that the joints are disclosed to be staggered, no accommodation of adjacent studs at directly opposite joints being possible. Another problem is that the attachment of the panels to the studs at their joints is not such as permits independent accessibility of individual panels in at least one of the rows.

SUMMARY OF THE INVENTION

The invention relates to a demountable partition having two opposed rows of partition panels, supported by studs one of which is confined within another, wherein the joints of each row defined by adjacent, generally abutting panels, are generally opposite those of the other row without crowding the studs supporting the panels at the joints. More specifically, there is provided a demountable partition comprising two opposed rows

of partition panels and studs members removably supporting the panels, each row being defined by a series of adjacent pairs of panels having their opposed vertical edges generally in abutment to define a partition joint, each stud member being removably attached to the panels of one of the pairs in the vicinity of the joint, the partition being characterized in that the joints of one row are generally directly opposite the joints of the opposite row and the stud member of one of said joints is confined within the stud member of the opposite joint. The confined stud member preferably includes a portion which abuts against the portion of the opposite joint stud member engaged in supporting the opposite row.

Accordingly, it is an object of the invention to provide a two-row demountable partition having uniformly sized stud members supporting each row, and joints defined by adjacent pairs of partition panels wherein the joints of one row are generally directly opposite those of the other row, and still readily accommodate both stud members of both rows at the joints.

It is a related object of the invention to provide such a partition in the simplest form possible, which requires no additional pieces or members to accommodate the two stud members in close proximity.

Yet another object of the invention is to provide such a partition wherein the stud members of one row are confined within those of the opposite row and give structural support to the same.

Other objects and advantages will become apparent upon reference to the following brief description of the drawing and discussion of the embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWING

FIG. **1** is a fragmentary horizontal sectional view of a partition or wall constructed in accordance with the invention;

FIG. **2** is a fragmentary sectional view in elevation of the partition shown in FIG. **1**;

FIG. **3** is a fragmentary perspective view of one of the stud members shown in FIG. **1**; and

FIG. **4** is a fragmentary horizontal sectional view similar to FIG. **1**, but illustrating another embodiment of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The disclosure concerns a demountable wall or partition formed from two opposed rows of partition panels and stud members, wherein a novel assembly of the partition permits the joints formed by opposed edges of adjacent paired panels in one row to be directly opposite a similarly formed joint in the other row. Such a partition can be used to form any type of wall having these members, but preferably is of the type wherein each of the two opposed rows is relatively independently mounted with respect to the other except for the aforesaid alignment of the partition joints. Thus, a demountable partition having non-aligned joints could incorporate the invention, as noted below, if a change in dimensions should cause joint alignment over a portion of the length of the wall.

Turning now to FIG. **1**, there is illustrated a demountable wall or partition which features two of the embodiments made possible by the invention. That is, partition **10** features two opposed rows **12** and **14** of partition

panels **16,** each removably supported by stud members **30** and **40,** respectively. The stud members are preferably floating, the entire wall being conventionally mounted by ceiling and floor runners **18** and **20,** respectively (FIG. **2**). That is, the floor edges of the partition may be finished with either a "top set" base **22** or a base and attachment clip **24.** The panels **16** may be of any conventional material, preferably gypsum wallboard, and at least the panels **16** of row **14** are kerfed at **25** along their vertical edges **26.** Adjacent panels in either row **12** or **14,** when taken in pairs, form a partition joint **28** at the abutment of their adjacent edges **26.**

In accordance with one aspect of the invention, as shown in FIG. **1,** the joints of row **12** are generally directly opposite those of row **14.** The joints **28** of row **14** are further characterized by studs **30** mounting and supporting the panels of that row by being interengaged with those panels at those joints. The particular stud **30** illustrated is the same as one of those disclosed in my aforesaid copending application, except that, as will be seen hereafter, there is no need for lancedout back-up tabs. That is, stud **30** is preferably J-shaped in cross-section and comprises a metallic member having a central web **32,** a doubled-over flange **34** joined to one edge of the web **32,** and a second flange **36** joined to the opposite edge of the web portion. The flange **34** is especially adapted to form means for supporting the panels of row **14** in that it is removably interengaged within the kerfs **25** of two adjacent panels. It will be recognized that row **14** is capable of only progressive assembly and disassembly, due to the dual interengagement of both adjacent panels by the studs **30.**

In accordance with another aspect of the invention, row **12** is assembled and supported by means of studs **40,** each stud **30** being confined within and surrounded by a stud **40.** Specifically, studs **40** are four-sided, generally rectangular or box-shaped channels, having a web portion **42,** side flanges **44** extending generally perpendicularly therefrom and an open side **46** opposite to the web portion formed by terminal edge flanges **48** extending generally perpendicularly from the side flanges and towards each other. The flanges **48** do not contact each other, however, defining the opening of side **46.** It is through this opening that the stud **30** extends.

Web portion **42** removably supports adjacent panels of row **12** in a manner which permits non-progressive assembly and disassembly. Preferably, this is accomplished by tape means **50** for removably or releasibly attaching the back surfaces of the panels **16** to the web portion **42** at the joint **28.** This means can comprise, for example, a conventional double-sided pressure sensitive adhesive tape, or even a hook and loop material such as "Velcro" brand tape fastener made by Velcro Corporation, wherein the hook portion is permanently adhered to either the board back surface or the stud, and the loop portion is permanently adhered to the other. As shown, the adhesive means can be short segments spaced vertically (FIG. **2**), or it can be a strip extending the full height of the stud **40.** In any case, it is preferably applied to both of the two panels forming the joint **28,** on opposite sides of that joint.

To reinforce the wall against lateral forces, the back side **52** of the web portion **42** is abutted or contacted with flange **36** in a releasible manner. As shown in the right hand portion of the wall **10** in FIG. **1,** the contact can be metal to metal. Or, a strip of tape means **50** as described above can be applied as shown in the left-hand side, to reduce rattling. Further support against lateral forces is obtained by means on studs **40** for supporting the back surface of the panels in row **14.** This is accomplished by the terminal edge flanges **48** being abutted against the back surface of those panels, the individual flanges of each stud being on opposite sides of the joint **28.** As in the case of the flange **36,** flanges **48** can be in abutment only to the back surface, or releasibly attached thereto by tape means **50** as shown in the left-hand portion of FIG. **1.** It is by reason of the lateral support provided to the panels of row **14** by flanges **48** that back-up tabs need not be formed in studs **30.**

Thus, it will be readily apparent that stud **40** readily accommodates stud **30** within it, each reinforcing the other against lateral forces. It will be further apparent that the opening **46** is large enough to permit slight discrepancies in panel widths, so that the stud **30** can still be accommodated within stud **40** even though opposite joints **28** might not be positioned exactly opposite. This further permits the use of decorative inserts **60** (FIG. **1**), which, of course, alter the alignment of the joints slightly from one in which they are exactly opposite or aligned.

The invention can be further utilized in a wall wherein the joints are, for the most part, staggered, such as is shown in my copending application. That is, if a panel shortened in width is required for any reason, in one row, that could cause the joints to be aligned or directly opposite from that point on. The construction of the invention permits a ready accommodation of such an event. Further, as both rows **12** and **14** of the wall are structurally independent of the other, while at the same time mutually reinforcing, the construction of the invention still meets the requirements of the wall described in my aforesaid application, and thus can be incorporated thereinto.

Turning now to FIG. **4,** there is illustrated still another embodiment of the invention wherein the stud **30** has been altered slightly, and the rows supported by each of the two studs have been reversed. Identical parts are numbered as above, while parts similar to those described above bear the same reference numeral to which the suffix *a* has been added. Thus, the particular row supported by each of the two types of studs can be reversed at any joint along the wall. That is, at any joint **28***a* in the partition **10** described above, stud **40** can removably support panels **16** of row **14,** while stud **30** (not shown) can support the adjacent panels of row **12** exactly as achieved in the previously discussed construction for row **14.** This has the advantage of rendering, at this joint, the panels of row **14** individually accessible or non-progressively removable, while the panels of row **12,** if supported by stud **30,** become progressively removable only.

Yet a further variation permits both of the rows **12** and **14** to be nonprogressively assembled and disassembled. This is accomplished by using studs **30***a*, as shown, to removably support the panels of either row. Stud **30***a* is one of those described in my aforesaid copending application except that the back-up tabs have been omitted. It comprises a web portion **32***a*, a single flange **34***a* extending from the web portion for interengaging the kerfs of only one of the adjacent panels defining joint **28***a* in row **12** as shown, and a flange **36***a* extending from the edge of the web portion opposite to

the edge from which flange **34***a* extends. As with stud **30,** flange **36***a* abuts against the web portion **42** of stud **40.** Two such studs **30***a* are preferably mounted back to back in row **12** at joint **28***a*, but where tape means **50** is used on flanges **48** of stud **40** at joint **28***a*, either one of the studs **30***a* can be omitted.

Although the invention has been described in connection with certain preferred embodiments, it is not limited thereto. Rather, it is intended that the invention cover all alternate arrangements, equivalents, and embodiments as may be included within the scope of the following claims.

What is claimed is:

1. A demountable partition comprising:

1. lower runner means,
2. upper runner means,
3. two opposed rows of partition panels removably mounted within said lower and upper runner means, each row being defined by a series of adjacent pairs of panels having their opposed vertical edges generally in abutment to define a partition joint, some of said pairs of adjacent panel members being provided with kerfs along their vertical edges, the joints of one row being generally directly opposite the joints of the opposite row,
4. a plurality of first stud members intermediate said rows of partition panels, each comprising:
   a. a web portion engaging inner surfaces of adjacent partition panels of one row adjacent the joints therebetween,
   b. a pair of side flanges,
   c. a pair of space-apart terminal edge flanges engaging inner surfaces of adjacent partition panels of the other row adjacent said joint therebetween,
   d. attaching means securing said web portion to the inner surfaces of said panels, and
5. a plurality of second stud members each having:
   a. a central web extending into one of said first stud members,
   b. a terminal flange at one end of said web abutting the inner wall of the web portion of said first stud member and being secured thereto,
   c. a portion of said central web extending external of said first stud member, and
   d. oppositely directed flanges at the end of said central web external extending portion engaged in the kerfs provided in a pair of adjacent partition panels.

2. A partition according to claim **1,** wherein the terminal flange of each of said second stud members is attached to the web portions of said first stud members by a releasable adhesive.

3. A partition according to claim **1,** wherein the attaching means securing said web portion of each of said first stud members to the abutting partition panels comprises a releasable adhesive.

4. A partition according to claim **1,** wherein each of said terminal edge flanges of said first stud members are detachably adhesively affixed to the abutting partition panels.

5. A partition according to claim **1,** wherein each second stud member is comprised of two parts each part having a central web, a terminal flange, and a kerf-engaging flange, the two parts cooperating to engage the kerfs of adjacent partition panels.

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