

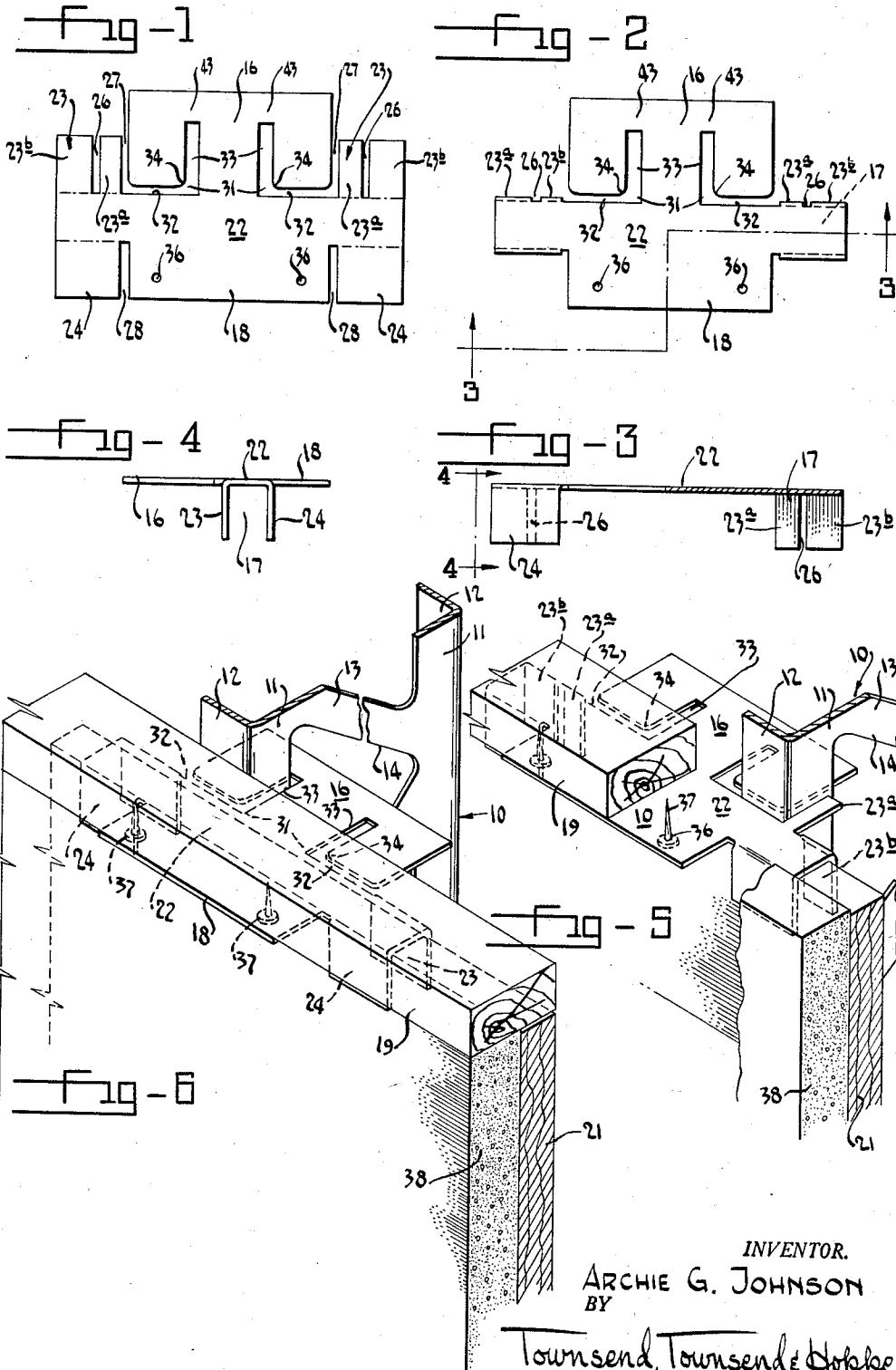
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SUPPORT FOR WALLBOARD

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2 Sheets-Sheet 1



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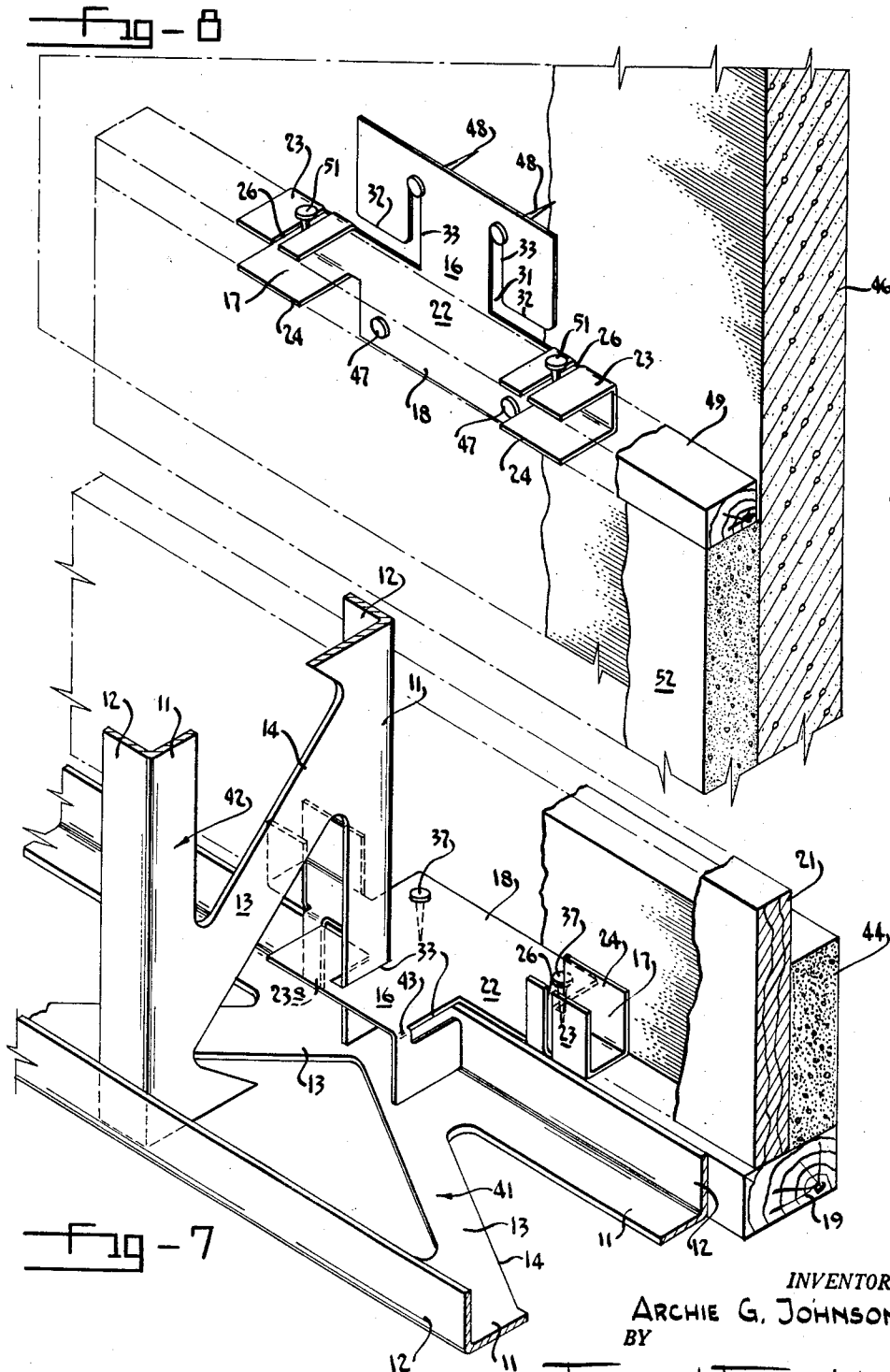
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SUPPORT FOR WALLBOARD

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3 Claims. (Cl. 72-46)

This invention relates to a new and improved support for wallboard and the like. More particularly the invention relates to a convenient, inexpensive and versatile device for use in building construction to support wallboard and similar sheet material and further to attach the "ground" used by plasterers to other portions of a building structure.

The primary use for the present device is in attaching wall board and plasterers' grounds to the metal studs used in modern building construction. Such metal studs comprise vertical, metallic, shallow channels having apertured webs which replace wooden studs heretofore used. One of the difficulties in the use of most types of metal studs is the fact that nails do not penetrate the same. Accordingly, heretofore, the attachment of wallboard and grounds to metal studs has been a time-consuming and difficult operation requiring the use of wire and various other expedients. The present invention eliminates most of the labor and, further, the use of wire inasmuch as it provides a device which is attached to the stud and to which the wallboard and ground may be attached.

Another use for the invention is in tying horizontal and vertical metal studs together to prevent movement of the one relative to the other and at the same time to provide means for attaching the wallboard and the ground to the building structure. One common method of installing metal studs in buildings employs a horizontal metal stud at the foot of the wall along the floor and a similar stud along the ceiling. The vertical studs are then positioned perpendicular to the horizontal studs and suitably secured thereby by "shoes." The present invention provides a convenient means for securing the horizontal to the vertical members thereby eliminating the use of shoes. In addition, the device which is the subject of this invention simultaneously provides means for attachment of the wallboard and the plasterers' ground.

Still another use for the device is in attaching a ground to a wall, such as a concrete wall.

The versatility of the device is one of its primary characteristics inasmuch as it has features of construction making it possible to use the device in many different locations in a building structure. Several of these uses are hereinafter illustrated or described in detail.

It will be understood that the supports hereinafter illustrated and described can be made in various dimensions so as to accommodate metal studs of different flange dimensions. Accordingly, the supports can be stocked by building supply dealers in various sizes and dimensions to fit the particular job requirements.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings in which similar characters of reference represent corresponding parts in each of the several views.

In the drawings:

Fig. 1 is a plan of the blank from which the device is formed.

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Fig. 2 is a plan showing the device bent into position of use.

Fig. 3 is a side elevation thereof partially in section as taken substantially along line 3-3 of Fig. 2.

Fig. 4 is an end elevation of the device.

Fig. 5 is a fragmentary perspective view partially broken away in section showing one principal use of the device in connecting wallboard and a plasterers' ground to a metallic stud.

Fig. 6 is a fragmentary perspective view partially broken away in section showing a similar principal use for the device.

Fig. 7 is a fragmentary perspective view partially broken away in section showing the device used to tie a horizontal and vertical stud together and also to support wallboard and a plasterers' ground.

Fig. 8 is a fragmentary perspective view partially broken away in section showing still a third use for the device in attaching a plasterers' ground to a concrete wall.

It will be understood, with reference to Fig. 6, that metal studs 10 with which this invention is particularly adapted to be used, comprise integral, shallow channels having extended, imperforate longitudinal portions 11 along each edge of the broadest surface of the stud with narrow side flanges 12 adjoining the longitudinal portions 11 disposed perpendicular to the broad surface. The longitudinal portions are interconnected by an apertured web formed of diagonal members 13 having a plurality of large, triangular apertures 14. The exact dimensions of the elements of the studs vary in accordance with the designs of the various manufacturers thereof.

The device which is the subject of this invention is made of a flat blank of sheet metal such as galvanized iron. As illustrated in Figs. 2 to 4, inclusive, a simple folding operation, which bends four wing portions of the blank at right angles to the main portion completes the fabrication of the item. In its completed form, the device comprises a back portion 16, a channel portion 17 and a front portion 18. The function of the back portion 16 is to hook around a part of a longitudinal portion 11 of a metal stud; the function of the front portion 18 is for attachment of a plasterers' ground 19 and the function of the channel portion 17 is to receive and support one edge of a sheet of wallboard 21 or the like.

The completed device is stamped from a rectangular piece of sheet metal (such as galvanized iron) in the configuration shown in Fig. 1, wherein is provided extending longitudinally from end to end, substantially centrally of the blank, a central portion 22 approximately three-eighths inch in width which ultimately becomes the base of the channel portion 17. It will be understood that the width of this central portion 22 may be altered depending upon the thickness of the wall board 21 with which the device is intended to be used, although a width of three-eighths inch is standard. The sides of the channel 17 are defined by bending at right angles four outwardly extending wings 23-24, two on each side of each end of the central portion 22. The two rearward wings 23 are bifurcated by means of inwardly extending slits 26. Thus, there are formed on each wing 23 an inner tang 23a and an outer tang 23b divided by slits 26. The rearward wings 23 are separated from the contiguous back portion 16 by means of additional inwardly extending slits 27. Slits 28 separate the front wings 24 from the contiguous front portion 18.

The back portion 16 is formed with a pair of L-shaped slits 31 each having a longitudinally inwardly extending arm 32 and a transversely outwardly arm 33 and dimensioned to hook onto the metal studs 10 as hereinafter set forth. Two such L-shaped slits 31, which are complementary in shape, are formed in the back portion so as to enable the right or the left-hand side of the

device to be hooked onto the stud, depending on the direction assumed by the flanges 12 of the particular stud. For purpose of attachment, the inward, longitudinal arm 32 of the slit is at least as long as the width of flange 12 of the stud 10 and the width of arm 32 is equal to the thickness of flange 12. The transversely outwardly extending arm 33 of slit 31 is at least as long as the width of the longitudinal portion 11 adjacent the flange and of a width at least equal to the thickness of said longitudinal portion 11. The corner 34 at the juncture of the longitudinal and transverse slits is rounded.

The front portion 18 of the device is substantially rectangular and formed with two holes 36 through which nails 37 may pass in order to tack a ground 19 to the device.

Fig. 5 illustrates a principal use of the device. A vertical metal stud 10, which is part of the wall structure of a building, is used to support wallboard 21, plasterers' ground 19 and plaster 38. Flange 12 of the stud 10 is inserted in one of the slots 32 and the other flange 11 of the slot lies against the side of the rear portion 16. In order to lock the device in place on the stud, the adjacent tang 23a is bent upwardly at right angles from the position shown in Figs. 2-4, inclusive, to assume its original position as shown in the blank of Fig. 1. This bending of the tang 23a prevents movement of the support relative to the stud 10. It will be understood that whereas the channel 17 is shown facing downwardly in Fig. 5, nevertheless the channel could be positioned facing upwardly if required merely by reversing the position of the support. As shown in Fig. 5, the upper edge of a sheet of wallboard, "buttonboard," plywood or other sheeting 21 is installed in the throat of the channel 17, the upper edge of the sheet resting securely against the base of the channel. A plasterers' ground 19 of proper width is nailed in position on top of the front portion 18 by means of nails 37 passing upwardly through holes 36. The plasterer then applies plaster 38 flush with the ground 19. Subsequently, molding (not shown) or the like may be nailed to the ground 19.

A further principal use of the device is illustrated in Fig. 6. The device is hooked onto vertical stud 10 by hooking one flange 12 and the adjacent longitudinal portion 11 of the stud into one of the L-shaped slits 31. By proper manipulation the device may be twisted onto the stud in the position shown in Fig. 6 without permanent deformation of the device. The twisting movement requires a minimum of skill and practice and the thin, flexible nature of the device facilitates installation. The particular slit 31 selected depends upon the direction in which the flange 12 is directed. In other words, the device may be used either right-hand or left-hand, depending upon the direction in which flanges of the stud extend. It will further be understood that although the channel faces downwardly as illustrated in Fig. 6 (to engage the top edge of a sheet of wallboard 21), the device may be inverted so that the channel faces upwardly (in which event the opposite slit would be employed). The edge of a sheet of wallboard, "buttonboard," plywood or other sheeting 21 is installed in the throat of the channel 17 of the support, the upper edge of the sheet resting securely against the base of the channel. A ground 19 of proper width may be nailed in proper position at a predetermined distance from the face of the wallboard 21 in the position shown by means of nails 37 which pass through holes 36 in the front portion of the device. The plasterer then applies plaster 38 flush with the ground. Molding, etc. (not shown), may subsequently be nailed to the ground.

In Fig. 7 another use of the device is shown. In this figure, a horizontal metal stud member or runner channel 41 having its in-turned flanges 12 extending upwardly, extends along the floor at the base of a wall. It will be understood that the horizontal member 41 might also be used at the ceiling at the top of a wall. A plurality

of vertical studs 42 are attached to the horizontal stud member, a fragment of one such vertical stud 42 being shown in Fig. 6. The shape of the studs 41 and 42 is substantially identical. Heretofore various types of shoes have been employed to tie the two studs together. However, the present device may be employed as a substitute for this purpose. For such use, the longitudinal portion 11 of the vertical stud 42 is inserted in one of the L-shaped slits 31 of the support, the slit selected depending upon the direction in which flange 12 is disposed. It will be noted that at areas 43 shown in Fig. 1 the support is very thin and narrow which makes it easily bendable. Accordingly, one rear wing 23 is bent downwardly along the weakened area 43. The bent-down wing 23 fits behind flange 12 of horizontal stud 41 thereby securing the support in place even though the length of arm 33 of slit 31 may be greater than the width of longitudinal portion 11. Tang 23a fits behind flange 12 to assist in locking the support in position.

Wallboard 21 is inserted in the throat of the channel 17 and ground 19 is nailed to the support by nails 37 passing through holes 36 in the front portion. Plaster 44 is then applied flush with the outer face of the ground 19 and against the wallboard 21 to complete the plastering of the room.

Fig. 8 illustrates a somewhat different use of the device in order to locate a ground against a wall 46. A vertical concrete wall is shown. The support is nailed to the wall by four cement nails; two nails 47 pass through holes 36 and two nails 48 pass through the ends of arms 33 of slits 31, thereby securely holding the support against the wall. A narrow ground 49 which is of restricted width equal to the width of channel 17 is placed within the channel and held in place by nails 51 which pass through the slits 26 in the rear wings 23 of the channel. Plaster 52 is then plastered on the wall flush with the ground 49.

Various other uses of the support will occur to one skilled in the building-construction art, it being understood that its primary function is to connect to metal studs 10, 41 and 42 of the type heretofore described. Inasmuch as such studs vary in the dimensions of their longitudinal portions, the dimensions of the slits 31 must likewise be varied. In addition, inasmuch as the thickness of wallboard 21 is likewise subject to some variation, the width of the channel 17 may likewise be varied by varying central portion 22. The position of holes 36 can also be varied depending upon the desired distance of the ground 19 from the stud. It is contemplated that standard supports suitable for a variety of different makes of studs may be sold as stock items.

Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be practiced within the spirit of the invention and scope of the appended claims.

I claim:

1. In a building structure the combination including a stud having an apertured web and a flange along one edge of said web disposed normal thereto, a runner channel formed similar to said stud and positioned perpendicular to and receiving said stud within the defined channel with the web of said stud disposed transversely of said runner channel, a sheet of wall board, a plasterer's ground and a clip support adapted to connect a plurality of the foregoing; said clip support including a channel portion having a base and a pair of parallel, spaced wings at either end of the channel portion extending normal to said base and adapted to receive an edge of said wall board therebetween, an integral, flat back portion formed with a first slit extending parallel to said channel from one of the outer side edges of said back portion for a distance at least as great as the width of the flange of said stud, and a second slit comprising a

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continuation of said first slit and disposed at right angles thereto and extending away from said channel portion a distance at least as great as the distance from the flange to an aperture in the web of said stud, a third slit similar to said first slit extending from the opposite side edge of said rear portion, the wings adjacent said first and third slits being bifurcated from their outer edges to each define a pair of tangs, one tang of each pair being bendable through an arc of 180 degrees, and an integral flat front portion coplanar with the base of said channel portion and on the opposite side of said channel from said back portion; said wall board being received in the channel portion of said clip support and extending normal from the base thereof; said ground juxtaposed the exterior surface of the base of said channel portion and said front portion, and means securing said ground thereto; said clip connecting said wall board and ground to said stud with the flange of the stud disposed within said third slit and the web of said stud disposed between the side edge of said rear portion from which said third slit extends and a tang of the adjacent wing bent outwardly at substantially 90 degrees to the adjacent tang.

2. In a building structure the combination including a stud having an apertured web and a flange along one edge of said web disposed normal thereto, a runner channel formed similar to said stud and positioned perpendicular to and receiving said stud within the defined channel with the web of said stud disposed transversely of said runner channel, a sheet of wall board, a plasterer's ground and a clip support adapted to connect a plurality of the foregoing; said clip support including a channel portion having a base and a pair of parallel, spaced wings at either end of the channel portion extending normal to said base and adapted to receive an edge of said wall board therebetween, an integral, flat back portion formed with a first slit extending parallel to said channel from one of the outer side edges of said back portion for a distance at least as great as the width of the flange of said stud, and a second slit comprising a continuation of said first slit and disposed at right angles thereto and extending away from said channel portion a distance at least as great as the distance from the flange to an aperture in the web of said stud, a third slit similar to said first slit extending from the opposite side edge of said rear portion, the wings adjacent said first and third slits being bifurcated from their outer edges to each define a pair of tangs, one tang of each pair being bendable through an arc of 180 degrees, and an integral flat front portion coplanar with the base of said channel portion and on the opposite side of said channel from said back portion; said wall board being received in the channel portion of said clip support and extending normal from the base thereof; said ground juxtaposed the exterior surface of the base of said channel portion and said front portion, and means securing said ground thereto; said clip connecting said wall board and ground to said stud with the portion of the web of said stud between the flange and aperture disposed within said second slit and the flange of said stud disposed within said first slit.

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3. In a building structure the combination including a stud having an apertured web and a flange along one edge of said web disposed normal thereto, a runner channel formed similar to said stud and positioned perpendicular to and receiving said stud within the defined channel with the web of said stud disposed transversely of said runner channel, a sheet of wall board, a plasterer's ground and a clip support adapted to connect a plurality of the foregoing; said clip support including a channel portion having a base and a pair of parallel, spaced wings at either end of the channel portion extending normal to said base and adapted to receive an edge of said wall board therebetween, an integral, flat back portion formed with a first slit extending parallel to said channel from one of the outer side edges of said back portion for a distance at least as great as the width of the flange of said stud, and a second slit comprising a continuation of said first slit and disposed at right angles thereto and extending away from said channel portion a distance at least as great as the distance from the flange to an aperture in the web of said stud, a third slit similar to said first slit extending from the opposite side edge of said rear portion, the wings adjacent said first and third slits being bifurcated from their outer edges to each define a pair of tangs, one tang of each pair being bendable through an arc of 180 degrees, and an integral flat front portion coplanar with the base of said channel portion and on the opposite side of said channel from said back portion; said wall board being received in the channel portion of said clip support and extending normal from the base thereof; said ground juxtaposed the exterior surface of the base of said channel portion and said front portion, and means securing said ground thereto; said clip connecting said wall board, stud and channel runner with the portion of the web of said stud between the flange and aperture disposed within said second slit and the flange of said stud disposed within said first slit and adjacent channel runner, said back portion being bent at substantially 90 degrees along a line extending from the inner end of said third slit to the rear edge of said back portion to engage a flange of said channel runner, and a tang adjacent said first slit being bent through substantially 180 degrees to engage the flange of said channel runner.

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