

Feb. 14, 1967

J. FURRER

3,303,625

ROOF OR WALL COVERING

Filed April 29, 1964

3 Sheets-Sheet 1

Fig. 1

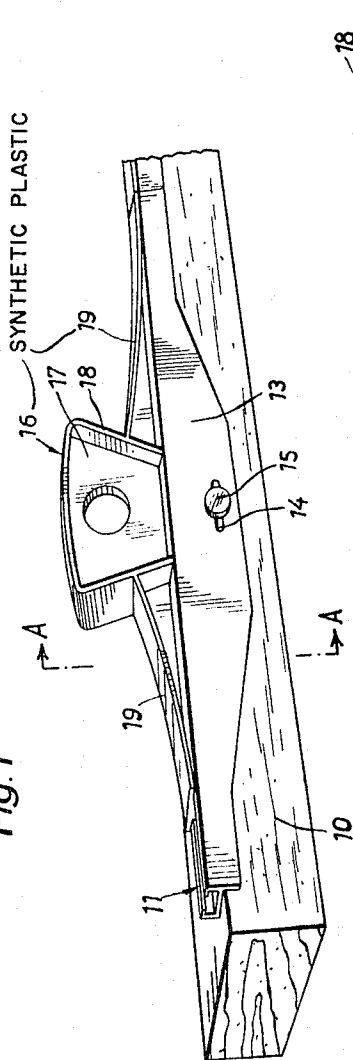


Fig. 2

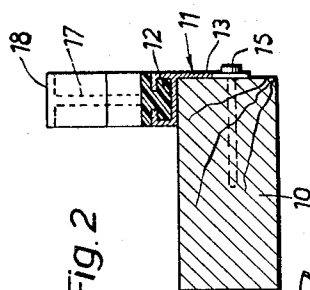
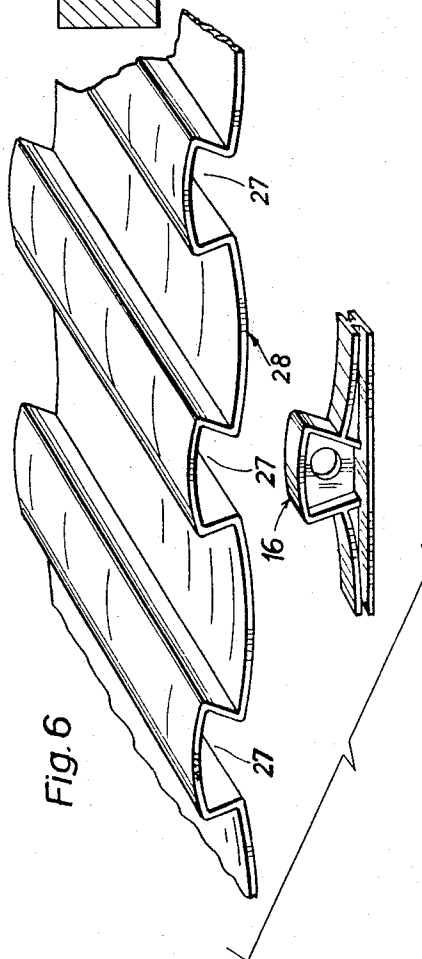


Fig. 6



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3 Sheets-Sheet 2

Fig. 3

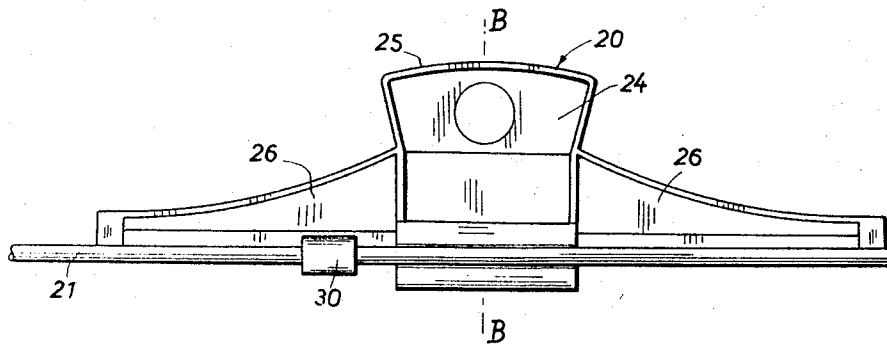


Fig. 4

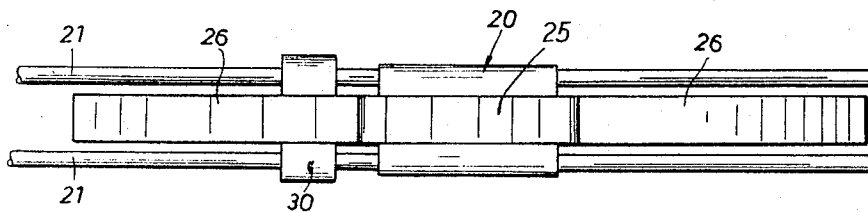


Fig. 5

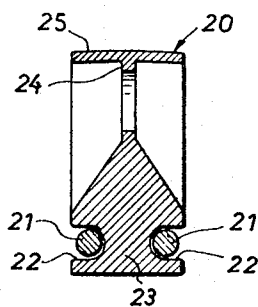
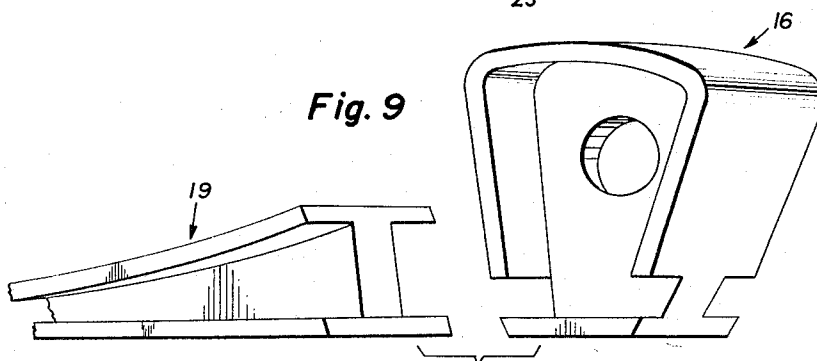


Fig. 9



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3 Sheets-Sheet 3

Fig. 7

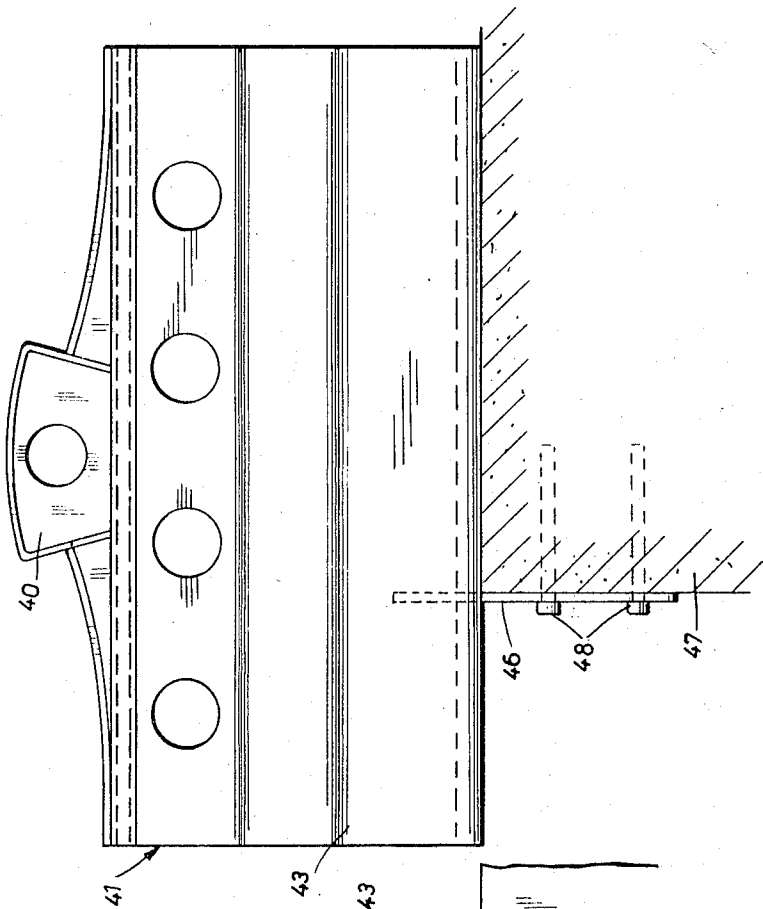
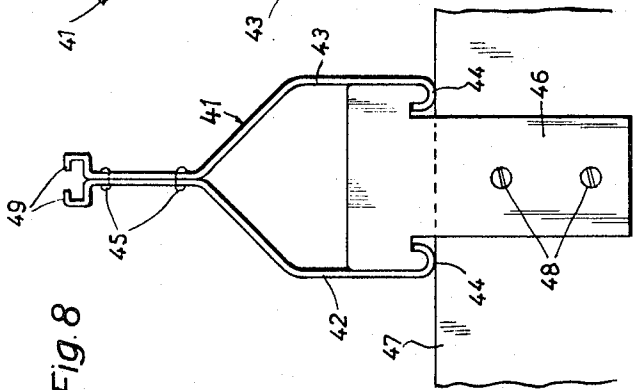


Fig. 8



1

3,303,625

ROOF OR WALL COVERING

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5,465/63

6 Claims. (Cl. 52—520)

The present invention has reference to a roof or wall covering in which the hollow ribs narrowed at their base are arranged in uniform spacing of at least one sheet metal band are capable of being brought into clamping engagement by expansion of their base in each case with an anchor element secured to a support beam.

Such type roof and wall coverings provided with hollow ribs have previously been connected to the support beam by means of rigid attachment or securing bands exhibiting appropriate anchoring elements or members. The anchoring elements are arranged at these attachment bands in given non-adjustable spacing from one another. Likewise, the hollow ribs are arranged at the coverings in given non-adjustable spacing. In order that such a wall and roof covering can engage by means of all of its hollow ribs in the anchor elements of the attachment band, it is necessary, on the one hand, that the spacing from anchor element to anchor element exactly correspond to the spacing from hollow rib to hollow rib and, on the other hand, the anchor elements must lie behind one another at a right angle to the roof eaves. Even the smallest angular deviation results in the roof or wall covering changing its direction to the one or the other side, that is, proceeds upwardly or downwardly. Immediately corrections are necessary which, in dependence upon the magnitude of the angular deviation, can even necessitate disassembly of the attachment bands together with the attachment elements, and the work must be started all over again.

If the exact angular positioning of the attachment elements is already problematic at the building because there is hardly available at the building sufficiently straight wood suitable as a back or try square, then in addition thereto there are a large number of other factors which provide the cause for the angular deviation and delay or, in fact, render impossible the mounting of the wall or roof covering. For example, crooked slats or beams exhibit a longer lengthwise development than those which are straight. Since the attachment bands are formed of a single piece and the attachment elements are non-displaceable, there automatically occurs an angular deviation since the attachment band assumes the changed development length. The distortion or buckling of the roof construction at which the attachment bands are mounted, whether such be caused by mechanical or atmospheric effects, can likewise influence the angular position. This required exact angular position renders it necessary that the laying work be constantly supervised. Everyone who is entrusted with the laying of roof and wall coverings in accordance with the previously mentioned system must be instructed and, above all, made aware of the precautionary measures necessary when the covering bands go astray.

Accordingly, the present invention has for one of its primary objects to prevent the difficulties which occur by virtue of the fact that, the angular positioning can only be accomplished with great difficulty, the necessary exact angular position can change during the course of the work because the attachment elements on account of their rigid non-displaceable mounting cannot accommodate themselves to requirements.

A further important object of the present invention resides in the provision of an improved roof or wall covering assembly which is relatively easy to install and to ac-

2

commodate to conditions encountered at the construction site.

Generally speaking, the invention is characterized by the features that the anchor elements at the support beam are displaceable transversely with respect to the hollow ribs, thus always permit shifting into the correct angular position.

Other features, objects and advantages of the invention will become apparent by reference to the following detailed description and drawings in which:

FIGURE 1 is a perspective view of an anchor member or element which is displaceably secured to a support beam or girder;

FIGURE 2 is a cross-sectional view of the arrangement of FIGURE 1, taken along lines A—A thereof;

FIGURE 3 illustrates in front view a further embodiment of anchor member designed according to the invention and which is displaceably mounted upon two support rods;

FIGURE 4 is a plan view of the anchor member depicted in FIGURE 3;

FIGURE 5 is a cross-sectional view of the anchor member of FIGURE 3, taken along lines B—B thereof;

FIGURE 6 is a perspective view of a roof and wall covering;

FIGURE 7 is a front view of a further embodiment of anchor member which is displaceably mounted upon a support beam;

FIGURE 8 is an end view of the anchor member depicted in FIGURE 7; and

FIGURE 9 is an exploded view of separate spacer and anchor members.

Describing now the drawings, by referring to FIGURE 1 it will be seen that a guide rail 11 which can be of any desired length is secured to a support beam or girder 10. This guide rail 11, here shown to be in the form of an L-strap, as best seen by referring to FIGURE 2, possesses an upper portion 12 of C-shaped cross-section, whereas its attachment leg 13 exhibits uniformly spaced elongated holes 14 (only one of which is shown) and serves for securing the aforesaid guide rail 11 to the support beam 10 by means of nails or screws 15 or other suitable fastening expedients. In FIGURE 1 only a section of the guide rail 11 provided with the attachment leg 13 is illustrated, and in which an attachment or securing unit has been inserted.

These attachment units incorporate the anchor elements or members 16 which are displaceably guided in the upper portion 12 of C-shaped cross-section of the guide rail 11. These anchor elements 16 exhibit a central web 17 provided with a bearing or support surface 18 running along the edge of such web 17 and extending past this web. The anchor element 16 provided with spacer means 19 arranged to the left and right of such anchor element collectively form a member which in its length exactly corresponds to the hollow rib spacing of a roofing or wall band, as will be more fully explained hereinafter. It will be appreciated that the spacer means 19 can be formed integral with or attached to the anchor element 16 or be a separate member.

These anchor elements 16 together with the spacer means 19 can be manufactured from synthetic material e.g. plastic, which possesses good sliding properties in comparison with the guide rails 11 formed of metal for instance, so that said anchor elements can easily be displaced in the guide rails 11. Likewise, the shifting of the covering, as such is the case during expansion, occurs without noise.

In accordance with the embodiment depicted in FIGURES 3, 4 and 5 an anchor or anchoring element 20 is displaceably guided upon two stranded wires or rods 21

3

or the like. These rods 21 can, for example, be guided along the wall to be surfaced or covered, or with a roof or ceiling can be freely suspended from one wall to the other. This anchor element 20 exhibits in its lower region a slider or slide member 23 in which the rods 21 are guided in grooves 22. The upper portion of the anchor element 20 comprises, as was the case with the first embodiment depicted in FIGURES 1 and 2, a plate or web 24 and a bearing or support surface 25 which passes centrally over the aforesaid plate 24. Likewise, to both sides of the anchor element 20 there is provided extension or spacer means 26 which effect that upon lining-up a number of anchor elements 20 next to one another the spacing from one anchor element to the next corresponds to the spacing between the hollow ribs of the covering. Here again, the spacer means 26 can be formed integral with or attached to the anchor element 20 or can constitute separate spacer elements.

According to FIGURE 6 a covering 28 exhibits a number of hollow ribs 27 the dimensions of which correspond to that of the anchor elements 16 or 20 of FIGURES 1-5, so that the anchor elements 16 or 20 can engage in the hollow ribs 27 of the covering 28 and retain the same. The spacing from one hollow rib 27 to another hollow rib 27 must indeed be maintained exact as was the case with the previously known coverings of this type; however, not the angular position of the attachment elements since such can always accommodate themselves to the angular position of the covering on account of their shiftability, and the spacing between the individual anchoring elements 16 or 20 can be accommodated to the spacing between the hollow ribs 27 of the covering 28. For the same reasons it is no longer necessary to pay attention if the support beam is disposed perpendicular to the hollow ribs 27 of the covering 28 since an enlargement of the necessary spacing between the anchor elements 16 or 20 on account of the inclined positioning can be taken into account by virtue of the mutual shiftability or displaceability of the anchor elements 16 or 20.

By inspecting FIGURES 7 and 8 it will be recognized that an anchor element 40 is displaceably guided upon a guide rail 41. This guide rail 41 incorporates two metal profiles or sections 42 and 43 exhibiting confronting, inwardly flexed flanges 44 and are suitably connected to one another, by rivets 45 for instance. The flanges 44 engage about a T-shaped support 46 connected by nails or screws 48 or the like to a support beam 47. The metal profiles 42 and 43 each exhibit a further flange 49 spaced from and confronting one another, and between which the anchor element 40 is guided. It will be appreciated that such anchor element 40 can be similarly constructed as the anchor element 16 of FIGURE 1.

In the illustrated embodiments depicted in the drawings two spacer means 19 or 26 have been shown to both sides of the anchoring element 16 or 20 respectively. However, in lieu of such an arrangement it is also possible in each case to only provide a single spacer means possessing double length. Also, and as will be recalled, instead of securing the spacer means 19 or 26 to the anchor elements 16 or 20 respectively, such spacer means can also be constructed as separate spacer members arranged between the individual anchor elements 16 or 20. An embodiment corresponding to what has been just described is shown in FIGURE 9, wherein the spacer means 19 and anchor element 16 are constructed as separate members. Such spacer members can then, like the anchor elements themselves, be displaceably guided upon the guide rails 11 or the guide rods 21. These

4

spacer members can at the same time provide a support or bearing surface for the webs between the hollow ribs 27 of the covering 28. It will further be appreciated that the spacer means are constructed to cooperate with the guide means for the anchor means to provide stop means preventing tilting of the aforesaid anchor means.

While there is shown and described present preferred embodiments of the invention it is to be distinctly understood that the invention is not limited thereto but may be otherwise variously embodied and practised within the scope of the following claims.

What is claimed is:

1. The combination for covering a roof or wall, including: at least one band for covering the roof or wall; a plurality of parallel spaced hollow ribs extending along one dimension of said band and narrowed at their base; at least two spaced rail means which are intended to be parallel and intended to extend transversely to said ribs, a plurality of individual anchor means slidably held in each of said rail means projecting beyond said rail means in the direction of said band, the plurality of anchor means corresponding to a given rail means spaced apart by a distance equal to that between two successive ribs, said anchor means being engageable by the interior of said ribs in a clamping relationship, and the dimension of each of said anchor means transverse to said rail means being sufficiently small with respect to the length of a rib that two anchors of adjacent rail means and corresponding to the same rib can shift with respect to one another along the rail means to enter the interior of the rib, whereby to allow for lack of perpendicularity between the ribs and the rail means, for lack of parallelism between adjacent rail means, and for lack of straightness of the rail means; and a plurality of means for spacing the plurality of anchor means corresponding to a given rail means along the length thereof, said means being slidably held in said rail means.

2. The combination according to claim 1, wherein said means for spacing are connected to individual ones of said anchor means.

3. The combination according to claim 1, wherein said means for spacing are independent of said anchor means.

4. The combination according to claim 1, wherein each said rail means comprises two spaced parallel rods; each of said anchor means defines a pair of spaced parallel surfaces parallel to said rods; and a groove in each of said surfaces for accepting a different one of said rods.

5. The combination according to claim 1, wherein each said rail means is mountable on a support beam and in cross section defines a C that accepts said anchor means and said means for spacing.

6. The combination according to claim 1, wherein said anchor means and means for spacing are made of a synthetic plastic.

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