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

(11) **EP 3 913 160 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
24.11.2021 Bulletin 2021/47

(21) Application number: **21020265.1**

(22) Date of filing: **19.05.2021**

(51) Int Cl.:
E04B 2/06 *(2006.01)* ***E04B 2/16*** *(2006.01)*
E04C 2/38 *(2006.01)* ***E04C 2/40*** *(2006.01)*
E04B 1/82 *(2006.01)*

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **19.05.2020 CZ 20203755**

(71) Applicant: **HON a.s.**
160 00 Praha (CZ)

(72) Inventors:
- **Václav, Hon**
  747 45 Skripov (CZ)
- **Juchelka, Pavel**
  747 69 Pusta Polom (CZ)

(74) Representative: **Kendereski, Dusan**
Turanka 115a
627 00 Brno (CZ)

(54) **AN ACOUSTIC MODULAR SEGMENT AND AN ASSEMBLY OF ACOUSTIC MODULAR SEGMENTS**

(57) The present invention relates to an acoustic modular segment (1) comprising a frame with side walls (2), an upper and lower base (3, 4) and facing sides (5); at least one reinforcing element (7) between the upper and lower base (3, 4); a filling (6) of acoustically insulating material arranged inside the frame outside the reinforcing element (7); and at least two openings (8) for a fixing component (18) and at least two receivers (9) for holding the fixing component (18). At least one opening (8) and at least one receiver (9) are always arranged in both the lower and upper base (3, 4) and these are guided inside the reinforcing element (7). The opening (8) for the fixing component (18) in the upper base (3) is arranged directly above the opening (8) for the fixing component (18) in the lower base (4) and the receiver (9) for holding the fixing component (18) in the upper base (3) is arranged directly above the receiver (9) for holding the fixing component (18) in the lower base (4) and their connecting line passes through the reinforcing element (7). The present invention further relates to an assembly of acoustic modular segments (1) comprising at least two acoustic modular segments (1).

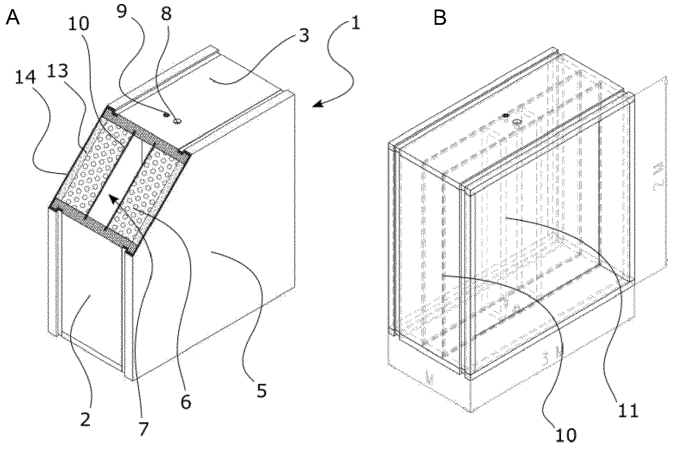

Fig. 2

EP 3 913 160 A2

Description

Field of the Invention

[0001] The present invention relates to acoustic modular segments and assemblies thereof, especially in the form of variable, demountable and self-supporting structures of interior partitions and walls, which can be assembled by brick bonding from acoustic modular segments without the need of anchoring to building structures.

Background of the Invention

[0002] Interior partitions are vertical, non-load-bearing structures purposefully dividing the interior spaces of buildings into integral parts or zones according to functional continuity given by specific requirements. They separate rooms optically, thermally, in terms of security and mainly acoustically (soundproofing). The most common demountable constructions are aluminium (or metal), grid-like, movable, partition systems, mobile sliding or folding sandwich panel partitions or adjustable frameless all-glass partitions. However, these constructions require anchoring to a load-bearing structure of buildings at a minimum of one point of contact.

[0003] Portable or easily relocatable structures without the need of anchoring to the building structure are usually frame sandwich structures stabilized by bases having an appropriate width and weight depending on the overall height of the structure. They are therefore used only as partial optical and anti-noise measures only up to a certain height, not as a division of the interior from floor to ceiling, because the parameters of the base do not allow it.

[0004] WO 2010047570 A1 discloses a modular, double-walled, wooden building block with a thermal insulation filling, comprising two longitudinal (facing) walls, between them two spaced walls at a distance, and a thermal insulation material arranged in the inner space between the walls. Both longitudinal walls have projecting edges on which protrusions and grooves are arranged for fixing to another block. The connection of two adjoining blocks comprises a reinforcing connecting rod, or a connecting key arranged between the transverse walls of two adjacent blocks, or optionally a profiled reinforcing connecting key instead of one transverse wall, which is adjacent to the transverse wall of an adjacent block. A vertical through hole for locking bars for fixing the blocks arranged one on another is guided through both transverse walls (in the case of the connecting rod or key) or one transverse wall (in the case of the profiled connecting key instead of the remaining transverse wall). The mounting space for the locking bars is thus not acoustically insulated from the longitudinal walls, which can impair the acoustically insulating properties of said blocks, the primary function of which is in each case thermal insulation.

[0005] WO 2011060468 A1 discloses a wood-composite building component comprising an outer and an inner wooden wall, and an insulation filling arranged between them. On the sides of the outer and inner wooden wall adjacent to the insulation filling, grooves are arranged, which are filled with the insulation filling. The individual building components are glued to each other during the construction of the wall, which does not allow easy disassembly or reconstruction of said wall.

[0006] KR 19990021993 U discloses in particular various modifications of fixing components between wooden building components. The missing reinforcing element inside the wooden building component allows the use of only rigid insulating materials to ensure sufficient rigidity of the entire component.

[0007] These building block structures are based on solid or composite wood materials, while the surface is firm and smooth. None of the known solutions is fully acoustically insulating, because in no part or block is the mounting space for mutual fixing of the blocks from the facing sides acoustically insulated.

Summary of the Invention

[0008] The object of the invention is to propose a variable self-supporting composable system of acoustic modular segments for the assembly of interior partitions and walls without the need for anchoring to the building structure, which would also allow the creation of various colour and grid assemblies. The basis of the system comprises 5 types of module-coordinated acoustic modular segments in a right-left universal design, which can be supplemented by atypical segments.

[0009] The object of the invention is achieved by an acoustic modular segment comprising:

a. a frame with side walls, an upper and lower base and facing sides,
b. at least one reinforcing element between the upper and lower base,
c. a filling of acoustically insulating material arranged inside the frame outside the reinforcing element, and
d. at least two openings for a fixing component and at least two receivers for holding the fixing component.

[0010] At least one opening and at least one receiver are always arranged in both the lower and upper base, and these are guided inside the reinforcing element. The opening for the fixing component in the upper base is arranged directly above the opening for the fixing component in the lower base and the receiver for holding the fixing component in the upper base is arranged directly above the receiver for holding the fixing component in the lower base and their connecting line passes through the reinforcing element, whereby the mounting space for the fixing components is separated from the filling of acoustically insulating material. The fixing component is

always guided through the segment such that between the facing side and the space for the fixing component, the filling of acoustically insulating material for maintaining adequate acoustically insulating properties as well as the reinforcing element for increasing the rigidity and load capacity of the segment is always arranged in the propagation path of sound.

[0011] Advantageously, in one embodiment, the reinforcing element may be a pair of vertical walls arranged at a distance inwards from the facing sides of the frame and running parallel to the facing sides of the frame between the upper and lower base. Reinforcing partitions are arranged between the vertical walls and at least one vertical wall is coated with at least one layer of acoustically insulating material. No acoustically insulating material is present inside the reinforcing element, i. e. in the space delimited by the vertical walls and the upper and lower base. Preferably, the frame and/or the pair of vertical walls are formed by an agglomerated, compact layer-pressed (e. g. compact boards) or plywood material based on wood, vegetable fibres (hemp, flax), or recycled plastic materials (e. g. composite plastics, paper, or aluminium). The connection therebetween is provided by wooden and metal connecting components.

[0012] Alternatively, the reinforcing element may advantageously be a tube, the jacket of which extends between the upper and lower base. The tube is preferably made of a metal, plastic or composite material and is in the shape of a cylinder, cuboid or polyhedron. The tube is provided at the ends with flanges for attachment to the upper and lower base. The acoustically insulating material can be layered in the entire depth of the frame as well as between the tubes. No acoustically insulating material is present inside the reinforcing element, i. e. in the space inside the tubes.

[0013] In one embodiment, the filling of acoustically insulating material preferably forms the facing side of the frame. In another embodiment, at least one further layer of acoustically insulating material is arranged on the filling of acoustically insulating material, forming the facing side of the frame. Preferably, a loosening material layer and/or a facing fabric layer is arranged on the facing side of the filling or the layer of acoustically insulating material. The loosening materials soften the surface layers of the acoustic segments in the structure, emphasize their visual plasticity and prolong the life of the fillings of acoustically insulating materials. By covering the acoustically insulating materials with the loosening material, degradation due to light irradiation is slowed down. The loosening material absorbs and releases moisture into the environment and reduces abrasion and rubbing between the acoustically insulating material and the coating material. For facing fabrics, it is possible to use fabrics made of synthetic, natural or combined fibres, one-coloured, multi-coloured woven fabrics, etc. However, it is also possible to create a segment without the loosening material and the facing fabric, e. g. when the frame and the filling of acoustically insulating material are visually appealing materials.

[0014] Preferably, the acoustically insulating material is polyurethane foam, mineral wool, foam rubber, microporous rubber, PET fibre fleece, rubber skin, sheep wool, cork and/or vegetable fibres. The acoustically insulating material may be one or more layers of different materials, e. g. graded according to soundproofing and weight values.

[0015] Preferably, the acoustic modular segment is in the form of a perpendicular, oblique or perpendicular mitred prism. The segments are industrially manufacturable.

[0016] Preferably, the side wall of the frame is provided with brackets for attachment to a wall or to a cover plate and/or the upper base of the frame is provided with brackets for attachment to a ceiling.

[0017] The object of the present invention is also achieved by an assembly of at least two above-mentioned acoustic modular segments, wherein a pair of connected segments arranged in rows one above another are connected by the fixing component in the form of a longitudinal screw, wherein the lower base of the first of the pair of segments is in contact with the upper base of the second of the pair of segments. The assembly may advantageously form an interior wall, a screen, a partition or an enclosed space.

[0018] In one embodiment, the fixing component is arranged from the opening for the fixing component in the upper base of the first pair of segments through the interior of the reinforcing element and the opening for the fixing component in the lower base of the first of the pair of segments up to the receiver for holding the fixing component in the upper base of the second of a pair of segments. In this way, one type of the fixing component can be used to fix two segments arranged one above another without having to guide the fixing component along the entire height of the assembly. This arrangement of fixing components facilitates to add new and/or remove existing rows of segments, as each height row is fixed to the assembly of acoustic segments immediately below it. The assembly can advantageously be performed from the bottom up and the disassembly from the top down, always in individual segments in one height level.

[0019] In another embodiment, the side wall of the assembly of individual segments is provided with the cover plate, e. g. in the entire height of the assembly. The cover plate is attached to the side walls of the segments by means of brackets. In another embodiment, the top wall of the assembly of individual segments is provided with the ceiling strip, e. g. in the entire width of the assembly between the upper base and the ceiling. The ceiling strip is attached to the top walls of the segments by means of brackets and may also comprise acoustically insulating material and/or a facing fabric.

[0020] The underlying idea of the system is the assembling of individual segments in the manner of a "brick connection" and the interconnection using one type of fixing component. At each height level of the assembly,

there must always be modules of the same height; in specific cases, a segment with a height of two rows one above another can be used, which will be arranged in their lower plane. The individual rows in the assembly can have different heights and the individual segments can have different colour designs. The system thus makes it possible to assemble walls and partitions as well as rectangular floor plans to different heights in various colour combinations.

Description of the Drawings

[0021] The subject-matter of the invention is further clarified by examples of its embodiments, which are described using the attached drawings, where:

Fig. 1 shows a cross-sectional side view of an acoustic modular segment with a pair of vertical walls;

Fig. 2 shows a basic embodiment of an acoustic modular segment with a pair of vertical walls in detail of an internal cross-section (A) and in a perspective view (B);

Fig. 3 shows an elongated embodiment of an acoustic modular segment with a pair of vertical walls in detail of an internal cross-section (A) and in a perspective view (B);

Fig. 4 shows a corner embodiment of an acoustic modular segment with a pair of vertical walls in detail of an internal cross-section (A) and in a perspective view (B);

Fig. 5 shows a basic embodiment of an acoustic modular segment with a cylindrical tube in detail of an internal cross-section (A) and in a perspective view (B);

Fig. 6 shows a basic embodiment of an acoustic modular segment with a square tube in detail of an internal cross-section (A) and in a perspective view (B);

Fig. 7 shows a perspective view of an elongated embodiment of a mitred acoustic modular segment and a pair of vertical walls in detail of an internal cross-section (A) and in a perspective view (B);

Fig. 8 shows a diagram of possible shapes of acoustic modular segments;

Fig. 9 shows a perspective view of an exemplary assembly of acoustic modular segments;

Fig. 10 shows a side view of another exemplary assembly of acoustic modular segments;

Fig. 11 shows a side view of the fixing component (A) and a cross-sectional side view of connected acoustic modular segments (B) arranged one above another;

Fig. 12 shows a detailed side view of the openings for the fixing component and the receivers for holding the fixing component;

Fig. 13 shows a perspective view of an exemplary assembly of acoustic modular segments with a cover plate on the side wall;

Fig. 14 shows a detailed view of an exemplary assembly of acoustic modular segments with a cover plate from the outside (A) and from the inside (B);

Fig. 15 shows a detailed view of the attachment of an assembly of acoustic modular segments to the ceiling with a ceiling strip on the top wall; and

Fig. 16 shows a detailed view of the attachment of a ceiling strip to the upper base.

Examples of the Invention

[0022] These embodiments show exemplary variants of the invention, which, however, have no limiting effect in terms of the scope of protection.

[0023] Figure 1 shows a modular acoustic segment **1** with a pair of vertical walls **10** in a side view. The acoustic modular segment **1** is defined by a frame with side walls **2,** an upper and lower base **3, 4** and facing sides **5.** Between the upper and lower base **3, 4,** there is at least one reinforcing element **7** in the form of a pair of vertical walls **10** arranged at a distance inwards from the facing sides **5** of the frame and running parallel to the facing sides **5** of the frame between the upper and lower base **3, 4.** Inside the reinforcing element **7,** there is a hollow space for the insertion of fixing components **18** (not shown). The fixing components **18** can be inserted into the hollow space by means of two openings **8** for the fixing component and two receivers **9** for holding the fixing component, wherein there is one opening **8** and one receiver **9** in each case arranged in both the lower and the upper base **3, 4.** These are guided inside the reinforcing element **7,** wherein the opening **8** for the fixing component **18** in the upper base **3** is arranged directly above the opening **8** for the fixing component **18** in the lower base **4** and the receiver **9** for holding the fixing component **18** in the upper base **3** is arranged directly above the receiver **9** for holding the fixing component **18** in the lower base **4** and their connecting line passes through the reinforcing element **7.** Inside the frame, outside the reinforcing element **7,** there is a filling **6** of acoustically insulating material, on which a further layer **13** of acoustically insulating material is arranged, forming the facing side **5** of the frame. On the facing side **5** of the

layer **13** of acoustically insulating material, a layer of loosening material **20** (not shown) and/or a layer of facing fabric **14** is further arranged, which are held in grooves **19** arranged at the edges of the upper and lower base **3, 4.** In this case, the pair of vertical walls **10** is formed, for example, by an agglomerated, compact layer-pressed or plywood material based on wood, vegetable fibres (hemp or flax) or recycled plastic materials (synthetic fibres), while the acoustically insulating material is e. g. polyurethane foam, mineral wool, foam rubber, microporous rubber, PET fibre fleece, rubber skin, sheep wool, cork and/or vegetable fibres or mixtures thereof.

[0024] Figures 2A and 2B show a perspective view of the acoustic modular segment **1** of Figure 1 with a segment having a length of 3M, with reinforcing partitions **11** being shown in Figure 2B between the pair of vertical walls **10.** Similarly, Figures 3A and 3B show a perspective view of the acoustic modular segment **1** of Figure 1 with a segment having a length of 6M.

[0025] Figures 4A and 4B show a perspective view of a corner acoustic modular segment **1**, which was formed by connecting two simple acoustic modular segments (e. g. those of Figures 2A and 2B) with one of the side walls **2** extending obliquely to the facing sides **5** in the corner area. The other components of the segment **1** are analogous to those described above and in Figures 1 to 3B.

[0026] Figures 5A and 5B show a perspective view of an acoustic modular segment **1** with a segment having a length of 3M, defined by a frame with side walls **2,** an upper and lower base **3, 4** and facing sides **5.** The acoustic modular segment **1** is provided with a reinforcing element **7** in the form of a tube **12** between the upper and lower base **3, 4,** to which it is attached by means of flanges of the tube. Inside the tube **12,** there is a hollow space for the introduction of the fixing component **18** (not shown), the two openings **8** for the fixing component and two receivers **9** for holding the fixing components are arranged similarly as described in Figure 1. Inside the frame, outside the reinforcing member **7,** there is a filling **6** of acoustically insulating material, on which a layer of loosening material **20** (not shown) and/or a layer of facing fabric **14** is arranged, which are held in grooves **19** arranged at the edges of the upper and lower base **3, 4.** In this case, the tube is made of steel and is cylindrical.

[0027] Figures 6A and 6B show a perspective view of an acoustic modular segment **1** with a segment having a length of 3M and a reinforcing element **7** in the form of a tube **12** between the upper and lower base **3, 4,** similar to that described in Figures 5A and 5B. Inside the frame, outside the reinforcing element **7,** there is a filling **6** of acoustically insulating material, on which a further layer **13** of acoustically insulating material is arranged, forming the facing side **5** of the frame. In this case, the tube is made of steel and is in the shape of a block.

[0028] Figures 7A and 7B show a perspective view of a mitred acoustic modular segment **1** with a segment having a length of 6M and 7M, respectively, and with one of the side walls **2** extending obliquely with respect to the facing sides **5,** thus forming one shorter and one longer facing side **5** (see Figure 7B). Two mitred segments can be stacked to produce the same function as the corner segment of Figures 4A and 4B.

[0029] Figure 8 shows the possible shapes and lengths of the acoustic modular segments **1**, and Figures 9 and 10 show a perspective and a front view of exemplary assemblies of acoustic modular segments **1** of Figure 8. In addition, Figure 10 also includes a cover plate **16** attached to the side walls **2** of the frame of the individual segments arranged one above another.

[0030] Figure 11A shows a fixing component **18** in the form of a longitudinal screw with a head on the upper side and a thread on the lower side. Figure 11B further shows the insertion of the fixing component **18** into the hollow space of the reinforcing element 7, whereby a pair of connected segments **1** arranged in rows arranged one above another is connected. The lower base **4** of the first of the pair of segments **1** is in contact with the upper base **3** of the second of the pair of segments and the fixing component **18** is guided from the opening **8** for the fixing component **18** in the upper base **3** of the first of the pair of segments **1**, through the interior of the reinforcing element **7** and the opening **8** for the fixing component **18** in the lower base **4** of the first of the pair of segments **1** up to the receiver **9** for holding the fixing component **18** in the upper base **3** of the second of the pair of segments **1**.

[0031] Figure 12 shows a detail of the insertion of the fixing component **18,** where the attachment of the thread to the receiver **9** for holding the fixing component **18** and the engagement of the head in the opening **8** for the fixing component **18** can be seen. The fixing components **18** can be introduced into the hollow space of the reinforcing element **7** from the top via the upper base **3** and from the bottom via the lower **base 4,** but always first via the opening **8** for the fixing component **18.**

[0032] Figures 13, 14A and 14B show the provision of the side wall **2** of the assembly of individual segments **1** with a cover plate **16,** which is fastened to the side walls **2** of the segments **1** by means of brackets **15** on the inner (non-facing) side of the cover plate **16.** The cover plate **16** may comprise a similar visual finish (layer of acoustically insulating material, loosening material and/or facing fabric) as the facing sides **5** of the individual segments **1.**

[0033] Figures 15 and 16 show the provision of the upper base **3** of the assembly of individual segments **1** by a ceiling strip **17,** which is attached to the upper base **3** by means of brackets **15** on the upper side of the base **3** and on the inner (non-facing) side of the ceiling strip **17.** The ceiling strip **17** may comprise a similar visual finish (layer of acoustically insulating material, loosening material and/or facing fabric) as the facing sides **5** of the individual segments **1**. The segment 1 arranged in the assembly closest to the ceiling can be attached to it by means of a fixing component **18** partially embedded in the ceiling, only its lower part protruding with a thread for

insertion into the receiver **9** for holding the fixing component.

Industrial Applicability

[0034] The variable self-supporting assembly system of acoustic modular segments can be advantageously used wherever it is necessary to quickly create a permanently or temporarily interesting, acoustically, optically and aesthetically pleasing division of interior spaces into individual zones or closed sections. The system enables the creation of simple and fast assembly of interior walls and partitions according to various spatial requirements and its variability can be used especially in the division of large office and public building spaces.

List of Reference Signs

[0035]

1	acoustic modular segment
2	side wall
3	upper base
4	lower base
5	facing side
6	filling of an acoustically insulating material
7	reinforcing element
8	opening for the fixing component 18
9	receiver for holding the fixing component 18
10	vertical wall
11	reinforcing partition
12	tube
13	layer of an acoustically insulating material
14	facing fabric
15	fastener
16	cover plate
17	ceiling strip
18	fixing component
19	groove
20	loosening material
M	basic dimensional unit of the acoustic modular segment
Sn	segment having a length of nM (S2, S3, S6, S7)
Sm/n	mitre segment having lengths of 6m and 7n (S6/7)
SR	corner segment

Claims

1. An acoustic modular segment (1), **characterised in that** it comprises:

a. a frame with side walls (2), an upper and lower base (3, 4) and facing sides (5),
b. at least one reinforcing element (7) between the upper and lower base (3, 4),
c. a filling (6) of acoustically insulating material arranged inside the frame outside the reinforcing element (7), and
d. at least two openings (8) for a fixing component (18) and at least two receivers (9) for holding the fixing component (18), wherein at least one opening (8) and at least one receiver (9) are always arranged in both the lower and upper base (3, 4) and these are guided inside the reinforcing element (7), wherein the opening (8) for the fixing component (18) in the upper base (3) is arranged directly above the opening (8) for the fixing component (18) in the lower base (4) and the receiver (9) for holding the fixing component (18) in the upper base (3) is arranged directly above the receiver (9) for holding the fixing component (18) in the lower base (4) and their connecting line passes through the reinforcing element (7).

2. The acoustic modular segment (1) according to claim 1, **characterised in that** the reinforcing element (7) is a pair of vertical walls (10) arranged at a distance inwards from the facing sides (5) of the frame and running parallel to the facing sides (5) of the frame between the upper and lower base (3, 4), wherein reinforcing partitions (11) are arranged between the vertical walls (10) and at least one vertical wall (10) is coated with at least one layer (13) of acoustically insulating material.

3. The acoustic modular segment (1) according to claim 1, **characterised in that** the reinforcing element (7) is a tube (12), the jacket of which extends between the upper and lower base (3, 4).

4. The acoustic modular segment (1) according to claim 1 or 2, **characterised in that** the frame and/or the pair of vertical walls (10) are formed by an agglomerated, compact layer-pressed or plywood material based on wood, vegetable fibres or recycled plastic materials.

5. The acoustic modular segment (1) according to claim 3, **characterised in that** the tube (12) is made of a metal, plastic or composite material and is in the shape of a cylinder, cuboid or polyhedron.

6. The acoustic modular segment (1) according to claim 1, **characterised in that** the filling (6) of acoustically insulating material forms the facing side (5) of the frame.

7. The acoustic modular segment (1) according to claim 1, **characterised in that** at least one further layer (13) of acoustically insulating material forming the facing side (5) of the frame is arranged on the filling (6) of acoustically insulating material.

8. The acoustic modular segment (1) according to claim 6 or 7, **characterised in that** a layer of loosening material (20) and/or a layer of facing fabric (14) is arranged on the facing side (5) of the filling (6) or the layer (13) of acoustically insulating material.

9. The acoustic modular segment (1) according to any one of the preceding claims, **characterised in that** the acoustically insulating material is polyurethane foam, mineral wool, foam rubber, microporous rubber, PET fibre fleece, rubber skin, sheep wool, cork and/or vegetable fibres.

10. The acoustic modular segment (1) according to any one of the preceding claims, **characterised in that** it is in the form of a perpendicular, oblique or perpendicular mitred prism.

11. The acoustic modular segment (1) according to any one of the preceding claims, **characterised in that** the side wall (2) of the frame is provided with brackets (15) for attachment to a wall or to a cover plate (16) and/or **that** the upper base (3) of the frame is provided with brackets (15) for attachment to a ceiling or to a ceiling rail (17).

12. An assembly of acoustic modular segments (1) comprising at least two acoustic modular segments (1) according to claims 1 to 11, **characterised in that** a pair of connected segments (1) arranged in rows one above another are connected by the fixing component (18) in the form of a longitudinal screw, wherein the lower base (4) of the first of the pair of segments (1) is in contact with the upper base (3) of the second of the pair of segments (1).

13. The assembly of acoustic modular segments (1), according to claim 12, **characterised in that** the fixing component (18) is arranged from the opening (8) for the fixing component (18) in the upper base (3) of the first pair of segments (1) through the interior of the reinforcing element (7) and the opening (8) for the fixing component (18) in the lower base (4) of the first of the pair of segments (1) up to the receiver (9) for holding the fixing component (18) in the upper base (3) of the second of a pair of segments (1).

14. The assembly of acoustic modular segments (1), according to claim 12 or 13, **characterised in that** the side wall (2) of the assembly of individual segments (1) is provided with the cover plate (16) and/or the top wall of the assembly of individual segments (1) is provided with the ceiling strip (17).

15. The assembly of acoustic modular segments (1), according to claim 12, 13 or 14, **characterised in that** it forms an interior wall, a screen, a partition or an enclosed space.

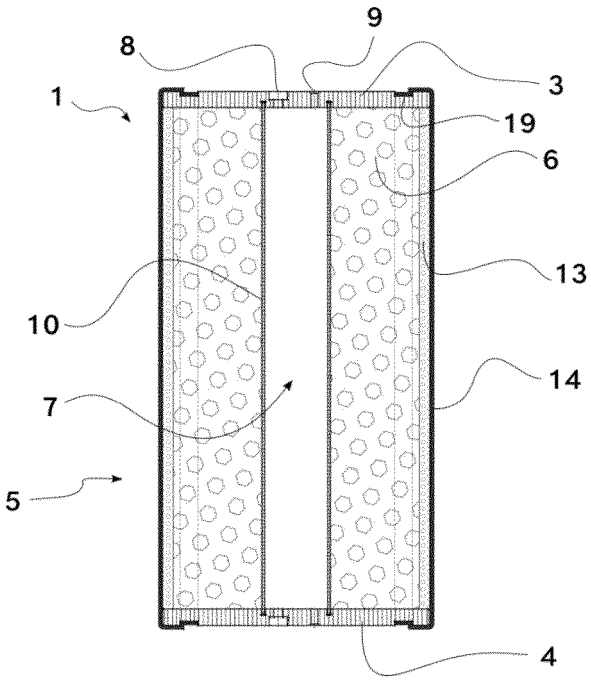

Fig. 1

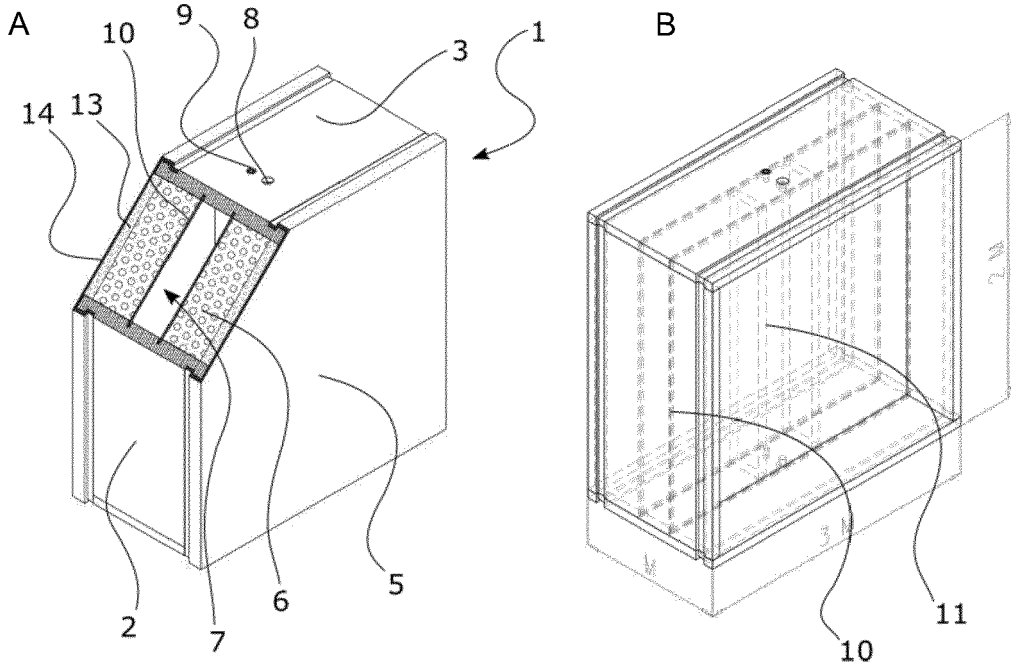

Fig. 2

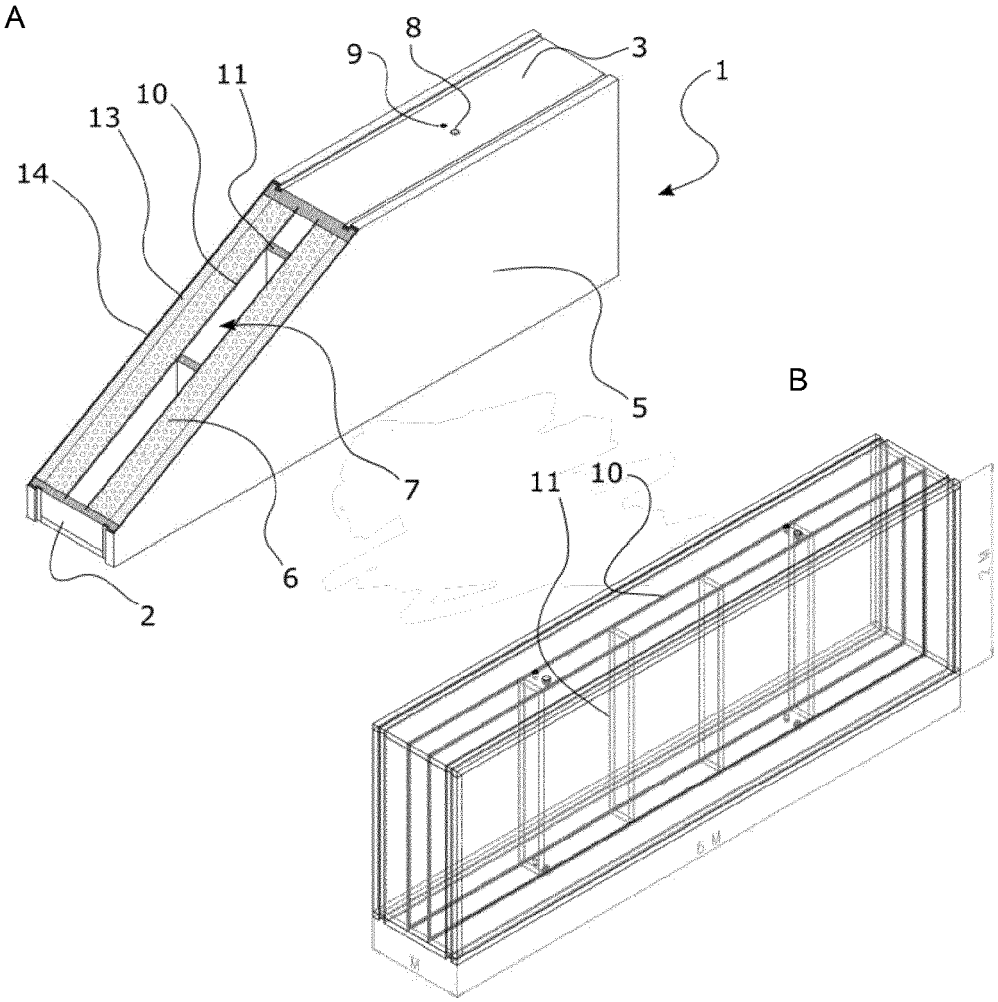
A
8
9
3
1
11
10
13
14
5
B
7
11
10
6
2
2 M
6 M
M

Fig. 3

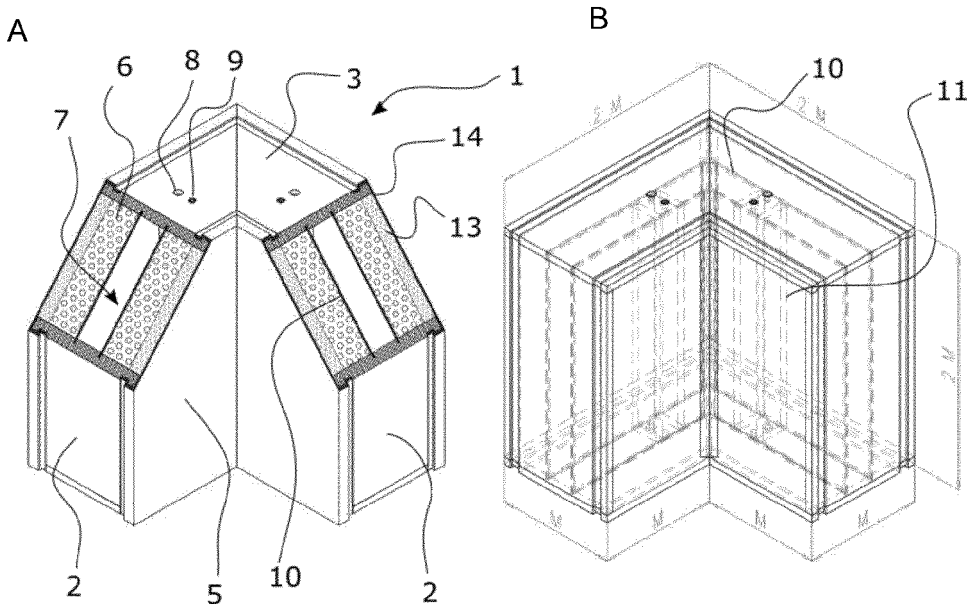
A
B
6
8
9
3
1
7
14
13
10
11
2 M
2 M
2 M
M
M
M
M
2
5
10
2

Fig. 4

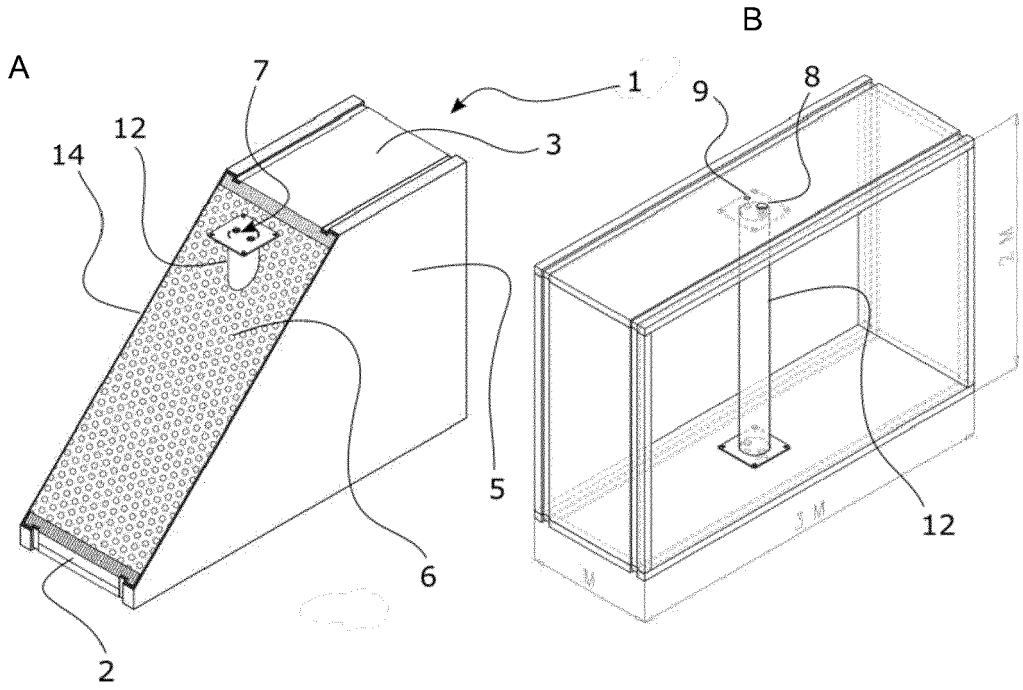

Fig. 5

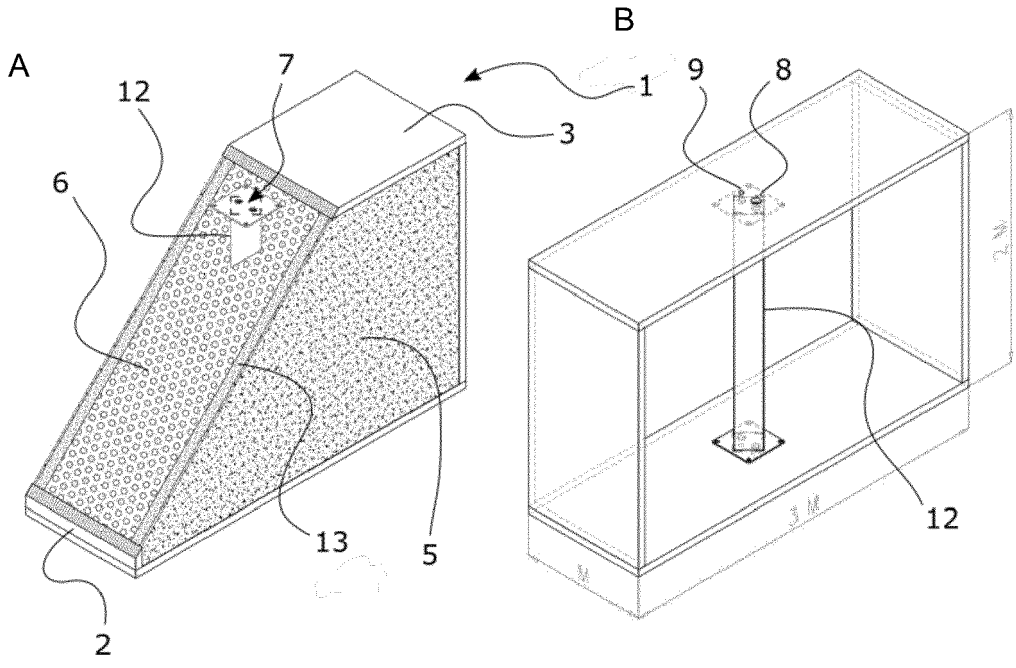

Fig. 6

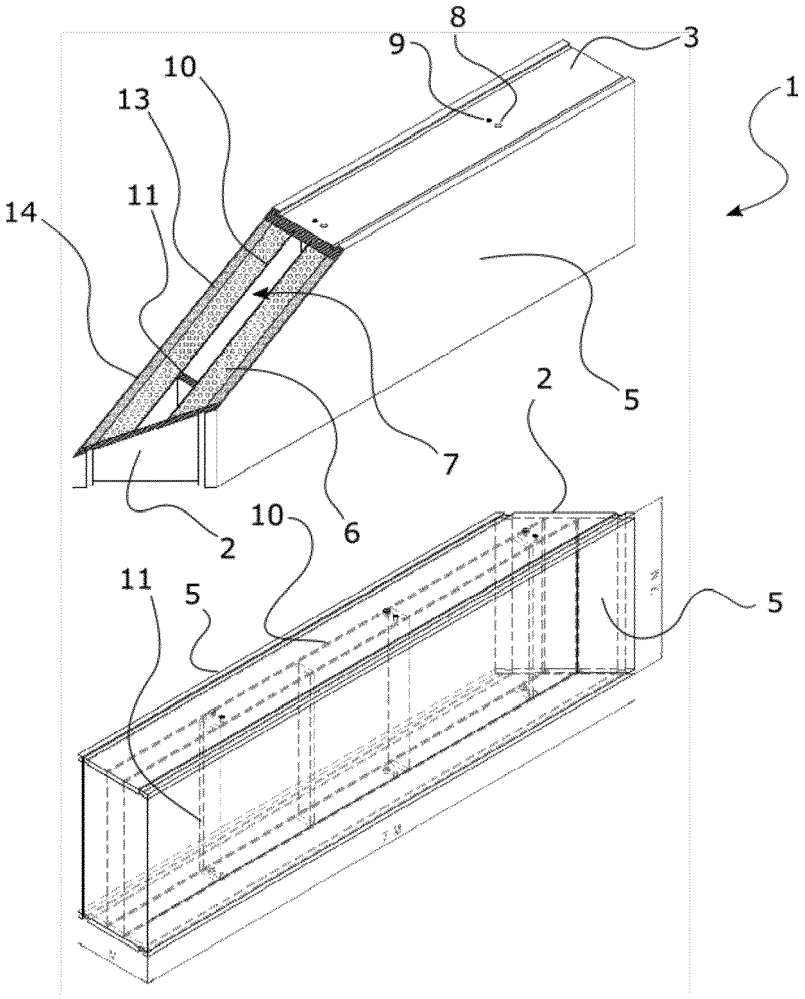

Fig. 7

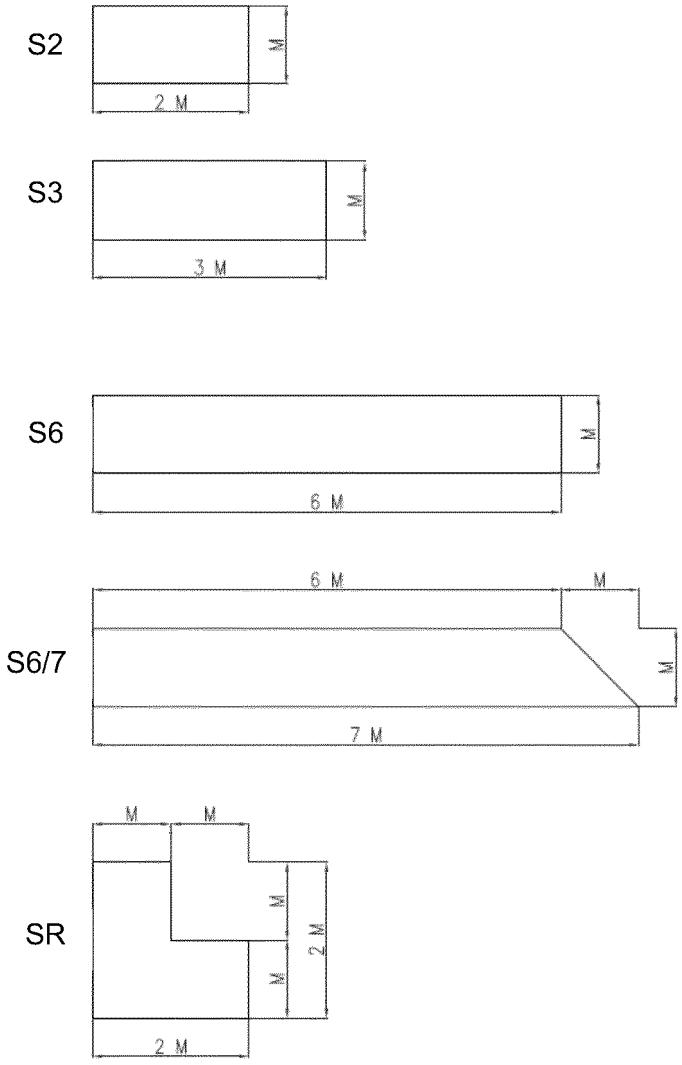

Fig. 8

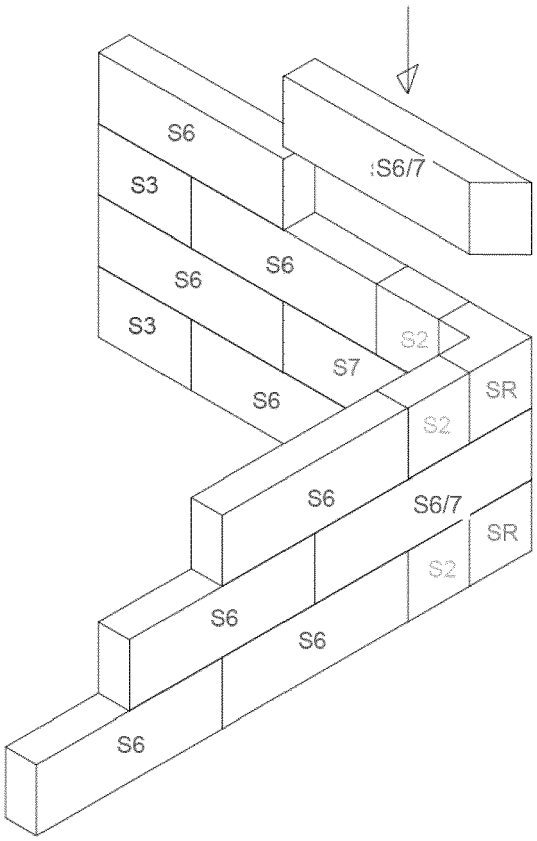

Fig. 9

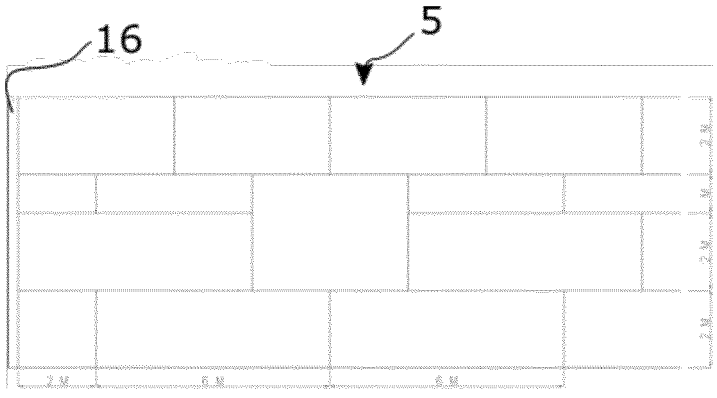

Fig. 10

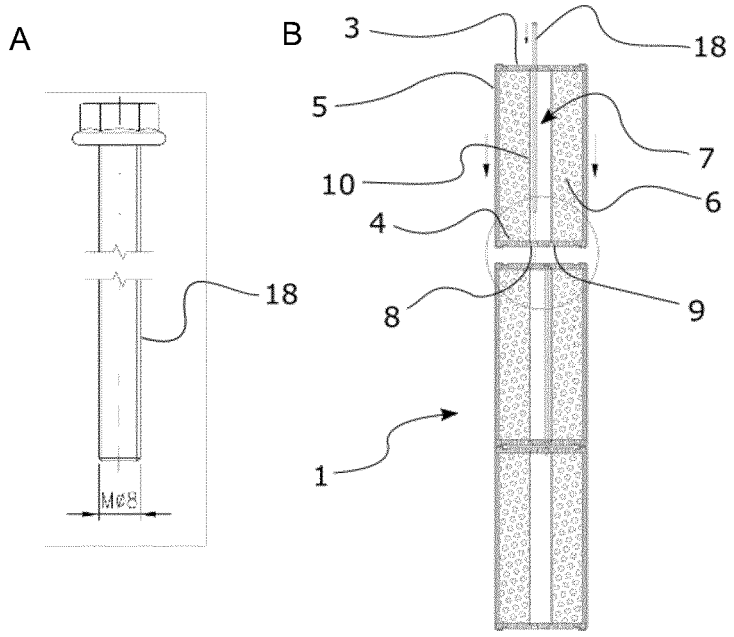

Fig. 11

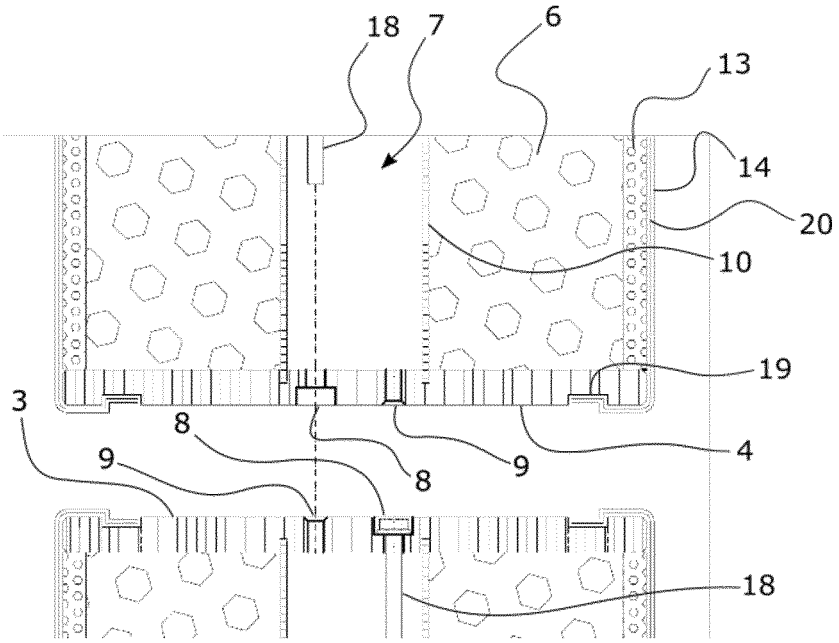

Fig. 12

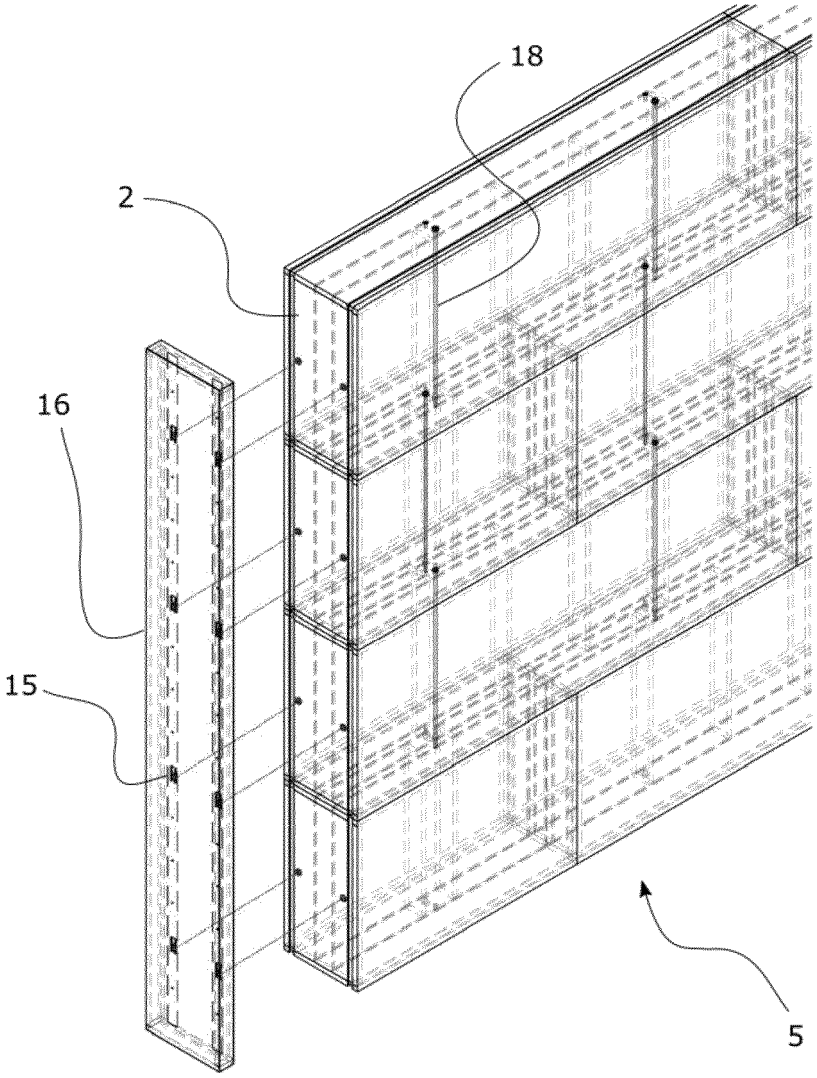

Fig. 13

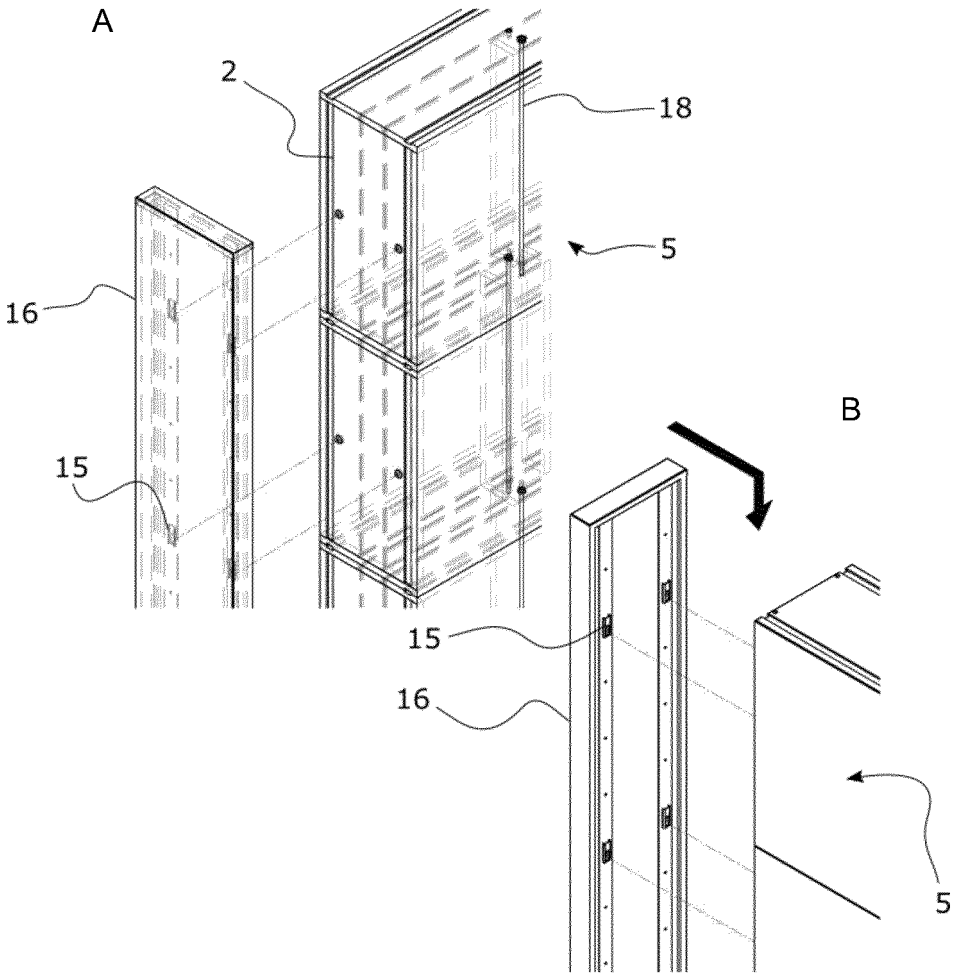

Fig. 14

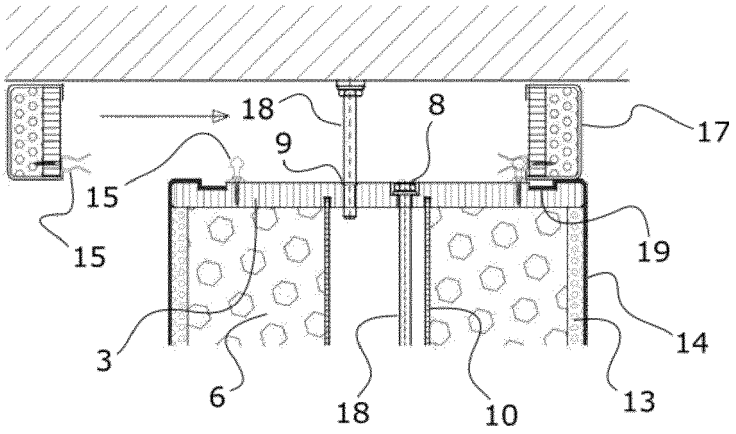

Fig. 15

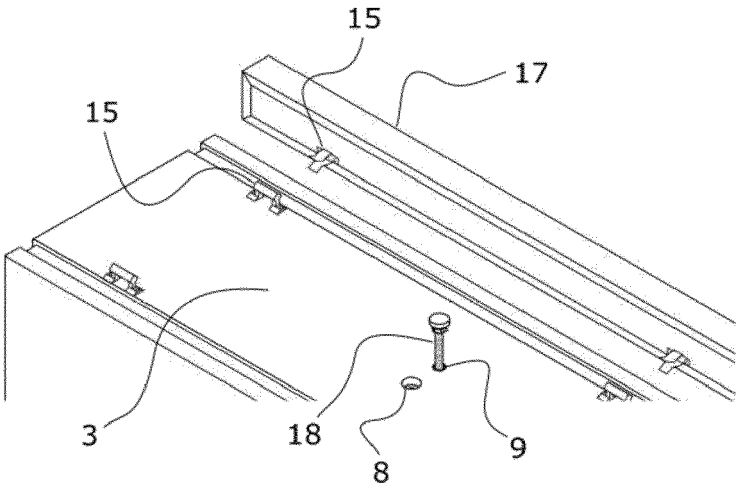

Fig. 16

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 2010047570 A1 **[0004]**
- WO 2011060468 A1 **[0005]**
- KR 19990021993 U **[0006]**