

Dec. 2, 1958

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REINFORCEMENT STRIP FOR REINFORCING THE
CORNERS OF DRY WALLS AND THE LIKE
Filed April 7, 1954

2,862,264

FIG. 1.

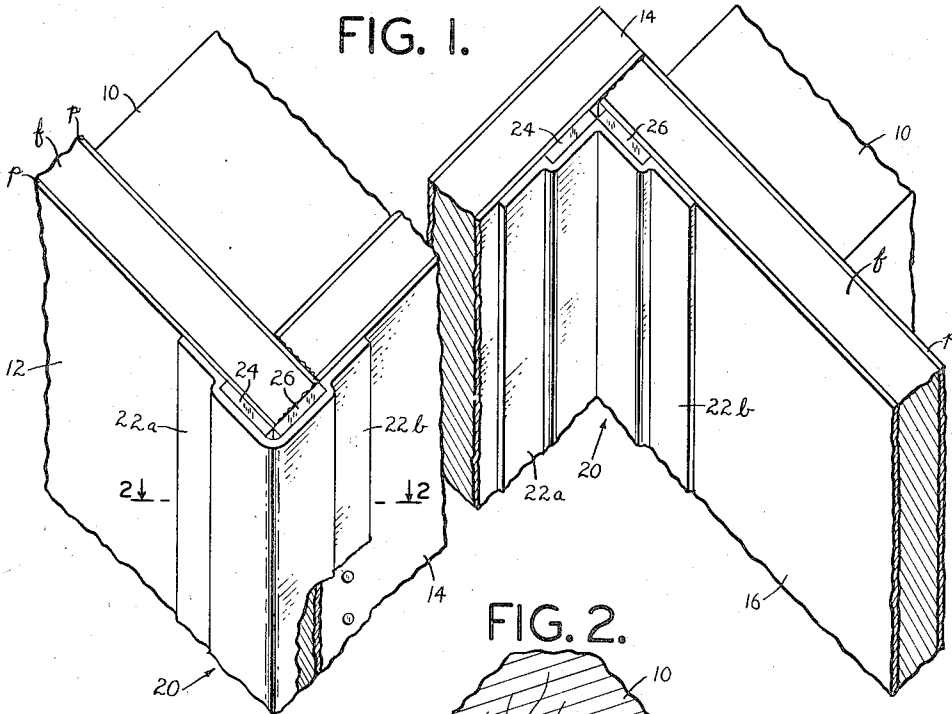


FIG. 2.

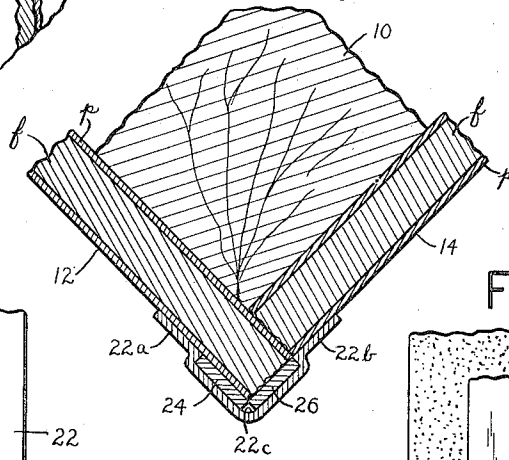


FIG. 3.

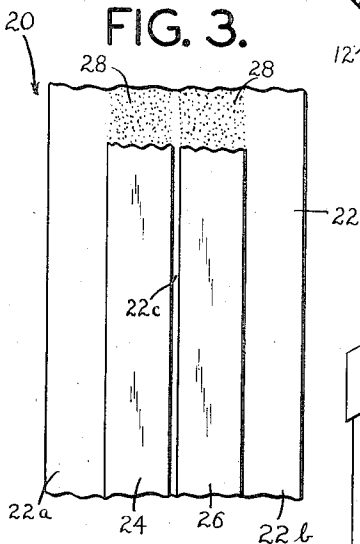


FIG. 4.

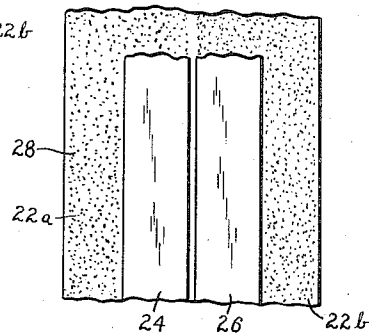
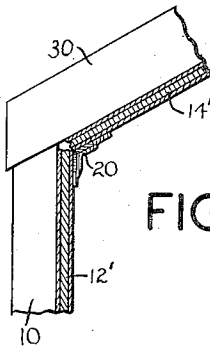


FIG. 5.



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REINFORCEMENT STRIP FOR REINFORCING THE CORNERS OF DRY WALLS AND THE LIKE

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Application April 7, 1954, Serial No. 421,519

5 Claims. (Cl. 20—74)

This invention relates to a reinforcement strip for reinforcing the corners of walls made of plaster board and other forms of dry wall-board and the like.

In modern home construction, much use is made of dry walls, that is, walls which are made of plaster board, composition board and other kinds of dry prefabricated boards which are simply nailed to studs and other structural parts to form walls and partitions. These dry wall-boards do not possess adequate structural strength, especially where they are joined at right angles to form corners. The problem of adequate strength at inside corners is not serious but it is serious in connection with outside corners. When furniture and other articles are moved from one room to another, they are sometimes brought into contact with exposed outside wall corners and cause the same to chip, crack or become dented or otherwise damaged.

In addition to the problem of inadequate structural strength, is the problem of concealing the joints between wall boards where they are normally formed at the outside and inside corners above mentioned. The boards meet at right angles and one generally overlaps the other. Consequently, the edge of one board is exposed while the edge of the other board is concealed and a space between the respective edges of the two boards is formed. It is essential that the exposed edge of the one board and the crack or space between the two boards be concealed. Sometimes the edges of some of these boards are damaged in shipment or while they are applied to the wall studs and it becomes equally necessary to cover and conceal the damaged portions. Furthermore, it is not always the case that the edges of the wall-boards which form corners are accurately aligned and consequently geometrically precise corners do not always result.

It is the object of this invention to provide a reinforcing strip for inside and outside corners of wall and partition constructions to reinforce said corners and to protect them against damage or injury, to form a structurally strong joinder for the wall-boards which meet to form said corners, to cover and conceal damage and imperfections in the edges of said wall-boards, and to insure the formation of a geometrically precise corner irrespective of whether or not the wall-boards are accurately aligned in the corner areas.

More specifically, the reinforcing strip which is herein described and claimed comprises the following component parts: A carrier strip which may be made of strong flexible sheet material such as kraft paper or textile fabric, a pair of metal strips or bands disposed flat against said carrier strip, longitudinally thereof and in parallel, spaced relation to each other, adhesive means for securing said metal strips to said carrier strip, and adhesive means for securing said carrier strip and said metal strips to the wall-boards. The carrier strip may be folded longitudinally of itself, between the two metal strips, thereby forming a pair of integrally connected flaps which are joined to each other at any desired angle, say 90 degrees, each flap bearing a metal strip and the two metal strips

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being thereby disposed in the same angular relationship as the two flaps which support them. The fold is placed against the corner of the wall and the two flaps with their metal strips are secured to the wall-boards which meet to form said corner. Consequently, the edges of both wall-boards are adequately protected by the metal strips against damage or injury and the joinder of the metal strips not only forms a sharp, geometrically perfect corner, but they also cover and conceal whatever imperfections there may happen to be in the edges of the wall-boards themselves.

The reinforcing strip thus described is sufficiently flexible to adjust or compensate for structural conditions which are normally encountered in dry wall construction in consequence of shrinkage or warping of the structural parts of the wall, uneven settling, contraction of the several parts in cold weather, swelling in damp weather and expanding in hot weather. The materials above described out of which the reinforcing strip may be made are purely illustrative of the various materials which may be used in connection with this invention.

The reinforcing strip herein claimed may be applied not only to the vertical corners, both inner and outer, which are formed between vertical walls, but also to the horizontal corners or angles which are formed between vertical walls and horizontal or pitched ceilings, such as are encountered in attic rooms, dormers and the like.

It should also be understood that the reinforcing strip herein claimed is adapted not only to reinforce these several corners but also to straighten and align them. These corners and angles are frequently irregular and distorted for many reasons. For example, the wall boards or other materials of which the walls and ceilings are made may have irregular or chipped or distorted edges. Also, the studs and plates to which they are affixed may also be out of line or otherwise improperly installed. Consequently, the corners which are formed by joinder of such wall boards affixed to such studs are irregular and disaligned and the reinforcing strip herein claimed is adapted to correct and cure such defects.

The invention is illustrated in the accompanying drawing in which:

Fig. 1 is a fragmentary perspective view showing how the reinforcing strip herein claimed may be applied to both the outside and inside corners of a conventional dry wall construction.

Fig. 2 is a horizontal section therethrough showing the construction of the reinforcing strip and how it is secured to the wall.

Fig. 3 is a plan view of a reinforcing strip made in accordance with this invention.

Fig. 4 is a view, similar to that of Fig. 3, but showing the reinforcing strip provided with an adhesive coat adapted to secure it to the wall.

Fig. 5 is a sectional view showing the reinforcing strip herein claimed affixed to the horizontal corner between a vertical wall and a pitched ceiling.

Referring now to Figs. 1 and 2 it will be seen that a typical dry wall construction is presented, consisting of vertical wooden studs 10, a wall-board 12 secured to some of said studs, a second wall-board 14 also secured to some of said studs and a third wall-board 16 secured to some of said studs. The side edge of wall-board 12 shown in the drawing overlaps the corresponding edge of wall-board 14 to form an outside corner of right angular shape. The opposite edge of wall-board 14 overlaps the corresponding edge of wall-board 16 to form an inside corner therewith of right angular shape. It is, of course, entirely immaterial which wall-board edge overlaps and which is overlapped. In either case, a corner is formed which requires a reinforcing strip of the character herein described.

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It will be noted that wall-boards 12, 14 and 16 shown in the drawing are plaster boards consisting of two outer layers or laminations *p* of paper or the like and an inner filler or layer of plaster *f*. This, however, is purely illustrative since any kind of wall-board may be employed in connection with the present invention, such as cellulose composition wall-board or the like. It should also be understood that the reinforcing strip herein described and claimed may also be applied to "wet" walls which are made of plaster coated upon a suitable support, such as wool laths, slit and expanded sheet metal, and perforated plaster board, such as Rocklath.

It will be observed in Fig. 3 that reinforcing strip 20 made in accordance with this invention consists of a relatively wide supporting strip 22 and a pair of relatively narrow reinforcing strips 24 and 26 respectively which are secured to said carrier strip. Without limiting the invention to these dimensions or specifications, a suitable carrier strip 22 would be approximately two inches wide and as long as desired, for example, corresponding in length to conventional ceiling height, say, eight to ten feet. The carrier strip 22 would be made of strong, flexible sheet material, such as a heavy grade of kraft paper or a textile fabric in the form of a two inch tape or the like. The thickness of carrier strip 22 would correspond, of course, to the thickness of the sheet material used.

Each strip 24, 26 of reinforcing material would be approximately half an inch wide, .015 inch thick, and as long as the carrier strip 22. These dimensions are approximate and much depends upon the nature of the material used and the wall area to be protected. The reinforcing strips 24, 26 may be made of steel, aluminum, brass or any other suitable sheet metal. It is desirable that the thickness of the metal be kept to a minimum since this would help prevent it from being detected under the wall covering, such as wallpaper, which is ultimately to be applied thereto but there should be no sacrifice of adequate structural strength, sufficient to protect the corner of the wall.

An adhesive 28 may be employed to secure the reinforcing strips 24 and 26 to the carrier strip 20. Any suitable adhesive or cement may be used for this purpose, such as Pliobond of the Goodyear Tire and Rubber Company and Pliogrip of the same company. Plastikon of the B. F. Goodrich Company and Federal Sealite, a resin adhesive of Federal Adhesives Corporation are also suitable for this purpose as are any and all other adhesives or cements which bond or secure metal to paper or to any of the other kinds of sheet material which may be substituted in the present invention for paper. The adhesive or cement need not be of the permanently setting type but may, if desired, have a latex or synthetic rubber base of the kind used in pressure sensitive adhesive tapes, such as Scotch tape of the Minnesota Mining and Manufacturing Company.

The adhesive or cement affixes the two metal reinforcing strips 24 and 26 to the carrier strip 22 in parallel relation to each other, longitudinally of the carrier strip, the two metal strips being slightly spaced from each other, say a sixteenth of an inch apart, leaving marginal edges or flaps 22a and 22b along the carrier strip 22, approximately half an inch wide. In other words, the metal strips 24 and 26 are spaced from each other approximately a sixteenth of an inch and they are spaced from the edges of the carrier strip 22 approximately half an inch.

The reinforcing strip 20 hereinabove described may be used as follows: It may be folded longitudinally of itself along a folding line extending through the space 22c between the metal strips 24 and 26, thereby bringing the metal strips inwardly and toward each other and forming, generally, a V-shaped strip of right angular shape. This V-shaped strip may now be applied to the

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outside corner of the wall shown in Fig. 1. To secure the same to said corner it is necessary to apply a suitable adhesive or cement either to the corner itself or to the reinforcing strip or to both. In the illustrated form of this invention, the wall-board used is a plaster board which has a paper facing and a paper backing, as above described. Consequently, the type of adhesive or cement which this operation would require would be any adhesive or cement capable of bonding or securing or gluing paper to paper. If it is desired to secure only the marginal edges 22a and 22b of the carrier strip 22 to the wall-boards, a paper-to-paper adhesive, cement or glue is all that is required. This might take the form of the latex or synthetic rubber base adhesive of the pressure sensitive tape type or it may simply constitute a liquid glue such as used by cabinet makers and woodworkers. Animal glue, vegetable glue and synthetic resin glue as well as casein glue are all suitable for this purpose. Should it be desired, on the other hand, to bond the metal strips 24 and 26, as well as the marginal carrier strip edges 22a and 22b to the wall-boards, then the metal-to-paper adhesives and cements first above listed in connection with securing the metal strips to the carrier strip may be employed.

When it is desired to secure the reinforcing strip herein claimed to an inside corner, also as shown in Fig. 1, then said strip is folded along narrow space 22c in the opposite direction from that above described, namely, to bring the metal strips into outwardly facing positions approximately 270 degrees apart. In the first instance, when the strip was applied to an outside corner, the metal strips were brought into inwardly facing positions approximately 90 degrees apart. The reinforcing strip is now glued or cemented to the inside corner by applying a suitable glue, cement or other adhesive to the wall board or to the reinforcing strip or to both and then pressing the strip in place as shown in the drawing.

In the modified form of this invention shown in Fig. 4, a suitable adhesive or cement or glue is applied to the marginal edges 22a and 22b of the carrier strip in the very manufacturing process in which the strip as a whole is made. Stated differently, an adhesive coat is applied to marginal edges 22a and 22b as part of the manufacturing process and it is received on the job or in the field with the adhesive coat applied thereto. All that need be done is to affix the reinforcing strip to the corners of the walls of the building under construction without any requirement that the person affixing the same is to apply either to the strip itself or to the walls an adhesive for this purpose. The adhesive coat on marginal edges 22a and 22b may be of the latex or synthetic rubber pressure sensitive type, in which case, all that need be done to secure the reinforcing strip to the corners of the wall is simply to press the strip in place. On the other hand, the adhesive coat may be a glue of the kind used in connection with gummed wrapping tape. In such case, the glue coating would have to be activated by wetting the same and the reinforcing strip would then be pressed against the walls.

Turning now to Fig. 5, it will be observed that the reinforcing strip herein claimed may be applied to the inside corners or angles formed between a vertical wall 12' and a ceiling board 14'. The vertical wall 12' is affixed to vertical studs 10 and the ceiling board 14' is affixed to rafters 30. It will be noted that these rafters and board 14' are situated at an angle other than 90 degrees relative to the vertical wall board 12'. This is intended to illustrate how the reinforcing strip herein claimed may be applied to corners and angles which are greater or lesser than 90 degrees. It has been found that the corners or angles formed between vertical walls and the pitched ceilings of attic rooms and dormers are frequently irregularly formed and the reinforcing strip

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herein claimed has been found capable of correcting this condition.

The foregoing is illustrative of preferred forms of this invention and it will be understood that these preferred forms may be modified and other forms may be provided within the broad spirit of the invention and the broad scope of the claims.

I claim:

1. A reinforcing strip for the corners of dry walls and the like comprising a flexible carrier strip, a pair of spaced and parallel metallic reinforcing strips secured longitudinally and intermediate the width of said carrier strip and being laterally substantially inflexible and longitudinally rollable, the spacing of said strips being greater than the thickness of the strips, said strip being inwardly foldable along the spacing of said metallic strips to conform to the angle between contiguous walls and to form a uniform, straight, rigid and permanent corner, said carrier strip having marginal portions applicable to said walls for adhesive connection therewith so that upon wall deformation, the straight, rigid and permanent corner remains with a change of angular disposition of

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said metallic strips, the exposed outer side of said carrier strip being adaptable for flush wall finishing.

2. A reinforcing strip as set forth in claim 1 wherein said metallic strips are formed of steel.

3. A reinforcing strip as set forth in claim 1 wherein said marginal portions are provided with an adhesive.

4. A reinforcing strip as set forth in claim 1 wherein both the metallic strips and said marginal portions are provided with an adhesive.

5. A reinforcing strip as set forth in claim 1 wherein the carrier strip is paper, the reinforcing strips are of relatively stiff steel, one-half inch in width and fifteen-thousandths of an inch thick and wherein the spacing between the metallic strips is about one-sixteenth of an inch.

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