April 25, 1933. T. D. PRIDDY 1,906,096

METAL STUDDING

Filed March 19, 1928

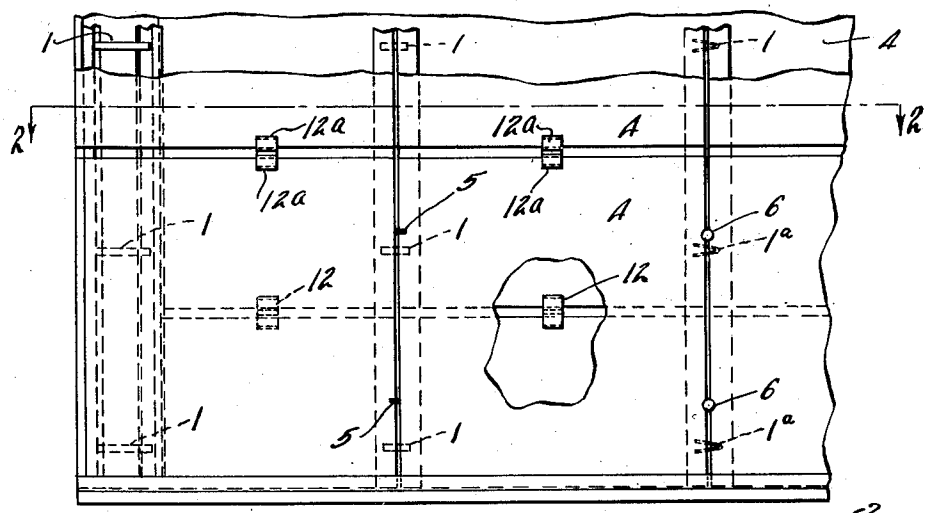


Fig.-1

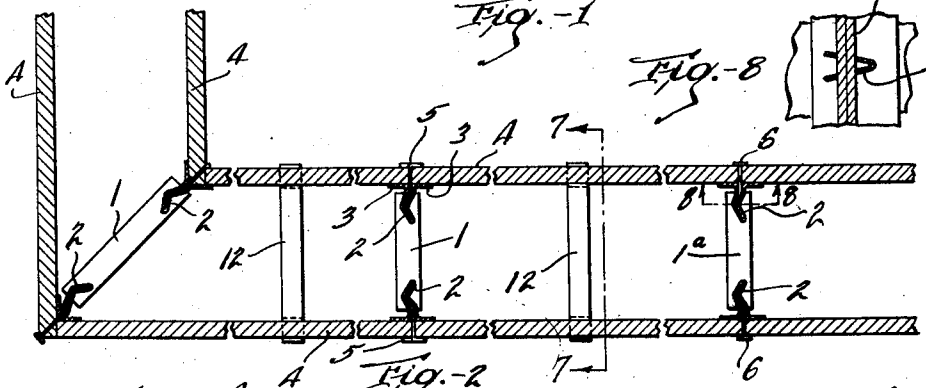


Fig.-2

Fig.-8

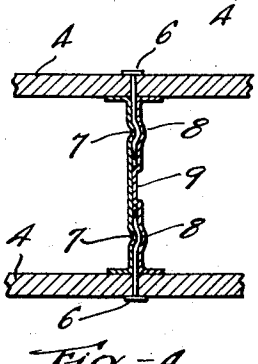


Fig.-4

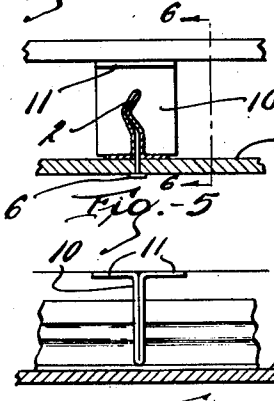


Fig.-5

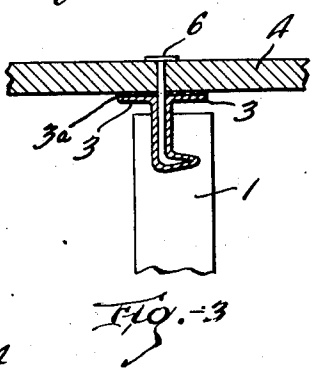


Fig.-3

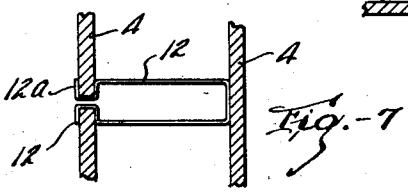


Fig.-7

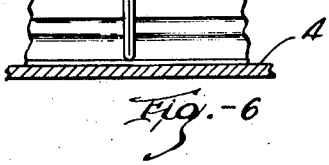


Fig.-6

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UNITED STATES PATENT OFFICE

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METAL STUDDING

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This invention relates to an improved form of metal studding for use in connection with partitions and other walls and ceiling in building construction.

One object of the present invention is to devise a metal studding structure comprising a plurality of parts which may be chosen and assembled according to the contemplated thickness of the partition wall and to devise also convenient and efficient means of assembling the several parts of the metal studding.

Another object consists in providing metal studding including the form as above referred to, in which plaster board or the like may be applied and secured thereto by means of nails which may be readily driven into the studding and maintained in secure engagement therewith.

Another object consists in so constructing those portions of the metal studding into which the nails are driven, that the end portions of the nails will be caused to interlock therewith so as to prevent accidental removal therefrom after the plaster board has been applied.

Another object consists in rendering practicable the use of felt over the ends of the studding.

As a further object, the interlocking connections or engagements between the parts of the studding are so constructed and arranged that the insertion of the nails for the plaster board increases still further the degree of security of such interlocking engagements.

A further object consists in the construction of metal studding which is provided with certain deformed portions which are capable of both forming an interlocking engagement for an intermediate connecting means and also serving as a means of locking the inner end portions of the nails so as to prevent accidental removal of the same.

A still further object consists in providing a studding of this same general type with an efficient and comparatively inexpensive means for facilitating the insertion of the nails.

Other objects consist in providing a means for bracing the panel board and also means for facilitating the adaptation of this form of studding to use on the ceiling as well as the side walls.

Other objects will appear from the following description and claims when considered together with the accompanying drawing.

Fig. 1 is an elevation of my invention applied to a portion of partition structure; Fig. 2 is taken on line 2—2 of Fig. 1; Fig. 3 is a transverse sectional view illustrating a modification; Fig. 4 shows a modified form of studding; Figs. 5 and 6 are detail views illustrating the method of attachment of my improved studding to the ceiling; Fig. 7 is taken on line 7—7 of Fig. 2 and illustrates a bracing means; and Fig. 8 is a detail view of the studding.

According to my present invention, the one form of metal studding (Fig. 2), comprises three parts; namely, the oppositely disposed substantially T-shaped one-piece members which are secured together by means of the intermediate metallic strip 1 which has interlocking engagement with the inner portions of the T-shaped members. The T-shaped members comprise the slightly spaced double web portions 2 which, as shown in Fig. 2, are each rolled with a rib or corrugation extending lengthwise thereof, and also the oppositely extending flange portions 3 against which the plaster board 4 is placed. The plaster board is secured in position by means of nails which are driven therethrough and the ends of which enter the slightly open seam between the double web portion 2, this seam being open just enough to permit effective insertion of the nails, with consequent increased interlocking engagement between the parts. The inner end portions of the nails, as they are driven into place, are caused to follow the deformed seam of the web portion 2, thereby forming an interlocking engagement therewith. This deformed or ribbed portion serves also as a means of interengagement with the corresponding end portions of the strip 1, the end of the strip being slotted in a manner corresponding to the particular shape of the deformed web portion 2. These strips 1 may be welded after

being assembled by sliding engagement with the web portion 2, prior to setting the same in place. Or, the frictional and interlocking engagement between the strips 1 and the web portions 2 may be depended upon entirely to maintain the same in proper engagement and position. Such frictional engagement will be increased by the insertion of the nails between the double portions of the web 2.

Strips of felt may be applied over the ends of the studding as at 3^a, the felt being attached thereto by means of sizing or the like. A space of one-fourth inch or so is provided for a plaster joint between the adjacent edges of the sections of the plaster board, and the nails are driven through the felt into the seams of the studding.

The strips may be plain or may be of substantially V-shape in cross section and of spring metal, as at 1^a, when of the latter form. They are applied by compressing the same together and then upon releasing, there will be effected a positive binding engagement between the web portions of the T member and the edges of the slits in the two parts of the V. (See Fig. 8.) Each slit is formed at substantially 90° to the plane of the particular part of the V in which it is provided. When this form of strip is used, the T members may or may not be provided with the deformations in the web portions.

The T-shaped members extend from the runners on the floor to the runners on the ceiling and the strips 1 may be spaced at any desired intervals. The two opposite sides of the nails are flat and are thus well adapted for this purpose. The heads of the nails are shown of two different forms for use at different points. At those points where the adjacent ends of sections of plaster board abut each other, except for the plaster joint, there may be employed a nail with its head extending at right angles and to one side only, as illustrated by reference numeral 5. These nails may be inserted so as to have their heads extend in opposite directions, as illustrated in Fig. 1. In this way, the edges of the adjacent sections of plaster board will be secured in position. At other points, there may be employed round-headed nails, as indicated by reference numeral 6, which are driven through the board and into the seam of the double web portion 2. The vertical joints between the sections of panel board may be staggered, if so desired.

Practically the same structure and arrangement of parts may be employed at the corners, as illustrated in Fig. 2, the only difference being that the flange portions of the T-shaped members extend at right angles to each other so as to fit the corners. The strips 1 are interlocked in the same manner and the nails are secured in engagement in the same manner in the seam of the double web portions 2.

Fig. 3 shows a modified form in which the T-shaped member has its inner end portion bent at substantially right angles to the main portion of the web, the slot in the strip 1 being formed accordingly. It will be noted that the point end of the nail will engage a curved corner so as to assist in the bending of the nail as it is driven into position. It is to be understood that other modified forms may be adopted without departing from the spirit of the present invention.

Fig. 4 shows a modified form of studding in which two channel members are spot welded together at the middle point thereof. Both of these channel members have corresponding ribs and grooves rolled therein, as indicated at 7 and 8, respectively, for the same purpose as above specified, namely, to lock the nails in place. The channel members, in this form, are slightly spaced by means of the off-set portion 9 which is welded to the plain portion of the other member, the purpose being to facilitate the insertion of the nails without danger of opening up the joint between the channel members. These members are welded at the point of the off-set portion 9. The outer end portions of the channel members are adapted to receive the plaster board in the same manner as above explained.

If so desired, the web portions of the T members may be spot welded at suitable intervals.

The same form of T-shaped member, as illustrated in Figs. 2 and 3, may be employed also upon the ceiling of the room for application of plaster board thereto. The T-shaped members are extended across the ceiling at suitable intervals and as a means of affording a proper bearing engagement of the T-shaped members against the joists of the ceiling, I have provided the cleats 10 which are adapted for transverse interlocking engagement with the deformed web portion of the T-shaped members, at suitable intervals, (Figs. 6 and 7), the idea being to prevent rocking of the T-shaped members, and to thereby afford a more substantial engagement of the T-shaped members in position against the joists of the ceiling. These cleats 10 are provided with oppositely extending flanges 11 which engage the joists. The T members and the cleats are secured together in position against the joists by means of wiring the same thereto. The wire is wrapped at least twice about the cleats and the T members so as to hold the parts together. In this way, the T members are firmly held in position against the ceiling and the plaster board may be applied thereto in the same manner as already described.

As a means of bracing the oppositely arranged sections of plaster board in a partition wall, I have provided the skeleton form of device 12 which extends between the

sections of board. The edge portions 12ª of such brace means are in bent form and receive the edges of the adjacent upper and lower sections. The space of one-fourth inch or so between the bent portions 12ª is filled with a plaster joint which extends throughout the whole extent of the partition. These section joints are in staggered arrangement, as indicated in the drawing, and the brace means are arranged accordingly.

Thus, I have devised an improved metal studding which is not only secure but which may be varied in its extent according to thickness of the partition wall desired and which may be considered as being standardized in view of the possibility of providing a stock supply of the T members for use with any desired length of strip 1. Furthermore, the deformed web portions 2 serve the double function of connecting the strips thereto and also producing an interlocking engagement for the point ends of the nails. With my improved studding, which permits staggered arrangement of the plaster board joints, both vertically and horizontally, felt can be used without the familiar danger of vibration being transmitted or magnified by the felt, as is true when the joints are in alignment or registry. Furthermore, the nails can be driven through the felt with increased facility.

Certain other advantages result from the modifications here disclosed. This structure is quite simple and is comparatively inexpensive when due consideration is given to the high degree of security which it affords.

What I claim is:

1. Metal studding comprising angle irons having substantially T portions and each having double web portions and flanges oppositely extending therefrom, said web portions each having an irregular form and being adapted to cause a nail to assume the form corresponding thereto, upon being inserted between the web portions, thereby constituting a means of securely anchoring the nails against accidental removal, and separate joining means extending between said angle irons and having interlocking engagement with said irregularly formed portions.

2. Metal studding comprising angle irons of substantially T form, each of said angle irons having a web portion and flanges oppositely extending therefrom, said web portions having irregular conformations, and means extending between and having interlocking engagement with said irregular conformations.

3. Metal studding comprising angle irons of substantially T form, each of said angle irons having a web portion and flanges oppositely extending therefrom, said web portions having irregular conformations, and separate means extending between and having interlocking engagement with said irregular conformations.

4. A metallic studding comprising integral outer, inner and intermediate portions, said outer portion being adapted to serve as a bearing surface for plaster board or the like, said intermediate portion being open continuously therealong adapted to receive a nail at any point for securing the plaster board thereto, and said inner portion being of a bent form of substantially ninety degrees so as to bend the end portion of the nail for securing the same in position.

5. A metallic studding comprising outer flanges for supporting the plaster board or the like, intermediate leg portions which are continuations of said outer portions and which are in open spaced relation continuously there along so as to receive a nail at any point and a closed inner portion which is a continuation of said leg portions and which is of bent form of substantially ninety degrees so as to receive and bend the end portion of the nail and thereby secure the same in position.

6. A metallic studding of substantially T-form and comprising outer flanges for supporting plaster board or the like, spaced parallel intermediate portions for receiving the nail, and an inner portion of bent form of substantially ninety degrees and being adapted to bend the end portion of the nail so as to secure the same in position, and means for reinforcing said inner bent portion so as to facilitate the bending of the nail.

7. A metallic studding comprising integral outer, inner and intermediate portions, said outer portion being adapted to serve as a bearing surface for plaster board or the like, said intermediate portion being straight and open continuously therealong and adapted to receive a nail at any point for securing the plaster board thereto, and said inner portion alone being of a bent form so as to bend only the end portion of the nail for securing the same in position.

8. The combination of a metallic studding having integral outer, inner and intermediate portions, and a nail having a substantially flat, tapered end portion and a middle body portion of normal cross section throughout, said outer portion of the studding being adapted to support the plaster board or the like, said intermediate portion being open continuously therealong and adapted to receive and hold the middle body portion of the nail, at any point therealong, and said inner bent portion being adapted to bend the end portion of the nail so as to secure the same in position.

9. The combination of a metallic studding having integral outer, inner and intermediate portions, and a nail having a substantially flat, tapered end portion, said outer portion of the studding being adapted to support the

plaster board or the like, said intermediate portion open continuously therealong and being adapted to receive the shank of the nail at any point, and said inner bent portion having a curved corner in the path of the nail as it is being driven, said curved corner being adapted to facilitate the bending of the end portion of the nail.

10. A metallic studding comprising integral outer, inner and intermediate portions, said outer portion being adapted to serve as a bearing surface for plaster board or the like, said intermediate portion being open continuously therealong and adapted to receive a nail at any point for securing the plaster board thereto, and said inner portion being of a bent form of at least ninety degres so as to bend the end portion of the nail for securing the same in position.

11. A metallic studding comprising integral outer, inner and intermediate portions, said outer portion being adapted to serve as a bearing surface for plaster board or the like, said intermediate portion being of substantially the same cross section as that of the corresponding portion of the nail and being open continuously therealong and adapted to receive and guide and hold the same at any point for securing plaster board or the like to the studding, said inner portion being of a bent closed form adapted to bend the end portion of the nail at substantially ninety degrees so as to secure the same in position.

12. Metal studding comprising a one-piece substantially T-form member having inwardly extending portions which are closed at their inner end and deformed only at said closed inner end, and continuously open at their outer end and adapted to receive a nail at any point therealong and to cause the inner end of the same to assume a form corresponding thereto, thereby constituting a means of securely anchoring the nail against accidental removal, and flanges extending in opposite directions from said portions as serve as a bearing against which the plaster board or the like is placed.

In testimony whereof, I hereby affix my signature.

THOMAS D. PRIDDY.