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GB 2196662 A EP 0306109 A1 US 5337529 A
US 4141191 A US 4024685 A

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(54) Abstract Title
Ridge tile mounting assembly

(57) An assembly comprises a ridge tile clamp (10) having a bottom face (20) which can be secured, preferably with adhesive, to the underside of a ridge tile (28) and a hollow cylindrical clip (12), which is open at one location (18) opposite the bottom face, adapted to receive a connecting element (40) of a ridge tile holder (30). The holder may be secured to a ridge batten (32) by means of nails, thus securing the ridge tile onto the ridge batten. The cylindrical clip may be resilient so that the ridge tile clamp can be snap fitted to the ridge tile holder.

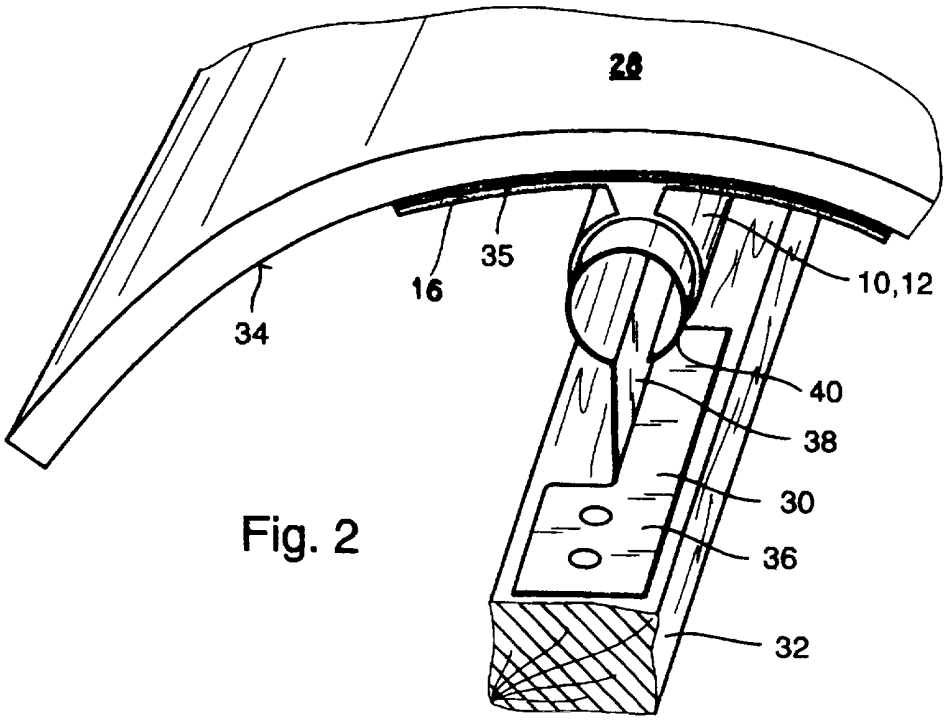

Fig. 2

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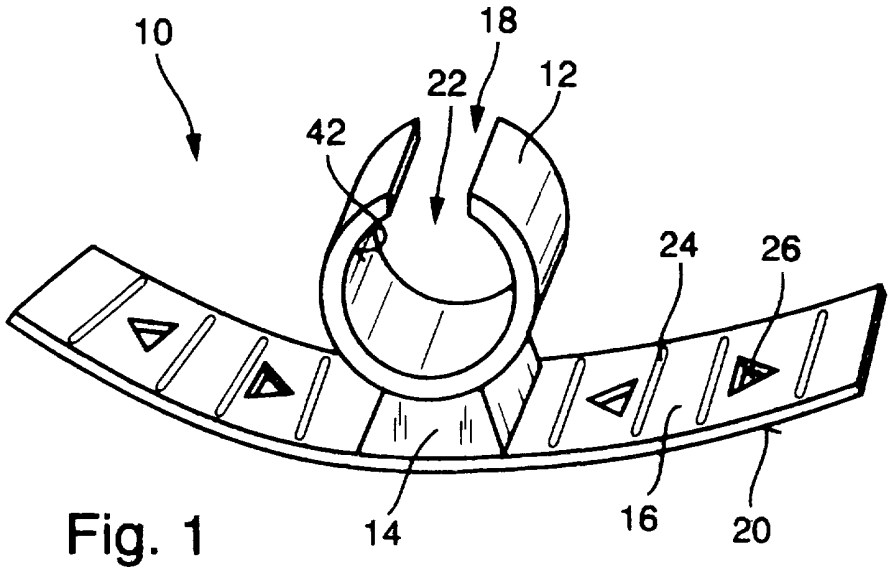

Fig. 1

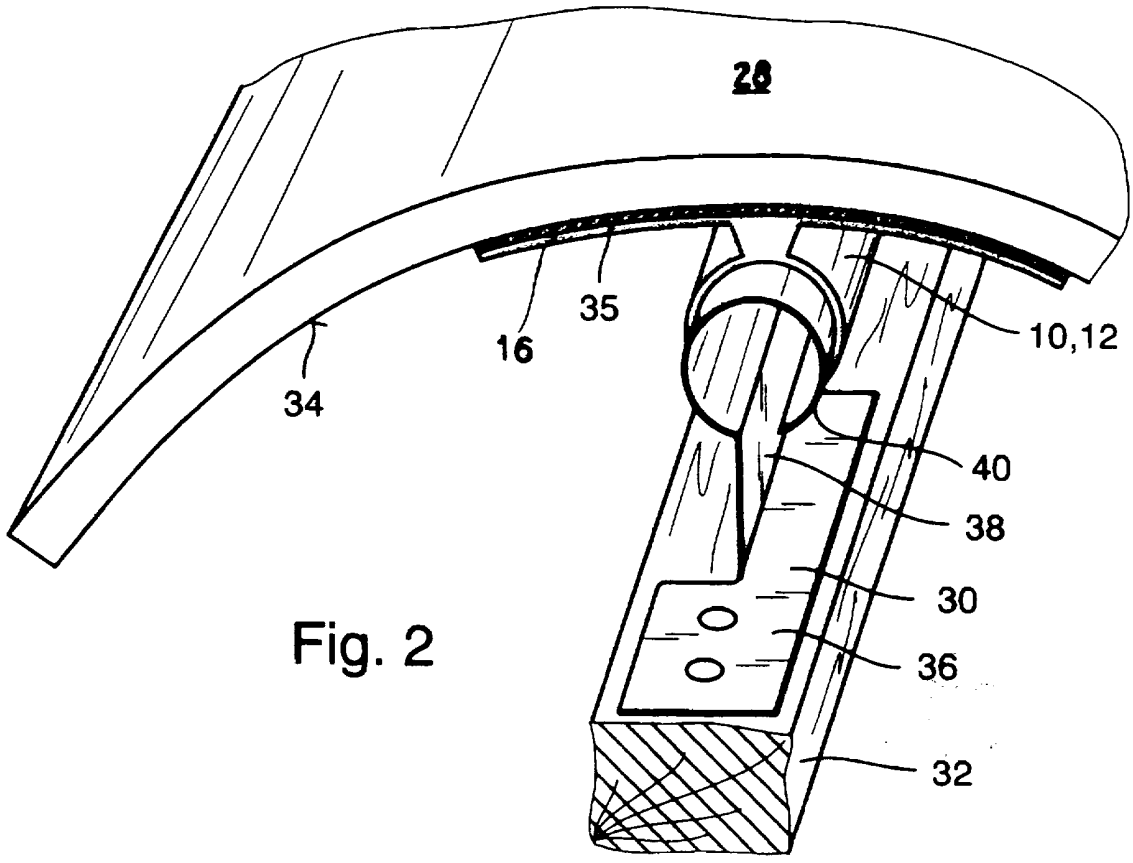

Fig. 2

RIDGE-TILE MOUNTING ASSEMBLY

The invention relates to a ridge-tile mounting assembly for mounting a ridge-tile on a ridge batten of a roof.

Ridge-tiles are especially known in Great Britain, and they have at their front ends, for their securement on a ridge batten, openings which are open towards their underside and their end faces, such openings widening and hence forming undercut portions, the ridge-tiles being slidable by said openings over a correspondingly-shaped ridge-tile holder, which is in interlocking engagement with the opening in the ridge-tile. The ridge-tile holder is secured on the ridge batten by nails, for example. Such a ridge-tile and such a ridge-tile holder are known from GB 2 259 533.

The known ridge-tile has the disadvantage that it needs to be produced with the two openings at its front ends for its securement on the ridge batten, and that not every ridge-tile, but only the specific ridge-tile with the two openings at its front ends, is usable. An additional disadvantage is that the known ridge-tile can only be used for end-to-end laying since, if the ridge-tiles were laid in an overlapping manner, a first ridge-tile would conceal the opening in a second ridge-tile, which rests with its front end on the first ridge-tile for overlap laying.

The basic object of the invention is to provide a means whereby any desirable ridge-tiles can be secured by a ridge-tile holder on a ridge batten in the above-described manner.

This object is achieved, according to the invention, by the features of claim 1. The ridge-tile according to the invention includes a ridge-tile clamp which includes an opening for the interlocking engagement with a ridge-tile holder, which is to be mounted or has been mounted on the ridge batten. The

ridge-tile clamp is attached to the underside of the ridge-tile, preferably by adhesion.

The invention has the advantage that, with minimal cost and effort, by attaching the ridge-tile clamp, each ridge-tile can be provided with an opening, which includes an undercut portion, for the interlocking engagement with the ridge-tile holder. No specific ridge-tiles are therefore required. The ridge-tile mounting assembly according to the invention allows the ridge-tiles to be laid both end-to-end and also in an overlapping manner, such overlapping occurring when the ridge-tile clamp is attached to a front end of the ridge-tile resting on another ridge-tile, so as to be offset inwardly from the front edge of the ridge-tile by a distance corresponding to the overlap width. The ridge-tile clamp can already be attached during mass-production in a tile factory or even be attached subsequently at a building site. When renovating a roof, for example, re-usable ridge-tiles can also be provided with the opening for the interlocking engagement with the ridge-tile holder by attaching the ridge-tile clamp to their underside. It is simple and economical to provide the opening in the ridge-tile clamp according to the invention, and the securement of the ridge-tile is not visible on the covered roof.

In one embodiment of the invention, a bottom face of the ridge-tile clamp, by means of which face the ridge-tile clamp is attached to the ridge-tile, has a convex configuration adapted to a curvature or bending of the underside of the ridge-tile. In addition to being rounded, a bevelled form of the attachment face is also meant by convex.

In a further development of the invention, the bottom face is bendable for adaptation to the configuration of the underside of the ridge-tile. In one embodiment of the invention, it may have one or more bending lines.

In one embodiment of the invention, the bottom face is provided with holes, through which an adhesive flows when the ridge-tile clamp is adhered to the underside of the ridge-tile, and such improves the adhesive connection. In particular, adhesive may be applied again to the adhesive flowing initially through the holes.

In one embodiment of the invention, the ridge-tile clamp is resilient as a clip, so that the ridge-tile can be snapped onto the ridge-tile holder with the ridge-tile clamp and does not need to be slipped over the ridge-tile holder in the longitudinal direction.

According to the invention there is also provided a method of mounting a ridge-tile onto a ridge batten as claimed in claim 8.

The invention is explained more fully hereinafter with reference to one embodiment illustrated in the drawing. In the drawing:

Figure 1 is a perspective view of a ridge-tile clamp for a ridge-tile according to the invention; and

Figure 2 illustrates one front end of a ridge-tile according to the invention.

The ridge-tile clamp 10, illustrated in Figure 1, for a ridge-tile mounting assembly according to the invention is formed in one piece from plastics material. It includes a hollow-cylindrical clip 12, which is open at one location of its periphery and is integral with the bottom plate 16 via a base 14. The open location 18 in the periphery of the clip 12 is situated on one side of the clip 12 remote from the base 14 and the bottom plate 16. One side of the bottom plate 16, remote from the clip 12, forms a bottom face 20 of the ridge-tile clamp 10.

The clip 12 may be resilient to form a snap connection or may be rigid. An interior chamber of the clip 12, which is accessible through the open location 18, forms an opening 22 in the ridge-tile clamp 10. The configuration of the clip 12 is not limited to the cylindrical configuration illustrated, and the configuration of the interior chamber 22 corresponds to the configuration of a ridge-tile holder which is to be described hereinafter with reference to Figure 2.

The bottom plate 16 is curved, the bottom face 20 having a convex curvature. For adaptation to the configuration of the underside of a ridge-tile, the bottom plate 16 and, therewith, the bottom face 20 are bendable in a plastic and/or resilient manner. To simplify the bending movement, the bottom plate 16 is provided with a number of transversely extending bending beads 24, which form bending lines 24 of the bottom plate 16 and the bottom face 20. Moreover, the bottom plate 16 is provided with holes 26 which, in the illustrated embodiment of the invention, are triangular.

Figure 2 illustrates one front end of a ridge-tile 28 according to the invention, which is secured on a ridge batten 32 by means of a ridge-tile holder 30. At each of the two front ends of the ridge-tile 28 a ridge-tile clamp 10 is attached to a concavely curved underside 34 of the ridge-tile 28 as a result of the bottom plate 16, with the bottom face 20, being adhered to the underside 34 of the ridge-tile 28 by means of an adhesive 35. The clip 12 protrudes from the underside 34 of the ridge-tile 28. For the attachment, a thick layer of adhesive is applied to the underside 34 of the ridge-tile 28 in the region where the ridge-tile clamp 10 is attached by its bottom plate 16 to the ridge-tile 28, and the ridge-tile clamp 10 is pressed onto the adhesive layer 36 with its bottom face 20. The adhesive flows through the holes 26 in the bottom plate 16 onto the concave side of the bottom plate 16, to which adhesive is again applied, whereby the adhesive connection between the

ridge-tile clamp 10 and the ridge-tile 28 is improved. The opening 22 in the clip 12 is used for securing the ridge-tile 28 on the ridge batten 32.

To secure the ridge-tile 28 on the ridge batten 32, the ridge-tile holder 30 is initially secured on the ridge batten 32 by means of nails. The ridge-tile holder 30 is a sheet metal stamped and bent component part provided with a bottom plate 36, which is nailed onto the ridge batten 32. A sheet metal portion, which is hereinafter called rib 38, protrudes upwardly from the bottom plate 36, and the end of said portion is curved in a tubular manner to form a connecting element 40. An imaginary axis of the connecting element 40 of the ridge-tile holder 30 extends in the longitudinal direction of the ridge batten 32. The connecting element 40 has a configuration corresponding to the opening 22 in the clip 12. The ridge-tile 28, which is provided with the opening 22 by the adhered ridge-tile clamp 10, is slipped over the connecting element 40 of the ridge-tile holder 30 with this opening 22. Laterally of its open location 18, the clip 12 forms undercut portions 42, which are gripped from behind in an interlocking manner by the tubular connecting element 40 of the ridge-tile holder 30, so that the ridge-tile 28 cannot be removed from the ridge batten 32. Because the clip 12 is resilient, it is also possible to press the ridge-tile 28 from above onto the ridge-tile holder 30, the clip 12 engaging with the connecting element 40 of the ridge-tile holder 30 by being resiliently widened in the form of a snap connection.

A ridge-tile holder 30 at the other front end of the ridge-tile 28 is inserted into the ridge-tile clamp 10 mounted there, and it is nailed onto the ridge batten 32. The connecting element 40 of the ridge-tile holder 30 protrudes from the ridge-tile clamp 10 by a distance corresponding to substantially half its length, so that an additional ridge-tile 28 can be secured "endwisely" to the illustrated ridge-tile 28 with the same ridge-tile holder 30 on the ridge batten 32. At the end of the ridge, the ridge-tile holder 30 is attached to the ridge batten 32 flush with the front edge of the ridge-tile 28.

CLAIMS

1. Ridge-tile mounting assembly comprising a ridge-tile clamp (10), which is attachable to an underside (34) of a ridge-tile (28), the ridge-tile clamp (10) including an opening (22), which includes an undercut portion (42), for an interlocking engagement with a ridge-tile holder (30), as well as including a bottom face (20), by means of which the ridge-tile clamp (10) can be secured to the underside (34) of a ridge-tile (28).

2. Ridge-tile mounting assembly according to claim 1, in which that the ridge-tile clamp (10) is adhered to the underside (34) of the ridge-tile (28).

3. Ridge-tile according to claim 1 or 2, in which that the bottom face (20) is convex.

4. Ridge-tile according to one of claims 1 to 3, in which that the bottom face (20) is bendable.

5. Ridge-tile according to claim 4, in which that the bottom face (20) includes one or more bending lines (24).

6. Ridge-tile according to one of claims 1 to 5, in which that the bottom face (20) is provided with holes (26).

7. Ridge-tile according to one of claims 1 to 6, in which that the ridge-tile clamp (10) includes a clip (12).

8. A method of mounting a ridge-tile onto a ridge batten comprising the steps of securing a ridge-tile clamp to the underside of the ridge-tile, securing a ridge-tile holder to the ridge batten and then securing the ridge-tile clamp to

the ridge-tile holder by interlocking engagement of an undercut portion on the ridge-tile clamp with a portion of the ridge-tile holder.

9. A ridge-tile mounting assembly substantially as described hereinbefore with reference to the accompanying drawings.

Application No: GB 0013721.6 **Examiner:** Joanne Pullen
Claims searched: 1-9 **Date of search:** 15 November 2000

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.R): E1D DDJ

Int Cl (Ed.7): E04D

Other: Online: EPODOC, WPI, JAPIO.

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2196662 A	(GLIDEVALE BUILDING & PRODUCTS) Figures 3 and 5, page 2 lines 66-82.	1-3, 7 & 8
X	EP 0306109 A1	(REDLAND BOUWPRODUKTEN B.V.) Figure 2	1, 7 & 8
A	US 5337529 A	(LUTIN et al.)	
X	US 4141191 A	(MONIER COLOURTILE) Figure 2	1 & 7
X	US 4024685 A	(MONIER COLOURTILE) Figures 1, 2 and 4	1, 3, 7 & 8

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.