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(54) **GROUP OF IMPROVED ELEMENTS FOR JOINING THE PLINTHS OF A PIECE OF FURNITURE OR THE LIKE**

(57) A group of elements (2) for joining the plinths (4, 4') of a piece of furniture (80) or the like, characterized in that it comprises:
- a first element (6) comprising a plate (10), which is provided on one face with connection means (12) to a foot (14) of said piece of furniture and on the other face with means (18) for the sliding coupling along said first plinth (4),
- a second element (8) comprising a section bar with at least two "L"-shaped portions (30, 32), wherein the longitudinal edge (34) of a first portion (30) is folded so as to be substantially parallel to the second portion (32), the ends of said plinths (4, 4') to be joined being intended to abut frontally with said first and said second portion of said second element (8), respectively and in that said first element (6) comprises first means (22) which are intended to cooperate with corresponding second means (24) obtained in said second element (8) in order to contrast the relative sliding, along said first plinth (4), between said first element (6) and said second element (8).

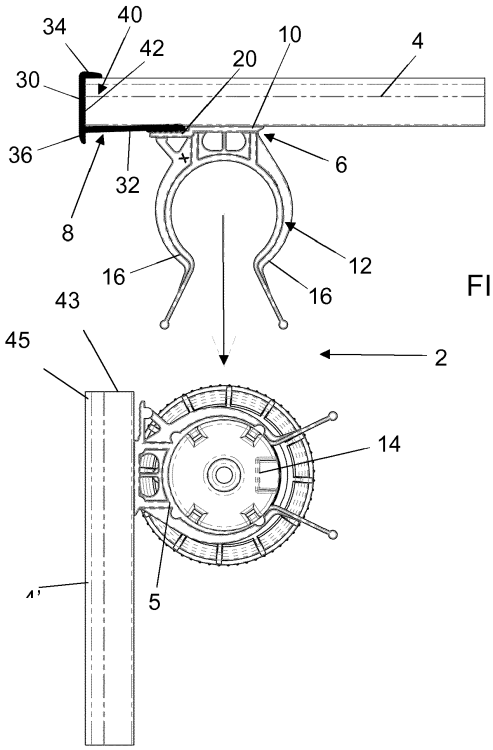


FIG. 1

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Description

[0001] The present invention relates to a group of improved elements for joining the plinths of a piece of furniture or the like.

[0002] It is known that many types of furniture, such as for example, the modules of modular kitchens, are closed on the front, on floor level, by plinths made of extruded plastic material or based on wood or metal (generally aluminum). In particular, such plinths are frontally latched to the supporting feet of the piece of furniture, while their surface in sight is appropriately treated and coated so as to be esthetically pleasing.

[0003] Various latching devices are already known to date in order to fix the plinths to the feet, and among them is a device which is constituted by a slide, to be inserted in a corresponding longitudinal guide defined in the plinth, and by one or more appropriately curved and elastic wings, which depart from the slide and which are suited to latch to the foot, surrounding it.

[0004] Applying these devices firstly envisages fixing them to the plinth and positioning them so as to be aligned frontally with the corresponding feet of the piece of furniture. Successively, the plinth is approached to the feet and, by applying an appropriate pressure, the elastic wings are elastically deformed to allow them to embrace the foot.

[0005] This device has been present on the market for some time and is already widely appreciated for its qualities, but is not optimum for latching the feet positioned at the corners of the piece of furniture.

[0006] Furthermore, in the current state, at the corners of the piece of furniture, the plinths are connected to one another by means of an angle bar having a cross section which displays a substantially square or rectangular-shaped hollow central portion. Furthermore, sides depart parallel in pairs from the hollow portion, which sides laterally define the respective housings in which the head edges of the two plinths to be joined are fitted.

[0007] This solution is not completely satisfying because, on site, such angle bar is particularly visible and of high impact.

[0008] Furthermore, the installation and use of such angle bar is strongly dependent of the manufacturing and construction tolerances of the plinth, because the latter must be correctly sized in order to be inserted and stably retained within the corresponding housing defined by the sides of the angle bar. It can be easily understood that this is particular inconvenient, also considering that rather frequently the plinths have manufacturing inaccuracies (e.g. they are not accurately cut), but also construction inaccuracies, in particular when they are obtained by extrusion.

[0009] Moreover, the assembly of such angle bars is rather laborious because the non-optimal engagement of the head of the plinth in a first angle bar requires applying a corresponding proportional correction in the opposite direction when inserting the other head of the same plinth in a second angle bar, whereby forcing the installer to perform a plurality of attempts and corrections.

[0010] JP S63 189029 describes a solution in which the two plinths are associated with each other by means of an angle bar formed by two portions arranged in an "L"; furthermore, one of the two plinths is fixed to a foot by means of a latching device constituted by an element which on the back is provided with sliding means within one or more guide slots defined in said plinth, while frontally it is provided with wings for latching the foot itself. However, in such solution, the angle bar is fixed to said plinth by means of a screw, thus requiring to have available a screwdriver or other appropriate tool; furthermore, considering that some plinths are rather thin, the insertion and stable anchoring of a screw to the plinth is not always a feasible operation.

[0011] It is the object of the invention to make a group of elements for joining the plinths of a piece of furniture or the like, which makes it possible to obtain an overall pleasing esthetic effect and which conveys the sensation of a high-quality product on esthetic and functional levels to the observer.

[0012] It is another object of the invention to make a group of elements which allows a simple, easy and accurate assembly and joining of the plinths without needing continuous corrections.

[0013] It is another object of the invention to make a group of elements which allows the installer not to be constrained by manufacturing and processing (cutting) inaccuracies of the plinths.

[0014] It is another object of the invention to make a group of elements which has an alternative characterization, in both construction and functional terms, with respect to the traditional ones.

[0015] It is another object of the invention to make a group of elements which is simple, quick and easy to obtain at low cost.

[0016] It is another object of the invention to make a group of elements which can be mass produced quickly and efficiently.

[0017] It is another object of the invention to make a group of elements of high functional and esthetic standard, at accessible cost at the same time, allowing the possibility of wide-scale diffusion in this manner.

[0018] These objects, taken individually and in any combination thereof, as well as others which will result from the following description, are achieved according to the invention by a group of elements having the features of claim 1.

[0019] The present invention is further explained by means of a preferred embodiment given by way of non-limiting practical example only with reference to the accompanying drawings, in which:

Figure 1 shows a top plan view of the group of elements according to the invention before joining the plinths to one another,

Figure 2 shows the same view as fig. 1 with the

plinths joined to one another,

Figure 3 shows a top side perspective view of a first element of the group according to the invention,

Figure 4 shows a perspective view of the element in fig. 3 from the back and from the bottom,

Figure 5 shows a top side perspective view of a second element of the group according to the invention,

Figure 6 shows a different top side perspective view of the element in fig. 5,

figures 7-10 show in perspective view the sequence of the operations provided for assembling and joining the plinths to one another and to the base of a piece of furniture,

figure 11 shows a top plan view of the group of elements according to the invention in a second embodiment, and

figure 12 shows a top plan view in a third embodiment.

[0020] As shown in the figures, the group 2, according to the invention, for joining a first plinth 4 to a second plinth 4' of a piece of furniture or the like, comprises two elements, 6 and 8 respectively, to be both associated with one of the two plinths to be joined.

[0021] The first element 6 comprises a plate 10, which is provided on a face (the front one) with connection means 12 to the foot 14 provided at the corner of the piece of furniture.

[0022] Advantageously, in the first embodiment shown in figures from 1 to 10, the connection means 12 comprise a fork hook configured to engage the leg of the foot 4 in removable manner. In particular, such fork hook comprises elastic wings 16 which surround and embrace the leg of the foot 14. Preferably, the elastic wings 16 are shaped so as to mutually define a first zone, intended to engage the upper leg of such foot, and a second flared zone, adapted to promote said engagement.

[0023] At its other face (the rear one), the plate 10 is provided with a hammer-shaped protrusion 18 which is intended to be inserted in a channel (not shown) which is counter-shaped with respect to said protrusion and which is obtained longitudinally on the plinths 4. In particular, the connection between the first element 6 and the plinth 4 occurs in traditional manner by inserting the protrusion 18 in the channel so that the outermost hammer-shaped part of the latter is parallel in the development direction of the channel itself. Successively, the first element 6 is turned by 90° so that the undercut hammer-shaped portions of the protrusion 18 abut on corresponding counter-shaped edges of the channel, thus preventing the first element 6 of the plinth 4 from being pulled out.

[0024] The plate 10 also comprises a lateral extension 20 which is provided at its rear face (i.e. the one facing the plinth) with first means 22 which are intended to cooperate with corresponding second means 24 obtained in the second element 8, as will appear clearer below in order to contrast the relative sliding of said first element 6 with respect to said second element 8.

[0025] Preferably, the first cooperation means 22 comprises a plurality of recessed semi-circular ribs 23, which are vertical and parallel to one another.

[0026] Advantageously, the lateral extension 20 is slightly frontally offset with respect to the remaining part of the body of the plate 10 so that once the first element 6 is connected to the plinth 4, the lateral extension 20 delimits a loop with the plinth itself for inserting a corresponding terminal stretch 33 of the second element 8.

[0027] The second element 8 comprises a substantially "L"-shaped section bar, i.e. with two portions 30 and 32, preferably not equal, substantially orthogonal to one another.

[0028] More in detail, the free longitudinal edge of the first portion 30 of the section bar, i.e. the smaller one, is folded so as to define a wing 34, which is substantially parallel to the second portion 32, i.e. the greater one, of the section bar itself. Furthermore, the other edge of the first portion 30 extends beyond the second portion 32, thus defining a longitudinal shoulder 36 which is orthogonal to it.

[0029] Advantageously, the section bar which defines the second element 8 is dimensioned so that the distance between the facing surfaces of the folded wing 34 and of the second portion 32 substantially corresponds to the thickness of the end 40 of the plinth 4.

[0030] On the side of the longitudinal shoulder 36 and at its end zone 33, the second portion 32 is concerned by the second means 24, which are intended to cooperate with the first means 22 of the first element 6.

[0031] Preferably, these second cooperation means 24 comprise a plurality of protruding semi-circular ribs 25, vertical and parallel to one another.

[0032] Appropriately, the first means 22 of the first element 6 have a surface profile which is complementary to that of the second means 24 of the second element 8. Advantageously, the first means 22 and the second means 24, obtained in the first element 6 and in the second element 8, respectively, are configured so as to increase the friction resulting from the contact and/or the sliding of the first element 6 towards the second element 8.

[0033] Appropriately, in an embodiment not shown here, the end stretch 33 may be offset with respect to the remaining part of the second portion 32 of the second element 8 so that, once the latter is associated with the plinth 4, the end stretch 33 delimits a loop with the plinth itself for inserting the side extension 20 which, in this case, is coplanar with the remaining part of the body of the plate 10.

[0034] Appropriately, the other plinth 4' intended to define the joint (i.e. the one to which the first element 6 and the second element 8 are not constrained) may be associated with/constrained to the foot 14 of the piece of furniture by means of a device 5 which has the same

construction features of the first element 6 of the group 2, or by means of any traditional latching device.

[0035] Appropriately, it is understood that the first means 22 which are intended to cooperate with corresponding second means 24 obtained in the second element 8 in order to contrast the relative sliding of said first element 6 with respect to said second element 8 may comprise other traditional types of interaction and/or mechanical coupling between two elements, such as for example means and counter-means for achieving a coupling by latching, or by fitting (e.g. of the male-female type), or by restraining, by interference, by even partial shape coupling etc.

[0036] The operating method of the group 2 of elements for joining the plinths of a piece of furniture or the like is clearly apparent from its description.

[0037] In particular, as described above, the first element 6 is applied to the plinth 4 by appropriately inserting the hammer-shaped protrusion 18 in the longitudinal channel obtained in the plinth itself. Successively, the first element 6 is made to slide along the channel of the plinth 4 so as to distance it from the end 40 of the latter enough to allow the application of the second element 8.

[0038] Then, the second element 8 is applied onto the end 40 of the plinth 4 so that its head edge 42 abuts frontally on the base of the first position 30, while it is retained laterally between the folded wing 34 and the second portion 32.

[0039] Successively, the first element 6 is made to slide towards the end of the plinth 40, and then towards the second element 8, until the lateral protrusion 20 of the first element 6 comes into contact with the end stretch 33 of the second portion 32 of the second element 8. In particular, in order to do this, the first cooperation means 22 and the second cooperation means 24 mutually interact by adjusting the positioning of the first element 6 on the second element 8 and locking any involuntary sliding of the first element 6 away from the second element 8.

[0040] Advantageously, the fact that the first cooperation means 22 and the second cooperation means 24 are constituted by vertical ribs which are respectively recessed and protruding, or vice versa, makes it possible to adjust the sliding of the first element 6 on the second element 8 in successive steps.

[0041] Appropriately, the first element 6 is made to slide towards the second element 8 on the plinth 4 until the latching means 12 of the first element are in position facing or aligned with a foot 14 which was already previously constrained to the other plinth 4' to be joined.

[0042] Then, the plinth 4 thus arranged is approached to the feet 14 and, by applying an appropriate pressure, the elastic wings 16 of the latching means 12 are elastically deformed to allow them to embrace the foot 14.

[0043] Advantageously, when performing the latter operation, the head edge 43 of the plinth 4' arrives to rest frontally on the second portion of the second element 8 while its outer edge 45 rests on the shoulder 36 of the second element itself.

[0044] Appropriately, as results from the sequence of operations shown in the figures from 7 to 11, in order to close the quadrangular base 80 of a piece of furniture on the bottom with four plinths, firstly a first pair of plinths 4', facing each other, is applied to the feet 14 constrained on the bottom to the base itself. Successively, after having appropriately applied the group of elements 2 according to the invention to both the head ends of the remaining two plinths 4, the latter are also applied to close inferiorly the remaining two facing sides of the piece of furniture.

[0045] In the embodiment shown in fig. 11, the first element 6 is provided on its front face with an appendix 50 that develops at the lateral extension 20.

[0046] Furthermore, in such embodiment, the group of elements 2 according to the invention also comprises a third element 60 to be inserted/applied at the other plinth 4' to be joined. In particular, the third element 60 comprises two orthogonal faces 62, 64 between which a profile 66 develops internally which is complementary at least in part and thus rests on the cylindrical portion of the leg of the foot 14. More in detail, a hammer-shaped protrusion (not shown) is provided at a first face 62 of the third element 60 with constructive and functional features similar to those described above related to the first element 6. A plurality of parallel ribs 68 are provided, preferably with enlarged head 70, at the other face 64 of the third element 60 between which the appendix 50 of the first element 6 can be inserted by elastic deformation. Appropriately, the appendix has a convex head 52 of width greater than the distance between the enlarged heads 70 of two continuous ribs 68.

[0047] The embodiment of fig. 12 substantially corresponds to that of fig. 11 except in that the first element 6 comprises two protruding appendixes 50, one at a lateral extension 20 and one at the base body of the plate 10 of the first element 10. Furthermore, the face of the third element 60 is provided with ribs 68 has a greater development in order to allow both appendixes 50 of the first element 6 to be inserted within two distinct pairs of mutually adjacent ribs 68. Appropriately, the complementary profile 66 is shaped so as to embrace/envelop nearly half of the cylindrical surface of the leg of the foot 14.

[0048] The group of elements 2 according to the invention is particularly advantageous with respect to traditional ones, because:

- the size of the second element (angle bar) is particularly small, and this improves the overall esthetic effect of the joint between the plinths,
- it can be used also with plinths which are inaccurately made/cut, because it is sufficient for the head edge of one of the two plinths to be joined to rest frontally on the second element (i.e. without needing any insertion),
- the single elements are rapidly and easily applicable to the plinths,
- the adjustment during assembly is extremely simple because it requires only to make the first element

slide with respect to the second one so that the connection means are aligned with the foot to which both plinths of the joint must be constrained; in particular, the simplicity of assembly reduces the professional installer's operation time, for the first installation, and facilitates the temporary removal operations and the successive reapplication operations of the plinths which are generally performed by the user in order to access, e.g. to clean, the space enclosed between the plinths themselves,

- it is economical because it consists of a low number of components which can be easily mass produced.

[0049] In particular, the present invention differs from JP S63 189029 because the latter neither describes nor suggests any type of cooperation or above all any type of contact between the first element (i.e. the one which latches the foot) and the second element (i.e. the angular section bar in which the two plinths to be joined abut frontally).

Claims

1. A group of elements (2) for joining the plinths (4, 4') of a piece of furniture (80) or the like, **characterized in that** it comprises:

- a first element (6) comprising a plate (10), which is provided on one face with connection means (12) to a foot (14) of said piece of furniture and on the other face with means (18) for the sliding coupling along said first plinth (4),
- a second element (8) comprising a section bar with at least two "L"-shaped portions (30, 32), wherein the longitudinal edge (34) of a first portion (30) is folded so as to be substantially parallel to the second portion (32), the ends of said plinths (4, 4') to be joined being intended to abut frontally with said first and said second portion of said second element (8), respectively

and **in that** said first element (6) comprises first means (22) which are intended to cooperate with corresponding second means (24) obtained in said second element (8) in order to contrast the relative sliding, along said first plinth (4), between said first element (6) and said second element (8).

2. A group according to claim 1, **characterized in that**:

- the end of said first plinth (4) is intended to abut frontally with said first portion (30) of said section bar and to be retained laterally between said folded longitudinal edge (34) and said second portion (30) of said section bar, and
- the end of said second plinth (4') being intended to abut frontally with said second portion (32) of said section bar.

3. A group according to one or more of the preceding claims, **characterized in that** said first portion (30) of said section bar extends beyond the second portion (32) thus defining a longitudinal shoulder (36) intended to receive in resting manner the outer edge of the head end of one of said plinths (4').

4. A group according to one or more of the preceding claims, **characterized in that** said section bar is dimensioned so that the distance between the facing surfaces of the folded edge (34) and of the second portion (32) substantially correspond to the thickness of the end (40) of said first plinth (4).

5. A group according to one or more of the preceding claims, **characterized in that** said connection means (12) to the foot (14) of the piece of furniture (80) comprises a fork hook (16) and/or a resting and contact portion having shape, at least partially, complementary with the outer surface of said foot (14).

6. A group according to one or more of the preceding claims, **characterized in that** said first means (22) of the first element (6) and said second means (24) of the second element (8) are configured so as to clamp a portion of said first element (6), or of said second element (8), between the inner surface of the first plinth (4) and a portion of said second element (8), or of said first element (6).

7. A group according to one or more of the preceding claims, **characterized in that** the first means (22) of the first element (6) which cooperate with the second means (24) of the second element (8) have a mutually complementary surface profile.

8. A group according to one or more of the preceding claims, **characterized in that** the first means (22) of the first element (6) which cooperate with the second means (24) of the second element (8) are configured so as to increase the friction resulting from the contact and/or the sliding of the first element (6) with respect to the second element (8).

9. A group according to one or more of the preceding claims, **characterized in that** said plate (10) comprises a lateral extension (20) on which said first means (22) are defined, which first means are intended to cooperate with said second means (24) that are obtained on the end stretch (33) of a portion (32) of said section bar which defines said second element (8).

10. A group according to one or more of the preceding claims, **characterized in that** the lateral extension (20) of said plate (10) on which said first cooperation

means (22) are obtained is slightly offset with respect to the remaining part of the plate (10) so that, once the first element (6) is coupled to the plinth (4), the lateral extension (20) delimits a loop with the plinth itself for the stable insertion of the end stretch (33) of said portion (32) of the second element (8) on which said second cooperation means (24) are obtained.

11. A group according to one or more of the preceding claims, **characterized in that** the end stretch (33) of said portion (32) of the second element (8) on which said second cooperation means (24) are obtained is slightly offset with respect to the stretch of said portion (32), so that once the second element (8) is associated with the end of the plinth (4), the end stretch of said portion (32) delimits a loop with the plinth itself for inserting the lateral extension (20) of said plate (10) on which said first cooperation means (22) are obtained.

12. A group according to one or more of the preceding claims, **characterized in that** in said first element (6), said connection means (12) with the foot (14) of said piece of furniture comprise at least one protruding appendix (50), and **in that** it comprises a third element (60) which has:

- a first face (62) provided with means (18) for the sliding coupling along said second plinth (4'),
- a second face (64) which is orthogonal to said first face (62) and has a plurality of parallel ribs (68) between which at least one appendix (50) of the first element (6) can be inserted by elastic deformation of the ribs themselves,
- a profile (66) which connects said first (62) and second face (64) and which is shaped, at least in part, to be complementary to the leg of said foot (14) and to allow in this manner a stable resting of said third element (60) on said leg of the foot (14).

13. A method for joining two plinths (4, 4') of a piece of furniture (80) or the like, **characterized in that** a group of elements (2) according to one or more of the preceding claims is used.

14. A method according to the preceding claim, **characterized in that**:

- said first element (6) is associated with a first plinth (4) by means of its sliding coupling means (18),
- said first element (6) is made to slide along said first plinth (4) so as to distance it from the end (40) of said first plinth (4) by a measure to allow the application of the second element (8),
- said second element (8) is applied to said end (40) of said first plinth (4) so that is abuts frontally with said first portion (30) of the second element (8) and is retained laterally by said folded longitudinal edge (34) and the second portion (32) of the second element (8) itself,
- said first element (6) is made to slide towards said end (40) of the plinth (4), and thus towards the second element (8), until said first cooperation means (22) and said second cooperation means (24) mutually interact so as to prevent any possible sliding of the first element (6) away from the second element (8).

15. A method according to the preceding claim, **characterized in that**:

- said first element (6) is made to slide towards the second element (8) until the latching means (12) of the first element are in position either facing or aligned with a foot (14) which was previously constrained to the second plinth (4') to be joined,
- said first plinth (4) thus arranged is approached to the foot (14) so that said connection means (12) of said first element (6) either couple or come into contact with the corresponding foot (14),
- the end of said second plinth to be joined (4') is joined frontally onto the second portion of the second element (8), while with its outer edge (45) rests on the longitudinal shoulder (36) of said second element (8).

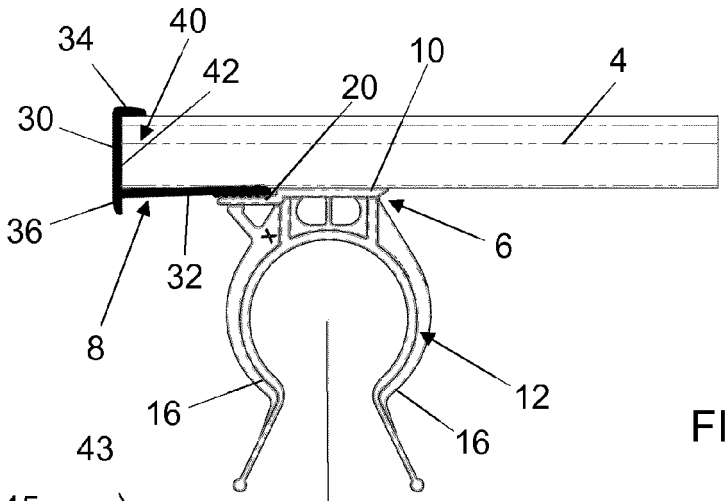

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FIG. 1

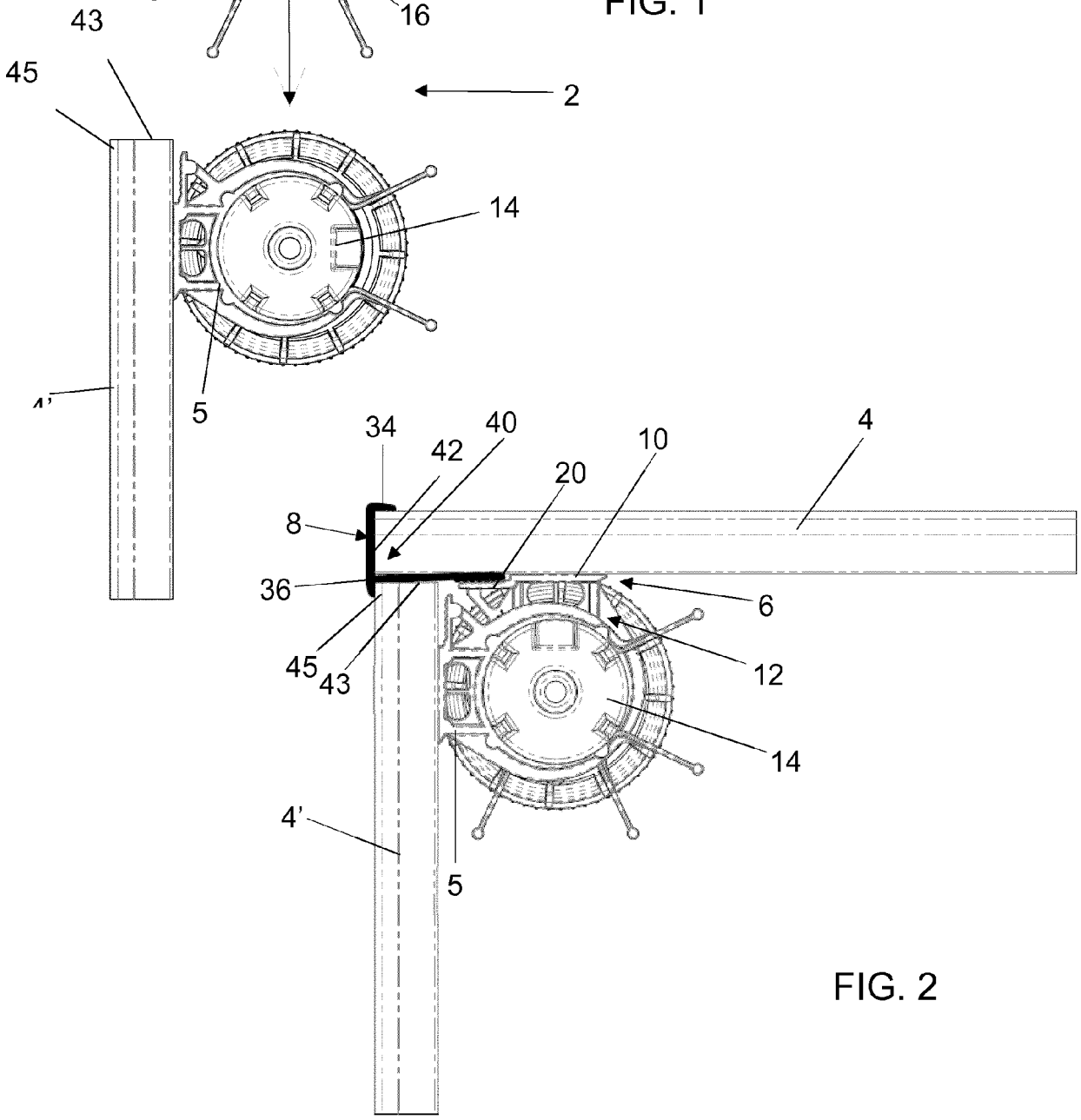

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FIG. 2

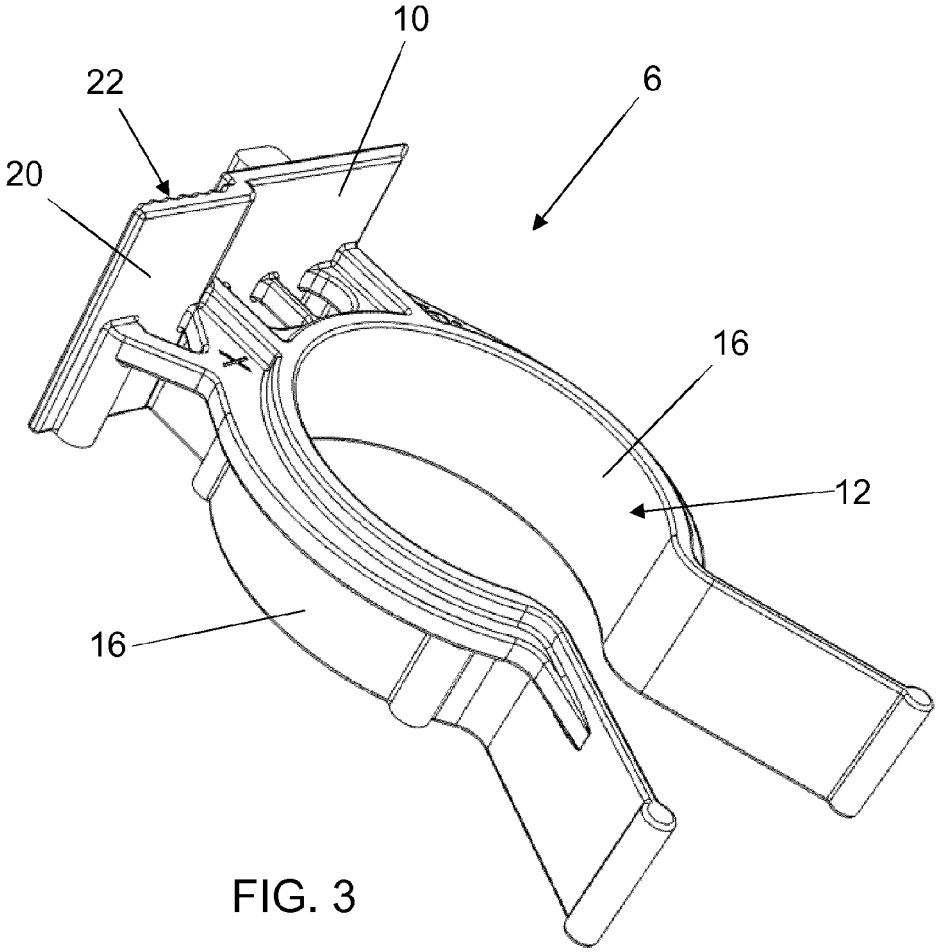


FIG. 3

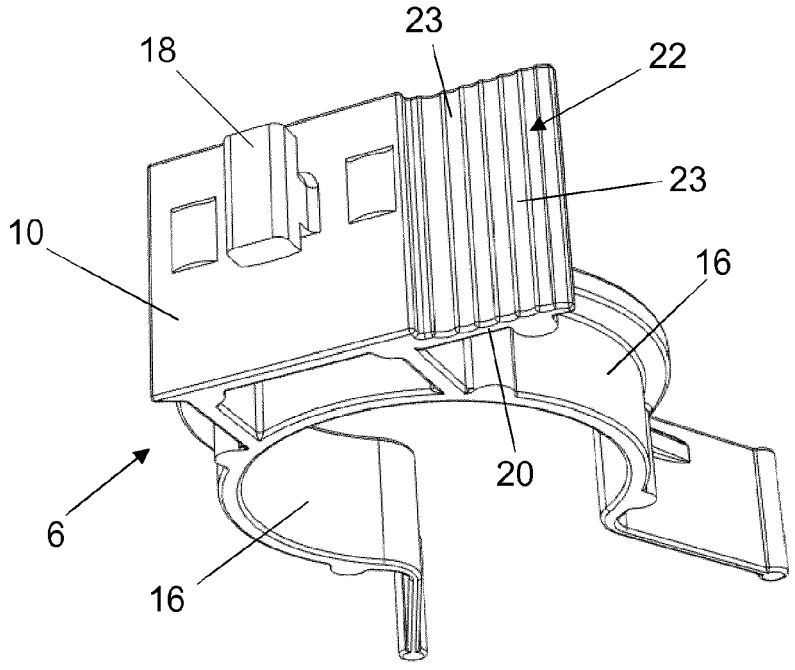


FIG. 4

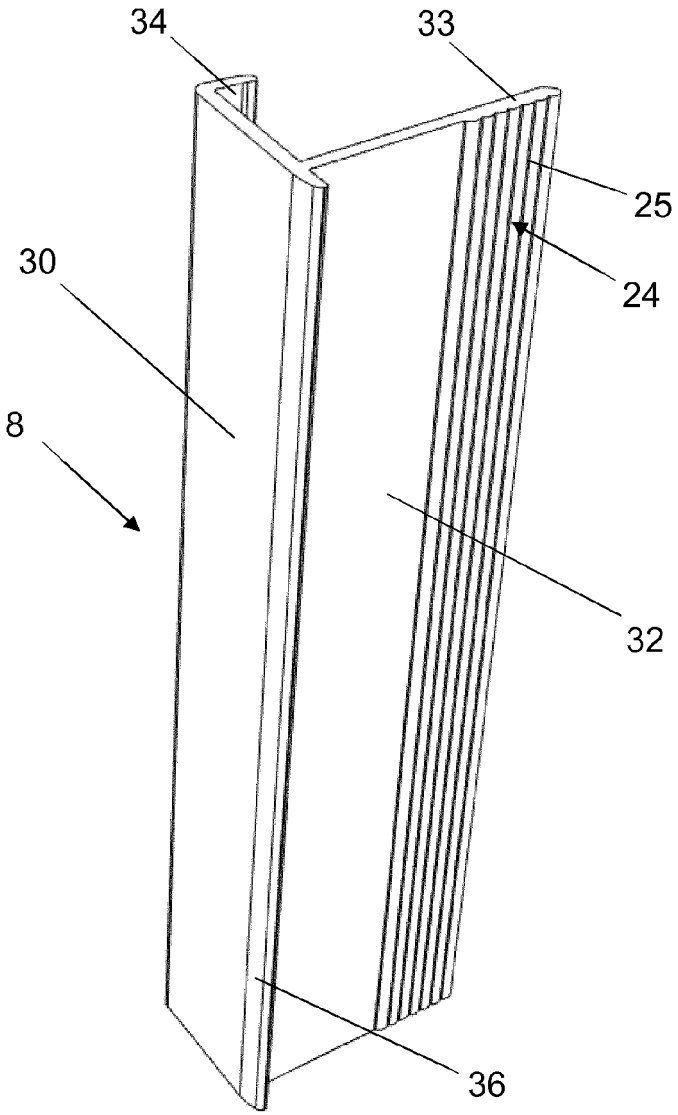


FIG. 5

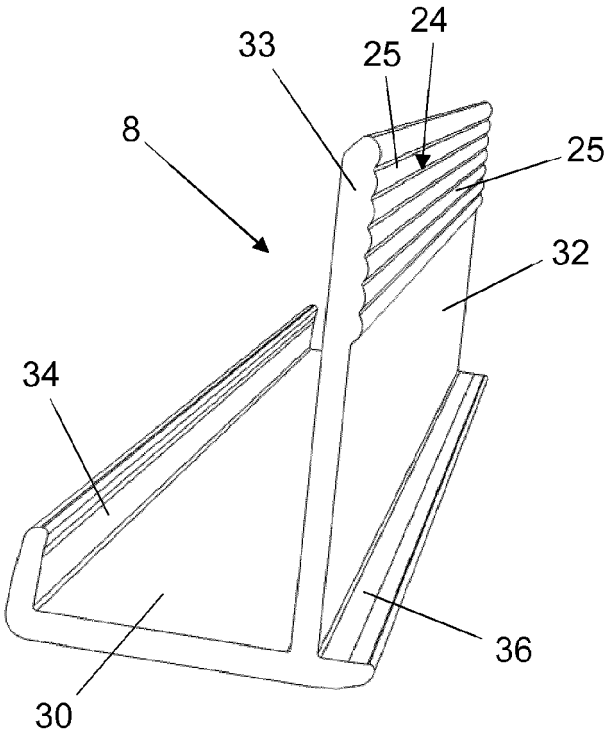


FIG. 6

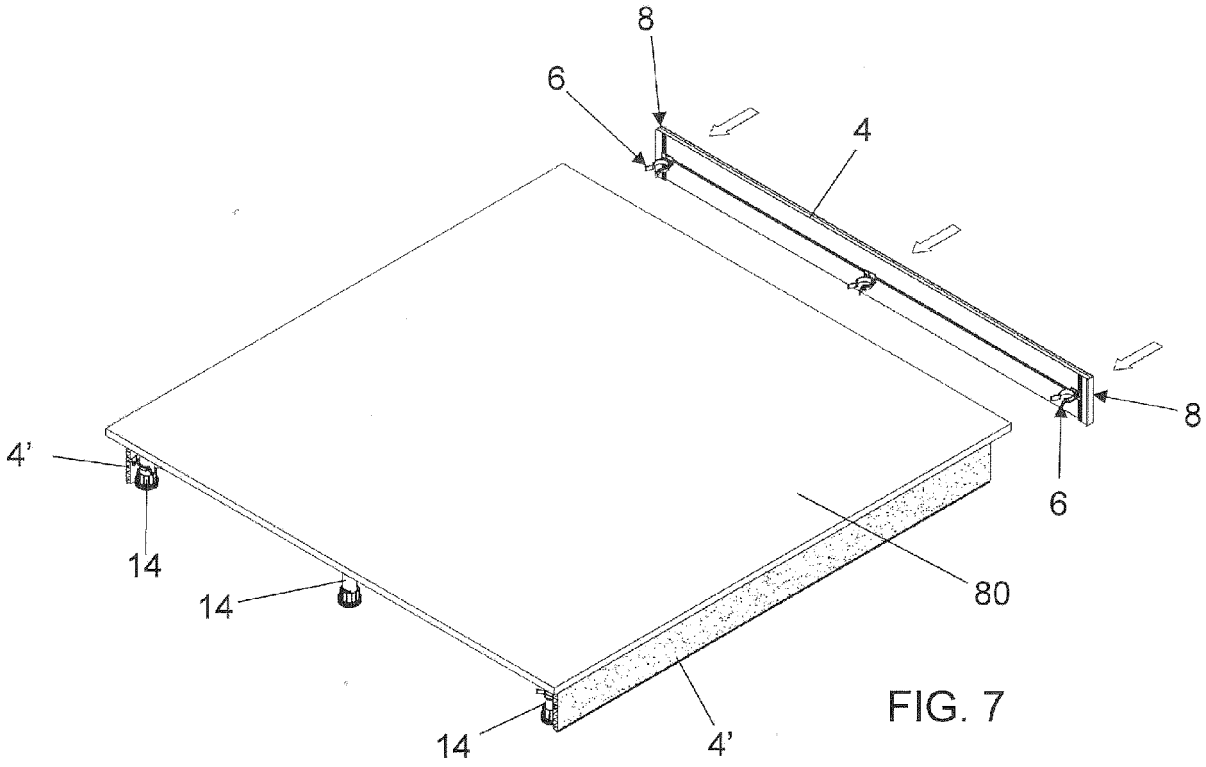


FIG. 7

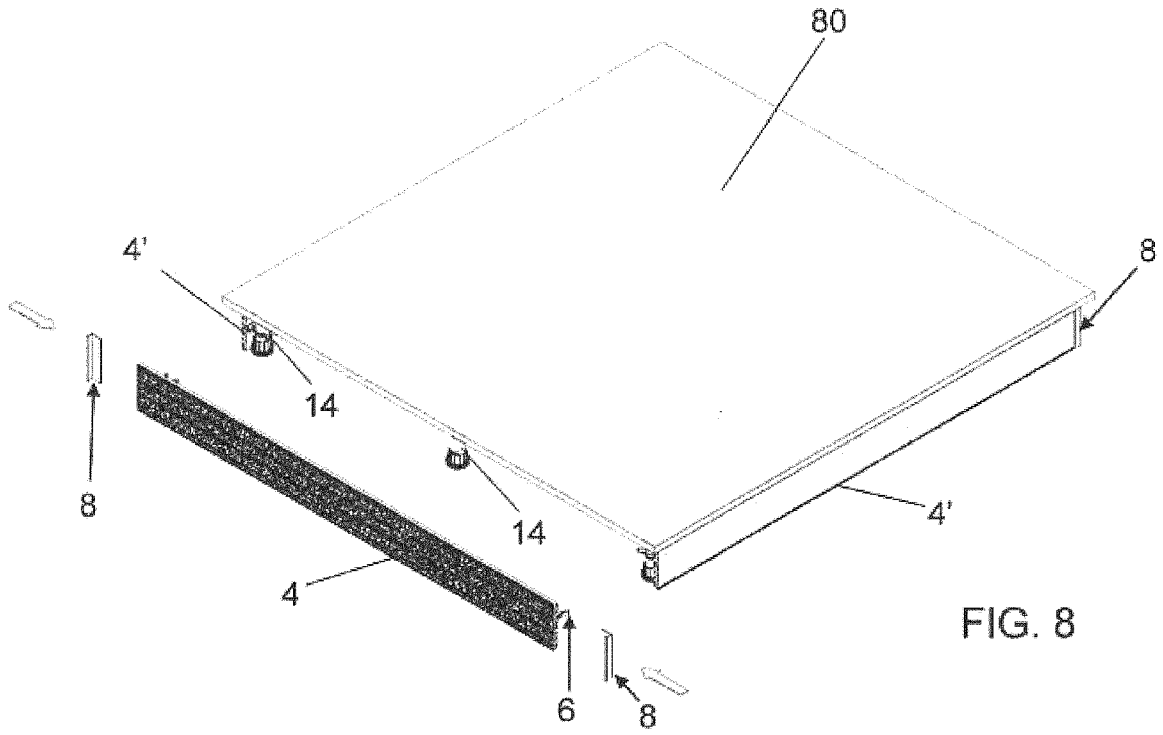


FIG. 8

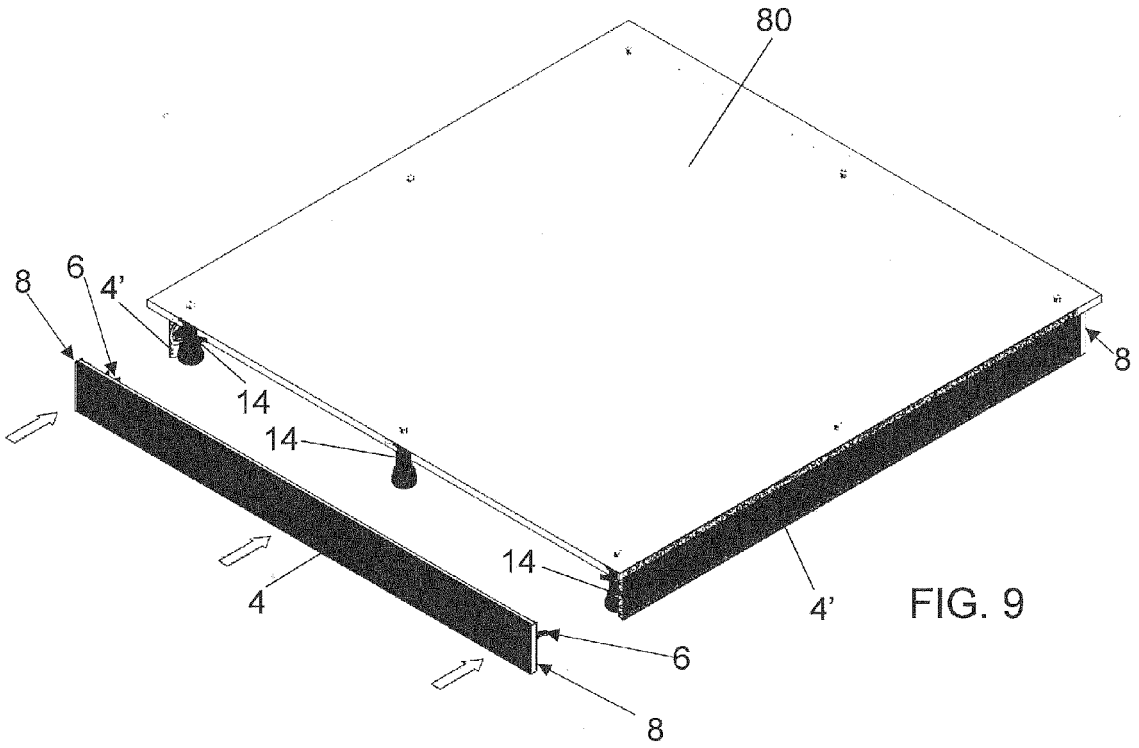


FIG. 9

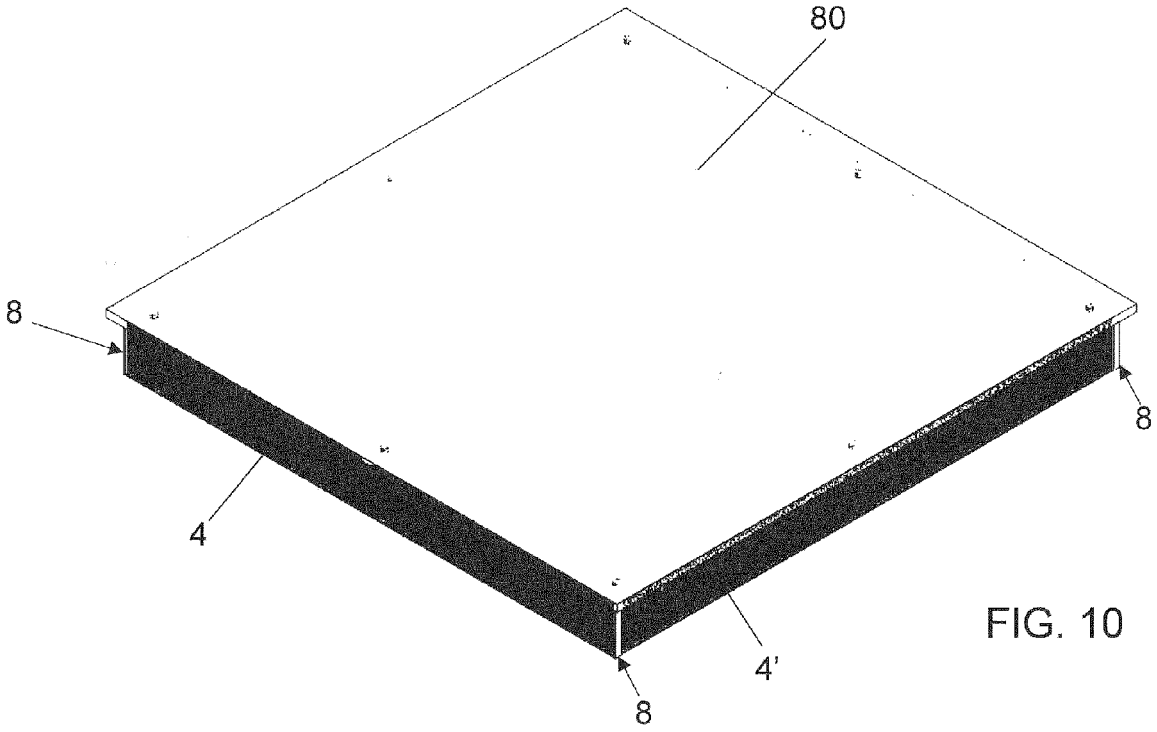


FIG. 10

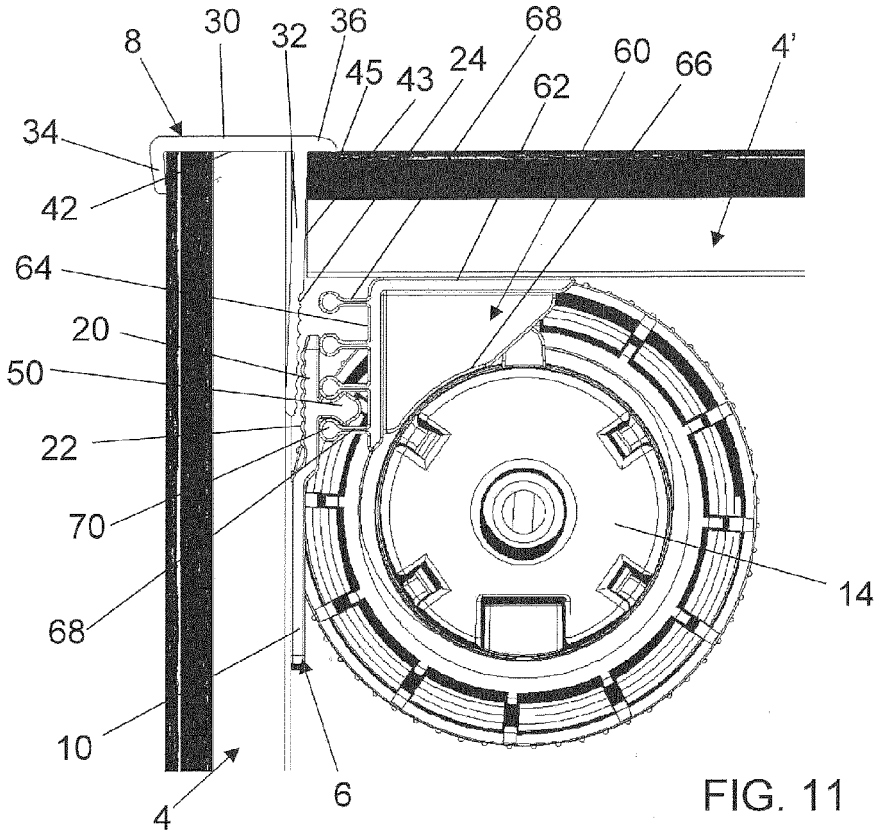

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FIG. 11

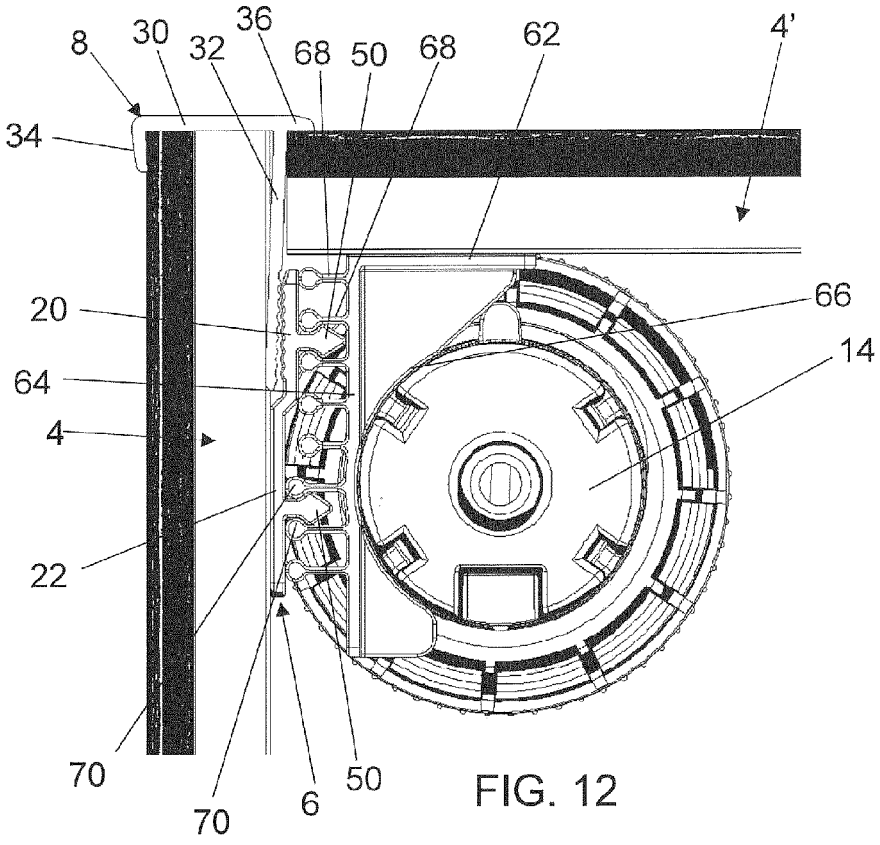

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FIG. 12

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EUROPEAN SEARCH REPORT

Application Number
EP 17 20 6889

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	JP S63 189029 U (UNKNOWN) 5 December 1988 (1988-12-05) * figures 1-4 * -----	1-5,7-9, 13	INV. A47B95/00
A	EP 1 362 530 A1 (SCILM SPA [IT]) 19 November 2003 (2003-11-19) * figures 1-4 * -----	12	

TECHNICAL FIELDS SEARCHED (IPC)

A47B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	19 February 2018	Martinez Valero, J

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19-02-2018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP S63189029 U	05-12-1988	JP H0522110 Y2	07-06-1993
		JP S63189029 U	05-12-1988
EP 1362530 A1	19-11-2003	AT 292917 T	15-04-2005
		DE 60300493 D1	19-05-2005
		DE 60300493 T2	15-09-2005
		EP 1362530 A1	19-11-2003
		ES 2239742 T3	01-10-2005
		IT PD20020128 A1	17-11-2003

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Patent documents cited in the description

- JP S63189029 A **[0010] [0049]**