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(54) **Front post for in-wall frames of retractable sliding doors**

Vorderpfosten für Wandeinbaurahmen zurückziehbarer Schiebetüren

Poste avant pour châssis muraux de portes coulissantes rétractables

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Description

[0001] The present invention relates to a front post assembly for in-wall frames of retractable sliding doors.

[0002] Nowadays it is known to provide door frames which involve the use of a casing, positioned inside a wall, in which a door or a panel is slideably associated and which is also known as a "retractable door".

[0003] Such solution makes it possible to reduce the encumbrances of the door in a room thanks to the possibility of sliding it into the casing: thus one can use the space adjacent to the door, which would otherwise be occupied by doors of the type that are hinged laterally to a casement.

[0004] In the known art, the frame embedded in the wall is usually constituted by a framework which comprises a plurality of vertical profiled elements, a front post and a rear post, which are connected by horizontal cross-members which define a containment casing of the panel or of the door.

[0005] Protruding above the case, along an axis that is longitudinal with respect to the case proper and that extends from the side opposite to that of the containment case, is a rail which is hidden by a jamb.

[0006] Trolleys coupled to the upper edge of the door are slideably integrated in the rail in order to enable the sliding of the door into and out of the in-wall casing.

[0007] Usually associated with the end of the rail which is not associated with the vertical post locators is an additional post that acts as a terminal for the abutment of the front edge of the door.

[0008] Such conventional door frames thus use metallic profiles that can be mounted together and are sold for example in kit form for assembly.

[0009] To this end, this applicant is holder of Italian application no. TV2010A000011 in which an in-wall casing is disclosed for retractable sliding doors, which is characterized in that at least the crossbeam, the rail, the cross-members, and the spacer can be cut to measure because reference pre-cuts are provided, and also in which the jambs comprise at least the crossbeam jamb which can be cut to measure so that the in-wall casing can be modified at installation time, in order to obtain various different possibilities for the passage opening, further provided with an adjustable infill jamb with integrated architraves and a door track that can be adjusted for multiple door panel thicknesses.

[0010] Although such solution is valid, it suffers a drawback in that the user has to carry out the centering of the various different components, without which malfunctions may arise in the sliding of the sliding door.

[0011] This requires time and the use of tools that require, furthermore, a certain level of skill in the use thereof.

[0012] EP 0 751 275 A2 discloses a wall structure with a sliding door, comprising a perimetral frame consisting of a plurality of perimetral elements joined together, to the opposite faces of which there being fixed the wall panels of the structure, between the panels there being defined a compartment into which the door can slide to be totally contained therein. Elongate modular elements are associated with the perimetral elements, the modular elements being in the form of section bars with substantially omega shape and comprising a central part raised relative to flat lateral portions, the central part comprising opposing slots to act as means for their fixing to the perimetral element.

[0013] The aim of the present invention is therefore to resolve the above mentioned technical problems, by eliminating the drawbacks in the cited known art and hence providing an invention that enables the user to mount components of an in-wall casing of retractable sliding doors so that they are centered relative to each other, with ease and without using special tools.

[0014] Within this aim, an object of the invention is to provide a component of an in-wall casing of retractable sliding doors in which the centering of the various components can be achieved rapidly.

[0015] Another object is to obtain a solution for centering the elements of an in-wall casing which can be stable over time, thus keeping the sliding of the door always optimal.

[0016] Another object is to provide an invention that is structurally simple, can be provided with conventional systems and machines, and is low cost.

[0017] In accordance with the invention, there is provided a front post assemble for in-wall frames for retractable sliding doors as defined in the appended claims.

[0018] Further characteristics and advantages of the invention will become better apparent from the detailed description of a particular, but not exclusive, embodiment, illustrated by way of non-limiting example in the accompanying drawings wherein:

Figure 1 is a perspective view of the front post coupled to the centering element;
Figure 2 shows the front post decoupled from the centering element;
Figure 3 shows the front post placed against the centering element before its coupling.

[0019] In the embodiments illustrated, individual characteristics shown in relation to specific examples may in reality be interchanged with other, different characteristics, existing in other embodiments.

[0020] With reference to the figures, the reference numeral 1a, 1b generally designates a front post for in-wall frames of retractable sliding doors, which is substantially C-shaped so as to define a first base 2a, 2b, which is preferably but not exclusively flat, and a first pair of lateral wings 3a, 3b.

[0021] Each front post 1a, 1b has, proximate to a lower end 4a, 4b of the respective first base 2a, 2b, at least one hole 5a, 5b for coupling, by way of temporary locking means constituted by a screw 6a, 6b, with a second pair of lateral wings 7a, 7b of a centering element 8 consti-

tuted by a C-shaped cross-member.

[0022] Each one of the second lateral wings 7a, 7b has an end 9a, 9b that arranges itself against the first base 2a, 2b and is provided with, at least along part of its length, a substantially V shape, at the vertex 10a, 10b of which there is a seat 11a, 11b for the threaded shank of the screws 6a, 6b.

[0023] Each one of the seats 11a, 11b is arranged at a height corresponding to the placement of the axis of the holes 5a, 5b once the edges 12a, 12b of the lower end 4a, 4b of the first pair of lateral wings 3a, 3b of the front post 1a, 1b are resting on the second base 13 (which is preferably but not exclusively flat) of the centering element 8.

[0024] The coupling of the front post 1a, 1b with the centering element 8 occurs by way of the screws 6a, 6b.

[0025] On the second base 13 of the centering element 8 there are guiding means for the front post 1a, 1b, the means being constituted by L-shaped locators 14a, 14b, a wing 15a, 15b of which protrudes from the second base 13 substantially parallel to the second pair of lateral wings 7a, 7b and at a distance from the latter substantially equal to the thickness of the lateral wings 3b.

[0026] This arrangement makes it possible to place the lateral wings 3b against the vertices 10a, 10b of the second pair of lateral wings 7a, 7b of the centering element 8.

[0027] Thus it has been found that the invention fully achieves the intended aim and objects, a front post being devised for in-wall frames of retractable sliding doors which can be mounted by the user with ease and without using special tools while performing a correct, precise and stable centering of the various components.

[0028] The invention is susceptible of numerous modifications and variations, within the scope of the appended claims.

[0029] The materials used as well as the dimensions of the individual components of the invention may be more pertinent according to specific requirements.

[0030] 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.

[0031] 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 front post assembly for in-wall frames for retractable sliding doors, comprising a first front post (1a), a second front post (1b) and a C-shaped centering element (8), each of which first and second front posts (1a, 1b) is substantially C-shaped so as to define a first base (2a, 2b) and a first pair of lateral wings (3a, 3b), each of said first and second front posts (1a, 1b) having, proximate to a lower end (4a, 4b) of said first base (2a, 2b), at least one hole (5a, 5b) that couples, by way of temporary locking means, with a respective one of a second pair of lateral wings (7a, 7b) of the C-shaped centering element (8), the edges (12a, 12b) of said first pair of lateral wings (3a, 3b) resting on a second base (13) of said centering element (8) at guiding means, said temporary locking means being constituted by a screw (6a, 6b), and each one of said second lateral wings (7a, 7b) having an end (9a, 9b) that arranges itself against said first base (2a, 2b) and is provided with, at least along part of its length, a substantially V shape, at the vertex (10a, 10b) of which there is a seat (11a, 11b) for the threaded shank of said screws (6a, 6b).

2. The front post assembly according to claim 1, **characterized in that** each one of said seats (11a, 11b) is arranged at a height corresponding to the placement of the axis of said holes (5a, 5b) once the edges (12a, 12b) of said lower end (4a, 4b) of said first pair of lateral wings (3a, 3b) of said front post (1a, 1b) are resting on the second base (13) of said centering element (8).

3. The front post assembly according to claim 2, **characterized in that** the coupling of said first and second front posts (1a, 1b) with said centering element (8) occurs by way of said screws (6a, 6b).

4. The front post assembly according to claim 3, **characterized in that** on said second base (13) of said centering element (8) there are guiding means for said first and second front posts(1a, 1b), said means being constituted by L-shaped locators (14a, 14b), a wing (15a, 15b) of which protrudes from said second base (13) substantially parallel to said second pair of lateral wings (7a, 7b) and at a distance from the latter substantially equal to the thickness of said lateral wings (3b).

5. The front post assembly according to claim 4, **characterized in that** the mutual arrangement between said first and second front posts (1a, 1b) and said centering element (8) makes it possible to place said lateral wings (3b) against said vertices (10a, 10b) of said second pair of lateral wings (7a, 7b) of said centering element (8).

Patentansprüche

1. Vorderpfostenanordnung für Wandeinbaurahmen

zurückziehbarer Schiebetüren, welche einen ersten Vorderpfosten (1a), einen zweiten Vorderpfosten (1b) und ein C-förmiges Zentrierelement (8) aufweist, wobei jeweils der erste und zweite Vorderpfosten (1a, 1b) im Wesentlichen C-förmig sind, um eine erste Basis (2a, 2b) und ein erstes Paar seitlicher Flügel (3a, 3b) zu definieren, wobei jeweils der erste und zweite Vorderpfosten (1a, 1b) in der Nähe eines unteren Endes (4a, 4b) der ersten Basis (2a, 2b) mindestens eine Öffnung (5a, 5b) haben, die durch temporäre Verriegelungsmittel an jeweils einem eines zweiten Paares seitlicher Flügel (7a, 7b) des C-förmigen Zentrierelements (8) ankuppelt, wobei die Kanten (12a, 12b) des ersten Paares seitlicher Flügel (3a, 3b) auf einer zweiten Basis (13) des Zentrierelements (8) bei Führungsmitteln liegen, wobei die temporäre Verriegelungsmittel durch eine Schraube (6a, 6b) gebildet sind und jeder der zweiten seitliche Flügel (7a, 7b) ein Ende (9a, 9b) hat, das sich selbsttätig gegen die erste Basis (2a, 2b) anordnet und das mindestens entlang eines Teils seiner Länge mit einer im Wesentlichen V-Form vorgesehen ist, auf deren Scheitel (10a, 10b) es einen Sitz (11a, 11b) für den Gewindeschaft der Schrauben (6a, 6b) gibt.

2. Vorderpfostenanordnung nach Anspruch 1, **dadurch gekennzeichnet, dass** jeder der Sitze (11a, 11b) in einer Höhe angeordnet ist, die der Anordnung der Achse der Löcher (5a, 5b) entspricht, sobald die Kanten (12a, 12b) des unteren Endes (4a, 4b) des ersten Paares von seitlichen Flügeln (3a, 3b) des Vorderpfostens (1a, 1b) auf der zweiten Basis (13) des Zentrierelements (8) liegen.

3. Vorderpfostenanordnung nach Anspruch 2, **dadurch gekennzeichnet, dass** das Ankuppeln des ersten und zweiten Vorderpfostens (1a, 1b) an das Zentrierelement (8) durch die Schrauben (6a, 6b) erfolgt.

4. Vorderpfostenanordnung nach Anspruch 3, **dadurch gekennzeichnet, dass** auf der zweiten Basis (13) des Zentrierelements (8) Führungsmittel für den ersten und zweiten Vorderpfosten (1a, 1b) sind, wobei die Mittel durch L-förmige Positioniereinheiten (14a, 14b) gebildet sind, deren einer Flügel (15a, 15b) von der zweiten Basis (13) im Wesentlichen parallel zu dem zweiten Paar von seitlichen Flügeln (7a, 7b) und in einem Abstand von der Letzteren, der im Wesentlichen gleich der Dicke der seitlichen Flügel (3b) ist, vorragt.

5. Vorderpfostenanordnung nach Anspruch 4, **dadurch gekennzeichnet, dass** die gegenseitige Anordnung zwischen dem ersten und zweiten Vorderpfosten (1a, 1b) und dem Zentrierelement (8) ermöglicht, die seitlichen Flügel (3b) gegen die Scheitel (10a ,10b) des zweiten Paares seitlicher Flügel (7a, 7b) des Zentrierelements (8) zu platzieren.

Revendications

1. Ensemble de montants avant pour châssis muraux pour portes coulissantes rétractables, comprenant un premier montant avant (1a), un second montant avant (1b) et un élément de centrage en forme de C (8), dont chacun des premier et second montants avant (1a, 1b) est sensiblement en forme de C afin de définir une première base (2a, 2b) et une première paire d'ailes latérales (3a, 3b), chacun desdits premier et second montants avant (1a, 1b) ayant, à proximité d'une extrémité inférieure (4a, 4b) de ladite première base (2a, 2b), au moins un trou (5a, 5b) qui couple, au moyen de moyens de verrouillage temporaires, avec une aile respective d'une seconde paire d'ailes latérales (7a, 7b) de l'élément de centrage en forme de C (8), les bords (12a, 12b) de ladite première paire d'ailes latérales (3a, 3b) s'appuyant sur une seconde base (13) dudit élément de centrage (8) au niveau des moyens de guidage, lesdits moyens de verrouillage temporaires étant constitués par une vis (6a, 6b), et chacune desdites secondes ailes latérales (7a, 7b) ayant une extrémité (9a, 9b) qui s'agence d'elle même contre ladite première base (2a, 2b) et est prévue avec, au moins le long d'une partie de sa longueur, une forme sensiblement en V, au niveau du sommet (10a, 10b) de laquelle, on trouve un siège (11a, 11b) pour la tige filetée desdites vis (6a, 6b).

2. Ensemble de montants avant selon la revendication 1, **caractérisé en ce que** chacun desdits sièges (11a, 11b) est agencé à une hauteur correspondant à l'emplacement de l'axe desdits trous (5a, 5b), une fois que les bords (12a, 12b) de ladite extrémité inférieure (4a, 4b) de ladite première paire d'ailes latérales (3a, 3b) dudit montant avant (1a, 1b) s'appuient sur la seconde base (13) dudit élément de centrage (8).

3. Ensemble de montants avant selon la revendication 2, **caractérisé en ce que** le couplage desdits premier et second montants avant (1a, 1b) avec ledit élément de centrage (8) a lieu au moyen desdites vis (6a, 6b).

4. Ensemble de montants avant selon la revendication 3, **caractérisé en ce que**, des moyens de guidage pour lesdits premier et second montants avant (1a, 1b) se trouvent sur ladite seconde base (13) dudit élément de centrage (8), lesdits moyens étant constitués par des dispositifs de positionnement en forme de L (14a, 14b), dont une aile (15a, 15b) fait saillie de ladite seconde base (13) sensiblement parallèle

à ladite seconde paire d'ailes latérales (7a, 7b) et à une distance de ces dernières sensiblement égale à l'épaisseur desdites ailes latérales (3b).

5. Ensemble de montants avant selon la revendication 4, **caractérisé en ce que** l'agencement mutuel entre lesdits premier et second montants avant (1a, 1b) et ledit élément de centrage (8) permettant de placer lesdites ailes latérales (3b) contre lesdits sommets (10a, 10b) de ladite seconde paire d'ailes latérales (7a, 7b) dudit élément de centrage (8).

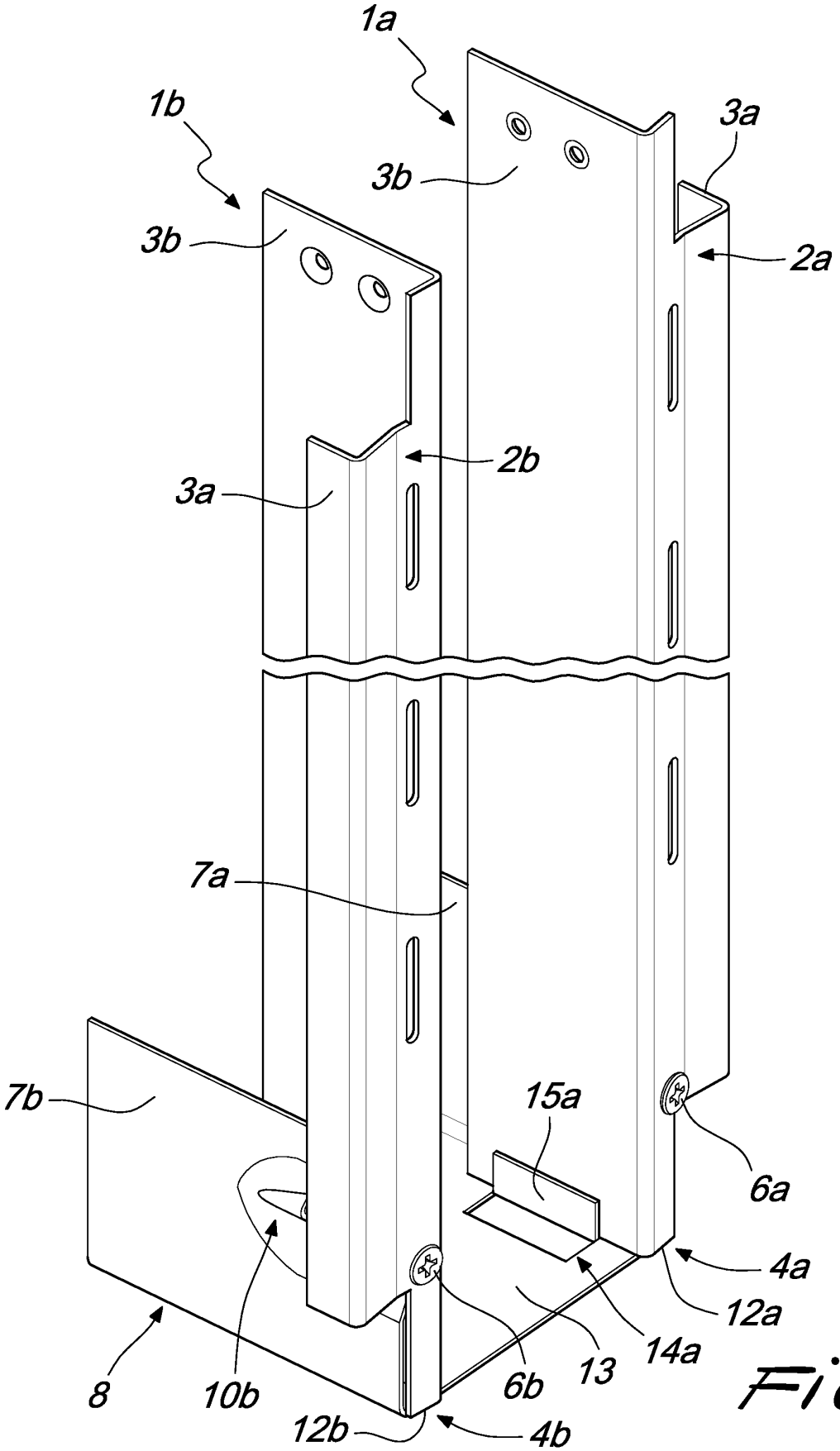


Fig. 1

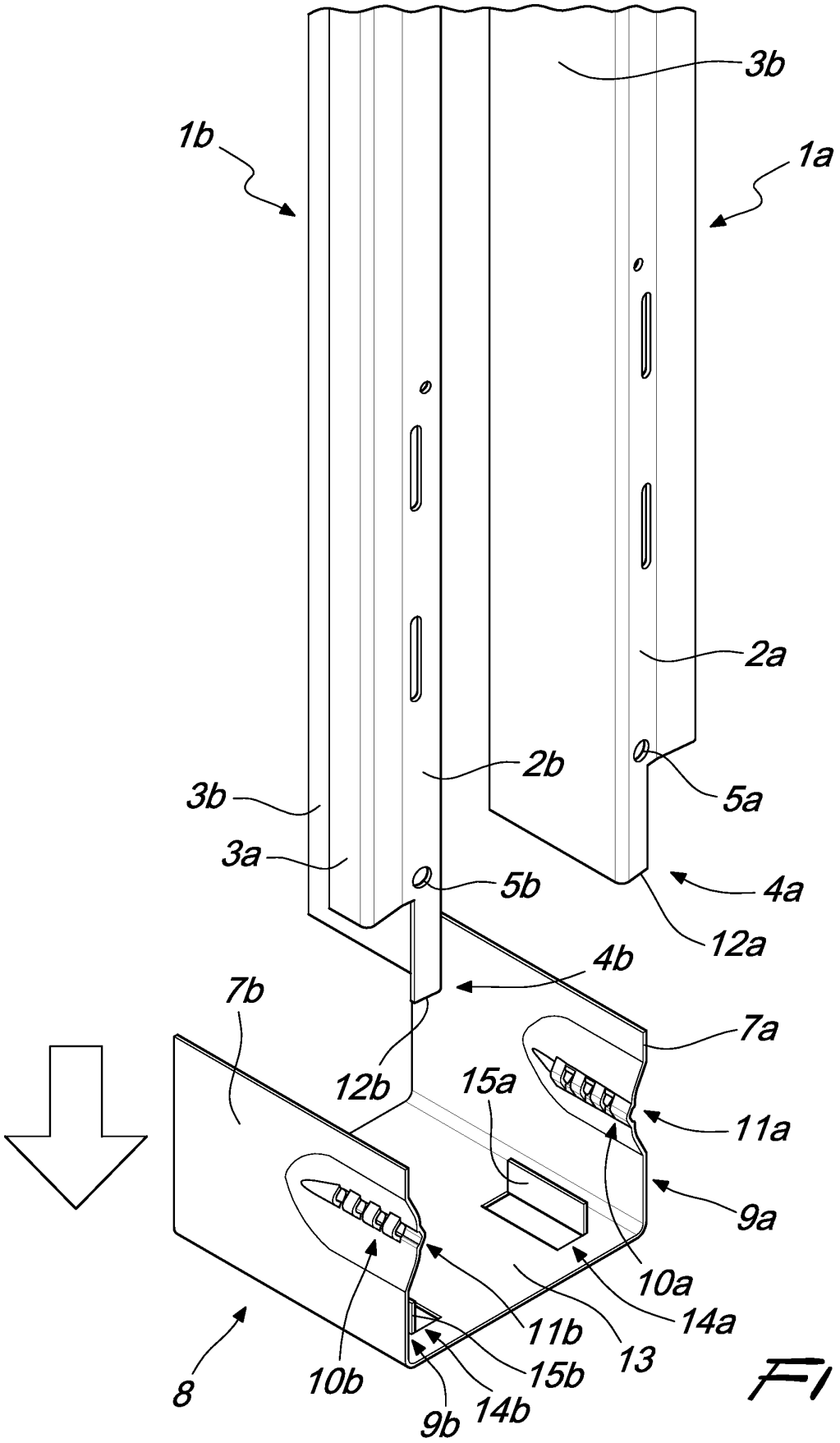

3b
1b
1a
2a
2b
5a
3b
3a
5b
4a
12a
4b
7b
7a
12b
15a
11a
9a
10a
14a
11b
13
15b
8
10b
14b
9b

Fig. 2

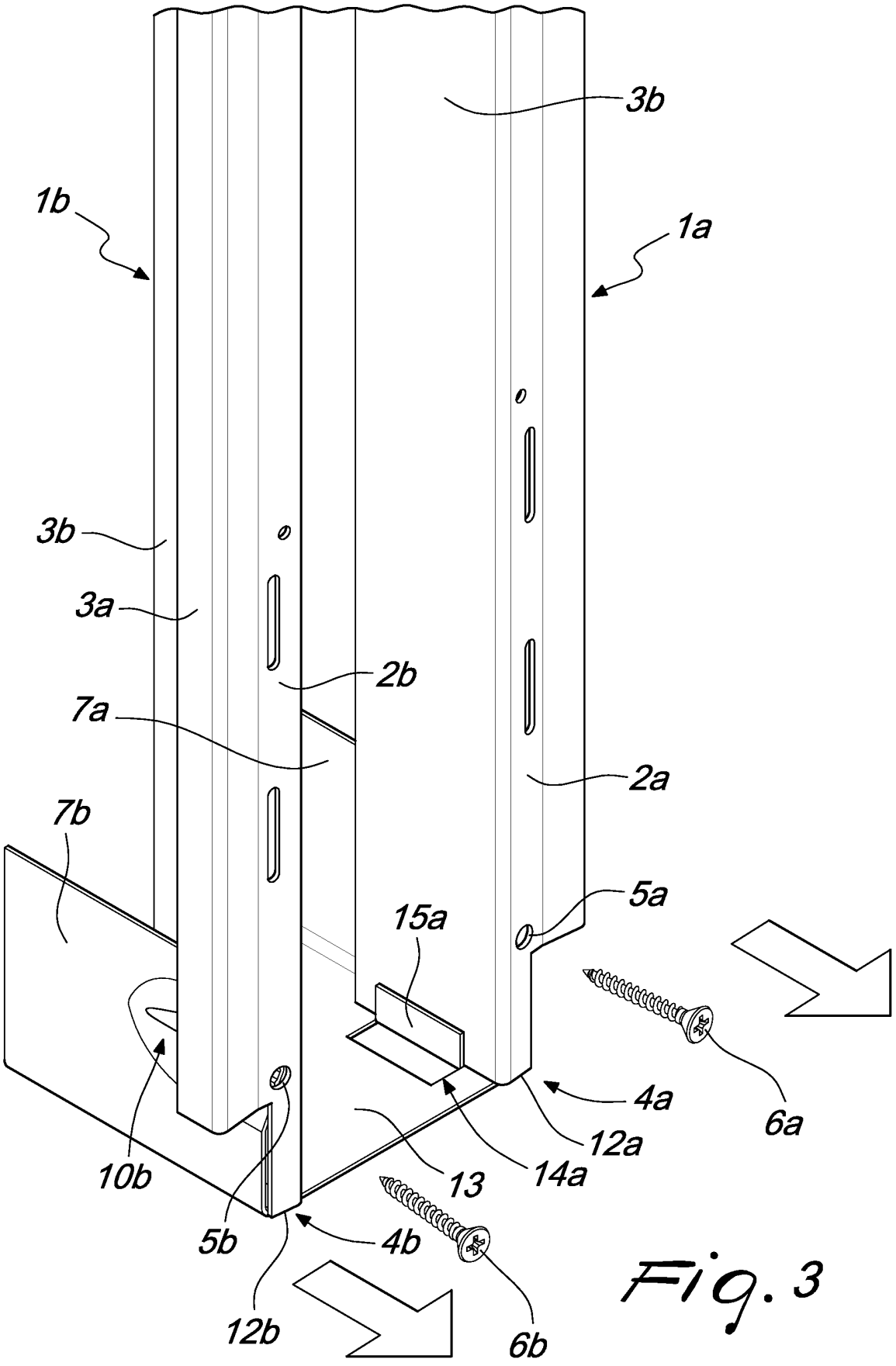


Fig. 3

REFERENCES CITED IN THE DESCRIPTION

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