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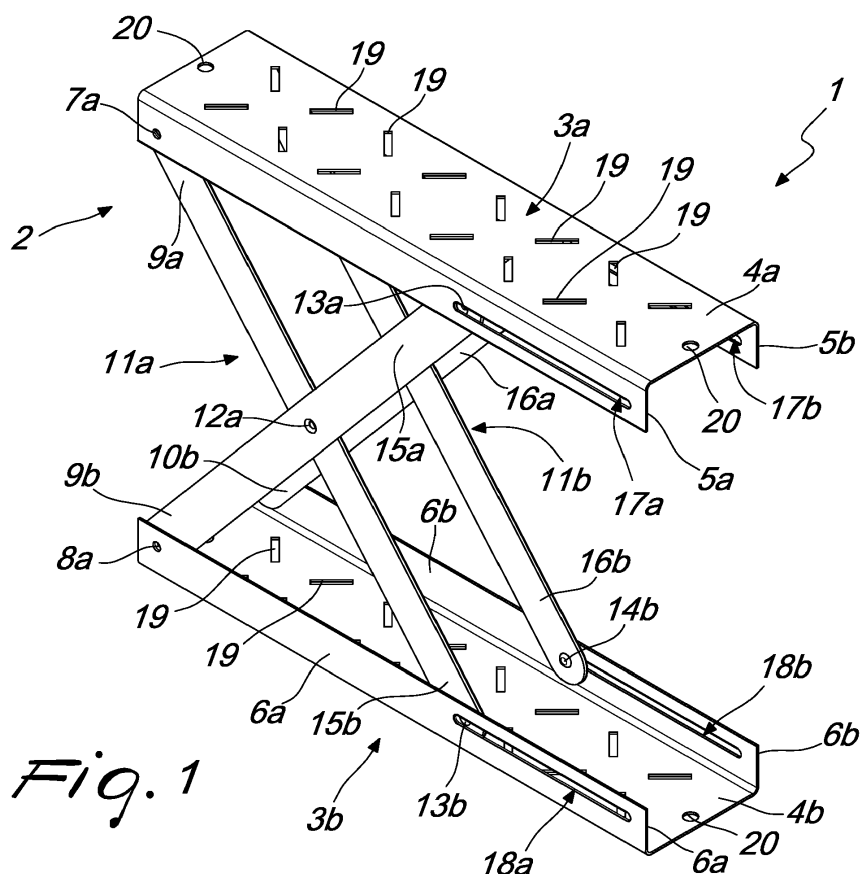
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(54) **LEVELING DEVICE FOR THE FRAMING OF A PLASTERBOARD WALL**

(57) A leveling device (1) for the framing of a plasterboard wall which is constituted by a frame (2), shaped like a pantograph, which is composed of a pair of flat and mutually opposite end faces (3a, 3b); the latter are rotatably associated, at a same end, with the first ends of two

pairs of bars (11a, 11b), which are mutually pivoted in an X-shaped configuration; the second ends of the two pairs of bars (11a, 11b) are slideably associated with the other end of the pair of end faces (3a, 3b).



*Fig. 1*

## Description

**[0001]** The present invention relates to a leveling device for the framing of a plasterboard wall.

**[0002]** Nowadays dry construction systems are known in which it is standard practice to make frames for supporting and fixing slabs of plasterboard when the floors are still in the rough state, i.e. before laying the subfloors and screeds.

**[0003]** This technique exhibits drawbacks, since it is extremely difficult to level the profiles of the frame because there can be considerable differences in height; in fact the installation technician who has to work in this building-site situation has to provide shims on a case by case basis to compensate for this difference in the floor.

**[0004]** The principal aim of the present invention is therefore to resolve the above mentioned technical problems, eliminating the drawbacks in the cited known art and hence providing an invention that makes it possible to obtain, in a rapid and simple manner, the leveling of the frames for supporting and fixing plasterboard slabs irrespective of the presence of possibly considerable differences in height in the floor.

**[0005]** Within this aim, an object of the present invention is to provide a leveling device that makes it possible to carry out such leveling for the framing of a plasterboard wall without the use of particular devices and without any particular expertise being required of the installation technician.

**[0006]** Another object is to provide a leveling device that is structurally simple, can be provided with conventional systems and machines, and is low cost.

**[0007]** This aim and these and other objects which will become better apparent hereinafter are achieved by a leveling device for the framing of a plasterboard wall, characterized in that it is constituted by a frame, shaped like a pantograph, which is composed of a pair of flat and mutually opposite end faces with which the first ends of two pairs of bars which are mutually pivoted in an X-shaped configuration are rotatably associated at a same end, the second ends of the two pairs of bars being slideably associated with the other end of said pair of end faces.

**[0008]** Further characteristics and advantages of the invention will become better apparent from the detailed description of a particular, but not exclusive, embodiment, which is illustrated by way of non-limiting example in the accompanying drawings wherein:

Figure 1 is a perspective view of the leveling device in an open condition;

Figure 2 is a side view of the device in the condition of Figure 1;

Figure 3 is a front elevation view of the device in the condition of Figure 1;

Figure 4 is a view from above of the device in the condition of Figure 1;

Figure 5 is a side view of the device in the collapsed

condition;

Figure 6 is a front elevation view of the device in the condition of Figure 5.

**[0009]** In the exemplary embodiments illustrated below, individual characteristics shown in relation to specific examples may in reality be interchanged with other, different characteristics, existing in other exemplary embodiments.

**[0010]** Moreover, it should be noted that anything found to be already known during the patenting process is understood not to be claimed and to be the subject of a disclaimer.

**[0011]** With reference to the figures, the reference numeral 1 generally designates a leveling device for the framing of a plasterboard wall which is constituted by a frame 2, shaped like a pantograph, which is composed of a pair of end faces 3a, 3b that are C-shaped so as to define a flat surface 4a, 4b and two pairs of mutually opposite lateral wings 5a, 5b, 6a, 6b.

**[0012]** The first ends 9a, 9b, 10a, 10b of two pairs of bars 11a, 11b, which are flat, are associated rotatably, by virtue of fixing elements such as first pivots or screws 7a, 7b, 8a, 8b, with a same end of the two pairs of lateral wings 5a, 5b, 6a, 6b, each pair having the respective bars mutually pivoted in an X-shaped configuration by virtue of second pivots or screws 12a, 12b arranged substantially in a central region.

**[0013]** The second ends 15a, 15b, 16a, 16b of the two pairs of bars 11a, 11b are associated slideably, by virtue of fixing elements such as third pivots or screws 13a, 13b, 14a, 14b, with the other end of the two pairs of lateral wings 5a, 5b, 6a, 6b.

**[0014]** The third pivots or screws 13a, 13b, 14a, 14b bear on two pairs of slots 17a, 17b, 18a, 18b that are provided longitudinally to the pair of lateral wings 6a, 6b on the opposite side with respect to the first pivots 8a, 8b.

**[0015]** It is thus possible to achieve a raising, starting from the collapsed condition shown in Figure 6, of the pair of end faces 3a, 3b by virtue of the ability that the two pairs of bars 11a, 11b, which are mutually pivoted, have to slide in the two pairs of slots 17a, 17b, 18a, 18b.

**[0016]** The length of these slots determines the maximum distance that can be obtained between the pair of end faces 3a, 3b and therefore the variation in height that can be achieved in the device, which makes it possible to fill the desired difference in height.

**[0017]** On the flat surface 4a, 4b of each one of the pair of end faces 3a, 3b there are slits 19 that are adapted to fix the device 1 on the floor by way of for example a paste of fixing material such as tile adhesive or gauged mortar; this renders the device 1 stable because the fixing material grips the rough bottom and overflows through the slits 19 and when it hardens it immobilizes everything.

**[0018]** Holes 20 for optional mechanical fixing are also provided in the flat surfaces 4a, 4b of each one of the pair of end faces 3a, 3b.

**[0019]** Use of the device entails that it be positioned at

the useful height for aligning the frame, simply by positioning it on the ground and then raising for example the end face 3a; subsequently the device is locked in position by blocking the sliding of the two pairs of bars 11a, 11b at the two pairs of slots 17a, 17b, 18a, 18b simply by tightening the first, second and third pivots or screws 7a, 7b, 8a, 8b, 12a, 12b, 13a, 13b, 14a, 14b by way of for example a screwdriver, which can be manual, and therefore without the use of complex apparatuses.

[0020] Thus it has been found that the invention has achieved the set aim and objects, a device having been devised that makes it possible to obtain, in a rapid and simple manner, the leveling of the frames for supporting and fixing plasterboard slabs irrespective of the presence of possibly considerable differences in height in the floor.

[0021] The device further makes it possible to carry out such leveling for the framing of a plasterboard wall without the use of particular devices and without any particular expertise being required of the installation technician.

[0022] The invention is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0023] The materials used as well as the dimensions of the individual components of the invention may be more pertinent according to specific requirements.

[0024] The various means of achieving certain different functions certainly need not coexist only in the embodiment shown, but may be present in many embodiments, even if they are not shown. The characteristics indicated above as advantageous, convenient or the like, may also be missing or be substituted by equivalent characteristics.

[0025] The disclosures in Italian Patent Application No. 102016000069497 (UA2016A004913) from which this application claims priority are incorporated herein by reference.

[0026] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

## Claims

1. A leveling device (1) for the framing of a plasterboard wall, **characterized in that** it is constituted by a frame (2), shaped like a pantograph, which is composed of a pair of flat and mutually opposite end faces (3a, 3b) with which the first ends of two pairs of bars (11a, 11b) which are mutually pivoted in an X-shaped configuration are rotatably associated at a same end, the second ends of said two pairs of bars (11a, 11b) being slideably associated with the other end of said pair of end faces (3a, 3b).

2. The device according to claim 1, **characterized in that** said pair of end faces (3a, 3b) are C-shaped so as to define a flat surface (4a, 4b) and two pairs of mutually opposite lateral wings (5a, 5b, 6a, 6b).
3. The device according to claims 1 and 2, **characterized in that** the first ends (9a, 9b, 10a, 10b) of said two pairs of bars (11a, 11b), which are flat, are associated rotatably, by virtue of fixing elements such as first pivots or screws (7a, 7b, 8a, 8b), with a same end of said two pairs of lateral wings (5a, 5b, 6a, 6b), each pair having the respective bars mutually pivoted in an X-shaped configuration by virtue of second pivots or screws (12a, 12b) arranged substantially in a central region.
4. The device according to claims 1 and 3, **characterized in that** the second ends (15a, 15b, 16a, 16b) of said two pairs of bars (11a, 11b) are associated slideably, by virtue of fixing elements such as third pivots or screws (13a, 13b, 14a, 14b), with the other end of said two pairs of lateral wings (5a, 5b, 6a, 6b).
5. The device according to claims 1 and 4, **characterized in that** said third pivots or screws (13a, 13b, 14a, 14b) bear on two pairs of slots (17a, 17b, 18a, 18b) that are provided longitudinally to said pair of lateral wings (6a, 6b) on the opposite side with respect to said first pivots (8a, 8b).
6. The device according to claims 1 and 5, **characterized in that** on the flat surface (4a, 4b) of each one of said pair of end faces (3a, 3b) there are slits (19) that are adapted to fix said device (1) on the floor by way of a paste of fixing material such as tile adhesive or gauged mortar.
7. The device according to claims 1 and 6, **characterized in that** holes (20) for optional mechanical fixing are provided in said flat surfaces (4a, 4b) of each one of said pair of end faces (3a, 3b).

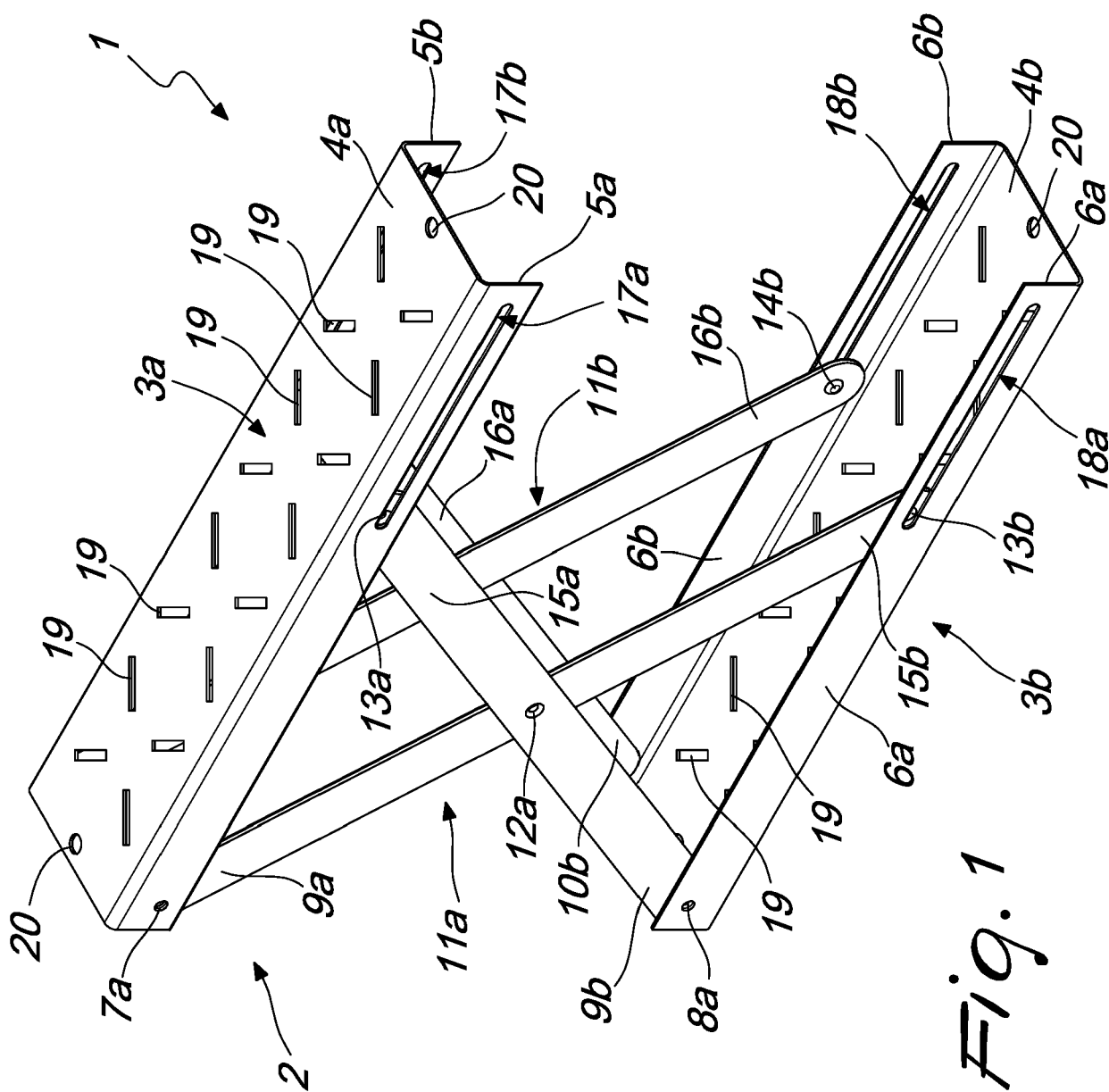
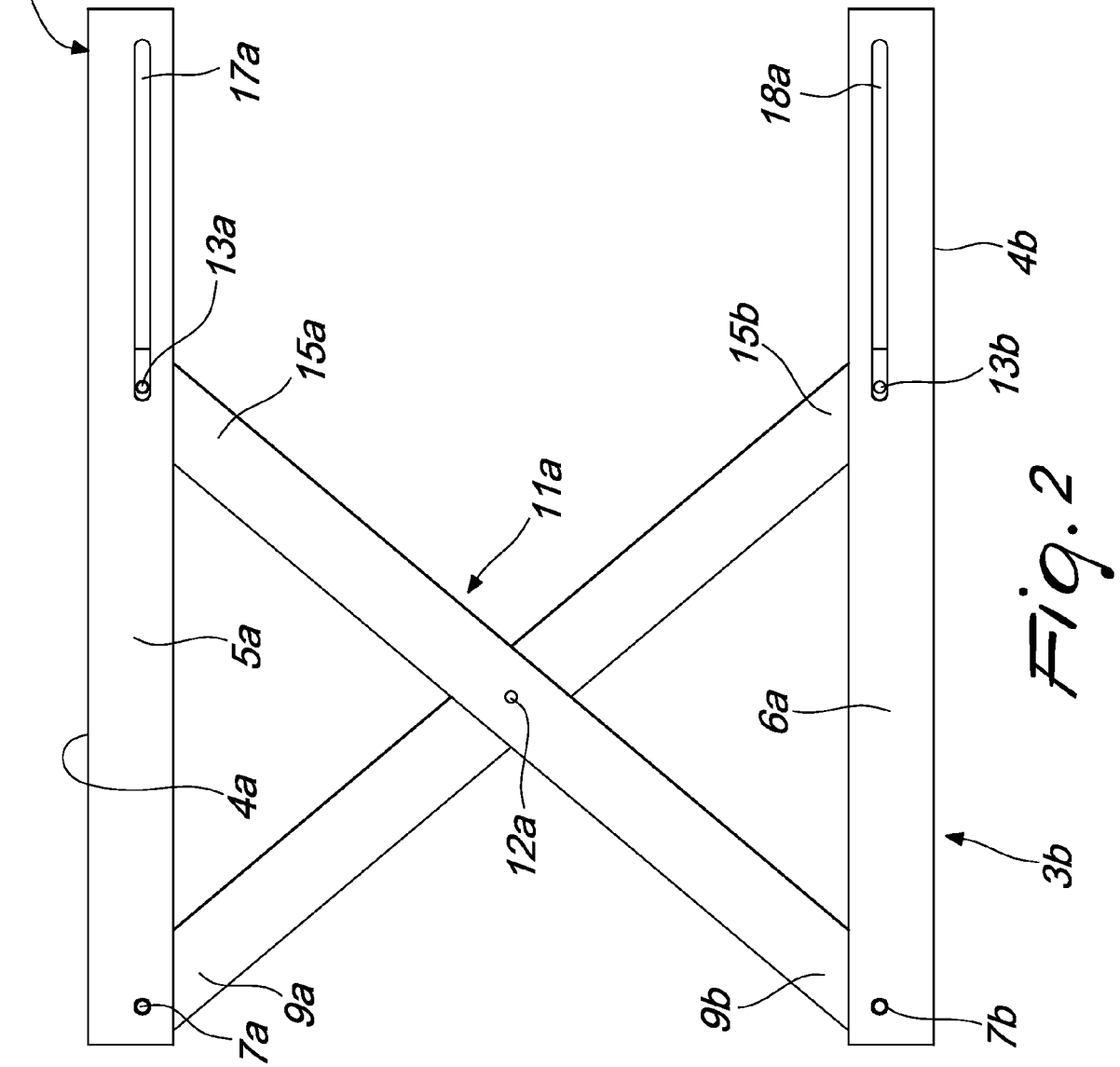
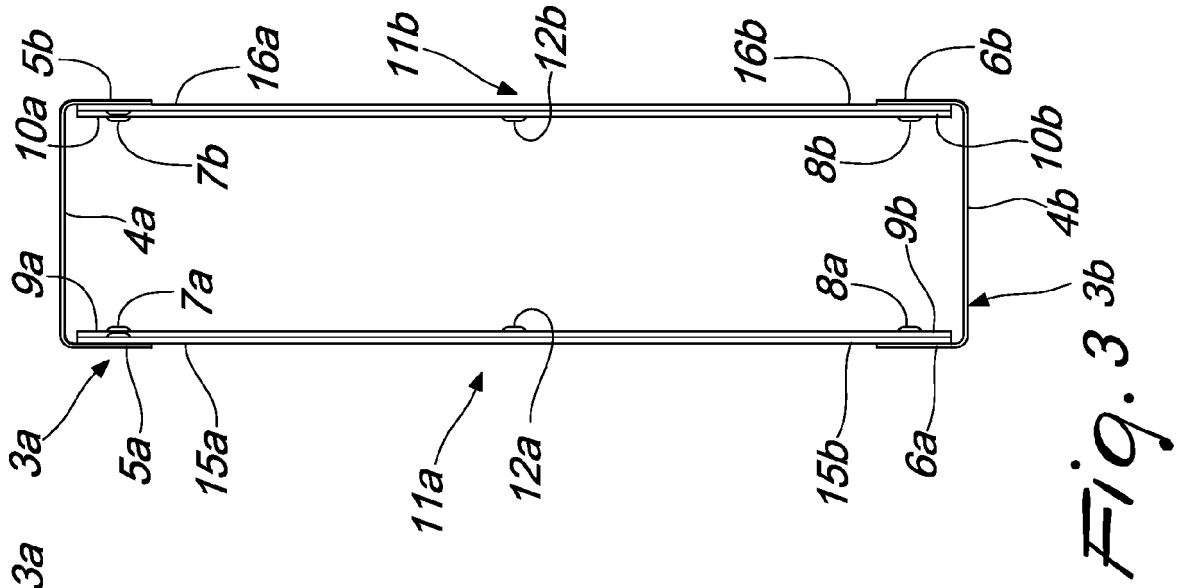
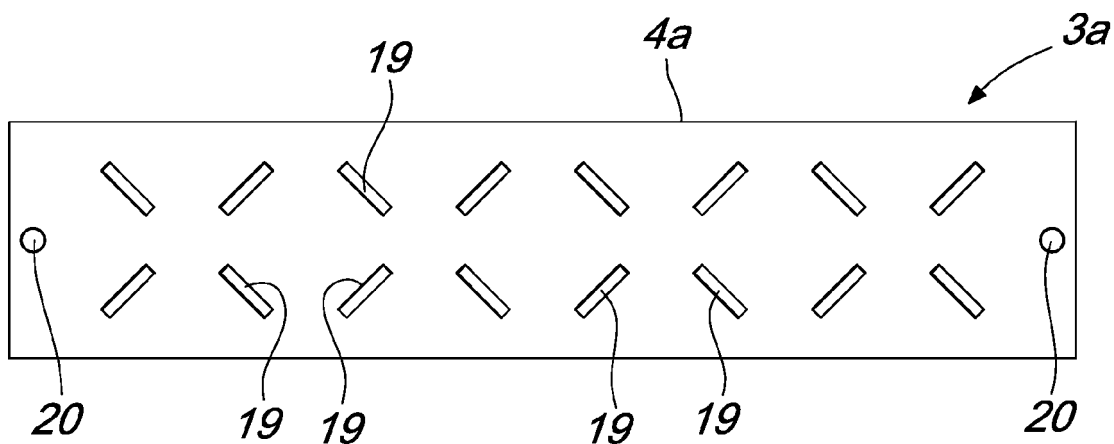
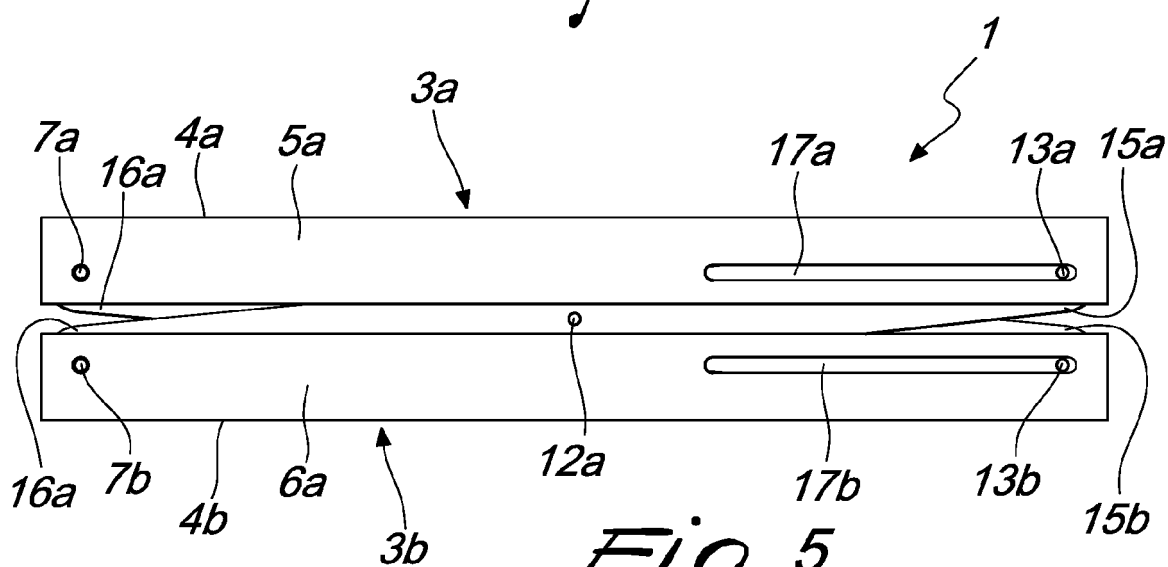


Fig. 1

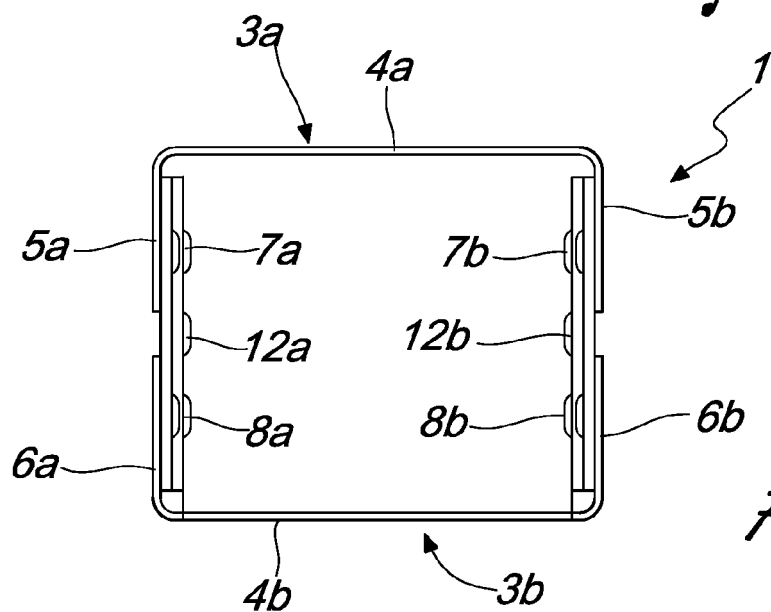




*Fig. 4*



*Fig. 5*



*Fig. 6*



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Application Number  
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| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                               |                                  |                                                             |
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