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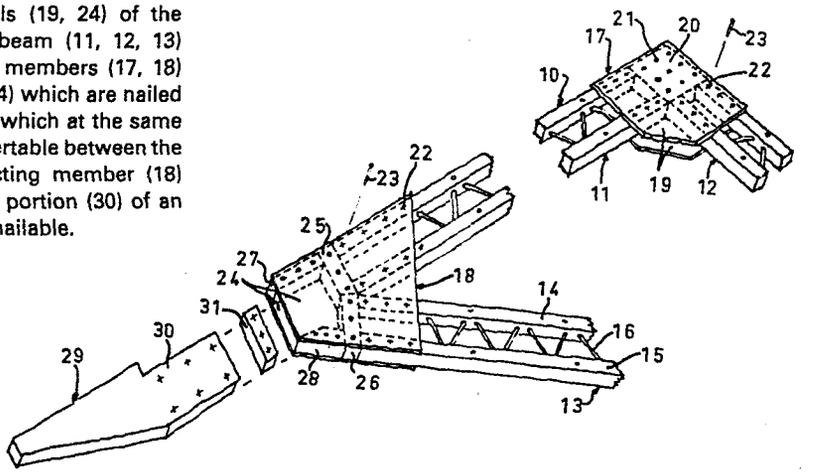
(54) Roof truss assembly.

(57) The assembly comprises beams (11, 12, 13) of wood or the I profile type with flanges (14, 15) of wood and webs (16) of wire bent in zigzag and interconnecting the flanges (14, 15), and connecting members (17, 18) in which the squarely cut beam ends are insertable and fixable by means of nails (23) which are driven through the walls (19, 24) of the connecting members (17, 18) and the beam (11, 12, 13) disposed therebetween. The connecting members (17, 18) suitably consist of plywood boards (19, 24) which are nailed on opposite sides of spacers (20, 25, 26) which at the same time serve as stops for the beam ends insertable between the boards (19, 24). The truss base connecting member (18) preferably also have a space in which a portion (30) of an eaves overhang (29) is insertable and nailable.



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ROOF TRUSS ASSEMBLY

The present invention relates to a roof truss assembly consisting of beams of wood and means for interconnecting the beams.

The manufacture of roof trusses by a carpenter on a building site demands great skill and normally involves high costs. For this reason, one has instead chosen, to an ever greater extent, to manufacture roof trusses in factories and deliver them ready for erection on the building site. Since industrial manufacture is rational, it has been possible to bring down costs but, in some cases, the transport to the building site is a problem because of the lack of special vehicles. In addition, cost savings can be reduced in cases where it is desirable to produce a small series of roof trusses with special dimensions or of special design because the machines must first be properly adjusted.

The object of the present invention is to make it possible to manufacture roof trusses of every desired dimension, construction and roof pitch on the building site at a competitive price. According to the invention, this object is achieved by the provision of a roof truss assembly which has connecting means consisting of an insert member in which beams to be interconnected are insertable into a position determined by the desired roof truss configuration, and are fixable by nail or bolt means which are driven through the walls of the insert members and the beam disposed therebetween.

The invention will be described in greater detail hereinbelow with reference to the accompanying drawing which shows one embodiment of the invention in perspective.

The roof truss, generally designated 10 in the drawing, consists of beams 11, 12 and 13 of which the beams 11 and 12 form the upper chords of the truss while the

beam 13 forms the lower chord. The beams 11, 12 and 13 are composed of flanges 14, 15 and a web 16 in the form of a wire bent in zigzag which interconnects the flanges. These beams give a highly resistant and light-weight roof truss. Instead of the beams illustrated in the drawing, it is of course possible to use conventional roof truss wood. The beams 11, 12 forming the upper chords are secured to each other by a connecting means in the form of an insert member 17 consisting of two identical, parallel boards 19, for instance of plywood, which are disposed opposite each other and nailed at 21 on opposite sides of a wooden block 20, thus forming a spacer. The adjacent, outwardly facing edge surfaces of the means 17 make an angle with each other which corresponds to the desired roof pitch. As seen in the drawing, the end portions of the beams 11, 12 are insertable until the squarely cut ends of the beams abut against the spacer 20. The beams 11, 12 are so placed that their outwardly facing sides are flush with the outer sides of the means 17, whereby the beams 11, 12 are placed with the desired slope, which in the present instance corresponds to a roof pitch of 45^{o}. The beams 11, 12 are fixed in the insert member by means of nails 23 which are driven through both of the boards 19 and the flanges of the intermediate beam. To this end, the boards 19 on the outside have markings 22 which indicate where the nails 23 should be driven in.

The beams 11, 12 forming the upper chords are joined with the beam 13 of the lower chord by means of insert members 18 which also consist of two parallel, opposed boards 24 which, like the boards 19, are held at a distance from each other which corresponds to the thickness of the beam flanges, by means of spacers 25, 26 which also serve as stops and support means for the beam ends. The boards 24 here have two opposite sides making an angle with each other which is determined by the roof pitch, in this instance 45^{o}, and being interconnected

at the side facing away from the beams by means of a short side which is at right angles to the side of the connecting means that extends along the upper chord beam. The side of the means 18 which faces away from the beams is located, as appears from the drawing, at a distance from the spacers 25, 26, and between these spacers and said side there are provided wooden blocks 27, 28 extending along the outer sides of the connecting means, thus defining a space closed on three sides. In this space, a fixing portion 30 of a loose truss overhang is insertable and fixable by nailing. If the roof to be made should have no truss overhangs, said space is sealed by means of a wooden block 31 which is fastened with nails.

In the manufacture of roof trusses by means of the roof truss assembly according to the invention, the required amount of insert members 17, 18 are ordered from the factory, it being necessary only to indicate the desired roof pitch. The means 17, 18 are then delivered together with beams 11, 12, 13, if such are not already available on the building site since being also usable as framework elements, e.g. studs, in housing constructions, and truss overhangs or, alternatively, wooden blocks 31. On the building site, the beams 11, 12 and 13 are cut to suitable lengths. The beam ends are then inserted in the insert members 17, 18 in the manner shown in the drawing, whereupon nails are driven in at the indicated locations. Consequently, the manufacture of the trusses is highly rational and, hence, they can be produced at a low price. If use is made of beams 11, 12, 13 of the type shown in the drawing, the result will be a light-weight roof truss with excellent physical properties.

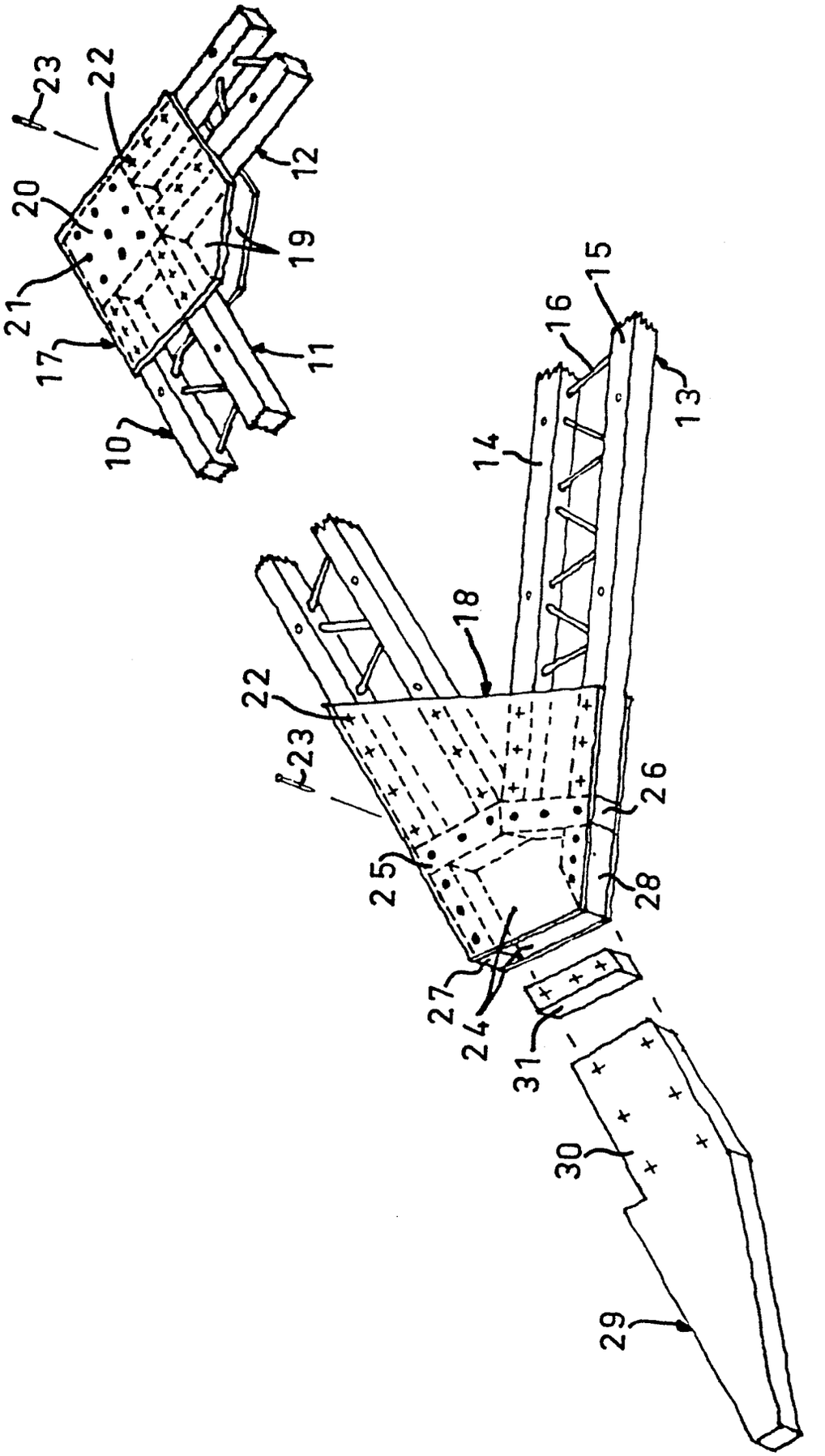
CLAIMS

1. A roof truss assembly consisting of wooden beams or girders (11, 12, 13) with flanges of wood and a web of metal interconnecting said flanges, and connecting means (17, 18) in which said beams are insertable to be connected with each other, c h a r a c t e r i s e d in that each connecting means (17, 18) consists of a pair of identical nailable boards (19, 24) which are fixed in opposed relationship on opposite sides of at least one spacer (20, 25, 26) forming a stop for restricting the depth of insertion of the beams (11, 12, 13) in said connecting means, and that the beams (11, 12, 13) to be interconnected are insertable into a position determined by the desired roof truss configuration, and are fixable by fixing means (23) which are driven through the boards (19, 24) of said connecting means and the beam (11, 12, 13) disposed therebetween.

2. Roof truss assembly as claimed in claim 1, c h a r a c t e r i s e d in that the truss base connecting means (18), in addition to the space for receiving the beams (11, 12, 13), has a space in which a shaft portion (30) of a loose truss overhang (29) is insertable and fixable.

3. Roof truss assembly as claimed in claim 1 or 2, c h a r a c t e r i s e d in that the connecting means (17, 18) are marked on the outside at the locations (22) where the fixing means (23) are to be driven in for anchorage of the beams (11, 12, 13) and optionally of said truss overhang (29) in said connecting means.

4. Roof truss assembly as claimed in any one of the preceding claims, c h a r a c t e r i s e d in that the connecting means (17, 18) consist of plywood boards (19, 24) which are nailed (21) on opposite sides of wooden blocks forming said spacers (20, 25, 26).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EUROPEAN SEARCH REPORT

Application number

EP 82 85 0095

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Y	US-A-4 275 537 (PINSON) *Column 3, lines 44-56; figures 1,2*	1,3	E 04 C 3/17 E 04 B 1/26
Y	GB-A-2 051 908 (CHAMPEAU) *Page 1, lines 100-107; figure 1*	1	
A	FR-A-2 434 908 (GASPAILLARD) *Page 4, lines 28-34; page 5, lines 17-21; page 6, lines 28-31; page 7, lines 28-38; page 8, lines 20-39; claim 1; figures 1,2,4*	1,4	
A	US-A-3 263 381 (DICKINSON) *Column 1, lines 11-16,21-28,47-72; column 2, lines 1-24,44-71; claim 1; figures 1-6*	1,3,4	
A	DE-A-1 609 653 (GREIMBAU) *Page 1; page 3, paragraph 3; page 4, paragraph 1; page 6, paragraphs 1,3; figures 1-4*	1	TECHNICAL FIELDS SEARCHED (Int. Cl. ³) E 04 C E 04 B
A	FR-A-1 067 094 (GAUTHIER) *Figures 1,4,7,9*	2	

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	03-12-1982	HENDRICKX X.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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L : document cited for other reasons

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A	CH-A- 86 676 (KIENAST) *Page 1, column 2, last paragraph; page 2, column 1, paragraph 1; figures 1,2*	4	
A	GB-A- 634 277 (CAWOOD)		
A	GB-A-2 041 060 (REDLAND)		

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

The present search report has been drawn up for all claims

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THE HAGUE	03-12-1982	HENDRICKX X.

CATEGORY OF CITED DOCUMENTS

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