Nov. 11, 1969 A. A. FRUMAN 3,477,187

WALLBOARD MOUNTING CHANNEL

Filed Jan. 19, 1968

FIG. 1

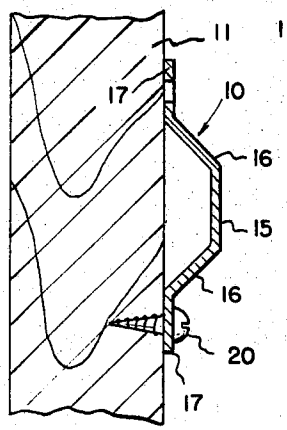


FIG. 2

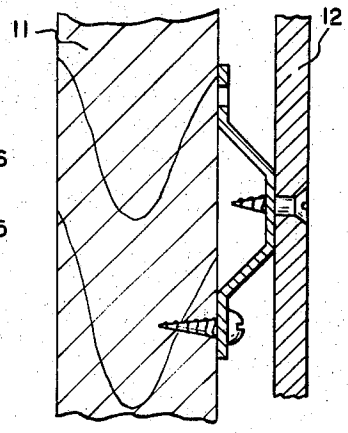
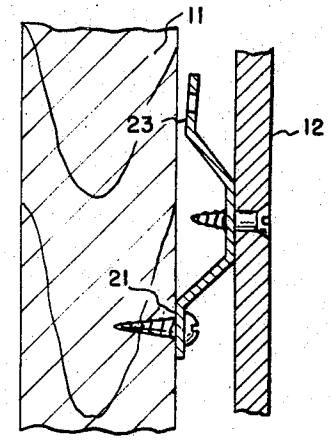


FIG. 3



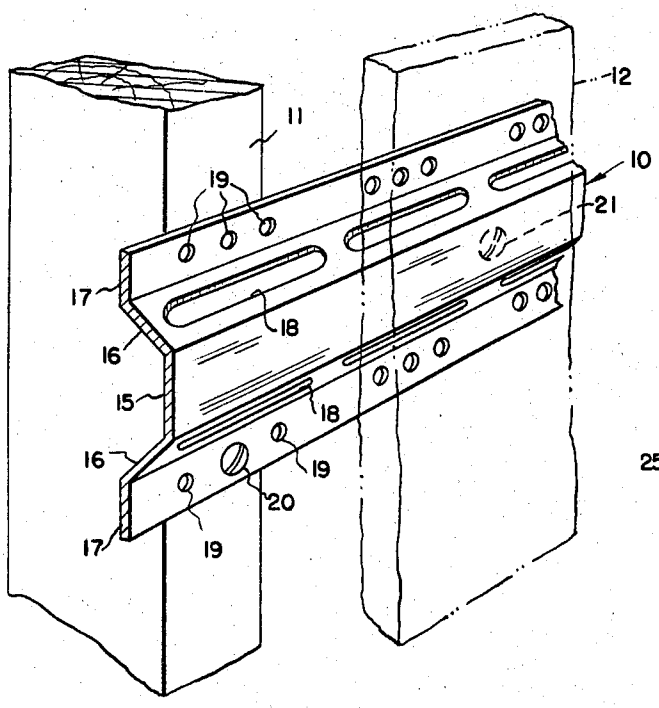
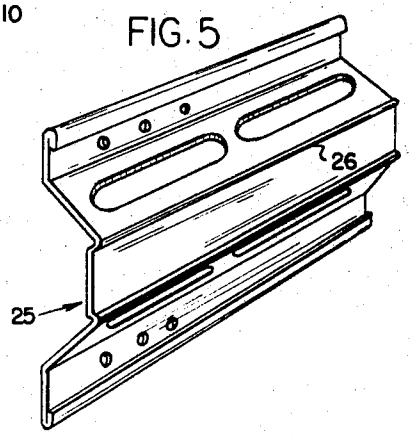


FIG. 4

FIG. 5



INVENTOR

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WALLBOARD MOUNTING CHANNEL

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U.S. Cl. 52—346 1 Claim

ABSTRACT OF THE DISCLOSURE

A wallboard mounting channel comprising an elongated strip of sheet metal bent in cross-section into a central section with obtusely extending edge sections of equal length and shape whose edges are bent into coplanar equal size flanges, with the pairs of flanges and edge sections thus being symmetrical about the central section. The channel is horizontally arranged upon a wall forming structure, such as conventional studs, to span a number of studs, and its lower edge is secured to the studs. The wallboard is secured to the central section. The sheet metal forming the channel is relatively soft and non-resilient, such as a soft, annealed steel. The weight of the wallboard, applied to the channel through screw fasteners bends the channel, particularly at the juncture between the lower flanges and its edge section, to thereby slightly space the upper flange away from the studs, after assembly, thereby providing a break in the sound transmission path between the channel and the studs.

BACKGROUND OF INVENTION

In constructing walls in buildings out of dry panels, such as wallboards formed of gypsum boards, plywood, composition board, lath board, and the like, it is conventional to provide horizontal furring strips upon the supporting wall structure which generally is made of vertical spaced apart studs, and then to fasten to the furring strips the particular wallboard used. In order to reduce sound transmission through the walls so constructed, it is also conventional to either use a furring strip made of a springy metal material, such as that shown in U.S. Patent No. 3,090,164 to Nelsson, granted May 21, 1963, or alternatively to use a wood or metal furring strip which is attached to the supporting structure by means of springy clips or the like. These constructions provide a resilient type of mounting which tends to absorb sound vibrations and thereby reduce sound transmission.

Since it is customary to mount the wallboards to the furring strips by means of self-tapping screws aplied with a power screw driver or the like, conventional furring strips present a problem in that they tend to bow away from the screw as it is applied, thereby making it necessary to hold the furring strip as rigidly as possible against this supporting structure to reduce the bowing and permit proper fastening thereof.

In the case of the aforementioned patent, the device shown therein usually requires applying the screws in the area of the studs in order to hold the furring strip against bowing with the strip then springing out after the screws are applied away from the supporting stud.

In addition, conventional furring strips of this character, require more care in mounting and more labor because they are normally made to be mounted with a particular side up.

SUMMARY OF INVENTION

It is an object of this invention to provide a furring strip which will tend to reduce sound transmission between the wallboard and the supporting structure, such as stud support, but wherein the furring channel is made of thin sheet metal which is relatively non-resilient and non-springy and wherein it has a symmetrical or uniform cross-section so that either side may be up and so that it provides sufficient rigidity to provide screws between the studs, without bowing of the strip, and wherein the channel tends to bend slightly under the weight of the applied wallboard to thereby provide a break in the sound transmission path between the channel and the supporting studs.

A further object of this invention is to form a channel shaped furring strip, symmetrical in cross-section, with opposed flanges for mounting against the supporting stud structure and a central section joined thereto by sloping edge portions, with the wallboard to be mounted by screws against the central section and wherein the channel is formed of a relatively dead or non-resilient soft metal material, which resists bowing, between the supporting studs, during the application of screws for mounting the wallboard thereon.

These and further objects and advantages will become apparent upon reading the following description of which the attached drawings form a part.

DESCRIPTION OF DRAWINGS

FIG. 1 is an elevational view showing the channel initially secured to supporting studs.

FIG. 2 is a view similar to FIG. 1, showing, in cross-section, a wallboard fastened to the channel.

FIG. 3 is a view similar to FIG. 2, but showing, in exaggerated fashion, the slight bending of the channel due to the weight of the wallboard.

FIG. 4 is a fragmentary, perspective view, showing the channel secured to a stud and wallboard, shown in dotted lines, secured to the channel.

FIG. 5 shows a slightly modified form a channel.

DETAILED DESCRIPTION

The channel of this invention, generally designated as **10**, is adapted to be fastened to a wall supporting structure, such as vertically arranged, horizontally spaced apart wood studs **11** for thereby fastening a conventional wallboard **12** to the supporting structure. As mentioned, the wallboard may be of any of the conventional types, such as gypsum board, plywood, composition board, etc., the board being characterized by being relatively large in size, spanning a number of normally spaced apart studs which are conventionally spaced apart approximately 16 inches or at times 24 inches.

The channel **10** is formed out of sheet metal which is relatively soft and non-resilient, such as soft annealed steel, and it is of a length so as to span a number of studs when arranged horizontally.

In cross-section, the channel is symmetrically bent into a central section **15**, edge sections **16** which extend obtusely from the central section, and which terminate in outwardly bent coplanar flange sections **17**.

A number of slots or openings **18** are formed in the edge sections in order to reduce the amount of mateerial therein and nail or screw holes **19** are formed in both of the flanges sections **17** to receive fasteners.

The method of applying the channels is as follows:

First, as shown in FIG. 1, the channels are rested against the studs, thereby being arranged horizontally, and screws or nails **20** are applied through the holes **19** in the lower flanges section to thereby fasten the channel to the studs.

Next, as shown in FIG. 2, the wallboard is applied against the center section and with both flanges **17** firmly pressed against the studs **11**, screws are applied through the wallboard and through the central section **15**. These screws **21** may be of the so-called self tapping type which are applied with power screwdrivers so that no holes need be predrilled in the central section to receive them. Pref-

erably, the screws **21** are applied in the space between the studs. The configuration of the channel maintains the channel straight and unbowed despite the pressure of the application of the screws.

Next, as shown in FIG. 3, after the wallboard is applied, the channels being made of relatively soft, non-resilient metal, tend to sag under the weight of the wallboards and particularly tend to bend slightly at the juncture **21** between the lower flange and its edge section so that the upper flange tends to be gapped or spaced from the studs a slight amount, such as a few thousandths of an inch. FIG. 3 shows this space **23**, greatly exaggerated, for illustrative purposes. This slight space or gap thus interferes with the path of transmission of sound waves between the channel and the studs and thereby to some extent reduces sound transmission.

As can be seen, the furring channel herein may be fastened to the understructure through both flanges, where desired and in addition, either of the two flanges may be put into the up position since they are symmetrical and of the same size and shape.

FIG. 5 shows a modification which is, for all practical purposes, identical to that shown in the foregoing figures. This channel generally designated as **25** is modified to the extent of having low edge beads **26** bent along the side edges of the central section **15** and flange edge beads **27** bent along the edges to thereby give a better appearance and reduce sharp edges for handling purposes. Otherwise, its construction and operation is identical to the aforementioned construction.

Having fully described an operative embodiment of this invention, I now claim:

1. A wall including a primary support structure; elongated horizontally extending channels fastened thereto; and a wallboard secured to the channels;

each of said channels being of thin sheet metal and including a flat central part spaced from the structure and in face contact with the wallboard;

each of the long edges of the central part having an integral edge part extending towards the structure at an obtuse angle relative to the central part; and the edge parts having integral, oppositely extending flanges initially located in the same plane;

the edge parts each being of the same size and shape and the flanges each being of the same size and shape, and each pair of edge parts and flanges being symmetrical relative to the central part;

the channel lower flange only being secured to the structure by mechanical fastening means, the upper flange being free of securement to the structure, and the wallboard being mechanically fastened to the central part of each of the channels, with the channels each being deflected at the junctures of their lower flanges and their lower edge part by the wallboard, and with the upper flanges of the channels thereby each being slightly spaced from the structure;

whereby each of the channels may be initially positioned upon the structure with their flanges in face to face contact with the structure for securing only their lower flanges thereto, and the weight of the wallboard, after securement to the channels, causes the deflection and the resultant spacing of the upper flanges from the structure.

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U.S. Cl. X.R.

52—720