W. C. EDWARDS, JR.

CLIP AND STRUCTURAL MEMBER FOR PLASTER BOARD PARTITION CONSTRUCTION.

APPLICATION FILED AUG. 29, 1918.

1,296,936.

Patented Mar. 11, 1919.

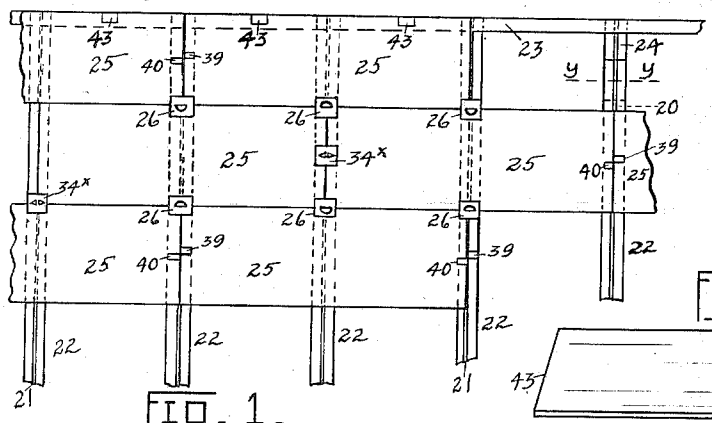


Fig. 1.

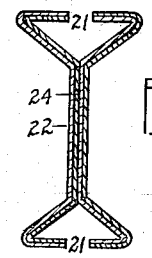


Fig. 5.

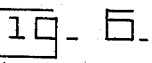
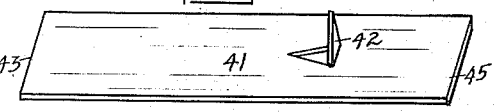


Fig. 6.



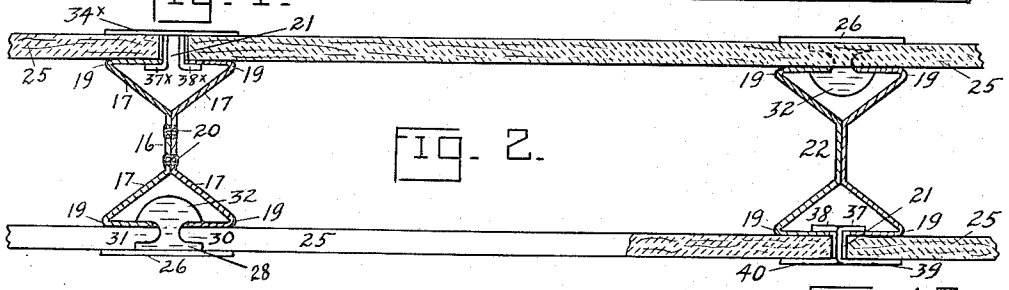


Fig. 2.

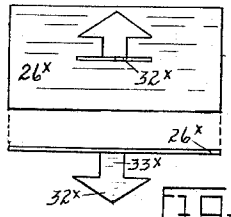


Fig. 11.

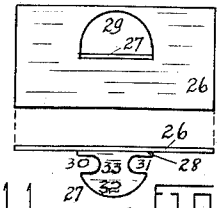


Fig. 8.

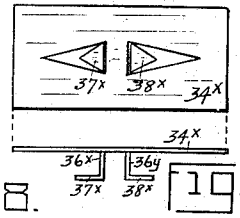


Fig. 12.

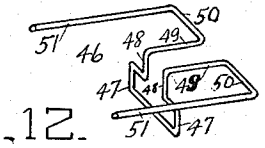


Fig. 13.

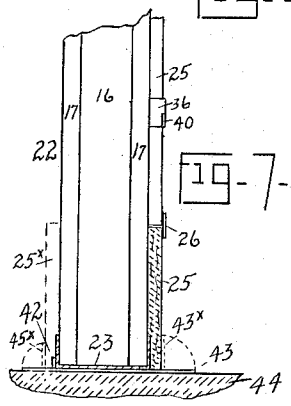


Fig. 7.

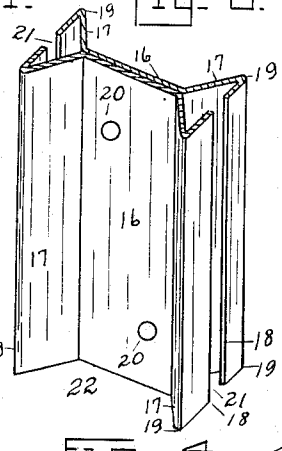


Fig. 4.

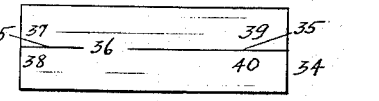


Fig. 10.

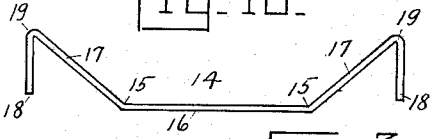


Fig. 3.

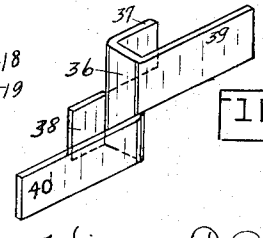


Fig. 9.

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CLIP AND STRUCTURAL MEMBER FOR PLASTER-BOARD PARTITION CONSTRUCTION.

1,296,936. Specification of Letters Patent. Patented Mar. 11, 1919.

Application filed August 29, 1918. Serial No. 251,943.

To all whom it may concern:

Be it known that I, WILLIAM C. EDWARDS, Jr., a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Clips and Structural Members for Plaster-Board Partition Construction, of which the following is a description, referring to the accompanying drawings, which form a part of this specification.

The invention relates to the combination of plasterboards with stud members in building construction. The principal objects of the invention being to provide metal clips adapted to engage specified stud members and terminal means carried by said clips for supporting plasterboards in desired arrangement for a skeleton partition construction and to the novel method of applying such plasterboards thereto.

The present application embodies the essential subject matter and claims covered by my application for Letters Patent under same title name, filed August 16, 1917, Serial No. 186,629, and allowed January 22, 1918.

In the drawings, Figure 1 is a front view of a portion of a hollow partition illustrating the arrangement of studs, clips and plasterboards. Fig. 2 is a sectional view of a portion of a partition embodying the construction features disclosed in Fig. 1. Fig. 3 is an end view of a channel element of the composite stud. Fig. 4 is a perspective view of a fragmentary section of the composite stud. Fig. 5 is a cross-sectional view taken along the line Y—Y through a stud in Fig. 1 illustrating means for adjusting the stud length. Fig. 6 is a perspective view of a clip for securing top and bottom partition plasterboards to the channel runners at ceiling and floor connections. Fig. 7 is a fragmentary end view of a partition under construction illustrating construction features seen in Fig. 1. Fig. 8 shows back and top views of the preferred type of clip for securing the corner and horizontal edge portions of the plasterboards to the stud elements as disclosed in Fig. 1. Fig. 9 is a perspective view of the type of clip employed to secure the vertical edges of plasterboards to the studding. Fig. 10 is a plan view of the blank from which the clip seen in Fig. 9 is fabricated. Fig. 11 is a modification of the clip seen in Fig. 8, having no flanged shoulder thus permitting it to be employed along both vertical and horizontal joints. Fig. 12 is a modification of the clip seen in Fig. 9 and adapted for use in similar manner as the clip seen in Fig. 11. Fig. 13 is an alternate type of clip showing the application of wire bending to accomplish the usages of the preferred sheet metal types of clips.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings. Referring to the drawings, in Fig. 3 the channel-like member 14 is formed by bending a longitudinal sheet metal strip at 15, 15 to form a central web portion 16, intermediate two outwardly flaring wing portions 17, 17. Each edge 18 of said strip is bent back at 19 so that the outer flange portion 18, 19 will lie in a plane preferably at right angles to the plane of the web 16; the parts 17, 19, 18 form V-shaped stiffening flanges on the channel-like member 14. The edges 18 however do not quite reach to the plane of the web 16 for the purposes further disclosed.

A composite stud member as seen in Figs. 1, 2 and 4 comprises two channel elements 14, 14 arranged with their webs 16, 16 back to back in contacting relationship, said webs being spot welded or riveted together as at 20 in Figs. 2 and 4 and elsewhere at intervals throughout. The adjacent V-shaped stiffening flanges 18, 19, 17—17, 19, 18 of a composite stud 22 form a hollow face element and since the edge portions 18 of such hollow face do not reach as far as the plane of the web 16 of such composite stud 22, a longitudinal slot 21 occurs between the adjacent edges 18, 18 of such composite stud member and opens into this hollow face element.

In the erection of the partition seen in Fig. 1 a series of spaced composite studs 22 are seated or alined within a top channel runner 23 and it is to be understood that the bases of said studs are susceptible of like alinement within a similar channel runner, as in Fig. 7, said runners being properly secured to ceiling and floor to aline the said studding. I find it advisable to overcome variations in ceiling heights by means of a short stub end 24 of similar configuration

to the main stud 22. A stub end 24 is shown telescoped within the stud 22 at the right of Fig. 1 the base of said stub end being indicated by the horizontal dotted line just below the sectional line Y—Y, while the top end of the stud 22 is indicated by the solid horizontal line immediately above such line Y—Y. In making this assembly I preferably rivet or weld together the webs 16 of the stud 22 at a point on said stud 22 about two or three inches below the base of the stub end 24 or at about the position indicated by 20, Fig. 1, which as noted is on the stud 22 just below the horizontal dotted line indicating the base of the said stub end 24; this serves to clamp the stub end 24 telescopically in place within the end of the stud 22 though permitting said stub end 24 to be raised or lowered to span the ceiling height as found. However the slot 21 is continuous throughout the total length of the stud 22 and the allied stub end 24 as disclosed.

In Figs. 1 and 2, plasterboards are shown secured by metal clips to the faces of the alined and spaced studs 22, thus forming a hollow skeleton partition ready for exterior plaster coatings. Plasterboards are manufactured in various thicknesses, the $\frac{1}{4}''$ and $\frac{3}{8}''$ plasterboards being generally employed for this class of construction. In hollow partition construction, the plasterboards are usually made of a length suitable to contact three spaced studs as seen in Fig. 1. There the ends of a plasterboard 25 approximately reach to the center or to the plane of the web 16 of the outer studs of a set of three spaced studs, the central portion of the plasterboard overlying the face of the intermediate stud.

It is very essential in hollow plasterboard partitions that the plasterboards be so staggered upon the studding that vertical joints are broken, also that the corners and edges of the plasterboards be thoroughly anchored to the studding, otherwise cracking of the applied plaster coatings will occur. In my invention the metal clips are not a component part of the fabricated stud but are attached to the stud during the erection of the partition. The studding is symmetrical and the position of the fastening means or clip with respect to the studding and plasterboards is left optional with the erector of the partition.

Various types of clips are employed with the studding in this construction, in their essential characteristics, however, they are similar. A stud clip comprises a locking terminal portion connected by means of an intermediate tie member to one or more plasterboard supporting terminal members. This tie member constitutes a measurement means and may be of such length and configuration as will best serve the adjustments necessary in construction work for which it is employed. The locking terminal portion of a clip is passed through a slot 21 and into the hollow face element 18, 19, 17—17, 19, 18 of a stud 22 so as to engage behind the flange portions 18, 19 of said stud. The tie member integral therewith then secures to the stud any plasterboard introduced between the plasterboard terminal supporting portions and the face of the stud 19, 18—18, 19.

The clip seen in Fig. 8 comprises a small sheet metal plate 26 having a central prong 27 punched out at right angles to the plate 26 at 28 leaving the curved opening 29 through the plate 26. Side notches 30, 31 are made in the prong 27 which divide said prong into a head or locking terminal 32, a neck portion 33 and a shoulder portion 28; said neck 33 and shoulder 28 constitute a tie member or measurement means between the locking terminal 32 and the plate 26 which now becomes the plasterboard supporting member. The clip seen in Fig. 9 is formed from the sheet metal blank 34 Fig. 10; the opposite ends of said blank are split along the lines 35, 35 leaving an intermediate portion 36 the full width of the blank. The split end portions 37, 38, 39, 40 are then bent, preferably at right angles to the portion 36, so that in the fabricated clip Fig. 9, 37 and 38, faced in opposite directions become the locking terminal connected by the tie member 36 to the plasterboard supporting terminal members 39 and 40 which likewise are oppositely disposed to each other.

The type of clip Fig. 8 is generally employed along the horizontal joint between plasterboards to support the corners of adjacent plasterboards and the central edge portion of the plasterboard contiguous thereto in the staggered relationship of plasterboards as seen in Fig. 1. The type of clip seen in Fig. 9 is preferably employed along the vertical joint between adjacent plasterboards. In the clip seen in Fig. 11 the prong punched out of the plate 26^x is of somewhat different shape to the prong seen in Fig. 8; the tie member 33^x as formed being approximately the width of the slot 21 from the locking terminal 32^x to the plasterboard supporting terminal 26^x. In the clip seen in Fig. 12 two prongs are stamped out of a plate 34^x to form parallel tie members 36^x, 36^y respectively terminating in locking terminals 37^x, 38^x. The tie member 36 of the clip seen in Fig. 9 stands vertically in the slot 21 to permit of side play in adjustment. The tie member 33 of the clip seen in Fig. 8 stands transverse to the slot 21, the shoulder 28 resting on the upper horizontal edge of a plasterboard preventing the clip from vertical movement in the slot. The modified types of clips seen in Figs. 11 and 12 are interchangeably used, however, in lieu of the preferred clips seen in Figs. 8 and 9

along both the horizontal and vertical joints, as will be noted in Fig. 1 showing such employment of the clip shown in Fig. 12.

In attaching plasterboards to the studding, I preferably employ the runner clips 41 as seen in Figs. 1, 6 and 7. A prong or stop 42 is punched out of the clip 41, the end 43 of the clip is pushed through between the floor 44 (or ceiling) and the runner 23 from the opposite side from which the plasterboard 25 is first to be applied. The prong 42 then contacts the flange of the runner 23, the plasterboard 25 is placed in position and the end 43 is then bent up along the dotted line to the position 43^x thus rigidly holding the plasterboard against the runner 23. It is obvious that when a plasterboard is employed on the reverse side of the stud 22, as indicated by the dotted section 25^x and the opposite end 45 of the clip 41 is then bent up to the dotted position 45^x, that said plasterboard will likewise be properly secured.

In the clip seen in Fig. 13 a wire 46 is looped intermediate its ends to form a locking terminal 47, the adjacent parallel wire elements 48, 48 become the tie members and terminate each in an end portion at right angles thereto bent as at 49, 50, 51 to form each a plasterboard supporting terminal; this clip being employed in similar manner to the clips seen in Figs. 11 and 12.

Such other modifications may be employed as lie within the scope of the appended claims. Having fully described my invention what I now claim as new and desire to secure by Letters Patent is;

1. In plasterboard partition construction, a composite stud comprising two channel-like elements integrally connected back to back, each channel element being provided with bent back stiffening flanges which in the composite stud form two hollow face elements of said stud, the adjacent edges of said paired flanges on each stud face being however spaced apart a distance to form a longitudinal slotted opening in said hollow face element; and one or more metallic clips in combination therewith and adapted to support plasterboards in desired structural relationship upon the faces of said studding; each clip having locking terminal means adapted to enter through a slotted opening in a hollow face element of said stud and engage behind flange elements adjacent thereto; and a tie member integral with said locking terminal means and with oppositely disposed plasterboard supporting terminals, said tie member constituting a measurement means equivalent to the thickness of a plasterboard plus the thickness of the engaged flanged stud elements.

2. In plasterboard partition construction, a composite stud comprising two channel-like elements integrally connected back to back, each channel element being provided with bent back stiffening flanges which in the composite stud form two hollow face elements of said stud, the adjacent edges of said paired flanges on each stud face being however spaced apart a distance to form a longitudinal slotted opening in said hollow face element; and one or more sheet metal clips in combination therewith and adapted to support plasterboards in desired structural relationship upon the faces of said studding; each clip comprising a locking terminal portion connected by means of an intermediate tie member to one or more plasterboard supporting terminal members, said locking terminal portion being adapted to enter through a slotted opening in a hollow face element of said stud and engage behind flange elements adjacent thereto whereby any plasterboard introduced between the plasterboard supporting terminal members of said clip and that face portion of said stud will be secured to said stud by means of the said tie member.

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