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(54) **Partition wall**

(57) A partition wall designed for partitioning a space in a building that is accessible to persons, which partition wall comprises an elongate, vertical or horizontal post and wall panels connected thereto, a special feature being the fact that the post comprises vent holes designed for supplying and/or exhausting air through the partition wall.

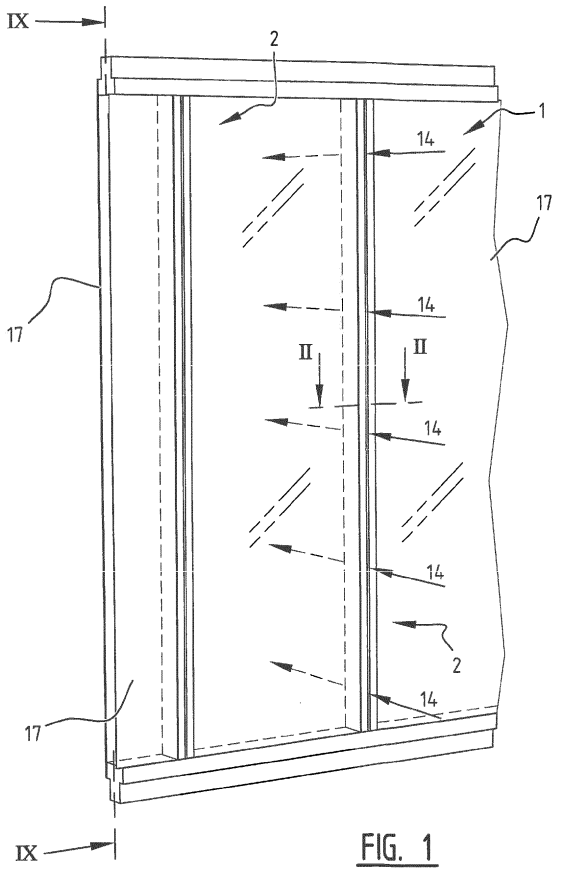

FIG. 1

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Description

[0001] The present invention relates to a partition wall designed for partitioning a space in a building that is accessible to persons, which partition wall comprises an elongate, vertical or horizontal post and wall panels connected thereto. The invention in particular relates to such a partition wall prefabricated from standard components.

[0002] Such a partition wall is generally known. The known partition walls, also called "system walls", are used in various kinds of interior construction, for example in office buildings, airports, hospitals, industrial estate, public institutions, schools, hotels, cinemas and retail establishments. With the known partition walls, supplying and exhausting air usually takes place through air grates mounted therein, for example near the ground and/or the ceiling. However, the use of air grates is at odds with the preference for modular partition walls built up of standard components as regards dimensions and choice of materials. In addition, air grates are relatively expensive and often spoil the aesthetic appearance of the partition walls.

[0003] It is the object of the invention to improve the prior art, i.e. to provide an aesthetic partition wall, wherein the supply and exhaustion of air through the wall can take place in an efficient manner without harming the modular structure consisting of standard components of the partition wall.

[0004] In order to achieve that object, a partition wall of the kind described in the introduction is according to the invention characterised in that the post comprises vent holes designed for supplying and/or exhausting air through the partition wall. In other words, no use is made in the invention of separate air grates to be mounted in the partition wall, but the vertically or horizontally extending post is used for supplying and/or exhausting air therethrough. Supplying and exhausting air can take place from one space to another space partitioned therefrom by the partition wall. In another variant, supplying and exhausting air takes place from the space partitioned by the partition wall to the plenum, and vice versa. The post in particular comprises at least two post sections with an at least substantially U-shaped cross-section, wherein the post sections are connected along the base of their U-shaped cross-section, and wherein the vent holes are provided in the legs of the U-shaped cross-section of at least one of the post sections.

[0005] It is noted that it is in principle possible within the framework of the invention to use any type of wall panel, for example a wall panel made of wood, plastic, glass or metal or, for example, a wall panel configured as a door. No restrictions exist in this regard, now that it is the post rather than the wall panel that is provided with vent holes.

[0006] In a preferred embodiment of a partition wall according to the invention, a wall panel is provided partially between the legs of the U-shaped cross-section of at least one of the post sections. More in particular, a wall panel is provided on either side of the post, i.e. between the legs of the U-shaped cross-section of the two post sections. Instead thereof, or in addition thereto, it is also possible to attach wall panels to the post sections via tubular sections, as will be explained in more detail yet hereinafter.

[0007] In another preferred embodiment of a partition wall according to the invention, at least one leg of the U-shaped cross-section of each of the post sections comprises a laterally outwardly extending wing, whilst a section of at least substantially U-shaped cross-section is provided at least partially between the wings. Preferably, both legs of the U-shaped cross-section of the two post sections are provided with such wings, so that the partition wall is configured identically at the front side and at the rear side in this regard. More in particular, the base of the T-shaped cross-section of the section faces the legs of the U-shaped cross-section of the post sections, whilst the base of the T-shaped cross-section of the section is provided with vent holes which are in air-transmitting contact with the vent holes in the legs of the U-shaped cross-section of at least one of the post sections. Supplying and exhausting air is done through both types of vent holes in that case, i.e. through those in the base of the T-shaped cross-section and through those in the legs of the U-shaped cross-section.

[0008] In another preferred embodiment of a partition wall according to the invention, the leg of the T-shaped cross-section of the section is in line with the central longitudinal plane of the U-shaped cross-section of the post sections. The vent holes in the legs of the U-shaped cross-section of at least one of the post sections are not visible from the outside, therefore, and are covered by the aforesaid laterally outwardly extending wings and the section with the T-shaped cross-section.

[0009] In another preferred embodiment of a partition wall according to the invention, the leg of the T-shaped cross-section of the section is provided with vent holes at the short end thereof, which vent holes are in air-transmitting contact with the vent holes in the base of the T-shaped cross-section of the section and with the vent holes in the legs of the U-shaped cross-section of at least one of the post sections.

[0010] In another preferred embodiment of a partition wall according to the invention, a fire-resistant material is provided between the legs of the U-shaped cross-section of at least one of the post sections. Said fire-resistant material preferably expands so as to close the vent holes in case of fire. The fire-resistant material is in particular a material that will foam up in case of fire. Preferably, an elongate cover section is clampingly provided over the legs of the U-shaped cross-section of at least one of the post sections.

[0011] In another preferred embodiment of a partition wall according to the invention, the wall panels are connected to the post with the interposition of tubular sections. The tubular sections in particular each comprise a receiving chamber for partially receiving a wall panel therein. The tubular sections are preferably clampingly

connected to the post sections.

[0012] The invention will now be explained in more detail with reference to figures shown in a drawing, in which figures 1-7 on the one hand and figure 8 on the other hand each show in cross-sectional view a preferred variant of a partition wall at the location of the post, whilst figure 9 relates to a combined preferred variant.

[0013] Figures 1-7 show in various views and sectional views a partition wall 1 at the location of a vertical post 2 that extends from ceiling to floor, for example. The post 2 consists of two identical, metal post sections 3,4, which each have a U-shaped cross-section. The post sections 3,4 are connected back-to-back, i.e. the bases 5 of the U-shaped cross-sections are welded or glued together. Through holes 7 functioning as vent holes have been punched in the legs 6 of the U-shaped cross-section of the post sections 3,4.

[0014] As drawn, the legs 7 of the U-shaped cross-section are laterally and outwardly extended (in one piece) to form wings 8. Provided therebetween is a metal section 9 with a T-shaped cross-section, and that in such a manner that the base 10 of the T-shaped cross-section of the section 9 abuts against the legs 6 of the U-shaped cross-section of the post sections 3,4. Through holes 11 functioning as vent holes have been punched in the base 10 of the T-shaped cross-section as well. The leg 12 of the T-shaped cross-section of the section 9 is also provided with through holes or vent holes 13 at the short end thereof. Air can be made to flow from one side of the partition wall 1 in the direction indicated by arrows 14 via said vent holes 13, past the vent holes 11 in the base 10 of the T-shaped cross-section, via the vent holes 7 in the legs 6 of the U-shaped cross-section of the post sections 3,4 to the other side of the partition wall 1, and vice versa.

[0015] The vent holes 7, 11 are not visible from the outside, since the leg 12 of the T-shaped cross-section is in line with the central longitudinal plane of the base 10 of the U-shaped cross-section of the post sections 3,4.

[0016] In the preferred variant of figures 1-7, the tubular sections 18 each have a receiving chamber for partially receiving a wall panel 17 therein.

[0017] In the preferred variant of figure 8, the wall panels 17 are connected to the post 2 with the interposition of for tubular sections 18. Intermediate wall panels 19 are provided partially between the legs 6 of the U-shaped cross-section of the post sections 3,4. The tubular sections 18 are clampingly connected to the post sections 3,4. In figure 8, parts that correspond to parts shown in figures 1-7 are indicated by the same numerals.

[0018] Both in the preferred variant of figures 1-7 and in the preferred variant of figure 8, a fire-resistant material 15 that extends in case of fire is provided between the legs 6 of the U-shaped cross-section of the post sections 3,4. The material 15 serves to close the vent holes 7 in case of fire. Elongated adjusting sections 16 may be clampingly provided over the legs 6 of the U-shaped cross-section of the post sections 3,4.

[0019] The invention is not limited to the illustrated embodiments, but it also extends to other preferred variants that fall within the scope of the appended claims.

Claims

1. A partition wall (1) designed for partitioning a space in a building that is accessible to persons, which partition wall (1) comprises an elongate, vertical or horizontal post (2) and wall panels (17,19) connected thereto, **characterised in that** the post (2) comprises vent holes designed for supplying and/or exhausting air through the partition wall (1).

2. A partition wall (1) according to claim 1, wherein the post (2) comprises at least two post sections (3,4) with an at least substantially U-shaped cross-section, wherein the post sections (3,4) are connected along the base (5) of their U-shaped cross-section, and wherein the vent holes (7) are provided in the legs of the U-shaped cross-section of at least one of the post sections (3,4).

3. A partition wall (1) according to claim 2, wherein a wall panel (19) is provided partially between the legs (6) of the U-shaped cross-section of at least one of the post sections (3,4).

4. A partition wall (1) according to claim 2 or 3, wherein at least one leg (6) of the U-shaped cross-section of each of the post sections (3,4) comprises a laterally outwardly extending wing (8), whilst a section (9) of at least substantially U-shaped cross-section is provided at least partially between the wings (8).

5. A partition wall (1) according to claim 4, wherein the base (10) of the T-shaped cross-section of the section (9) faces the legs (6) of the U-shaped cross-section of the post sections (3,4), and wherein the base (10) of the T-shaped cross-section of the section (9) is provided with vent holes (11) which are in air-transmitting contact with the vent holes (7) in the legs (6) of the U-shaped cross-section of at least one of the post sections (3,4).

6. A partition wall (1) according to claim 4 or 5, wherein the leg (12) of the T-shaped cross-section of the section (9) is in line with the central longitudinal plane of the U-shaped cross-section of the post sections (3,4).

7. A partition wall (1) according to claim 4, 5 or 6, wherein the leg (12) of the T-shaped cross-section of the section (9) is provided with vent holes (13) at the short end thereof, which vent holes are in air-transmitting contact with the vent holes (11) in the base (10) of the T-shaped cross-section of the section (9) and with the vent holes (7) in the legs (6) of the U-

shaped cross-section of at least one of the post sections (3,4).

8. A partition wall (1) according to any one of the preceding claims 1-7, wherein a fire-resistant material (15) is provided between the legs (6) of the U-shaped cross-section of at least one of the post sections (3, 4).

9. A partition wall (1) according to any one of the preceding claims 1-8, wherein an elongate cover section (16) is clampingly provided over the legs (6) of the U-shaped cross-section of at least one of the post sections (3,4).

10. A partition wall (1) according to any one of the preceding claims 1-9, wherein the wall panels (17) are connected to the post (2) with the interposition of tubular sections (18).

11. A partition wall (1) according to claim 10, wherein the tubular sections (18) comprise a receiving chamber (20) for partially receiving a wall panel (17) therein.

12. A partition wall (1) according to claim 10 or 11, wherein the tubular sections (18) are clampingly connected to the post sections (3,4).

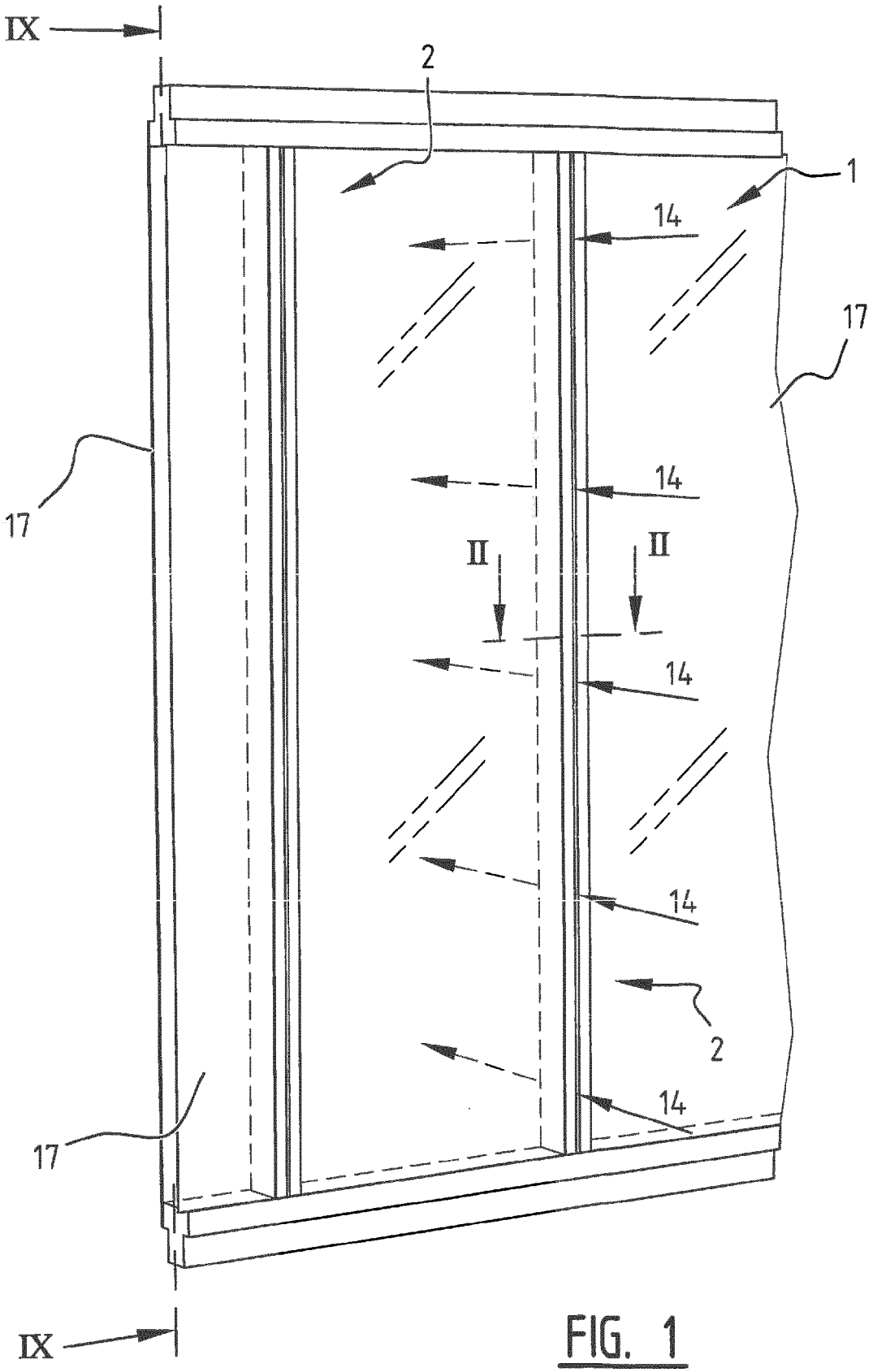

FIG. 1

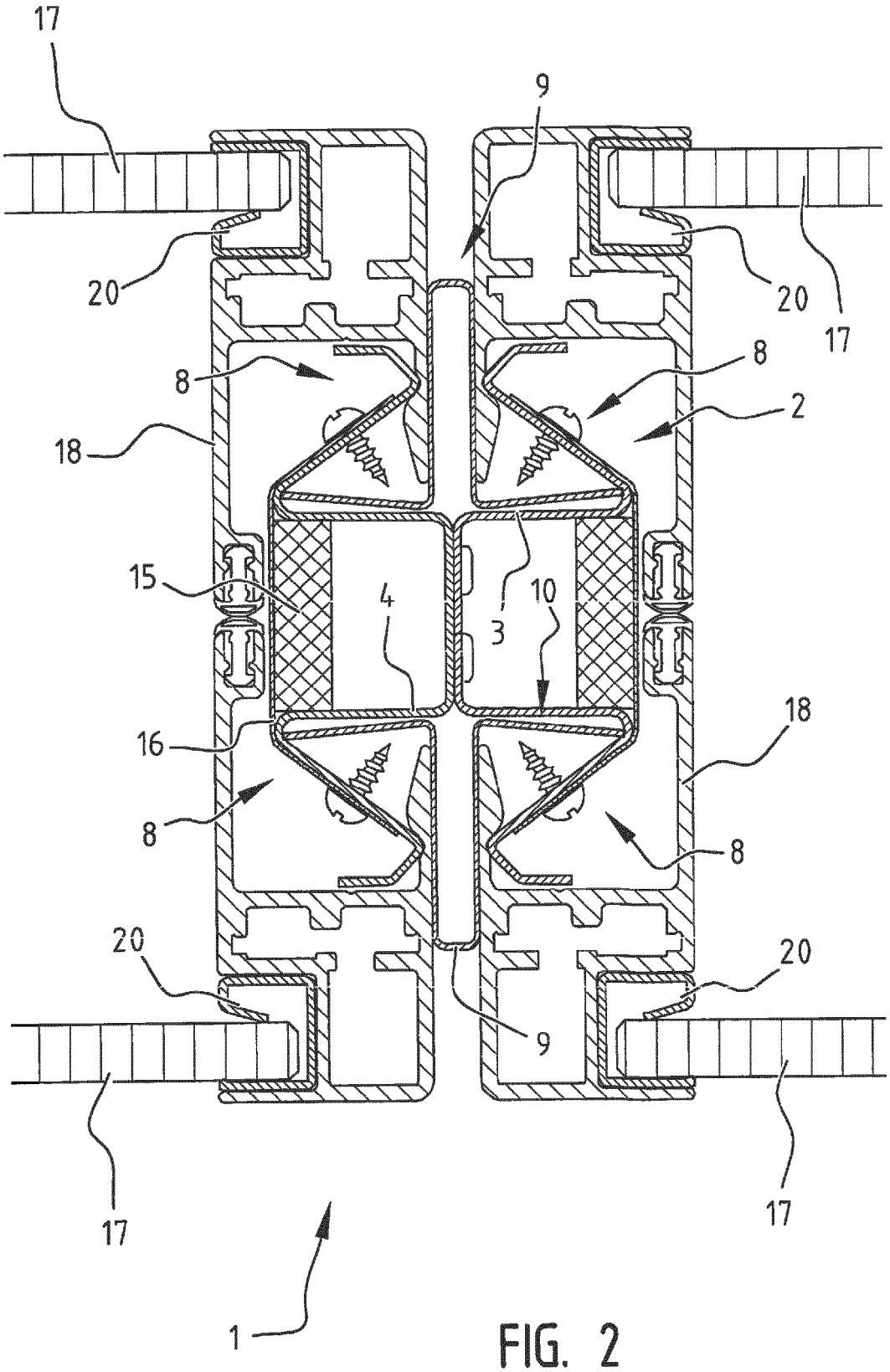

FIG. 2

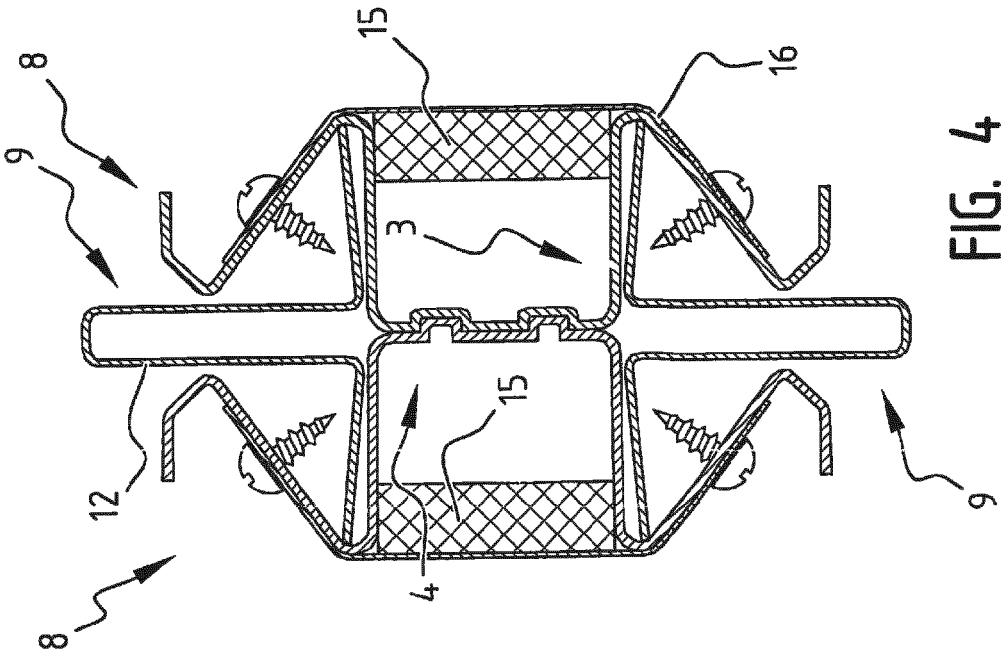

FIG. 4

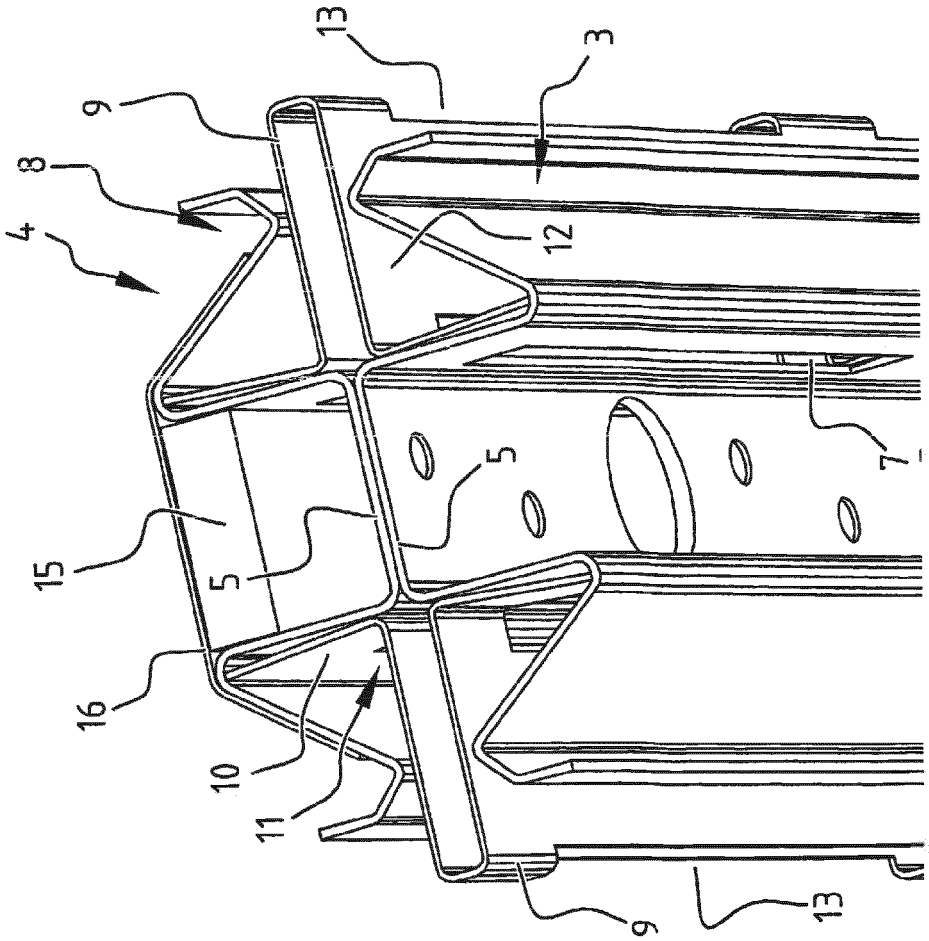

FIG. 3

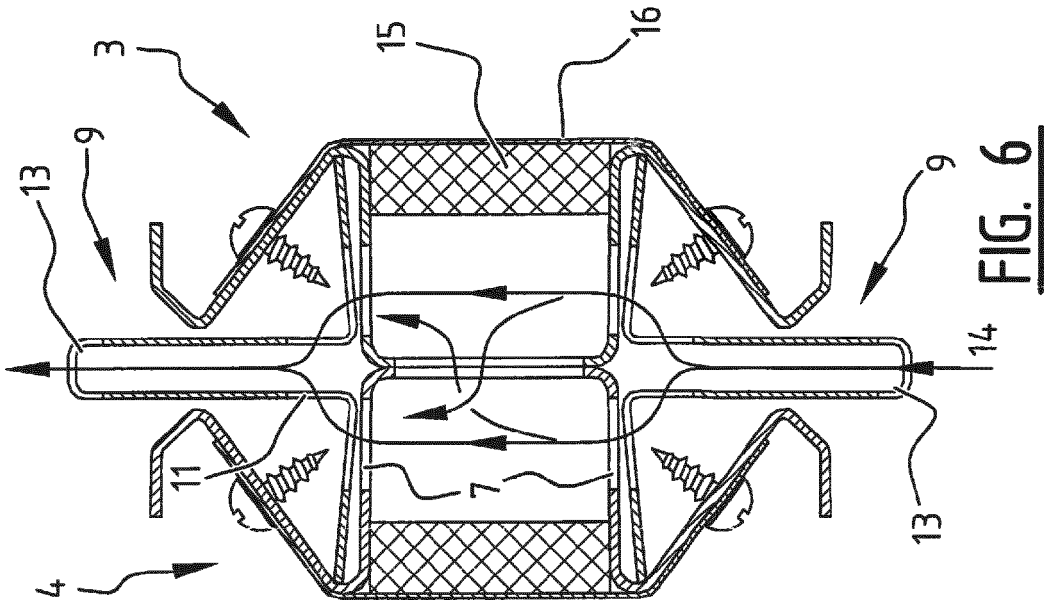

FIG. 6

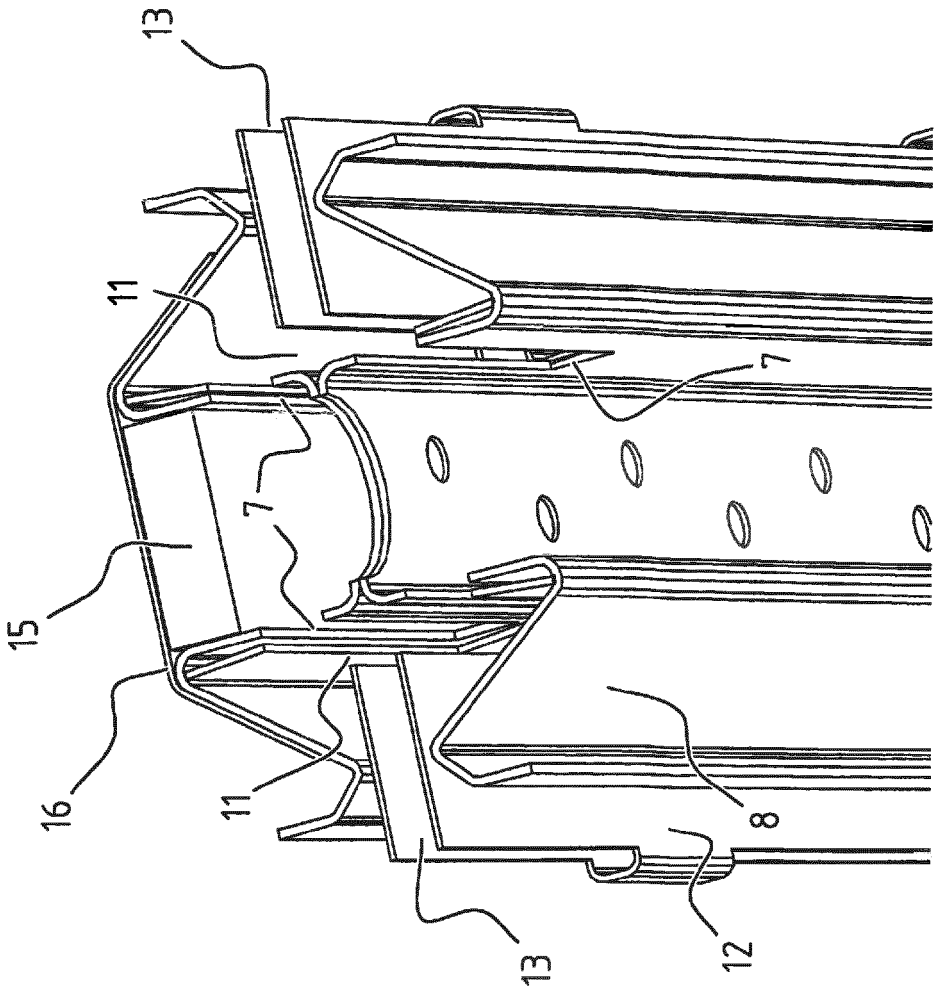

FIG. 5

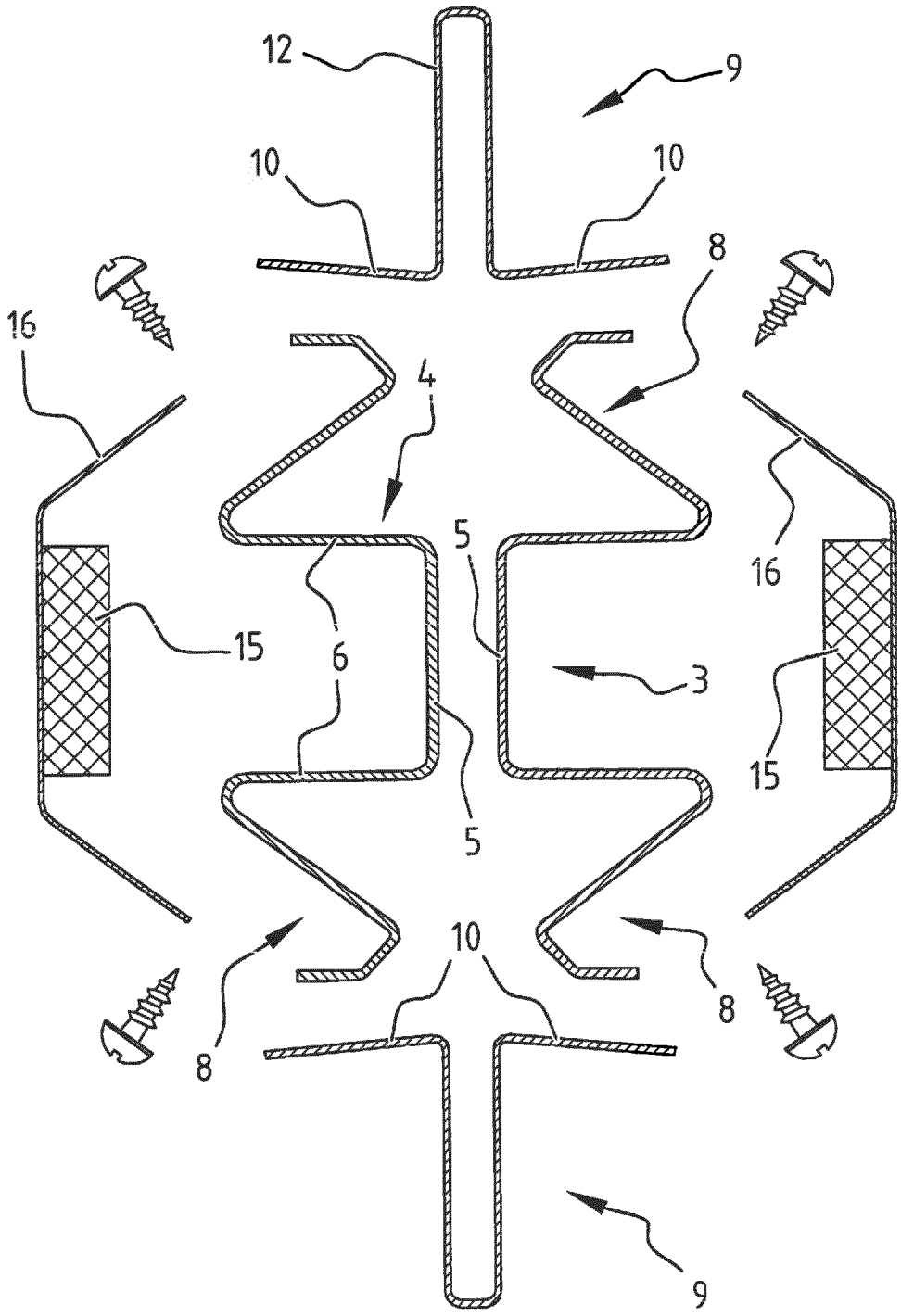

FIG. 7

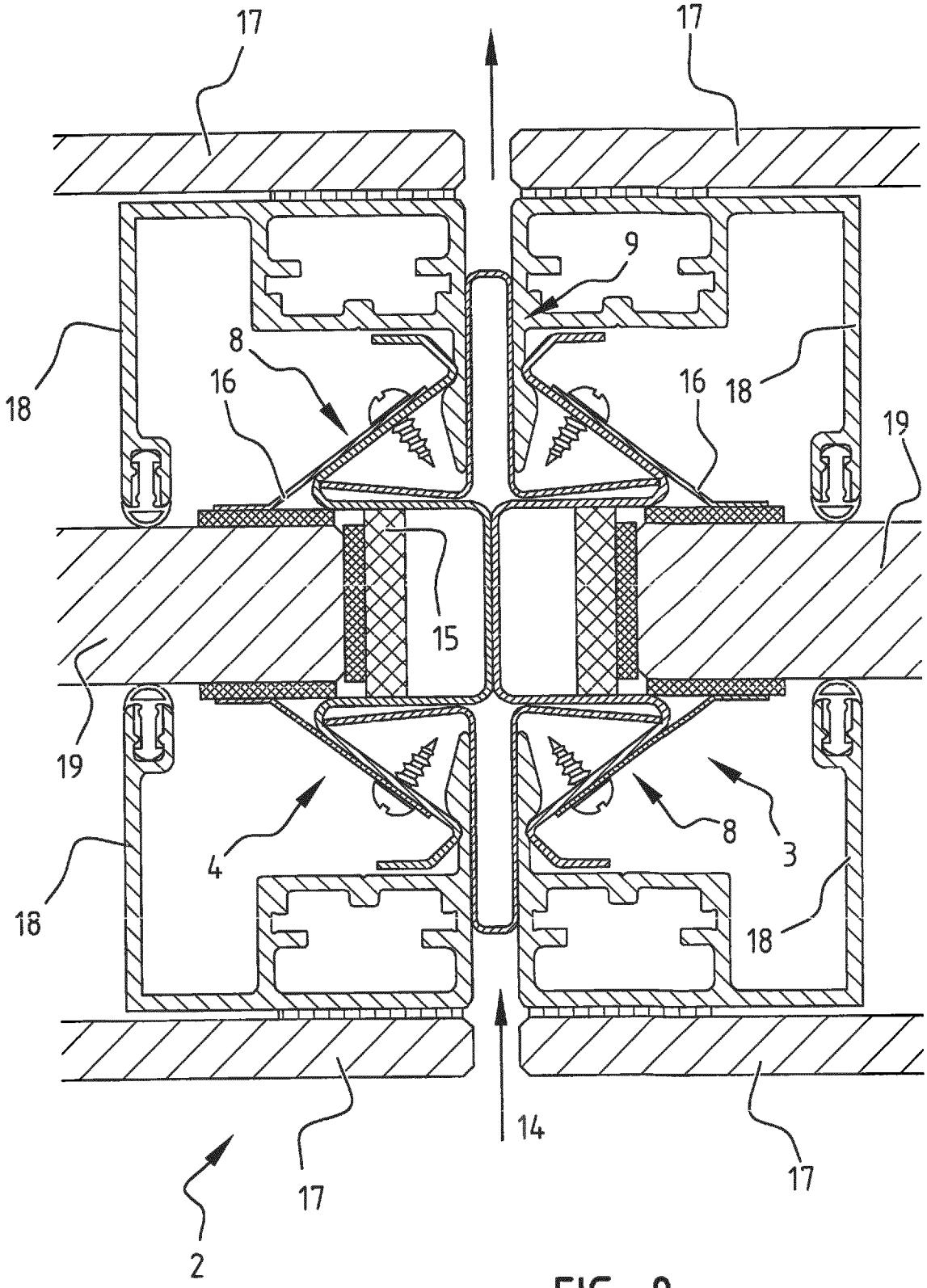

FIG. 8

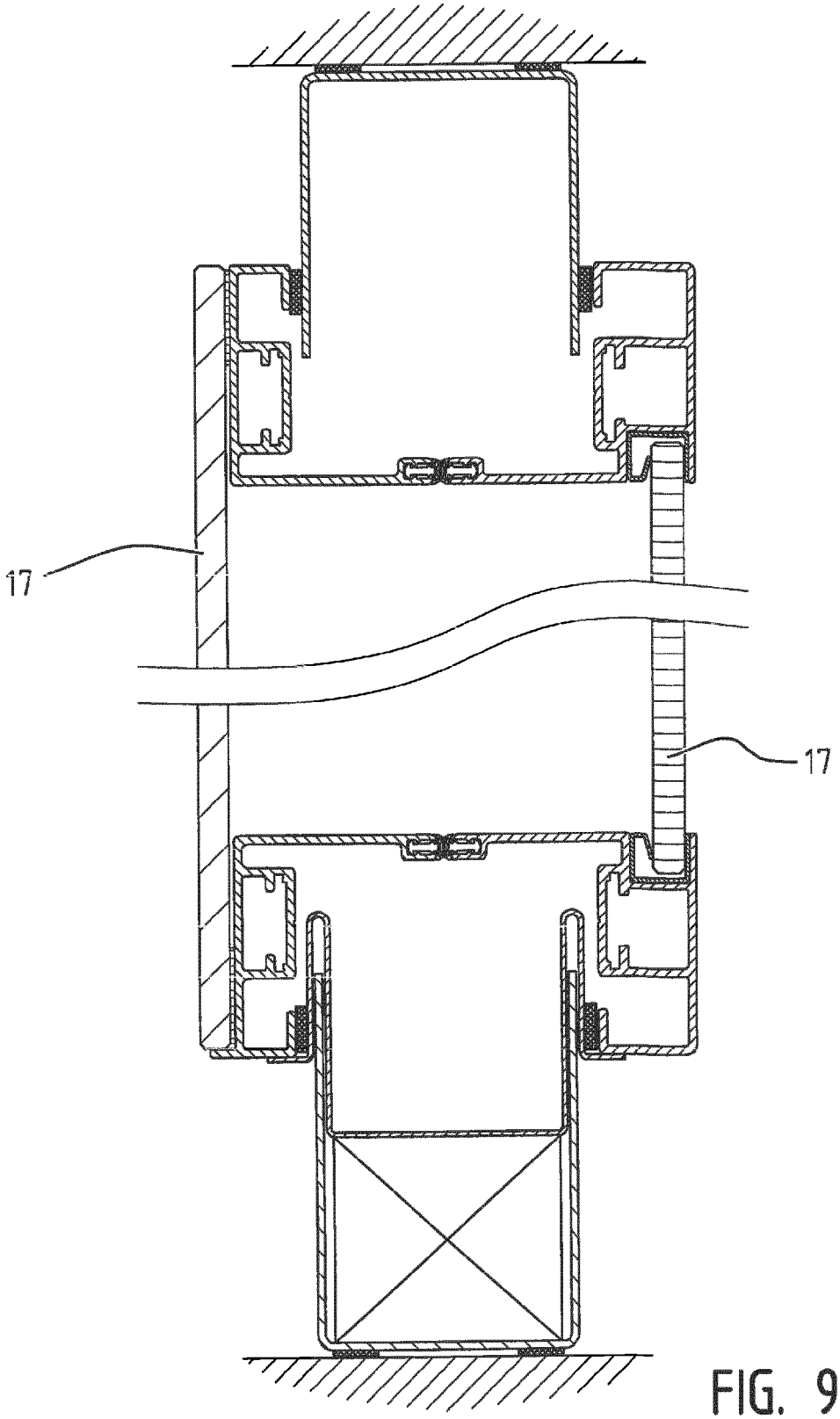

FIG. 9

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EUROPEAN SEARCH REPORT

Application Number
EP 13 19 3602

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A	* page 3, line 23 - page 4, line 35; figures 1, 2b, 3,4a-d *	2,3	E04C3/07 ADD.
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A	* page 5, line 16 - line 24; figures 1a,2a,3a *	2	
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A	* column 2, line 37 - column 4, line 15; figures 1, 3 *	2	
A	EP 0 365 773 A1 (HOLZAEPFEL CHRISTIAN GMBH [DE]) 2 May 1990 (1990-05-02) * abstract; figure 5 *	2,3	
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E04B
E04C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	12 February 2014	Galanti, Flavio

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 13 19 3602

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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