March 18, 1941. W. M. GOLDSMITH 2,235,761

PARTITION STRUCTURE

Original Filed March 2, 1938 3 Sheets-Sheet 1

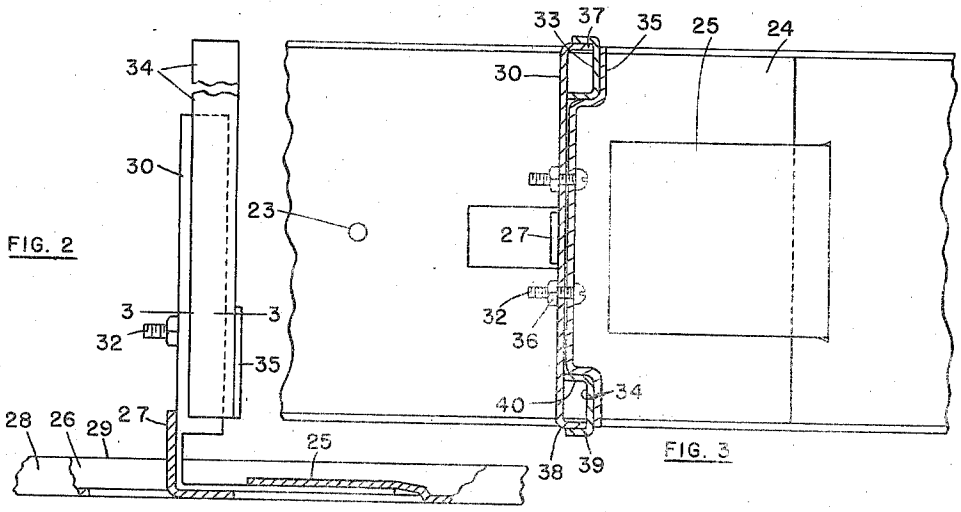

FIG. 2

FIG. 3

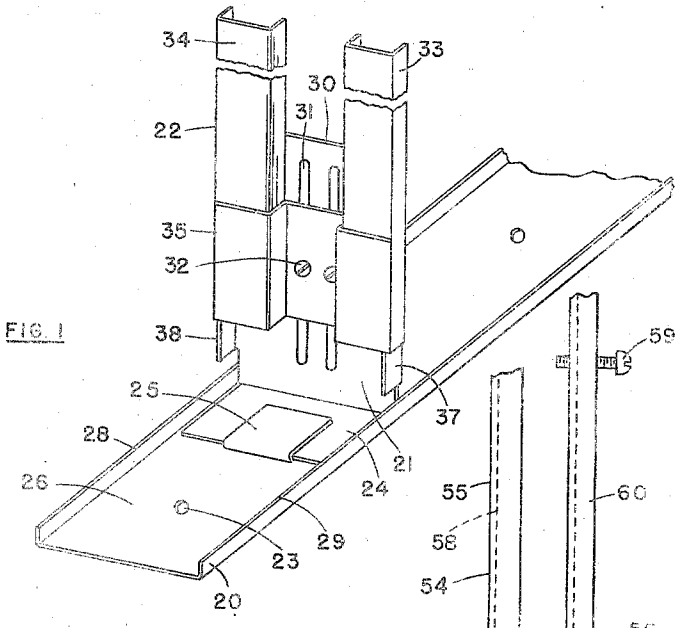

FIG. 1

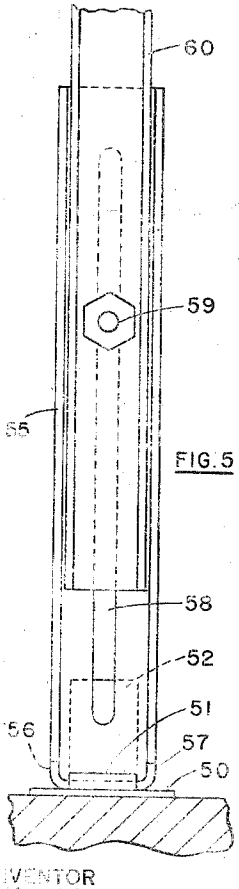

FIG. 5

FIG. 6

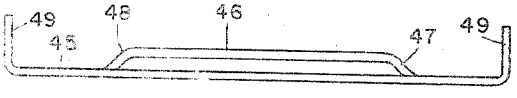

FIG. 4

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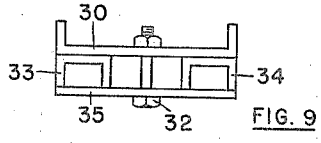

FIG. 9

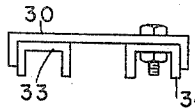

FIG. 11

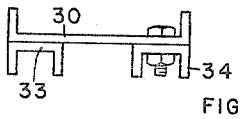

FIG. 10

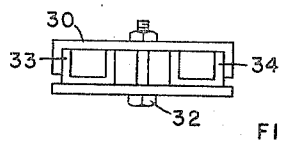

FIG. 12

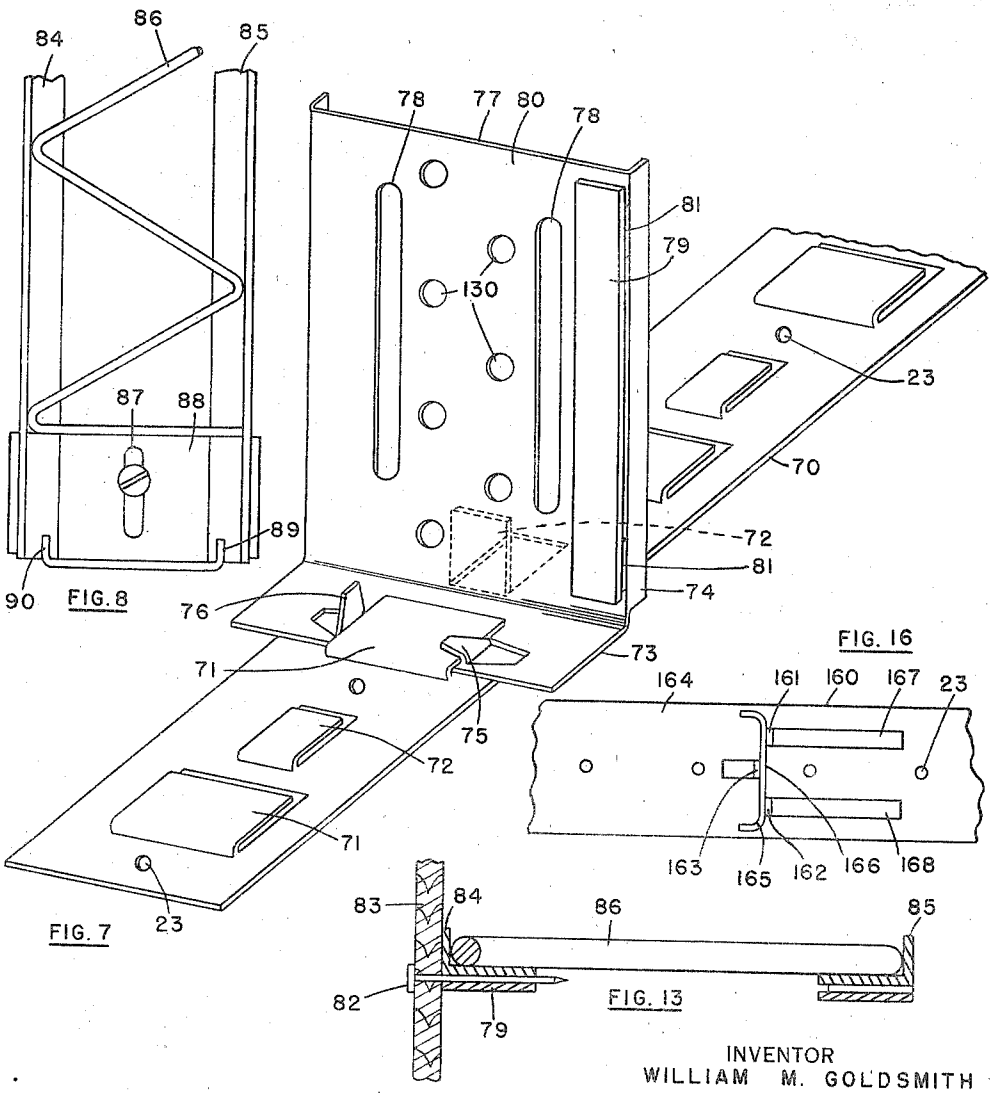

FIG. 8

FIG. 16

FIG. 7

FIG. 13

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PARTITION STRUCTURE

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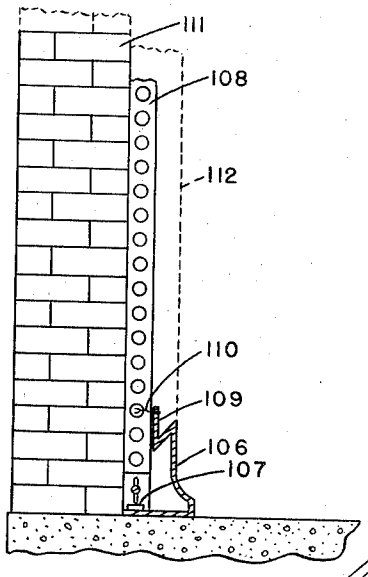

FIG. 15

FIG. 14

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Patented Mar. 18, 1941

2,235,761

UNITED STATES PATENT OFFICE

2,235,761

PARTITION STRUCTURE

William M. Goldsmith, Cincinnati, Ohio

Original application March 2, 1938, Serial No. 193,564. Divided and this application January 15, 1941, Serial No. 374,579

1 Claim. (Cl. 72—46)

This is a division of my copending application, Serial 193,564, filed March 2, 1938.

This invention is concerned with structural forms used in creating partitions in buildings. Partitions of the character under consideration are sometimes made in forms that are known as solid partitions and also as hollow partitions. The partitions referred to are generally used to set off one room from another or to set off rooms from corridors.

An object of the invention is to provide simple, sturdy, and readily interengageable structural elements for providing partition members or elements adapted to receive plaster and the like incident to completion of partitions of the character indicated.

Another object of the invention is to provide parts of such character as will readily lend themselves to variations in dimension of various partitions that are to be fabricated.

Another object of the invention is to provide means that will accomplish the indicated objectives and which may be readily associated with or made part of various structural forms commonly used for creating the foundation structure of partitions of the character indicated.

These and other objects are attained by the means described herein and illustrated in the accompanying drawings, in which—

Fig. 1 is a perspective view, showing various parts assembled into one form or embodiment of the invention.

Fig. 2 is a side view of parts shown in Fig. 1, parts being broken away.

Fig. 3 is a sectional view on line 3—3 of Fig. 2.

Fig. 4 is an end view of a base member or runner of a slightly different form from that shown in Fig. 1 and forming a detail of the invention.

Fig. 5 is an end view of a modified form of the invention.

Fig. 6 is a view of parts shown in Fig. 5, said parts being shown in a disconnected relationship.

Fig. 7 is a view similar to Fig. 1 and showing a modified form of the invention.

Fig. 8 is a view similar to Fig. 5 and showing another modification of the invention.

Figs. 9, 10, 11, and 12 are plan views of various arrangements of vertical members, forming details of the invention, and showing various manners in which such members may be associated with one another.

Fig. 13 is a horizontal sectional view through the composite studding member forming a detail of the invention and an adaptation of the invention.

Fig. 14 is a perspective view showing the invention adapted to a metallic shell intended for use as a base of a partition.

Fig. 15 is a variation or modification of the arrangement shown in Fig. 14.

Fig. 16 shows a modified form of the invention.

The runner 20 is adapted to be attached to a wood or concrete floor. A similar member may be attached to a ceiling where a concrete rib of a combined floor and ceiling structure may be aligned therewith. Between two such spaced and vertically aligned runners 20, there is provided a plurality of studding members. As shown in Fig. 1, the studding members comprise a base 21 adapted for fixation to and upon a runner 20 and a main portion 22. The main portion 22 of the studding is so related to the base portion 21 thereof that said two members may be adjusted longitudinally whereby to adapt the composite stud to variations of spacing between the vertically aligned runners.

As disclosed in Fig. 1, the runner 20 is of channel form and is provided at intervals with suitable apertures 23 through which suitable attachment means such as nails or bolts, may be passed for attachment thereof to various types of supporting structures. At intervals, lengthwise of the runner 20, there are provided pockets adapted to receive the horizontal leg 24 of the stud base 21. The pocket may be of various forms and, as shown in Fig. 1, comprises a lug 25 that is struck upwardly from the base or web member 26 of the channel iron base 20. The lug is spaced above the web 26 at approximately the thickness of the member 24 and consequently a snug fit is provided when the members are associated as shown in Fig. 1. A second lug 27 is struck from or formed from the web 26 of the member 20 and at such distance from and in such relation to the member 25, that when the parts are associated as shown in Figs. 1 and 2, the said lug 27 may be turned upwardly at substantially a right angle to the web 26 so as to lock or secure the base 21 of the stud in the pocket. The width of the arm 24 of the base 21 approximates the distance between the arms 28 and 29 of the member 20, thus avoiding any lateral shifting or play between the parts when assembled.

As shown in Fig. 1, the base 21 comprises a vertical member or portion 30 which is of channel iron shape in cross section. Extending vertically in said portion 30 are one or more elongated slots 31 through which suitable bolts 32 may extend. The slots are provided for attaining vertical adjustment of the stud member 22.

The stud member 22, as shown herein, comprises a pair of channel irons 33 and 34 which are connected at intervals by a suitable strap 35. The channel irons 33 and 34 extend in substantial parallelism and serve as furring members to which metal lath or the like may be attached.

The strap 35 associated with the lower ends of the channel irons 33 and 34 is provided with suitable apertures through which the bolts 32 may extend. Suitable nuts 36 are associated with the bolts 32 for securing the members 21 and 22 in various adjusted positions.

As shown in Fig. 1, the legs 37 and 38 of the member 30 are received between the legs 39 and 41 of the channel members 33 and 34, in the manner shown in Fig. 3. Preferably, the channel legs 37 and 39 are disposed side by side, thus giving strength and rigidity to the assembled structure. It is to be understood, however, that in some forms of the invention, the relationship of the channel arms 37 and 39 may be varied so as to dispose the leg 37 upon the outside of the leg 39. In other variations the indicated parts may be associated as shown in Figs. 9 to 12 inclusive.

It is to be understood that the runner 20 is to be provided with lugs 25 and 27 at such intervals as will permit mounting of studding at such distances conforming with customary building practices.

It is to be understood that in some installations a runner such as 20 may be provided either at the upper or lower end of the adjustable studding instead of using a pair of runners as heretofore explained. It is to be understood also that the adjustment feature comprising members 21 and 22 may be provided at either end of the studding or at both ends if so desired. It is to be understood that in those instances where a runner is provided at one end of studding only, for example, at the lower end thereof, the upper ends of the studding, namely, the channel members 33 and 34, will be attached to suitable supporting structure by wiring or the like.

The arrangement of parts shown in Figs. 1 to 3, inclusive, is provided for producing so-called hollow partitions. In such arrangements, lath is applied to the channels 33 and 34 in accordance with customary practice, the spacing of the channels 33 and 34 providing the central openings in the partition by reason of which such structures are known as hollow partitions.

In Figs. 5 and 6, the invention is shown as applied to so-called solid partitions. The runner 50 is shown as a piece of flat steel metal from which are struck lugs 51 and 52, which correspond to the lugs 25 and 27, and cooperate accordingly with the base 53 and vertical extension 54 of a channel iron 55 which serves as a part of the stud structure. In the form of invention shown in Figs. 5 and 6, the runner 50 is devoid of legs such as 28 and 29 associated with the channel iron runner 20. The functions of the members 28 and 29 associated with the runner 20 are attained in Fig. 5 by means of the legs 56 and 57 of the channel iron base portion 53 of the studding member 55. The said members 56 and 57 are adapted to lie upon opposite sides of the lug 51 and thus prevent lateral shifting of the member 55 relative to the runner. The vertical extension 54 of the studding member 55 is provided with an elongated slot 58 through which a suitable bolt 59 may extend for attaining adjustable mounting of the studding member 60 relatively to the base studding member.

In Fig. 6 dotted lines are dropped from the studding member 54 to the runner 50 to show how the lugs 51 and 52 are related to the base member 53, as far as length is concerned for obtaining fixation of the assembled parts.

It is to be understood that the remarks made relative to the arrangement shown in Figs. 1 to 3 apply also to the form of the invention shown in Figs. 5 and 6, as concerns the provision of one or more runner members at opposite ends of the studding and the provision of one or more adjustment features for each of the studding members 60.

In Fig. 4 is shown a runner 45 wherein the pocket arrangement indicated at 46 is slightly different from the arrangements shown in the other figures. The pocket 46 is so formed from the base of the runner 45 that the lateral walls 47 and 48 of the pocket or strap member 46 will receive and secure the base member of the studding. In such arrangement the base member would be of a width such that it would be received in the pocket instead of extending to a distance approximating the spacing of the legs 49 of the runner. The vertical extension of such base member might be of the same width as the base member or could be wider. It is to be understood also that the pocket arrangement shown in Fig. 4 is not restricted in use to a channel iron type runner.

In Fig. 7, the runner 70 consists of a piece of flat sheet metal which, at intervals, is provided with pairs of lugs 71 and 72 which correspond in function with the lugs 25 and 27, respectively. The base 73 of the studding member 74 has lugs 75 and 76 formed therefrom. The lugs 75 and 76 are spaced at approximately the width of the lugs 71 wherefore upon association of the member 74 with a runner, the lugs 71, 75 and 76 cooperate for holding the studding member in position upon the runner. The lugs 75 and 76 may be permitted to extend at an angle as is shown by the lug 76, or they may be turned down, by means of a hammer or other suitable instrument, to a position such as that shown by the lug 75. The vertical extension 77 of the stud member 74 is provided with one or more elongated slots 78 which serve the same purpose as do the slots 31 and 58.

If desired, the vertical extension 77 may be provided with means for receiving a nail or other fastening means employed for attaching baseboards or grounds to a partition. Such means may comprise an elongated strip of sheet metal 79 which may be mounted in spaced relation to the outer face 80 of the base of the channel iron structure constituting the vertical extension 77 of the partition member 74. The spaced relationship may be effected by means of washers, such washers, strips 79 and members 77, being secured together by spot welding or other suitable means of attachment. In Fig. 13 is shown how a nail 82 would be driven between the strip 79 and the vertical extension carrying such strip, for attaching the baseboard or ground 83. The studding shown in Fig. 13 is of the type or character shown in Fig. 8 and comprises a pair of spaced parallel angle iron members 84 and 85 which are secured together in spaced relationship by a wire or rod 86. The rod is bent back and forth in the nature of a truss and may have attachment to members 84 and 85 in any suitable manner, for example, by being spot welded thereto. In such form of stud member, a plate 87 is attached to the stud and such plate is adapted to receive a bolt such as 32 and 59 for cooperating

with a slotted vertical extension 88 of a partition member of the character shown at 74.

In the arrangement shown in Fig. 8, the lugs 89 and 90 correspond to the lugs 75 and 76, however, the general form of the base portion of the studding corresponds to the member 53 shown in Figs. 5 and 6.

The variation of the invention shown in Figs. 7 and 8 permits use of studding of various width with the same runner, the spacing of the lugs 75 and 76 being uniform, regardless of the width of the studding.

In Fig. 14 a sheet metal base 91 is provided with lugs 92 and which lugs perform the functions of the lugs struck from the runners shown in the various other views. One lug 92 performs the function of the lug 71 shown in Fig. 7, and the next adjacent lug 92 is then turned upwardly to perform the function of the lugs 72 shown in Fig. 7. Any one of the various arrangements of adjustable studding members may be associated with the base 91 and lugs 92, suitable adaptation being made in view of the differences in detail of such various structures. The base 91 comprises integral vertical wall members 93 and 94 which serve as baseboards. The hollow sheet metal baseboard structure so provided may be held in proper form by means of bolts 95 which are attached at intervals between the upwardly projecting flanges 96 and 97 formed at the upper ends of the side walls 93 and 94. Suitable U-shaped clips or straps are introduced between the flanges 96 and 97 in order to attain the proper form and to establish rigidity of the structure. The flanges 96 and 97 are preferably spaced centerward from the side walls 93 and 94 by inwardly and downwardly inclined flanges 99 and 100 whereby to provide a key 101 for the lower edge of the plaster that is subsequently applied to the lath and which lath is secured to the studding 102. The studding shown in 102 may be used for hollow partitions, the various openings 103 therein permitting wiring of the lath to opposite legs 104 and 105 of the channel iron 102.

In instances where the invention is to be associated with a sheet metal baseboard forming member of the character shown in Fig. 14, but the plaster wall to be provided will be disposed adjacent a fixed wall of a building, for example, a brick wall, the form of invention shown in Fig. 15 would be employed. The sheet metal baseboard member 106 approximates one-half of the member 91 shown in Fig. 14. The member 106 is provided with lugs 107 corresponding to the lugs 92 for supporting channel or studding member 108 which corresponds to the member 102 shown in Fig. 14. If desired, the flange 109 may be provided with openings at spaced intervals and which openings correspond to the apertures shown in Fig. 14 for receiving the bolts 95 and plaster. Through such openings, the flange 109 may be wired to the studding 108 as shown at 110. A brick wall is shown at 111 and a proposed plaster line is shown by dotted line 112. It is to be understood that the apparent thickness of the plaster coating is exaggerated in order to better illustrate the approximate relationship of parts.

It is to be understood that the vertical adjustment feature of the studding may be dispensed with in installations where the length of the studding is definitely established and the studding is fabricated accordingly. The invention is concerned with attaching such studding to a runner by means conforming substantially with those disclosed herein, regardless of the feature of adjustability. The arrangement whereby vertical adjustment of the studding may be effected is, however, of appreciable commercial value because generally there are decided discrepancies and variations, the effects of which are readily obviated by means of the adjustment of the composite studding members.

The bases or shells 91 and 106 may be given various suitable forms or shapes, in view of the other features of the building in which they are used. The upwardly extending side walls 93 and 94 may be straight, rather than being curved as shown. If curved shells are to be used, the vertical section 120 of the side wall would approximate the height of wooden or other flooring, thus bringing the lower edge of the curved portion of such walls flush with the upper surface of the finished floor.

In lieu of the angle iron members 84 and 85 shown in Fig. 8, there may be used other structural forms, such as round bars or rods, either alone or in pairs, and to which the curved or bent ends of the truss portions 86 may be attached in any suitable manner, for example, by welding.

When using a runner of the character shown in Fig. 4, the horizontal base portion of the stud may comprise a relatively narrow tongue portion, projecting from a wider portion thereof, the tongue having a width approximating the width of the pocket 46, the adjacent wider portion of the base serving to space the vertical portion of the stud from the pocket, for abutment against a lug performing the function of the lug 27, shown in Fig. 2.

If the horizontal portion of the base studding member is not of the character explained in the preceding paragraph, the free end of the tongue like portion of the base may be extended beyond the pocket and may be deformed, for example, by bending it upward, for locking the parts together.

The pocket shown in Fig. 4 may be closed at its one end, thus limiting the movement of the horizontal portion of a stud base into such pocket, for attaining the desired positioning of the stud relative to the pocket.

It is to be noted that the various slots, such as 78 and 79 may serve, not only for receiving the adjustment bolts, as previously explained, but also the wires whereby lath is attached to the studding, may be passed through such openings. In some instances it may be found desirable to provide numerous openings of various forms, in the base of the studding as shown at 130 for facilitating wiring of lath in position.

Attention is directed to the fact that in some forms of the invention the slot and bolt adjustment means associated with the studding members may be as shown in Figs. 10 and 11, wherein the bolt extends through the channels 30, 33 and 34 and that the strap, such as 35 may be eliminated. In such arrangement the nut may be of such size that the legs of the channels prevent the nut from turning as the bolt is screwed into the nut.

In Fig. 16 the runner 160 has lugs 161, 162 and 163 struck therefrom. These lugs are turned at right angles to the upper face 164 of the runner and together form a pocket in which the stud 165 is received as held. The runner is provided with openings in the base 166 thereof, for example as shown at 103 of Fig. 14, and the stud may be wired to the lugs 161 and 162 by passing wire through such openings and around the adjacent lugs and stud portions. The stud 165 may comprise portions adjustable longitudinally of one

another in the fashion shown in other forms of the invention, or equivalent adjustment may be effected by tightly wiring the stud at various positions, vertically of the lugs **161** and **162**, said lugs being purposely made rather long as is evident from the openings **167** and **168** made in the runner incident to forming those lugs. If desired the bolt and slot arrangement, shown in other forms of the invention, may be used for adjustably connecting a stud with the lugs **161** and **162**.

What is claimed is:

In a device of the class described the combination of a runner having pockets formed therein, an angle iron base stud having one of its legs received in one of said pockets, cooperating means associated with the runner and the base stud for rigidly securing the base stud relative to said runner, an elongated studding member, and means for detachable mounting of the studding member on the other leg of the angle iron base stud and comprising a nut and bolt arrangement carried by one of said members and extending through an elongated vertical slot in the other of said members and whereby those members may be secured together in various adjusted relationships determined by the length of such elongated slot.

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