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(54) **Coupling piece for connecting two parts**

(57) Coupling piece for making an angle joint between two posts, characterised in that it mainly consists of a body which can be provided in a fitting manner in a

post (11) and which is provided with a groove (5) in at least one side wall (3, 4) extending in the longitudinal direction of the body (2).

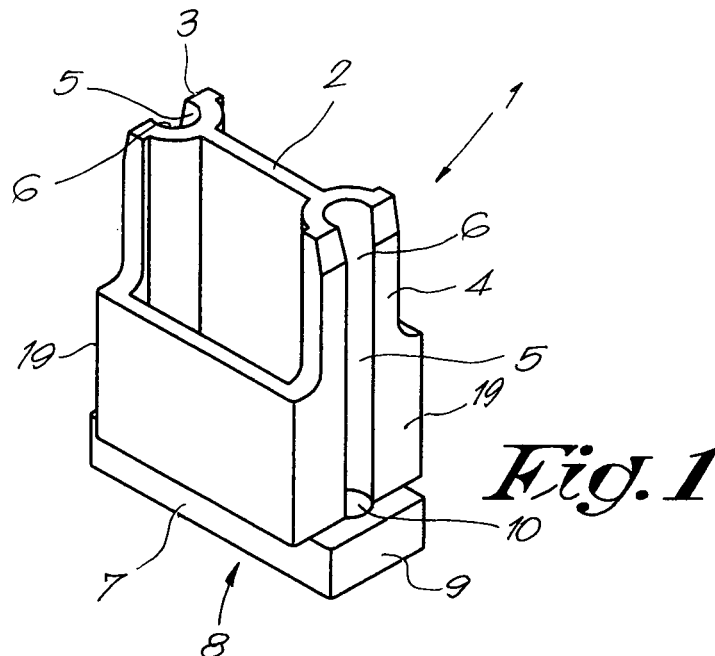


Fig. 1

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Description

[0001] The present invention concerns a coupling piece for connecting two posts of a window or the like.

[0002] It is known to connect two posts, in order to form a T-joint, by means of a coupling piece which consists of a U-shaped element, both legs of which are provided with an outward, crosswise extending collar at their free ends.

[0003] These collars are designed to mesh behind transverse edges provided at standing ribs of a longitudinal post, after which, between the legs of the coupling piece, a screw is provided which pushes the legs apart, as a result of which the above-mentioned collars are locked behind the above-mentioned transverse edges of the longitudinal post.

[0004] Further, in the coupling piece, on either side of the legs are provided recesses in the shape of a semi-circle, whereby two semi-circles on one side of the coupling piece together form a circular hole between the above-mentioned legs.

[0005] In the post which is used as transverse post and which consists of, for example, two sleeves which are mutually connected by a thermal bridge, bores are provided on either side of one of these sleeves, which, when the transverse post is mounted, are situated at a slightly larger distance from the longitudinal post than the above-mentioned holes in the coupling piece.

[0006] In order to fix the transverse post, the sleeve of this post in which the above-mentioned holes are provided, is pushed over the coupling piece, after which, through the holes in the sleeve and the holes in the coupling piece, a screw is provided, by means of which the transverse post is tightened against the longitudinal post.

[0007] A disadvantage of the above-described known coupling piece is that it can only be applied with a longitudinal post which is provided with standing ribs onto which are provided transverse edges.

[0008] Moreover, providing the screw which pushes both legs of the coupling piece apart is relatively hard as this screw has to be held in the right position while being screwed down.

[0009] Another known embodiment for coupling two posts consists in the use of a transverse post in which screw channels have been extruded over the entire length.

[0010] A disadvantage of the use of such a transverse post is that the screw channel is provided over the entire length, whereas only a very small part of the screw channel is used.

[0011] Moreover, manufacturing such posts requires an additional amount of base materials, such that these posts, which are provided with one or several screw channels, are relatively expensive.

[0012] The present invention aims to remedy one or several of the above-mentioned and other disadvantages.

[0013] To this end, the present invention concerns a coupling piece for making an angle joint between two

posts, which coupling piece mainly consists of a body which can be provided in a fitting manner in a post and which coupling piece is provided with a groove in at least one side wall extending in the longitudinal direction of the body.

[0014] An advantage of a coupling piece according to the invention is that it allows to connect two posts in a quick and simple manner by means of one or several screws, whereby the coupling piece is pushed in a fitting manner in a sleeve of one of the posts with its side walls, whereby the inner walls of this sleeve restrict one or several of the above-mentioned grooves so as to form screw holes, after which screws are provided crosswise through the second post, which screws are screwed in the above-mentioned screw holes and hereby mesh in the wall of the groove or grooves concerned with their screw thread and possibly also in the inner wall of the sleeve.

[0015] Another advantage of the coupling piece according to the invention is that, in order to fix it to posts, it does not depend on ribs or the like which are either or not provided on these posts.

[0016] In order to better explain the characteristics of the present invention, the following preferred embodiment of a coupling piece according to the invention for making an angle joint between two posts is given as an example only without being limitative in any way, with reference to the accompanying figures, in which:

figure 1 is a view in perspective of a coupling piece according to the invention;

figure 2 is a view in perspective to a smaller scale of an angle joint between two posts which is made by means of a coupling piece according to the invention;

figure 3 represents an identical view as in figure 1, but when disassembled;

figure 4 represents a section according to line IV-IV in figure 2 to a larger scale;

figure 5 represents the part indicated in figure 3 by F5 to an even larger scale;

figure 6 represents a section according to line VI-VI in figure 1 to the same scale as in figure 3.

[0017] Figure 1 represents a coupling piece 1 according to the invention which consists of a body 2 with two opposite walls 3, 4 in which is each time provided a groove 5 in the longitudinal direction of the body 2.

[0018] The wall 6 of the above-mentioned grooves 5 in this case has a cross section in the shape of a segment of a circle which preferably encloses an angle of more than 180°.

[0019] On one of the far ends 7 of the body 2 is preferably provided a stop 8 which, in this case, consists of two protrusions 9, one across each of the above-mentioned walls 3, 4, whereby a passage 10 is each time provided in these protrusions 9 which extends in the prolongation of the above-mentioned grooves 5 and which is co-axial to these grooves 5.

[0020] According to the invention, preferably the body

2 and at least the above-mentioned walls 6 of the grooves 5 are made of a material having a hardness which is smaller than the hardness of the material of conventional screws.

[0021] The use of the above-described coupling piece according to the invention is simple and as follows.

[0022] Figures 2 and 3 represent an angle joint between a longitudinal post 11 and a transverse post 12, which joint is made by means of two of the above-described coupling pieces 1 and with screws 13.

[0023] The above-mentioned longitudinal post 11 is, in this case, of a known type which consists of two sleeves 14 which are mutually connected by means of a thermal bridge 15.

[0024] As is represented in figure 3, two holes 16 are in this case provided in both sleeves 14 there where the transverse post 12 is to be fixed.

[0025] The above-mentioned transverse post 12 in this case comprises two sleeves 17 which are connected by a thermal bridge 18.

[0026] As is represented in figures 4 to 6, the dimensions of the coupling piece 1 for connecting both posts 11 and 12 must be such that the coupling piece 1 can be provided in a sliding manner in one of the sleeves 17 of the transverse post 12, whereby the above-mentioned walls 3, 4 form contact surfaces 19 of the coupling piece 1 for the transverse post 12, and whereby, between the wall 6 of the above-mentioned grooves 5 and the inner walls 20 of the transverse post 12, screw holes 21 are formed.

[0027] Moreover, the diameter of the above-mentioned screw holes 21 according to the invention is smaller than the outer diameter of the screw thread part of the above-mentioned screws 13.

[0028] The dimensions of the above-mentioned protrusions 9 are such that, when the coupling piece 1 is applied in the transverse post 12, they form a stop 8 for the transverse post 12 so as to prevent the coupling piece 1 from sliding entirely in the sleeve 17 of the transverse post 12 when the screws 13 are screwed down.

[0029] The use of the above-described coupling piece 1 is simple and as follows.

[0030] In order to fix the transverse post 12 to the longitudinal post 11, a coupling piece 1 according to the invention is in this case shifted in each of the sleeves 17 of the transverse post 12 until they fit with their stop 8 against the edges of the sleeve 17 concerned.

[0031] Next, the transverse post 12 is placed on the longitudinal post 11 in an appropriate manner, and the screws 13 are screwed through the holes 16 in the longitudinal post 11 in the above-mentioned screw holes 21, whereby the screws 13 mesh in the wall 6 of the grooves 5.

[0032] Depending on the hardness of the material out of which the post 11 is made, the screws 13 will also mesh in the inner walls 20 or they will form a wedge in the sleeve 17 concerned of the transverse post 11, together with the coupling piece 1.

[0033] It should be noted that a sealing may possibly be provided on the stop 8 which makes it possible to isolate the sleeve 17 of the transverse post in relation to the longitudinal post 11.

[0034] It is clear that a single coupling piece may suffice to fix a transverse post 12 to a longitudinal post 11, but applying two coupling pieces 1 offers the advantage that the fastening of the transverse post 12 is more resistant against pressure forces which are being exerted on the transverse post 12 in a direction crosswise to the longitudinal direction of the longitudinal post 11.

[0035] It should be noted that a coupling piece 1, which can be applied in the transverse post 11 in a fitting manner and which is provided with a groove 5 in only one of its side walls 3, 4, can also be applied to make a connection between two posts 11, 12.

[0036] The present invention is by no means limited to the above-described embodiments represented in the figures; on the contrary, such a coupling piece according to the invention can be made according to different variants while still remaining within the scope of the invention.

Claims

1. Coupling piece for making an angle joint between two posts, **characterised in that** it mainly consists of a body which can be provided in a fitting manner in a post (11) and **in that** it is provided with a groove (5) in at least one side wall (3, 4) extending in the longitudinal direction of the body (2).
2. Coupling piece according to claim 1, **characterised in that** the body (2) is provided with a groove (5) in two opposite side walls (3, 4).
3. Coupling piece according to claim 1, **characterised in that** the above-mentioned groove (5) is restricted by a wall (6) in its longitudinal direction which has a cross section in the shape of a segment of a circle.
4. Coupling piece according to claim 3, **characterised in that** the above-mentioned segment of a circle encloses an angle of more than 180°.
5. Coupling piece according to claim 1, **characterised in that** it is provided with a stop (8).
6. Coupling piece according to claim 5, **characterised in that** the stop (8) is formed of protrusions (9) which are provided on one far end (7) of the coupling piece (1).
7. Coupling piece according to claim 6, **characterised in that** the above-mentioned protrusions (8-9) extend in a direction across the above-mentioned side wall (3, 4) of the coupling piece (1).

8. Coupling piece according to claim 7, **characterised in that** in the above-mentioned protrusions (9) which are situated in the prolongation of a groove (5), a passage (10) is each time provided, which passage (10) extends in the prolongation of the groove (5) concerned. 5
9. Coupling piece according to claim 8, **characterised in that** the above-mentioned passage (10) is co-axial to the groove (5) concerned. 10
10. Coupling piece according to claim 3, **characterised in that** the above-mentioned wall (6) of the groove (5) is made of a material having a hardness which is smaller than the hardness of the material of a screw. 15
11. Coupling piece according to claim 3, **characterised in that** it can be provided in a fitting manner in the sleeve (17) of a post (12) and **in that** the above-mentioned wall (6), which restricts the groove in the body (2), forms a screw hole (21) together with an inner wall (20) of the sleeve (17) concerned. 20

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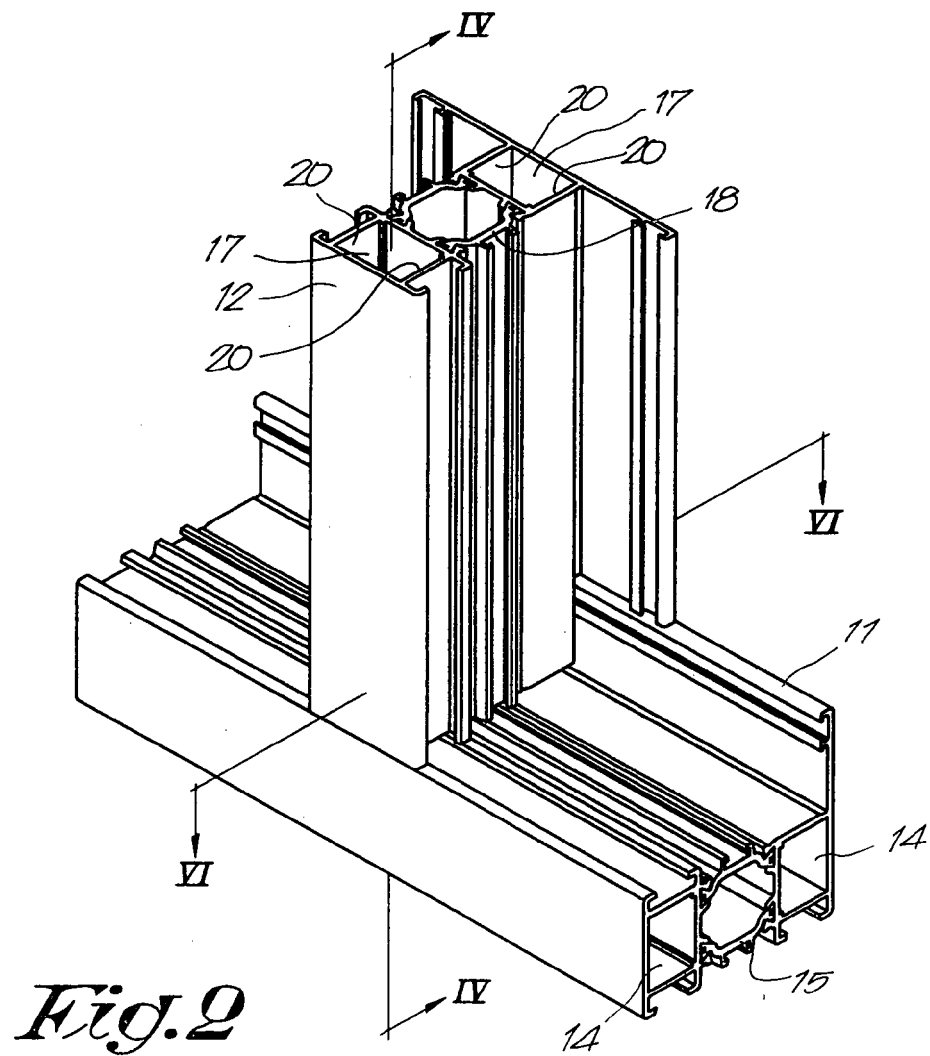
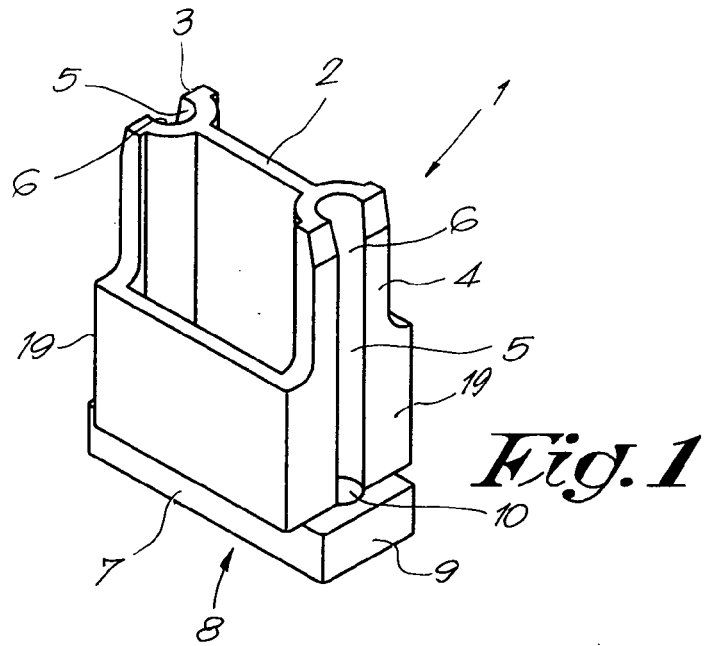
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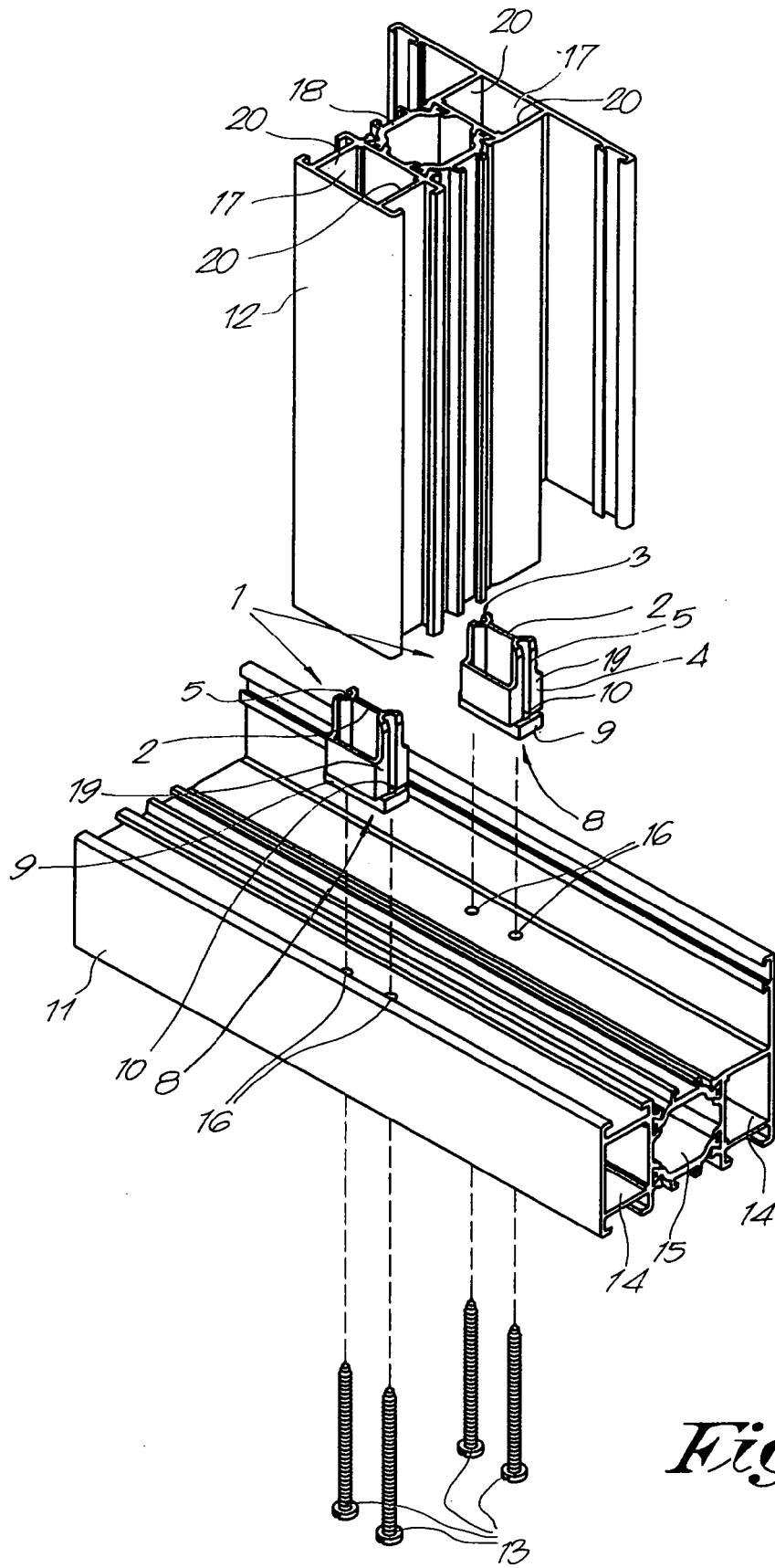
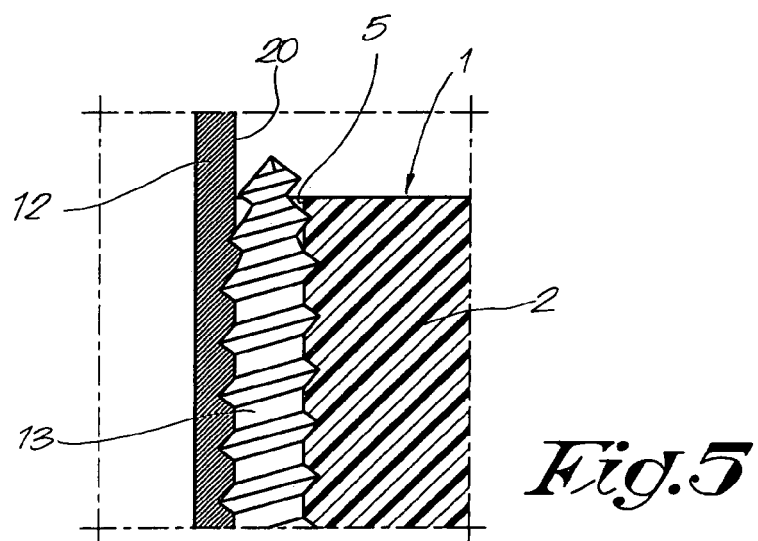
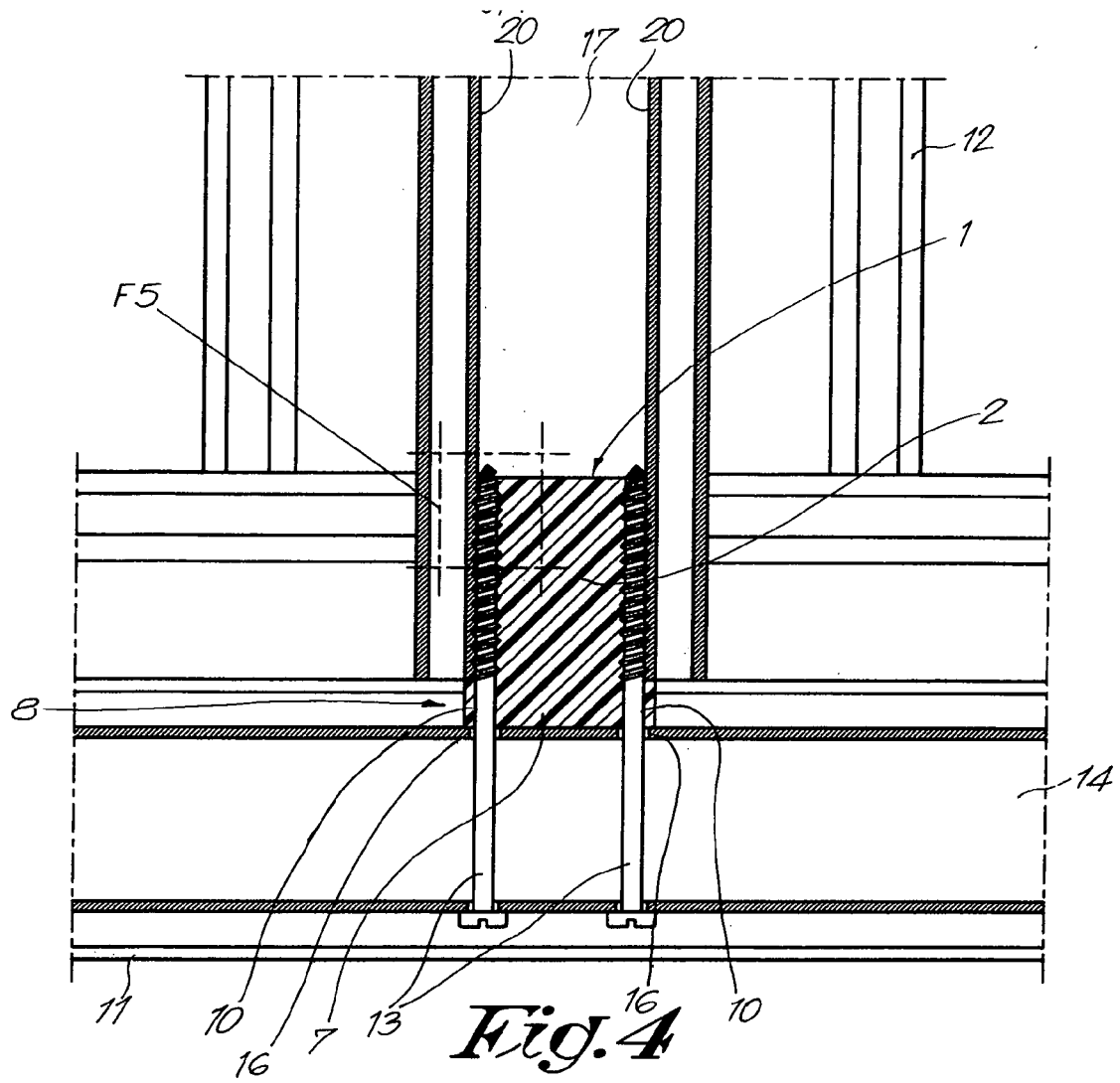


Fig.3



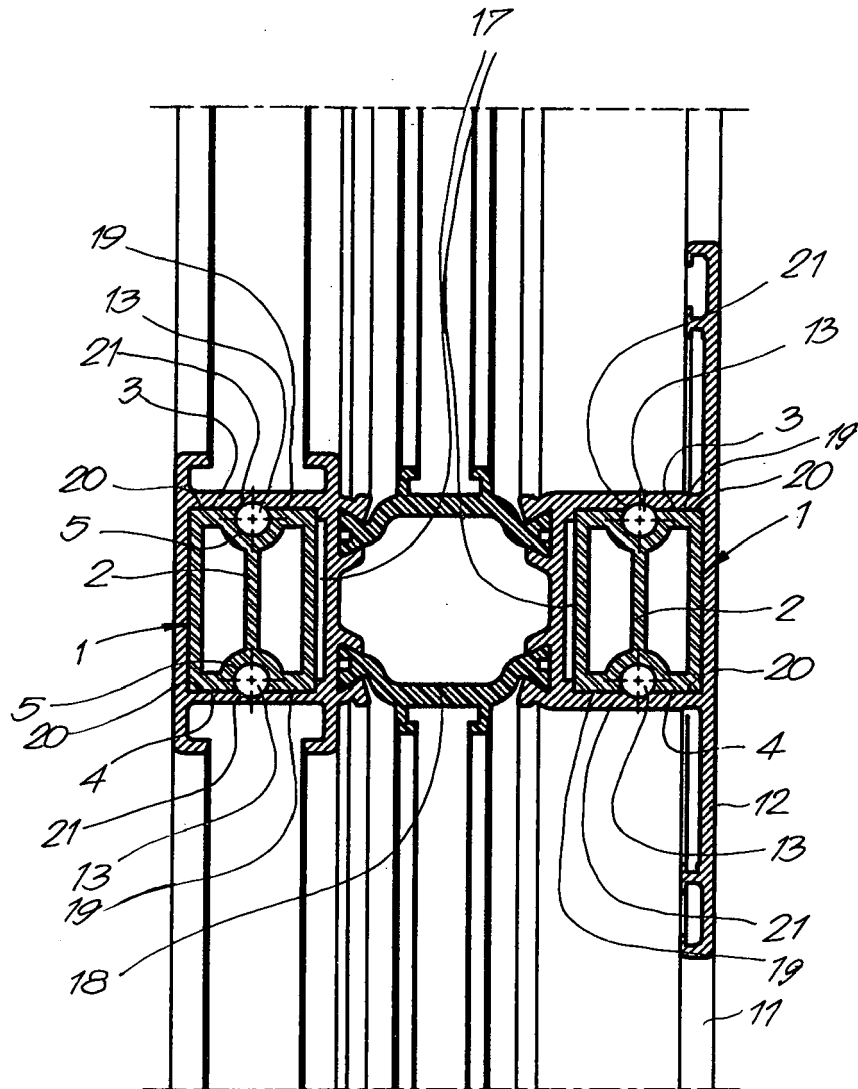


Fig. 6