(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 329 213 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **89200197.5**

(51) Int. Cl.4: **E04B 5/55**

(22) Date of filing: **30.01.89**

(30) Priority: **17.02.88 NL 8800398**

(43) Date of publication of application:
23.08.89 Bulletin 89/34

(84) Designated Contracting States:
BE DE FR GB LU NL

(71) Applicant: **FAAY VIANEN B.V.**
Mijlweg 3
NL-4141 PJ Vianen(NL)

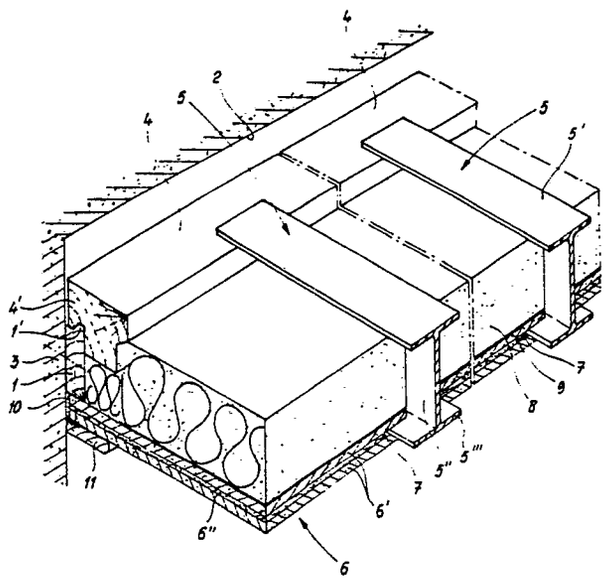
(72) Inventor: **Faay, Cornelis Anthonius**
Graafdijk 31
NL-3411 JV Lopik(NL)

(74) Representative: **de Bruijn, Leendert C. et al**
Nederlandsch Octrooibureau
Scheveningseweg 82 P.O. Box 29720
NL-2502 LS 's-Gravenhage(NL)

(54) Process for fitting a false ceiling.

(57) Process for fitting a false ceiling below the upper supporting structure (2) in a room comprising the steps of fitting supporting members (1, 4) onto opposite walls (3) of the room, connecting spaced apart sectional beams (5) each having a web (5″) and at least one flange (5′) perpendicular thereto, with their ends to said supporting members by placing said beams with the flanges (5′) resting freely on the supporting members (1, 4), so that the web (5″) of each sectional beam hangs down past the supporting members, while the end parts of the web are accommodated in a space within or between the supporting members (4).

Fig-3



EP 0 329 213 A1

Process for fitting a false ceiling.

The invention relates to a process for fitting a false ceiling below the upper supporting structure in a room bounded by walls.

It is desirable particularly when renovating relatively old houses to fit false ceilings in the rooms in these houses below the upper supporting structure, mainly to achieve improved sound insulation.

Such false ceilings were hitherto suspended from the upper supporting structure by means of hangers. Since the hangers here are fastened directly to the upper supporting structure, said hangers form sound bridges, consequently adversely affecting the sound-insulating effect of the false ceiling.

The object of the invention is to produce a process of the above-mentioned type, according to which a false ceiling with excellent sound-insulating properties can be obtained.

This object is achieved through the fact that in the process according to the invention supporting members are fitted on two opposite walls of the room a distance below the upper supporting structure, and a number of parallel, self-supporting, essentially beam-shaped parts spaced apart are connected by their ends to said supporting members, following which ceiling panels are fitted to said beam-shaped parts near the bottom sides thereof.

In this way the false ceiling obtained has no mechanical connection at all with the upper supporting structure, so that the sound-insulating effect of the ceiling is optimum.

In an advantageous manner the self-supporting beam-shaped parts are formed by sectional beams, for example made of steel, each having a web and at least one flange perpendicular thereto, these sectional beams being placed with their ends with the flanges resting freely on the supporting members, so that the web of each sectional beam hangs down past the supporting members, while the end parts of the web are accommodated in a space within or between the supporting members.

The sectional beams placed in this way can then expand or contract freely as a result of temperature fluctuations.

The supporting members are preferably each formed by an edge batten fixed to the wall in question and by a number of blocks which are fitted on the edge batten so that they are permitted to slide in the lengthwise direction thereof, in such a way that the sectional beams are placed with their flanges resting freely on the top sides of the blocks and the above-mentioned end parts of the web are always accommodated in the space between two adjacent blocks.

The sectional beams also preferably have an I section, so that these beams are fitted with their top flanges resting on the supporting members, the ceiling panels being provided at at least two parallel edge faces with a groove made therein and said panels being fixed at the bottom ends of the sectional beams by making the said groove grip the bottom flanges of the I sections.

The edge battens here advantageously have at their top sides an upward-projecting nose which in the fitted position lies away from the wall in question, and the blocks are provided at their top sides with a laterally projecting, downward-directed hook-shaped part which grips the nose.

In this way a false ceiling with excellent sound-insulating properties can be fitted in a very simple manner.

It is preferable to fit a layer of an insulating material in the space between the ceiling panels and the top sides of the beam-shaped members, thereby improving the insulating properties of the ceiling.

Finally, edging boards can be fitted along the sides of the ceiling panels facing the walls, against the bottom sides of the ceiling panels and connecting to the walls.

The invention is explained in greater detail with reference to the drawing, in which:

Fig. 1 shows in cross section an end part of a false ceiling obtained according to the process of the invention;

Fig. 2 shows a cross section along the line II-II in Fig. 1; and

Fig. 3 shows in perspective an end part of a ceiling obtained according to the invention.

As shown in the drawing, an edge batten 1 is fixed to a wall 3 of a room at a distance below the upper supporting structure 2. The edge batten 1 is provided with a nose 1′ which is gripped by the hook-shaped parts 4′ of a number of blocks 4. An edge batten 1 and blocks 4 are fitted in the same way, but in mirror image, on the wall (not shown) of the room opposite the wall 3.

The blocks 4 support a number of parallel I sections 5 which rest with the end parts of their upper flanges 5′ freely on the blocks 4, and the end parts of the web 5″ of each I section 5 are accommodated in the space between two adjacent blocks 4.

The ceiling panels 6 are provided at their side edges with grooves 7 which on either side of the web 5″ of each I section 5 grip the bottom flange 5‴ thereof.

A layer 8 of an insulating material, for example glass wool, is also placed on the ceiling panels,

with an aluminium sheet 9 between them. The seams between the ceiling panels 6 and the walls 3 are filled up with a filling material 10, after which an edging board 11 is finally fitted against the bottom sides of the ceiling panels.

The ceiling panels 6 are preferably made of two plaster slabs 6′ and a layer of cardboard 6″ connected to the plaster slabs 6′ between them, the latter layer being of such dimensions that the grooves remain open.

Claims

1. Process for fitting a false ceiling below the upper supporting structure in a room bounded by walls, characterized in that supporting members are fitted on two opposite walls of the room a distance below the upper supporting structure and a number of parallel, self-supporting, essentially beam-shaped parts spaced apart are connected by their ends to said supporting members, following which ceiling panels are fitted to said beam-shaped parts near the bottom sides thereof.

2. Process according to Claim 1, characterized in that the self-supporting beam-shaped parts are formed by sectional beams, for example made of steel, each having a web and at least one flange perpendicular thereto, and these sectional beams are connected to the supporting members by being placed with their ends with the flanges resting freely on the supporting members, so that the web of each sectional beam hangs down past the supporting members, while the end parts of the web are accommodated in a space within or between the supporting members.

3. Process according to Claim 2, characterized in that the supporting members are each formed by an edge batten fixed to the wall in question and by a number of blocks which are fitted on the edge batten so that they are permitted to slide in the lengthwise direction thereof, in such a way that the sectional beams are placed with their flanges resting freely on the top sides of the blocks and the above-mentioned end parts of the web are always accommodated in the space between two adjacent blocks.

4. Process according to Claims 2 or 3, characterized in that the sectional beams have an I section, and these beams are fitted with their top flanges resting on the supporting members, the ceiling panels being provided at at least two parallel edge faces with a groove made therein, and said panels being fixed at the bottom ends of the sectional beams by making the said grooves grip the bottom flanges of the I sections.

5. Process according to Claim 3 or 4, characterized in that the edge battens have at their top sides an upward-projecting nose which in the fitted position lies away from the wall in question, and the blocks are provided at their top sides with a laterally projecting, downward-directed hook-shaped part which grips the nose.

6. Process according to Claims 1-5, characterized in that a layer of an insulating material is fitted between the ceiling panels and the top sides of the beam-shaped parts.

7. Process according to Claims 1-6, characterized in that edging boards are fitted along the sides of the ceiling panels facing the walls, against the bottom sides of said panels and connecting to the walls.

Fig-1

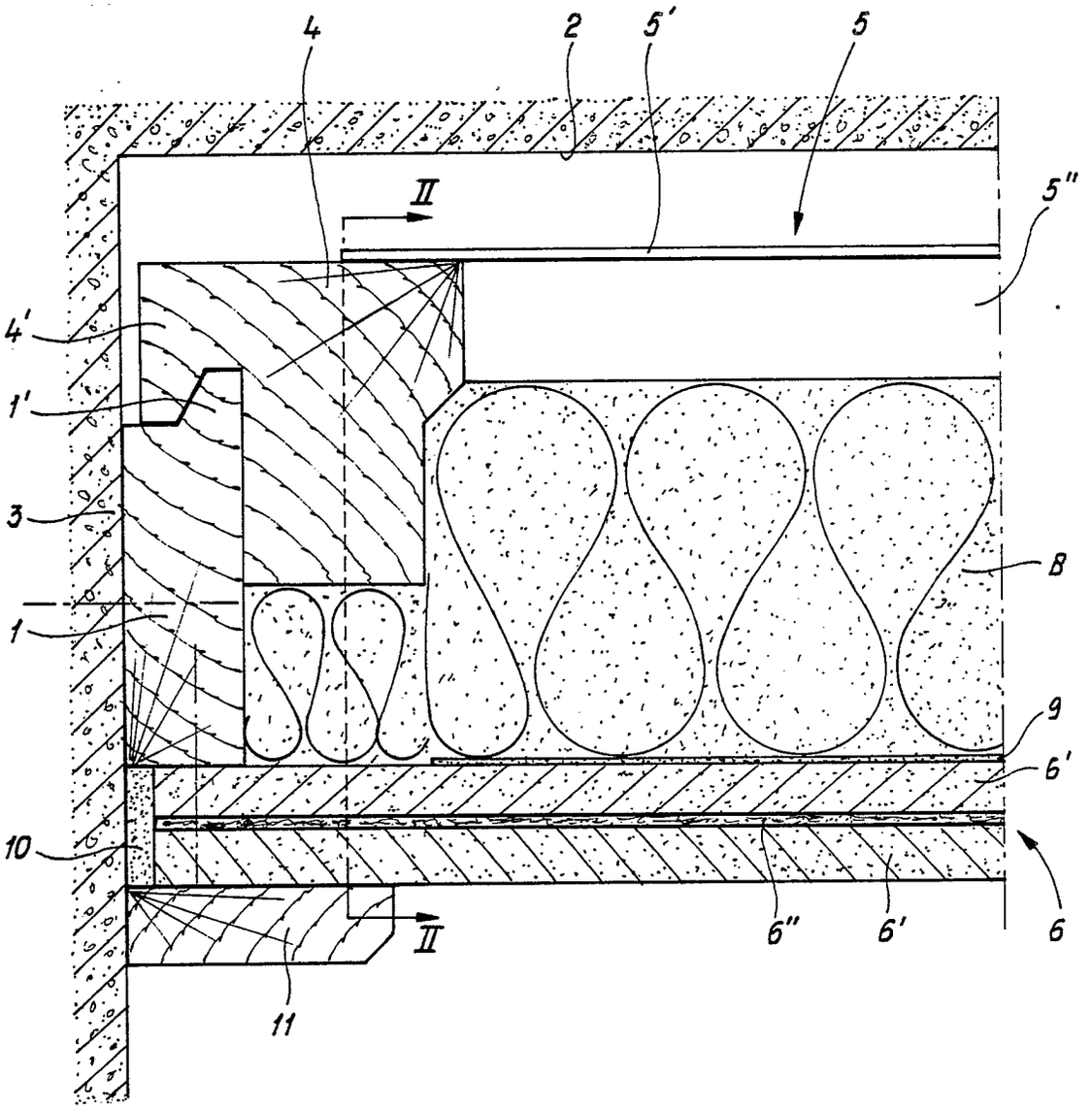


Fig-2

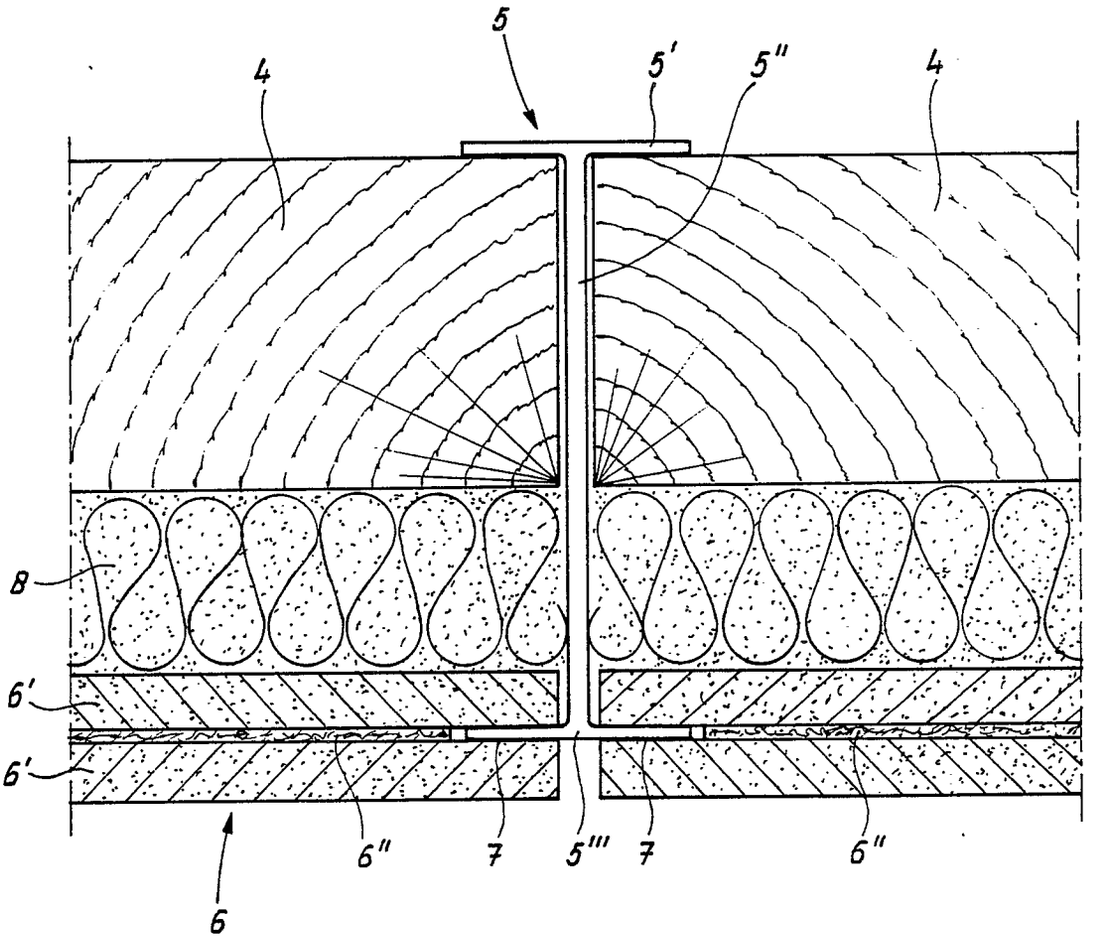
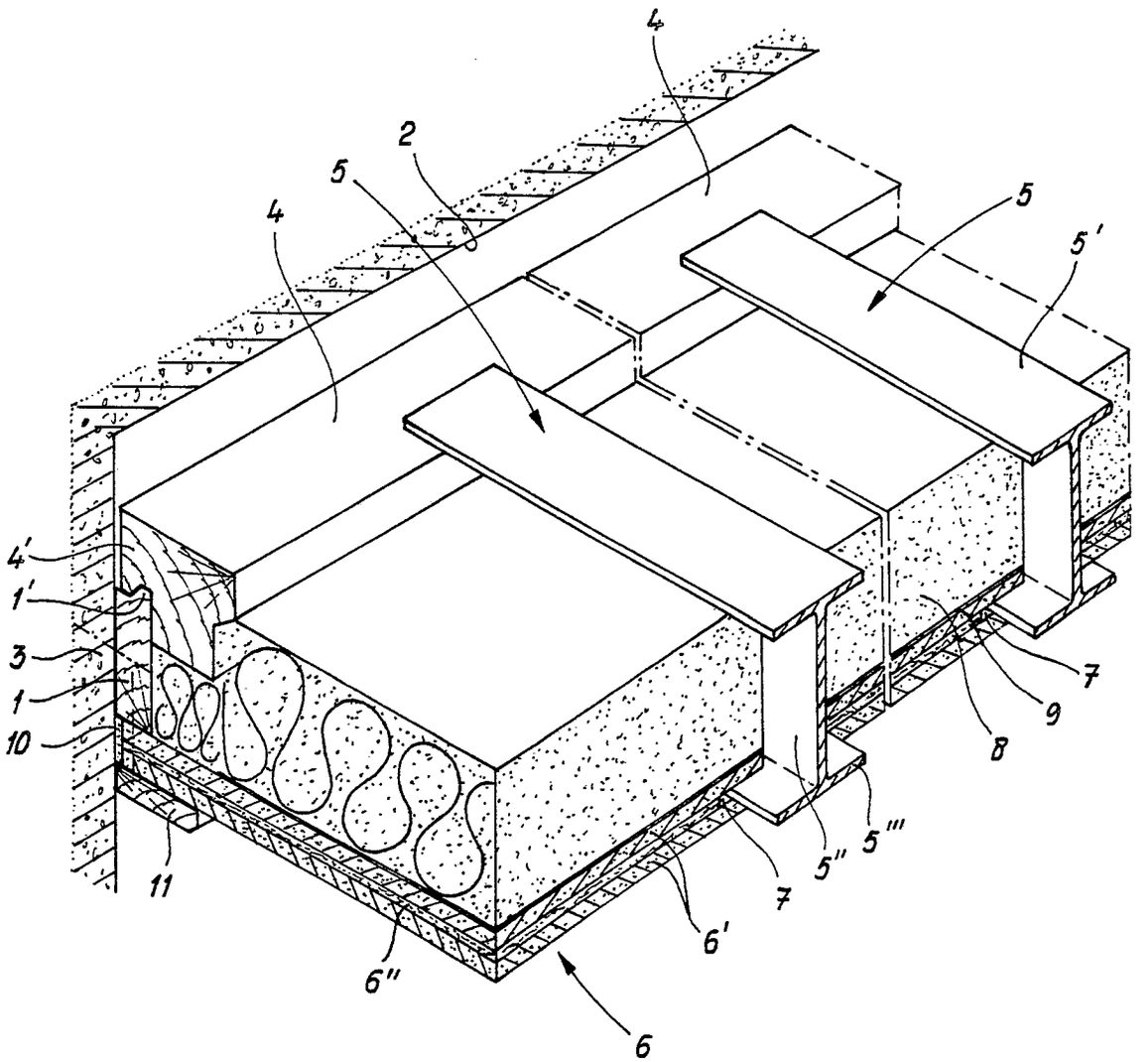


Fig-3



European Patent Office

EUROPEAN SEARCH REPORT

Application Number

EP 89 20 0197

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.4)
X	US-A-3 003 602 (LESTER) * Column 1, lines 65-72; column 2, lines 1-5,15-25; column 3, lines 38-47; column 4, lines 37-65; figures 3,4 *	1	E 04 B 5/55
Y		2	
Y	DE-A-3 209 287 (BOHLE) * Page 5, lines 20-29; page 6, lines 1-14; page 7, lines 11-26; page 8, lines 1-7,24-29; page 9, lines 6-7; figures 1,2,3,6 *	2	
A		4,6	
A	US-A-3 736 012 (BOYLAN) * Figures 1-3 *	2,4	
A	NL-C- 101 366 (GROHMANN) * Claims; figures 1,2 *	1,3	
A	NL-A-7 805 754 (ROCKWOOL) * Page 2, lines 3-25; figures *	1	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A	NL-A-7 113 469 (ASSAEL) * Figure 5 *	3,5	E 04 B
A	US-A-3 205 628 (FRISK) * Figures 6,7 *	3,5	
A	CH-A- 125 901 (MORIGGIA) * Page 1, column 2, paragraph 3; figures 4,5 *	4,7	
A	DE-U-8 626 199 (DIG DEUTSCHE INNENBAU) * Claim 1; figure 2 *	6	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	27-04-1989	HENDRICKX X.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P0401)