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(54) **FLOOR ASSEMBLY**

BODENANORDNUNG

ENSEMBLE PLANCHER

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Description

[0001] The invention relates to a floor assembly provided with at least one plate, and at least two beams connected to the plate which extend parallel to each other, wherein at a side of the beams remote from the plate at least two profiles can be positioned such that with the aid of the two profiles a detachable panel can be supported.

[0002] In the international patent application WO2009/058001 such a floor assembly and the advantages associated with detachable panels are described. The detachable panels are supported with the aid of at least one profile supported by the beam, which profile should extend transversely to the beam, which, depending on the orientation of the beams extending parallel to each other, implies a compulsory orientation of the detachable panels.

[0003] The object of the invention is to provide a floor assembly, wherein in a simple manner the disadvantages of the known floor assembly are avoided.

[0004] With the floor assembly according to claim 1, this object is achieved in that at least one bearing profile is positioned between the two beams, to which bearing profile at least one profile is attached.

[0005] With the aid of the bearing profile, in the floor assembly according to the present invention, detachable panels can be positioned both parallel to the beams and in a direction transverse to the beams. With the aid of the bearing profile, it is possible that directly below a detachable panel, no beam is located, but that the panel is floatingly supported by at least one bearing profile. The freedom with which the detachable panels can be positioned is greatly enhanced through the bearing profile.

[0006] A preferred embodiment of the floor assembly according to the present invention is characterized in that the bearing profile is attachable to the beam with the aid of a coupling means.

[0007] With the aid of a coupling means the bearing profile can be relatively simply mounted on the bearing beam, so that the floor assembly can be built up relatively rapidly and therefore cost-effectively. Through the use of a coupling means, the bearing profile can be manufactured at any standard length, while the bearing profile can be cut to size before assembling and, with the aid of the coupling means, be attached to a beam for providing a floor assembly according to the present invention.

[0008] Another embodiment of the floor assembly according to the present invention is characterized in that the bearing profile is provided, on the side proximal to the plate, with openings in which a first extremity of the coupling means is attachable.

[0009] In this manner, in a simple and brief assembling operation, a robust connection can be effected with the aid of the coupling means.

[0010] Yet another embodiment of the floor assembly according to the present invention is characterized in that the coupling means comprises a stepped form in which the first extremity is located at a higher level than a midsection of the coupling means extending parallel to the first extremity such that in a coupled condition, the midsection is located substantially against the underside of the bearing profile.

[0011] With the aid of the stepped form of the coupling element, in the assembled floor assembly a minimum amount of space is taken up by the coupling element.

[0012] A further embodiment of the floor assembly according to the present invention is characterized in that a second extremity of the coupling means located opposite the first extremity and extending parallel thereto is attachable to a beam.

[0013] Owing to such a design, a transition without differences in height between the coupling means and the bearing profile can be ensured.

[0014] A further embodiment of the floor assembly according to the present invention is characterized in that the coupling means can be detachably clamped in at least an extremity of the bearing profile that is at least of hollow design, while a non-clamped portion of the coupling means is attachable on the beam.

[0015] Such a coupling means that can be clamped can be mounted relatively simply and provides a robust connection between the beam and the bearing profile.

[0016] If the bearing profiles are manufactured to size ex factory, it is also possible to provide at least one extremity and preferably two extremities of each bearing profile with a one-piece attachment means connected to the bearing profile for attaching the bearing profile to the beam. For such bearing profiles, no coupling means are required.

[0017] The invention will be further elucidated on the basis of an exemplary embodiment shown in the drawings, wherein:

Fig. 1 shows a cross-sectional view of a floor assembly according to the invention.
Fig. 2 shows a perspective view of a floor assembly according to the invention.
Fig. 3 shows a perspective view of a floor assembly according to the invention.
Fig. 4 shows a perspective top plan view of a composite bearing profile according to the invention.
Fig. 5 shows a perspective bottom view of a composite bearing profile according to the invention.
Figs. 6a-6d show cross-sectional views of a coupling means of a composite bearing profile according to the invention.
Fig. 7 shows a perspective view of a corner joint between two profiles connecting transversely to each other.
Fig. 8 shows an alternative embodiment of a coupling means of a composite bearing profile according to the invention.

[0018] In the Figures, corresponding parts are provided with the same reference numeral.

[0019] Figs. 1 - 3 show views of a floor assembly A according to the invention. The assembly A is provided with a concrete plate 1 and a number of I-shaped beams 2 connected to the concrete plate 1, of which beams only one is represented in Fig. 1.

[0020] Each I-shaped beam 2 has two parts 21, 22 extending parallel to each other, and a bridge part 23 extending transversely between the parts 21, 22. The part 21 is located in the concrete plate 1. The bridge part 23 is preferably provided with passages 24 (see Fig. 2) extending transversely to the bridge part 23.

[0021] The floor assembly A is further provided with detachable panels 7 which are supported by at least one profile 3 of which only one is represented in Fig. 1. Such a profile 3 is know per se from WO2009/058001 of the present applicant and will therefore not be explained further. The floor assembly A further comprises a stonelike floor 8 supported by the profile 3 and a bearing profile 4 detachably disposed between two I-shaped beams for supporting the profile 3 which bearing profile 4 is detachably connected to a first extremity 25 of a coupling means 5 of which the profile extremity 26 of the coupling means 5 located opposite the first extremity 25 is located on the part 22 of the beam 2 for supporting the bearing profile 4 and the parts 3, 7, 8 of the assembly A located thereon. Between the part 22 of the beam 2 and the stonelike floor 8, and between the coupling means 5 and the part 22 of the beam 2, insulating elements 6, 9 are located for acoustically and/or thermally insulating the floor assembly A.

[0022] The floor assembly A further comprises angularly disposed profiles 3a, 3b, 3c, which, with the aid of the bearing profile 4, can extend both parallel and transversely to the beams 2. The angularly disposed profiles 3a, 3b, 3c are mutually connected with the aid of a corner joint 10. The profiles 3 can form a framework or form part thereof, for instance but not limited to a principally right-angled framework. One or more detachable panels can be placed within the framework and/or be supported by the profiles of the framework. The panel or the panels can close off an opening within the framework. The framework is preferably closed upon itself.

[0023] Fig. 4 shows a perspective top plan view of a first embodiment of a bearing profile 4 preferably of hollow design according to the invention which is provided, on extremities 30, 31 located opposite each other in longitudinal direction, with coupling means 5. The bearing profile 4 is provided, on the top side 32 remote from the plate 1 in mounted condition, with openings 11 with the aid of which a profile 3, 3a, 3c is attachable to the bearing profile 4. The openings 11 are repeated in a fixed pattern over the longitudinal direction of the bearing beam 4. Preferably, the profiles 3, 3a, 3c are also provided with such a pattern of openings.

[0024] Fig. 5 shows a perspective bottom view of a bearing profile 4 which is provided with coupling means 5 on the extremities 30, 31 located opposite each other in longitudinal direction. The underside 33 of the bearing profile 4 also comprises openings 12 in the form of slot recesses 12. The openings 12 are repeated in a fixed pattern over the longitudinal direction of the carrier beam 4. Due to the openings 11, 12 extending over the entire length of the bearing profile, the bearing profiles 4 can be manufactured having a standard size of, for instance, 2 meters, while upon assembly of the floor assembly A, the bearing profile 4 can be cut to the correct side in situ.

[0025] In the Figures 6A-D it is shown how the bearing profile 4 can be attached with the aid of the coupling means 5 to a beam (not shown in Figs. 6A-D). The coupling means 5 is provided with a stepped form, in which the first extremity 35 is located at a higher level than a mid-section 37 of the coupling means 5 that extends parallel to the first extremity 35. The first extremity 35 is connected via a connecting part 36 to the mid-section 37. The height of the connecting part 36 preferably almost corresponds to the sum of the thickness of the first extremity 35, the thickness of the mid-section 37 and the thickness of the underside 33 of the hollow bearing profile 4 so that, in coupled condition, the mid-section 37 is located substantially against the underside 33 of the bearing profile 4.

[0026] Further, a second extremity 39 of the coupling means 5, located opposite the first extremity 35 and extending parallel thereto, is attachable to the part 22 of the beam 2. The second extremity 39 extends parallel to the mid-section 37 and is located highest. With the aid of a connecting part 38, the mid-section 37 is connected to the second extremity 39. The distance h between the underside of the mid-section 37 and the underside of the second extremity 39 is preferably substantially equal to the height of the bearing profile 4, so that a transition 50 between the bearing profile 4 and the coupling means 5 positioned on the beam 2 comprises almost no height difference.

[0027] Upon attachment of the coupling means 5, first, the first extremity 35 of the coupling means 5 is inserted into an opening 12 in the underside 33 of the bearing profile 4 in a direction indicated with arrow M. The opening 12 is dimensioned such that the first extremity 36 of the coupling means 5 is movable therethrough with minimum clearance, until the connecting part 36 abuts against the underside 33 of the bearing profile, hinged about a pivot 13, which is represented in Fig. 6B. Then, as is represented in Fig. 6C, the coupling means 5 is pivoted about pivot 13 in the direction indicated by arrow R, until the top surface of the second extremity 30 is located almost in one plane with the top side 32 of the bearing profile 4 (see Fig. 6D). In this position, with the floor assembly in mounted condition, the coupling means 5 will rest on the beam 2. Now, the profiles 3 can be positioned on the bearing profile 4 so that detachable panels can be placed with greater freedom in the surface to be defined by the floor assembly.

[0028] Fig. 7 shows a perspective view of the corner joint 10 of the profile 3a with the profile 3b according to the invention, which corner joint 10 is provided with a

support 15 which can seamlessly link up with the support 45 of the profiles 3a, 3b. The corner joint 10 further comprises projecting connecting pins 16a,16b, which are dimensioned such that they can be clampingly attached in the hollow spaces 17 of the profiles 3a and 3b or be detachably attached in a different manner. Preferably, the corner joint 10 is manufactured from plastic.

[0029] Fig. 8 shows an alternative embodiment of a coupling means 105 for providing a transition 50 without levels. The coupling means 105 comprises a first portion 107 which can be detachably clamped in the extremity 31 of the bearing profile 4, and a second portion 111 which is attachable, optionally with an insulating element 6, to a beam 2. The first portion 107 is connected with the aid of an intermediate piece 109 to the second portion 111.

[0030] The bearing profile 4 and the coupling means 5 are preferably manufactured from metal while the different parts can be welded together.

[0031] Through the use of acoustically and/or thermally insulating elements, a floor assembly A with good acoustically and/or thermally insulating values is obtained.

[0032] Optionally, the openings 11 provided for assembly can also be omitted. Further, it is possible to replace the openings 11 by assembly supporting markings, in the form of, for instance, centring points or stripes which can be produced relatively easily and rapidly.

[0033] With bearing profiles made ex factory (not shown) it is possible to provide at least one extremity 30, 31 with a one piece attachment means (not shown) connected to the bearing profile, so that the coupling means (5, 105) is no longer required.

[0034] In embodiments of the invention, acoustically insulating elements may be provided on the top of the beams. For instance, but not limited to strips with a top side. The top of the bearing profiles can then, at least there where they support the profiles 3, be approximately flush with the top of those elements. The profiles can then extend in any direction over and between the beams, supported by at least the elements and/or the bearing profiles, for instance parallel to or at an angle to the longitudinal direction of the beams and/or at an angle deviating 90° or 180°.

[0035] In one method, a floor can be formed, preferably with a floor assembly as described hereinabove, wherein an element having a plate and beams connected thereto is laid on a bearing construction, such as walls of a building, while on the top side of the beams at least one, and preferably at least two bearing profiles are placed, wherein on a top of the or the at least two bearing profiles at least one profile is placed on which a detachable panel is supported which forms part of the floor, together with further floor parts supported on the beams, preferably stonelike floor parts. Thus, from a number of profiles, a framework can be formed which is supported on at least one bearing profile and wherein on or within the framework at least one detachable panel is supported.

[0036] The invention is not limited in any manner to the embodiments shown in the Figures. Many variations thereon are possible within the scope of the invention as given by the claims.

Claims

1. A floor assembly provided with at least one plate (1), and at least two beams (2) connected to the plate (1), wherein at a side of the beams (2) remote from the plate (1) at least one and preferably at least two bearing profiles (4) are positioned, **characterized in that** on the at least one bearing profile (4) and/or between the preferably at least two bearing profiles (4) at least one profile (3) is attached, on which profile (3) a detachable panel (7) is supported, wherein none of said at least two beams (2) is located directly below the panel (7).

2. A floor assembly according to claim 1, **characterized in that** the bearing profile (4) is attachable to the beam (2) with the aid of a coupling means (5, 105).

3. A floor assembly according to claim 2, **characterized in that** the bearing profile (4) is provided, on the side proximal to the plate (1), with openings in which a first extremity of the coupling means (5, 105) is attachable.

4. A floor assembly according to any one of the preceding claims, **characterized in that** the coupling means (5, 105) comprises a stepped form, wherein the first extremity is located at a higher level than a mid-section of the coupling means extending parallel to the first extremity, such that in a coupled condition the mid-section is located substantially against the underside of the bearing profile (4).

5. A floor assembly according to claim 4, **characterized in that** a second extremity of the coupling means (5, 105) located opposite the first extremity and extending parallel thereto is attachable on a beam (2).

6. A floor assembly according to claim 1 or 2, **characterized in that** the coupling means (5, 105) can be detachably clamped in an extremity of the bearing profile (4) that is at least of hollow design, while a non-clamped portion of the coupling means (5, 105) is attachable on a beam (2).

7. A floor assembly according to claim 1, **characterized in that** the bearing profile (4) is provided on at least one extremity with a one-piece attachment means (5, 105) connected to the bearing profile for attaching the bearing profile on a beam (2).

8. A floor assembly according to any one of the preceding claims, **characterized in that** the bearing profile (4) is provided with openings on the side remote from the plate (1), with the aid of which openings a profile is attachable on the bearing profile (4).

9. A floor assembly according to any one of the preceding claims, **characterized in that** thermal and/or acoustic insulating elements can be positioned between different parts of the floor assembly, preferably between the bearing profile (4) and the beam (2).

10. A floor assembly according to any one of the preceding claims, **characterized in that** two profiles extending transversely to each other can be interconnected with the aid of a corner joint (10).

11. A floor assembly according to any one of the preceding claims, wherein the profile (3) supported by the at least one bearing profile (4) forms part of a framework closed upon itself of profiles, on which and/or within which the detachable panel (7) is supported, in particular such that a framework formed by the profiles has an opening which is closed off by the panel or a number of detachable panels.

12. A floor assembly according to any one of the preceding claims, wherein on the top side of the beams (2) acoustically insulating elements (9) such as strips are placed, having a top side, and wherein the bearing profiles (4) have a top side which is approximately flush with the top side of the acoustically insulating elements (9).

13. A method for forming a floor, wherein an element with a plate (1) and beams (2) connected thereto is placed on a bearing construction, such as walls of a building, wherein on the top side of the beams at least one and preferably at least two bearing profiles (4) are placed, wherein on a top side of the at least one bearing profile (4) or the at least two bearing profiles (4) at least one profile (3) is placed on which a detachable panel (7) is supported which forms part of the floor, together with further floor parts supported on the beams (2) preferably stone-like floor parts, wherein none of said beams (2) no beam is located directly below the panel (7).

14. A method according to claim 13, wherein from a number of profiles (3), a framework is formed, which is supported on at least one bearing profile (4), and wherein on or within the framework at least one detachable panel (7) is supported.

15. A floor assembly according to any one of claims 1-12, wherein the panel (7) is positioned between said beams (2), spaced apart from said beams (2).

Patentansprüche

1. Bodenanordnung mit mindestens einer Platte (1) und mindestens zwei mit der Platte (1) verbundenen Balken (2), wobei an einer von der Platte (1) entfernten Seite der Balken (2) mindestens ein und bevorzugt zwei Trägerprofile (4) angebracht sind, **dadurch gekennzeichnet, dass** an dem mindestens einen Trägerprofil (4) und/oder zwischen vorzugsweise wenigstens zwei Trägerprofilen (4) mindestens ein Profil (3) befestigt ist, wobei an diesem Profil (3) ein abnehmbares Paneel (7) gestützt wird, wobei keiner der mindestens zwei (2) Balken direkt unter dem Paneel (7) angeordnet ist.

2. Bodenanordnung nach Anspruch 1, **dadurch gekennzeichnet dass** das Trägerprofil (4) mithilfe eines Kopplungsmittels (5, 105) am Balken (2) befestigt werden kann.

3. Bodenanordnung nach Anspruch 2, **dadurch gekennzeichnet, dass** das Trägerprofil (4) auf der Seite proximal zur Platte (1) bereitgestellt ist, mit Öffnungen, in denen eine erste Extremität des Kopplungsmittels (5, 105) befestigt werden kann.

4. Bodenanordnung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Kopplungsmittel (5, 105) eine Stufenform aufweist, wobei die erste Extremität auf einer höheren Ebene als einem Mittenabschnitt des Kopplungsmittels, verlaufend parallel zu der ersten Extremität, angeordnet ist, sodass in einem gekoppelten Zustand der Mittenabschnitt im Wesentlichen gegen die Unterseite des Trägerprofils (4) angeordnet ist.

5. Bodenanordnung nach Anspruch 4, **dadurch gekennzeichnet, dass** eine zweite Extremität des Kopplungsmittels (5, 105), die gegenüber der ersten Extremität angeordnet ist und parallel zu dieser verläuft, auf einem Balken (2) befestigt werden kann.

6. Bodenanordnung nach Anspruch 1 oder 2, **dadurch gekennzeichnet, dass** das Kopplungsmittel (5, 105) abnehmbar in eine Extremität des Trägerprofils (4), das mindestens ein hohles Design aufweist, geklemmt werden kann, während ein nicht eingeklemmter Abschnitt des Kopplungsmittels (5, 105) auf einem Balken (2) befestigt werden kann.

7. Bodenanordnung nach Anspruch 1, **dadurch gekennzeichnet, dass** das Trägerprofil (4) an mindestens einer Extremität mit einem einteiligen Befestigungsmittel (5, 105), verbunden mit dem Trägerprofil zum Befestigen des Trägerprofils auf einem Balken (2), bereitgestellt ist.

8. Bodenanordnung nach einem der vorhergehenden

Ansprüche, **dadurch gekennzeichnet, dass** das Trägerprofil (4) mit Öffnungen auf der von der Platte (1) entfernten Seite versehen ist, mit deren Hilfe ein Profil am Trägerprofil (4) befestigt werden kann.

9. Bodenanordnung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** thermisch und/oder akustisch isolierende Elemente zwischen verschiedenen Teilen der Bodenanordnung, bevorzugt zwischen dem Trägerprofil (4) und dem Balken (2) positioniert werden können.

10. Bodenanordnung nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** zwei quer zueinander verlaufende Profile mithilfe eines Eckgelenks (10) miteinander verbunden werden können.

11. Bodenanordnung nach einem der vorhergehenden Ansprüche, wobei das von mindestens einem Trägerprofil (4) gestützte Profil (3) einen Teil eines in sich geschlossenen Rahmens von Profilen bildet, an dem und/oder in dem das abnehmbare Paneel (7) insbesondere so gestützt wird, dass ein von den Profilen gebildeter Rahmen mindestens eine Öffnung aufweist, die von dem Paneel oder einer Anzahl abnehmbarer Paneele abgeschlossen wird.

12. Bodenanordnung nach einem der vorhergehenden Ansprüche, wobei auf der Oberseite der Balken (2) akustisch isolierende Elemente (9) wie beispielsweise Streifen, die eine Oberseite aufweisen, platziert sind, und wobei die Trägerprofile (4) eine Oberseite aufweisen, die ungefähr bündig zur der Oberseite der akustisch isolierenden Elemente (9) ist.

13. Verfahren zum Bilden eines Bodens, wobei ein Element mit einer Platte (1) und daran verbundenen Balken (2) auf eine Trägerkonstruktion wie beispielsweise Wände eines Gebäudes platziert wird, wobei auf der Oberseite der Balken mindestens ein und bevorzugt mindestens zwei Trägerprofile (4) platziert werden, wobei auf einer Oberseite des mindestens einen Trägerprofils (4) oder der mindestens zwei Trägerprofile (4) mindestens ein Profil (3) platziert wird, auf dem ein abnehmbares Paneel (7), das Teil des Bodens bildet, gestützt wird, zusammen mit weiteren auf den Balken (2) gestützten Bodenteilen, bevorzugt steinähnlichen Bodenteilen, wobei keiner der Balken (2) direkt unter dem Paneel (7) angeordnet ist.

14. Verfahren nach Anspruch 13, wobei von einer Anzahl an Profilen (3) ein Rahmen gebildet wird, der auf mindestens einem Trägerprofil (4) gestützt wird und wobei auf oder in dem Rahmen mindestens ein abnehmbares Paneel (7) gestützt wird.

15. Bodenanordnung nach einem der Ansprüche 1-12, wobei das Paneel (7) zwischen den Balken (2) in einem Abstand von den Balken (2) angeordnet ist.

Revendications

1. Ensemble plancher doté d'une plaque (1) au moins et de deux poutres (2) au moins connectées à la plaque (1), dans lequel sont positionnés, au niveau d'un côté des poutres (2) distant de la plaque (1), au moins un et de préférence au moins deux profilés porteurs (4), **caractérisé en ce que** sur le ou les profilés porteurs (4) et/ou entre les au moins deux profilés porteurs (4) de préférence, est fixé au moins un profilé (3), profilé (3) sur lequel est supporté un panneau amovible (7), dans lequel aucune desdites deux poutres (2) au moins ne se situe directement sous le panneau (7).

2. Ensemble plancher selon la revendication 1, **caractérisé en ce que** le profilé porteur (4) peut être fixé sur la poutre (2) à l'aide de moyens d'accouplement (5, 105).

3. Ensemble plancher selon la revendication 2, **caractérisé en ce que** le profilé porteur (4) est doté, sur le côté proximal par rapport à la plaque (1), d'ouvertures dans lesquelles peut être fixée une première extrémité des moyens d'accouplement (5, 105).

4. Ensemble plancher selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les moyens d'accouplement (5, 105) comprennent une forme étagée, dans laquelle la première extrémité se situe à un niveau plus haut qu'une section médiane des moyens d'accouplement qui s'étend parallèle à la première extrémité, de telle sorte que, dans un état d'accouplement, la section médiane se situe sensiblement contre le dessous du profilé porteur (4).

5. Ensemble plancher selon la revendication 4, **caractérisé en ce qu'**une seconde extrémité des moyens d'accouplement (5, 105) située à l'opposé de la première extrémité et qui s'étend parallèle à celle-ci, peut être fixée sur une poutre (2).

6. Ensemble plancher selon la revendication 1 ou la revendication 2, **caractérisé en ce que** les moyens d'accouplement (5, 105) peuvent être fixés de manière amovible dans une extrémité du profilé porteur (4) qui présente au moins une conception creuse, tandis qu'une partie non fixée des moyens d'accouplement (5, 105) peut être fixée sur une poutre (2).

7. Ensemble plancher selon la revendication 1, **caractérisé en ce que** le profilé porteur (4) est doté, sur

une extrémité au moins, de moyens de fixation d'un seul tenant (5, 105) connectés au profilé porteur et destinés à fixer le profilé porteur sur une poutre (2).

8. Ensemble plancher selon l'une quelconque des revendications précédentes, **caractérisé en ce que** le profilé porteur (4) est doté d'ouvertures situées sur le côté distant de la plaque (1), ouvertures grâce auxquelles un profilé peut être fixé sur le profilé porteur (4).

9. Ensemble plancher selon l'une quelconque des revendications précédentes, **caractérisé en ce que** des éléments d'isolation thermique et/ou acoustique peuvent être positionnés entre différentes parties de l'ensemble plancher, de préférence entre le profilé porteur (4) et la poutre (2).

10. Ensemble plancher selon l'une quelconque des revendications précédentes, **caractérisé en ce que** deux profilés qui s'étendent de manière transversale l'un par rapport à l'autre, peuvent être interconnectés à l'aide d'une jointure de coin (10).

11. Ensemble plancher selon l'une quelconque des revendications précédentes, dans lequel le profilé (3) supporté par le ou les profilés porteurs (4), fait partie d'un cadre de profilés fermé sur lui-même, sur lequel et/ou à l'intérieur duquel est supporté le panneau amovible (7), en particulier de telle sorte qu'un cadre formé par les profilés présente une ouverture qui est fermée par le panneau ou par un certain nombre de panneaux amovibles.

12. Ensemble plancher selon l'une quelconque des revendications précédentes, dans lequel des éléments isolants de manière acoustique (9) qui présentent un côté supérieur, tels que des bandes, sont placés sur le côté supérieur des poutres (2) et dans lequel les profilés porteurs (4) présentent un côté supérieur qui affleure de manière approximative le côté supérieur des éléments isolants de manière acoustique (9).

13. Procédé destiné à former un plancher, dans lequel un élément doté d'une plaque (1) et de poutres (2) connectées à celle-ci, est placé sur une construction porteuse, telle que des murs d'un bâtiment, dans lequel au moins un et de préférence au moins deux profilés porteurs (4) sont placés sur le côté supérieur des poutres, dans lequel, sur un côté supérieur du profilé porteur (4) au moins ou des deux profilés porteurs (4) au moins, un profilé (3) au moins est placé, profilé sur lequel est supporté un panneau amovible (7) qui fait partie du plancher, ainsi que d'autres parties de plancher supportées sur les poutres (2), de préférence des parties de plancher similaires à des pierres, dans lequel aucune desdites poutres (2) ne se situe directement sous le panneau (7).

14. Procédé selon la revendication 13, dans lequel un cadre est formé à partir d'un certain nombre de profilés (3), cadre qui est supporté sur un profilé porteur (4) au moins et dans lequel un panneau amovible (7) au moins est supporté sur le cadre ou à l'intérieur de celui-ci.

15. Ensemble plancher selon l'une quelconque des revendications 1 à 12, dans lequel le panneau (7) est positionné entre lesdites poutres (2) et est espacé desdites poutres (2).

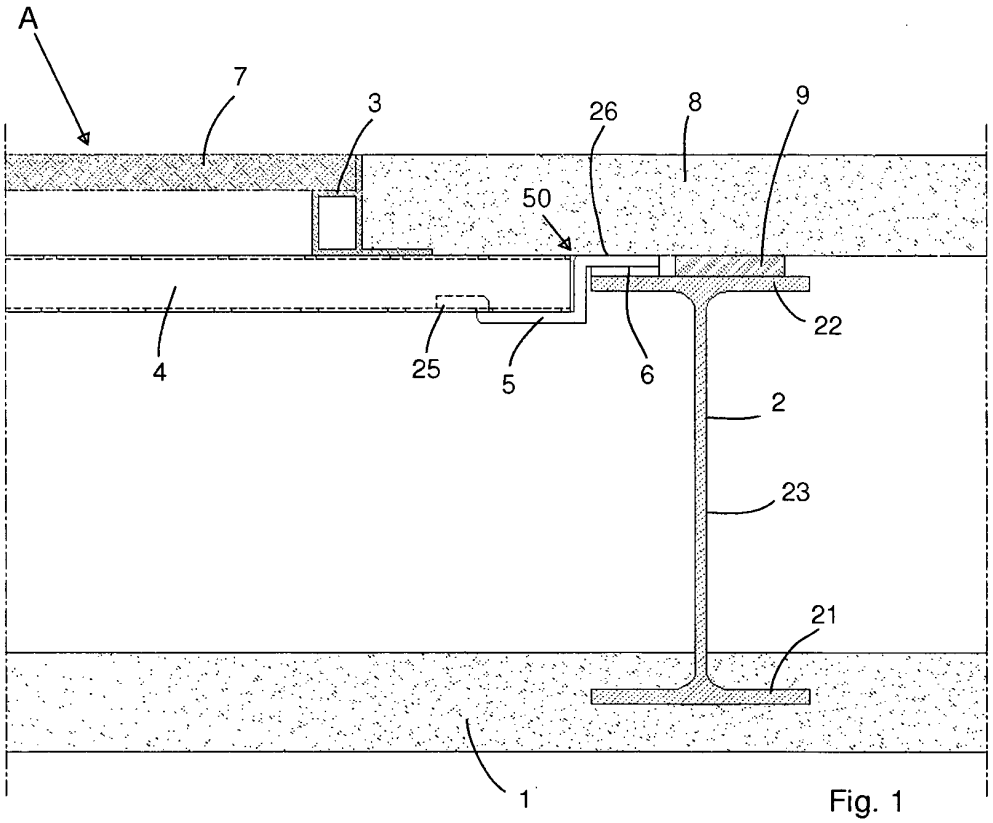

A
7
3
26
8
9
50
4
25
5
6
22
2
23
21
1

Fig. 1

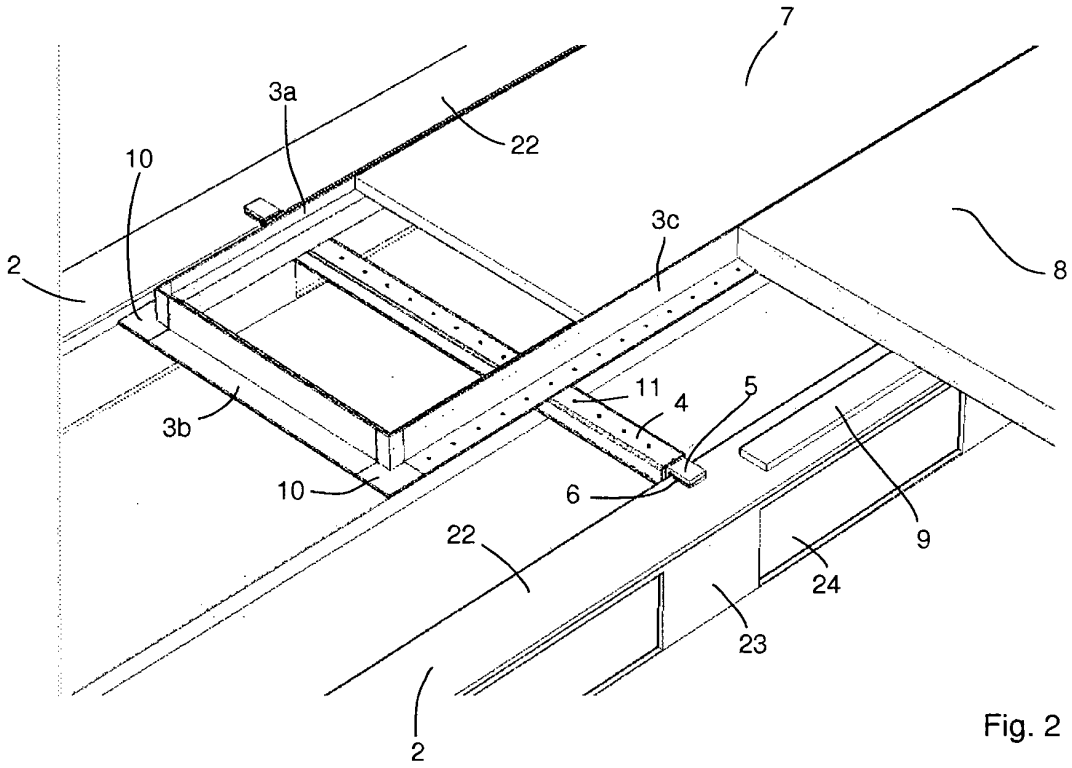

7
3a
22
10
3c
2
8
11
4
5
3b
10
6
22
9
24
23
2

Fig. 2

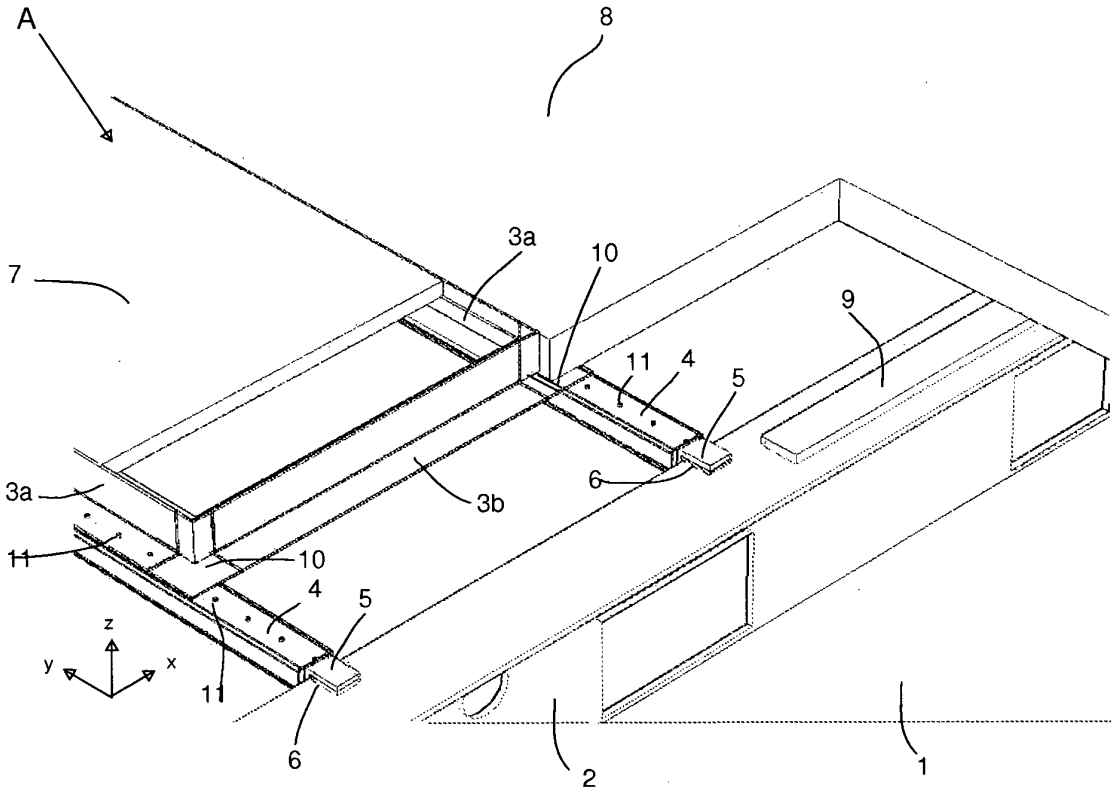


Fig. 3

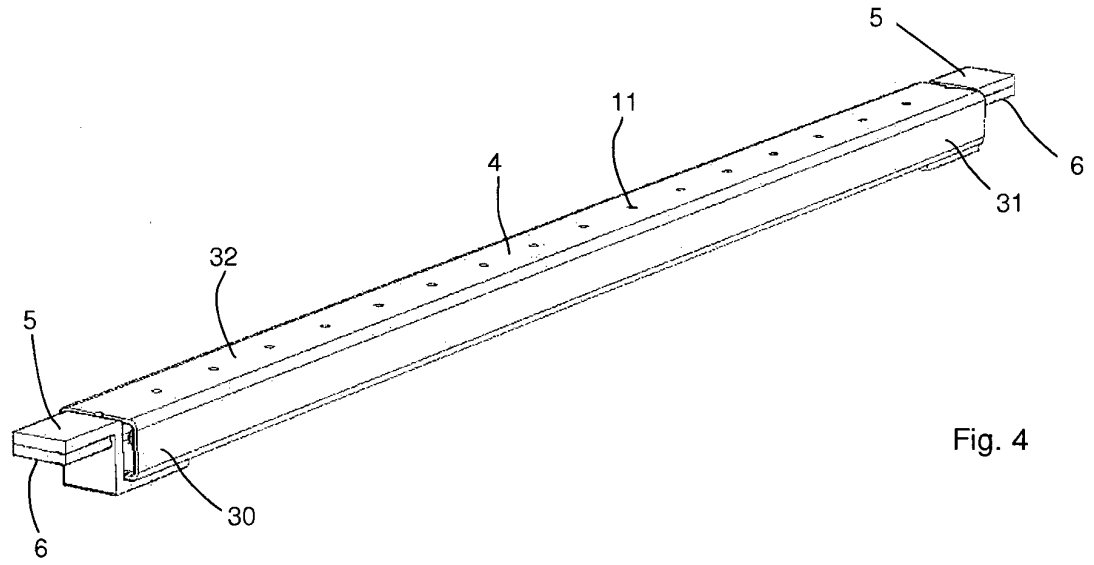


Fig. 4

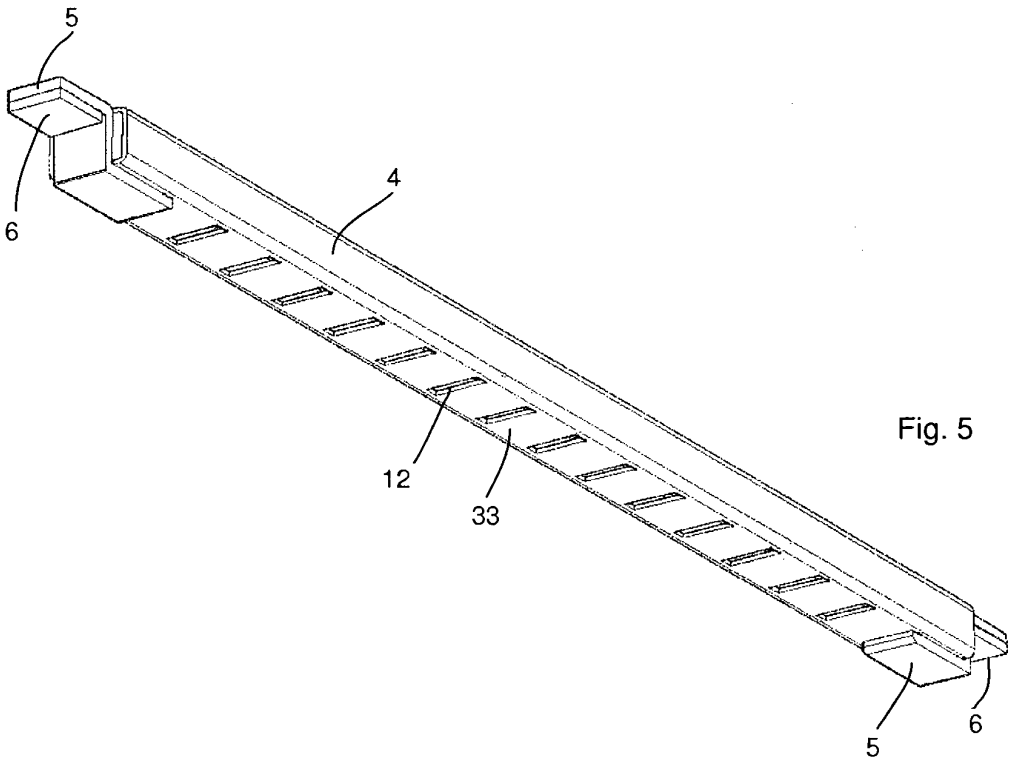


Fig. 5

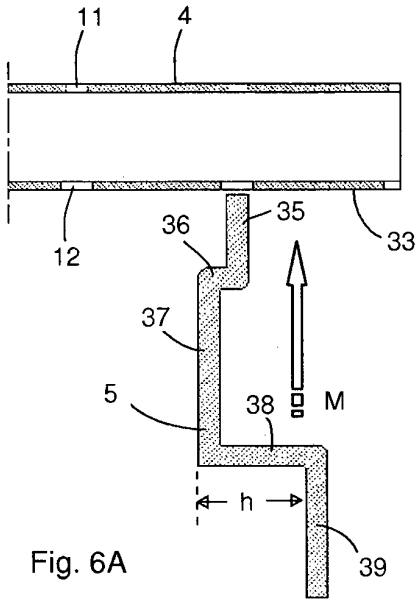


Fig. 6A

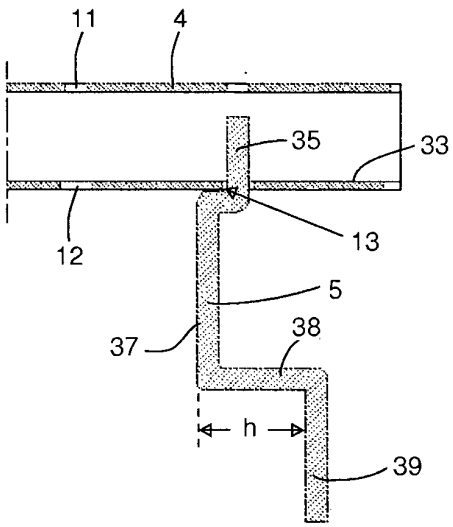


Fig. 6B

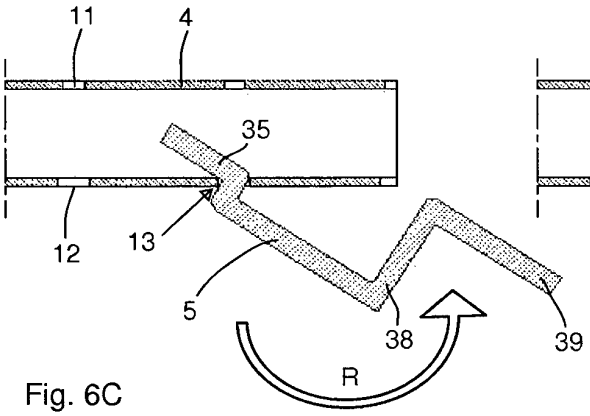


Fig. 6C

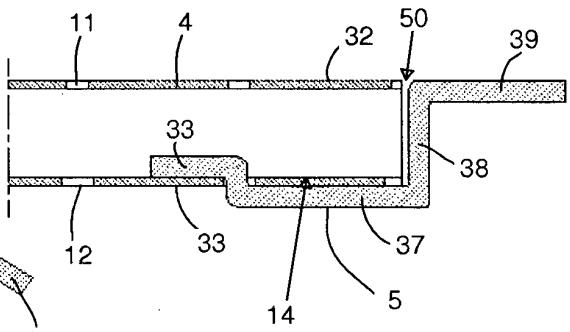


Fig. 6D

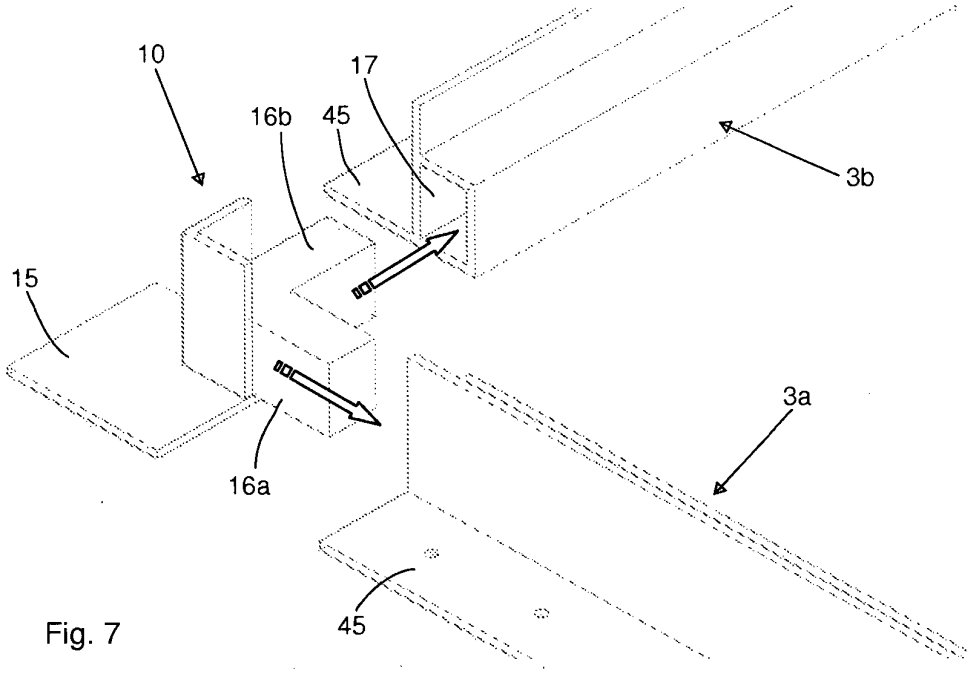


Fig. 7

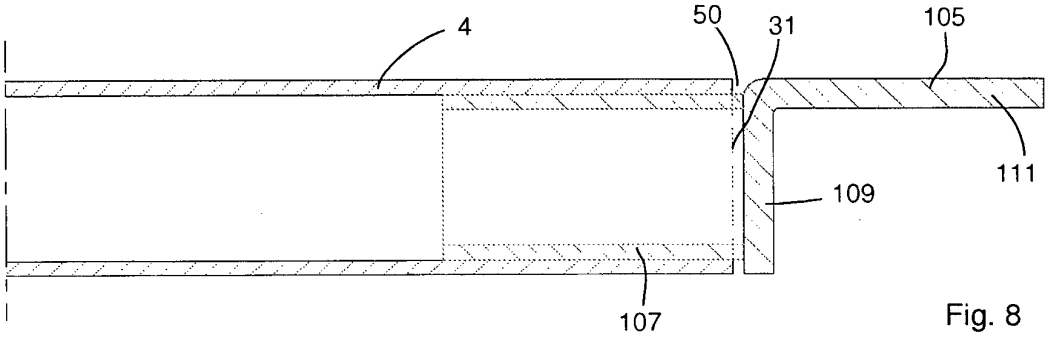


Fig. 8

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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