May 27, 1969 R. N. LATIANO 3,445,977

ADJUSTABLE STUD ANCHOR

Filed Oct. 16, 1967

FIG. 1.

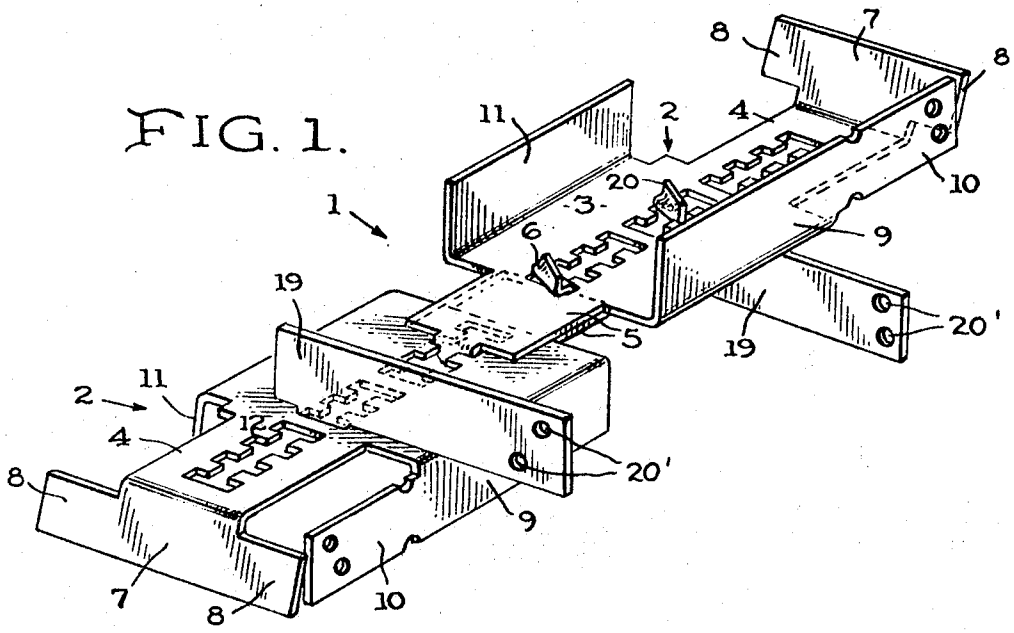


FIG. 2.

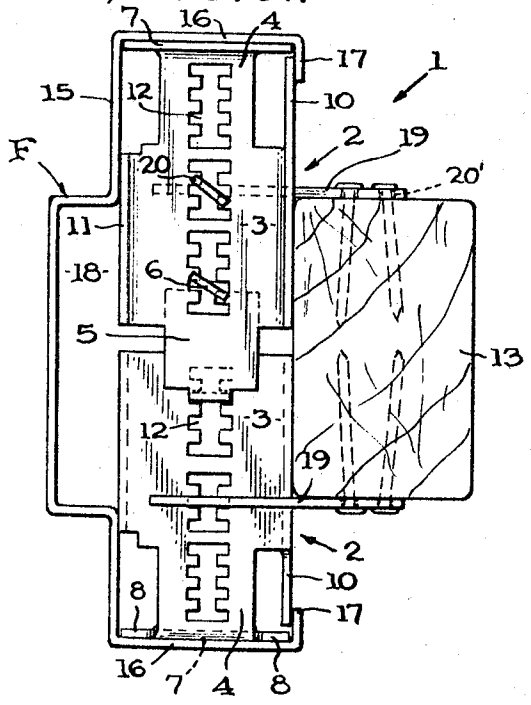
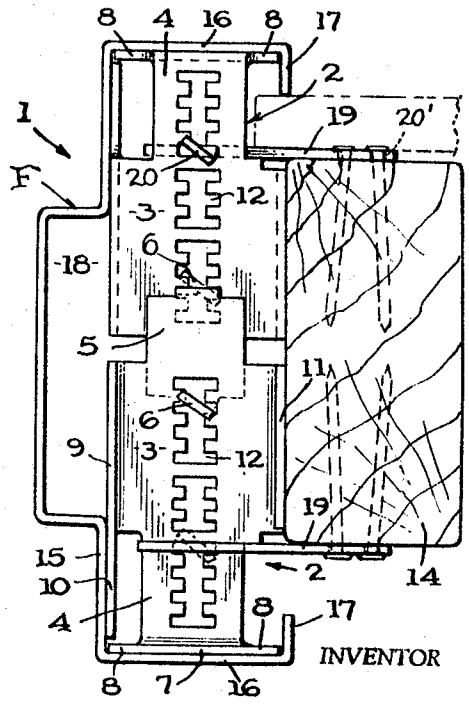


FIG. 3.



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ADJUSTABLE STUD ANCHOR

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6 Claims

ABSTRACT OF THE DISCLOSURE

An adjustable stud anchor including a pair of opposed and overlying elements having means for adjustably interlocking same and also provided with a pair of separate mounting tabs each of which is adapted to be adjustably connected to one of the elements.

This invention relates generally to construction elements, and more particularly, to a stud anchor assembly adapted to secure frame members of the hollow metal type having various lateral dimensions to numerous forms of wall or partition stud elements.

In the construction of dwellings of either the dry-wall or plaster wall type, it is recognized that one of the greatest points of joint failure is the juncture between the studding forming the door and window openings and the metal door or window casings or frame members. Many prior devices have been offered in an effort to minimize or eliminate this joint failure by furnishing, to some degree, a more or less rigid interconnection between the metal framing members and the immediately adjacent studding elements. The width or depth of the frame members varies greatly not only between different construction projects but also at times within any single dwelling and accordingly it has been necessary to provide a different size anchor element to accommodate each of the various sizes of frame members since the majority of the known stud anchors require the maintenance of a tight fit within the hollow frame member in order to achieve the desired anchorage.

Another disadvantage of the prior known stud anchor elements is that any one particular element was usually adaptable to only an installation utilizing either wood studs or steel studs but not both. This will become obvious when one considers the difference in construction and manner of attachment of the two types of stud elements to the anchor member. In a wood stud installation the anchor member is usually attached to the stud as by nailing through one or more mounting tabs forming an integral part of the anchor member while a steel stud, which usually includes a pair of laterally offset flanges, requires an anchor member of different configuration to which the steel stud is wire-tied and/or tack-welded, or otherwise mechanically fastened.

The present stud anchor not only includes means permitting its use with frame members of various dimensions but also provides further means, adjustable in the field, for attachment of the anchor to stud elements of various widths. Also, by this arrangement, the frame member may be anchored in offset relationship to the studding as may be desirable when one side of the wall or partition is to be covered with a thicker laminae of plaster or wallboard than the other side.

Accordingly, one of the primary objects of the present invention is to provide an improved anchor member adapted to rigidly secure hollow frame members of various sizes to adjacent stud elements which may also be of varying dimensions.

Another object of the present invention is to provide an

adjustable stud anchor including a pair of elements which may be rigidly assembled in the field to accommodate framing members of varying dimensions and which assembly provides means for lateral adjustment with respect to the attachment of the framing to the studding.

Another object of the present invention is to provide a stud anchor assembly comprising a pair of similar elements including means permitting attachment to one another in adjustable relationship.

A further object of the present invention is to provide an improved adjustable stud anchor including means for attaching hollow frame elements to both wood and metal stud members.

Still another object of the present invention is to provide an adjustable stud anchor having a pair of separate mounting tabs adapted to be adjustably positioned in the field to permit selective attachment of the anchor to studs of various dimensions.

With these and other objects in view which will more readily appear as the nature of the invention is better understood, the invention consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention as shown in the accompanying drawing in which:

FIGURE 1 is a top perspective view of the adjustable stud anchor according to the present invention.

FIGURE 2 is a top plan view, partly in section, of the adjustable stud anchor of FIGURE 1 as applied to a wood stud.

FIGURE 3 is a top plan view, partly in section, of the adjustable stud anchor of FIGURE 1 as applied to a wood stud of greater width than the stud in FIGURE 2.

Similar reference characters designate corresponding parts throughout the several figures of the drawing.

Referring now to the drawing, particularly FIGURE 1, the adjustable stud anchor of the present invention generally designated **1**, comprises a pair of anchor elements **2—2** each of which elements it will be understood is of identical construction when considered apart from the assembly **1**. The elements **2—2** are preferably formed from sheet steel stock and may readily be cut and bent to provide the desired construction as illustrated in the drawing. The elements **2—2** are each provided with a longitudinal body including a main body section **3** and an end body section **4**, which end body section it will be seen includes a transverse dimension substantially less than the main body section **3**. Projecting from the free end of the main body section **3** is a connecting body tongue **5** having a relatively narrow connecting finger **6** further projecting upwardly from its free end. An end tab **7** is provided at the opposite end of each element **2** and includes a pair of lateral ears **8—8** providing a lateral dimension to the end tab **7** substantially equal to the lateral dimension of the main body section **3**.

As will be seen in FIGURE 1, prior to installation of the stud anchor assembly within a frame member, the end tabs **7—7** are disposed at an angle which is less than 90° to the plane of the body section of the anchor elements for reasons which will become obvious hereinafter.

Attached at right angles to one side edge of the main body section **3** is a long side flange **9** which includes a free standing tab **10** extending axially to the end of the body section **4**. Along the opposite side edge of the main body section **3** is a short side flange **11** likewise projecting at right angle to the body section of the anchor element.

Formed in the main and end body sections of each anchor element **2** are a plurality of longitudinally aligned, equispaced and interconnected transverse slots **12** which are of a dimension sufficient to admit the connecting fingers **6**. As previously mentioned, the assembly illustrated

in FIGURE 1 is achieved by joining two anchor elements **2—2**, each of which is of identical construction. To provide this assembly, it will be seen that a pair of anchor elements are selected, one of the elements is inverted end to end with respect to the other element and the two connecting body tongues **5—5** are disposed in overlying relationship. The degree of overlap of the two elements will be determined by the desired overall longitudinal length of the stud anchor assembly controlled by the corresponding internal dimension of the frame member F to which the stud anchor is to be applied. Prior to the assembly of a pair of anchor elements **2—2**, it will be understood that the elements as initially constructed include a connecting finger **6** which projects in a normal direction to the plane of the body tongue **5**. In this manner when the tongues **5** of two overlying elements are brought together in proper longitudinal alignment the fingers **6—6** will be positioned through the juxtaposed transverse slots **12** of the opposed anchor element. After the two elements are thus positioned, the two connecting fingers **6—6** are bent or twisted as in FIGURE 1, or otherwise clinched to secure the two elements in a rigid assembly.

FIGURES 2 and 3 illustrate the stud anchor of the present invention as applied to secure a hollow metal frame member F to a wood stud **13** and **14**, respectively. It will be understood that the frame member F may be for the purpose of providing a door casing or any other type of construction such as a window frame. The frame F is constructed of sheet metal and formed to provide a face **15** having opposite side channels **16—16** and a pair of opposed inturned flanges **17—17**, thus providing an interior frame opening **18**.

Although the minor dimension of the various frame members is more or less standard, it will be appreciated that the major dimension of the frame opening **18** will vary greatly between different installations and also within any single construction project, this dimension being controlled by the specified wall or partition thickness. As a result of the aforedescribed stud anchor assembly, a pair of the anchor elements **2—2** may be rigidly connected together to provide a longitudinal dimension mating with the major internal dimension of the current frame opening **18** being utilized.

At this point a pair of stud mounting tabs **19—19** are rigidly attached to the assembled anchor elements **2—2**. As most clearly shown in FIGURE 1, each mounting tab **19** comprises a planar strip of metal having a laterally offset attaching finger **20** inwardly spaced from one end of the longitudinal tab. Like the connecting fingers **6**, the attaching fingers **20** are constructed to provide a slip fit through the same punched openings or slots **12** in the elements **2—2** whereby, upon ascertaining the thickness of the subject stud **13** the proper slots are selected to provide the correct spacing of the mounting tabs as shown in FIGURE 2. Adjacent the free ends of the tabs **19—19** are a pair of offset fastener receiving apertures **20'—20'** for attachment of the installed anchor assembly to the stud by any suitable means.

The reason for initially constructing end tabs **7** at an angle slightly offset from a vertical plane will now be obvious when the manner of installing the stud anchor assembly **1** within the frame opening **18** is considered. During an installation, a connected pair of anchor elements **2—2** are inserted within the frame opening **18** at an inclined angle with the long side flanges **9—9** of the joined anchor elements disposed opposite to the adjacent face of the stud **13** while the short side flanges **11—11** are abutted against the inner surface of the face **15** of the frame member F. After the end tabs **7—7** are disposed in abutment with the inner surface of the side channels **16—16**, the anchor assembly **1** is twisted in a clockwise or counter-clockwise direction to a horizontal plane whereupon the end tabs of the anchor assembly will provide a tight wedging of the assembly within the frame member as these tabs are forced to assume a normal relationship with respect to the body sections of the anchor elements.

With the anchor assembly thus wedged into tight engagement within the frame opening **18**, the frame is installed adjacent the exposed face of the wood stud **15** with the long side flanges **9—9** juxtaposed the outer face of the wood stud **15** as in FIGURE 2. At this point the stud mounting tabs **19—19** which have been attached as described hereinabove, are securely attached to the front and rear edges of the stud **13** by means of a plurality of nails applied through the fastener receiving apertures **20'**. It will be understood that a plurality of the anchor assemblies **1** are positioned as above described within any single frame member F, and suitably spaced from one another to provide sufficient anchorage of the frame member to the studding.

The embodiment shown in FIGURE 3 discloses the present invention as applied to a stud **14** of greater dimension than the stud **13** of FIGURE 2 and it will be seen that it is only necessary to select a different slot **12** to attach the stud mounting tabs in a manner to provide the greater spacing therebetween. The two assembled elements **2—2** may alternatively be positioned within the frame member F with the long side flanges **9—9** abutting the frame face **15** as shown in the embodiment.

The anchor assembly **1** of the present invention may be readily adapted to an installation utilizing steel studs. In such an installation it will be obvious that the stud mounting tabs **19—19** cannot be utilized in securing the assembly as with a wood stud. Although the adjustable tabs **19—19** could still be employed by welding or otherwise attaching the free ends thereof to the steel stud it is usually preferable to attach a steel stud directly to the juxtaposed assembled anchor elements **2—2** by any suitable means such as tack-welding, mechanical fasteners or wire-tying.

From the foregoing it will be seen that an improved stud anchor assembly is provided which may be readily adjusted to accommodate hollow metal frame members of various internal dimensions and which may be utilized to secure these frame members to stud elements of various thicknesses and constructions.

I claim:

1. An adjustable anchor assembly adapted to secure a hollow metal frame member to an adjacent stud element, comprising a pair of anchor elements each including a longitudinal body having a plurality of spaced apart connector receiving means, an end tab projecting from one end of said body, a connecting finger extending from the opposite end of said body, side flanges projecting from said body, a separate stud mounting tab removably attached to each of said elements, and said assembly is provided by said pair of elements disposed in opposed and partially overlapping relationship with said connecting finger of each of said elements selectively engaging said connector receiving means of the other of said elements, whereby, said end tabs will engage opposite sides of said frame member to secure said assembly therein, said mounting tabs each comprises a longitudinal planar member having an attaching finger projecting from one edge and spaced from one end thereof, whereby, said attaching finger may be selectively engaged in said connector receiving means.

2. An adjustable anchor assembly, according to claim **1**, wherein, said connector receiving means comprises transverse slots along the longitudinal axis of said elements.

3. An adjustable anchor assembly, according to claim **1**, wherein, said mounting tab includes fastener receiving means at its end opposite that adjacent to said attaching finger.

4. An adjustable anchor assembly, according to claim **1**, wherein, said body each includes, a main and end body section, a tongue axially extending from said main section and including said connecting finger at the free end thereof, said end section of lesser width than said main section, and one of said side flanges extending the axial length of said main section and the other of said side flanges extending the axial length of said main and end sections.

5. An adjustable anchor assembly, according to claim 4, wherein, said end tab includes, a pair of ears extending laterally to provide a width equal to that of said main section.

6. An adjustable anchor assembly, according to claim 4, wherein, said pair of anchor elements are interconnected in an inverted relationship with said longer flanges disposed on the same side of said assembly.

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49—505; 52—211,217, 715