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(54) METHOD FOR THE WALL ASSEMBLY OF A WALL CUPBOARD

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METHODE DE FIXATION MURALE D'UN MEUBLE MURALE

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Description

[0001] The present invention relates to a method for the rapid wall assembly of a wall cupboard, using hidden devices of the so-called shoulder-centre type.

[0002] Shoulder-centre brackets are well-known to experts in the field, and basically consist of a device which is inserted into the abutment of the cupboard, a hook suitable for being hooked to an opening of a plaque fixed to the wall, extending from said device.

[0003] The position of the hook can be regulated in height (vertical) and depth (horizontal), so as to register the position of the cupboard on the wall, and with respect to other adjacent cupboards.

[0004] A shoulder-centre bracket of this type is described for example in Italian patent application MI2010A001884 filed on October 15, 2010, to which reference should be made for any necessary explanations.

[0005] An easy, rapid and safe assembly of cupboards, using hidden shoulder-centre brackets, requires that the plaques be fixed to the wall in a correct position, above all with a reciprocal interaxis substantially identical to that between the abutments of the cupboard. Even small errors, in fact, make it impossible to assemble the cupboard, necessitating the repositioning of the plaques on the wall with a considerable waste of time and with consequent additional costs.

[0006] This drawback is mainly verified when several adjacent cupboards must be assembled, where even small differences in height between the interaxes of the plaques are combined, making it practically impossible to assemble all the cupboards without regulation interventions of the position of the plaques fixed to the wall.

[0007] For the above reasons, fixing plaques to the wall is a delicate operation, which requires the use of expert assemblers.

[0008] The objective of the invention is to overcome the above drawback of the known art, by providing an assembly method in which the fixing of plaques to the wall is effected automatically, with a reciprocal interaxis which is perfectly identical to that between the abutments of the wall cupboard.

[0009] A method for the wall assembly of a wall bracket is implicitly disclosed in US 5509541 A.

[0010] The above objective is achieved by an assembly method having the characteristics specified in the enclosed claim 1.

[0011] The structural and functional characteristics of the invention, and its advantages with respect to the known art, will appear evident from the following description, referring to the enclosed drawings, which illustrate the object of the invention itself.

[0012] In the drawings:

- figure 1 is a perspective view illustrating any wall cupboard of the known type in the assembly position by hooking to a series of plaques fixed to the wall;
- figure 2 is a perspective view illustrating, in particular,

the assembly of the cupboard of figure 1 by means of a hidden hanging bracket of the known type, a so-called shoulder-centre bracket, which is hooked to the respective plaque fixed to the wall;

- 5 - figure 3 is an exploded prospected view illustrating from the front an assembly instrument (dime) of the piece of furniture according to a possible embodiment of the present invention;
- figure 4 is a view like figure 3, but illustrating the instrument from behind;
- 10 - figures 5 and 6 are two views like figures 3 and 4 respectively, but illustrating the instrument (dime) assembled;
- figure 7 is an exploded raised front view of the instrument of figure 3;
- 15 - figure 8 is a plan view according to the arrow A of figure 7;
- figure 9 is a raised side view according to the arrow B of figure 7;
- 20 - figure 10 is a raised front view of the instrument of figure 7 assembled;
- figure 11 is a plan view according to the arrow C of figure 10;
- figure 12 is a raised side view according to the arrow D of figure 10;
- 25 - figure 13 is a sectional view according to the traced section XIII-XIII of figure 10;
- figure 14 is an exploded perspective view of the assembly instrument of figure 3 in a coupling position with the plaques destined for being fixed to the wall;
- 30 - figure 15 is an exploded sectional view illustrating the coupling position between the assembly instrument and the plaques;
- figures 16 and 17 are two views like figures 14 and 15 respectively, but illustrating the assembly instrument (dime) coupled with the plaques;
- 35 - figure 18 is a perspective view illustrating the assembly instrument of the previous figures fixed to the wall with the plaques in the specific position for receiving the wall cupboard;
- 40 - figures 19 and 20 are two views like the figures 3 and 4 respectively, but illustrating a second possible embodiment of the invention;
- figure 21 is a raised front view of the assembly instrument of figures 19 and 20;
- 45 - figure 22 is a plan view according to the arrow E of figure 21;
- figure 23 is a raised view according to the arrow F of figure 21;
- 50 - figures 24 and 25 are two views like figures 16 and 17, illustrating the assembly instrument coupled with the plaque.

[0013] Figures 1 and 2 of the drawings illustrate a wall cupboard M which must be hooked to a series of plaques 30 fixed to a wall P.

[0014] The hooking is effected by means of a corresponding series of hidden shoulder-centre bracket de-

vices 31, which are each inserted into the abutment 32 of the cupboard M.

[0015] For this purpose, the brackets 31 are equipped with a protruding hook 33 which is hooked to a deep-drawn opening 34 of the plaque 30 (figure 2).

[0016] As is evident from figure 1 of the drawings, and as is well-known to experts in the field, in order to allow the cupboard M to be hooked to the plaques 30, the interaxes "a" between the abutments 32 (or between the brackets 31) must be the same as the interaxes "b" between the same plaques 30. Only if this condition is satisfied, can the hooks 33 be hooked to the corresponding opening 34, without the necessity of effecting difficult interventions for repositioning the plaques 30 on the wall P.

[0017] The assembly method according to the invention automatically satisfies this requirement.

[0018] With reference to figures 3-18 of the drawings, the assembly method according to the invention - in a first possible embodiment - comprises the use of an instrument, or dime 29, consisting of the combination of a spacer in the form of a straight tubular section 35 and two end connections 36, which are all preferably made of a disposable plastic material.

[0019] As explained hereafter, the dime 29 has the function of supporting and positioning the plaques 30.

[0020] The sectional piece 35 has, for example, a transversal rectangular section suitable for stably receiving, by coupling with interference, ribbed shanks 37, which extends sideways from a box-shaped body 38, open at the back, of the connection 36.

[0021] As can be easily seen from figures 3, 4, 6 and 13, the body 38 of the connection 36 has a lid configuration and contains in its interior a pair of interspaced flaps 39, elastically yielding, which end with teeth 40.

[0022] Said flaps 39 extend with the teeth 40 towards the open side of the body 38 and are suitable for being clip-engaged at the opening 34 of a respective plaque 30, before this is fixed to the wall.

[0023] According to the assembly sequence shown in figures 14-17, the complex is thus obtained, which is indicated in figure 16 by the letter S: i.e. the pre-assembled complex which allows the characteristic assembly method according to the invention, to be effected.

[0024] The complex S comprises the shaped spacer 35 with the end connections 36 to which the plaques 30 are clip-coupled before being fixed to the wall.

[0025] From what is described above, it is completely evident that, by dimensioning the sectional piece 35 (in length) and the connections 36, during the production phase, as desired and with absolute precision, it is automatically possible, under the condition of figure 16, for the interaxis "b" between the plaques 30 to be perfectly identical to the interaxis "a" between the abutments 32 (or brackets) of the cupboard M.

[0026] The rigid system of figure 16 (pre-assembled group) can now be positioned in an operative condition by fixing the plaques 30 to the wall P, as shown in figure 18.

[0027] After the plaques 30 have been fixed to the wall, the dime 29, consisting of the sectional pieces 35 and connections 36, is removed from the same plaques 30, by the forced disengagement of the teeth 40 of the flaps 39 from the respective openings 34, by exerting a traction (also manual) in the direction of the arrow F1 of figure 17.

[0028] The removed dime 29 can be thrown away as its cost is negligible.

[0029] The condition of figure 1 is thus established, wherein the plaques 30 are uncovered, or free, ready to receive the furniture M by means of hooking to the same, with absolute precision, of the respective brackets 31.

[0030] This solves the technical problem of automatically having the interaxes "a" and "b" perfectly identical.

[0031] The sectional piece 35 and relative end connections 36 (forming the dime) can obviously be produced and previously prepared in the desired dimensions, in relation to the interaxis "a" between the abutments of the cupboards to be assembled.

[0032] In the case of the assembly of a plurality of adjacent cupboards, various dimes are interconnected with each other by the insertion of the free shanks 37 inside the tubular sections 35.

[0033] Figures 19-25 illustrate a possible variant of the invention, in which the dime 29 is produced in a single piece.

[0034] In said variant, the details corresponding and/or equivalent to those illustrated and described with reference to figures 1-18, are indicated with the same reference numbers increased by 100.

[0035] According to this variant, the dime 129 for supporting and positioning the plaques 130, is produced in a single piece of plastic material, wherein the components 135, 136 and 137 are integral with each other, and wherein the shaped piece 135 has a box-like section open at the back, analogously to the connections 136.

[0036] It is evident that the variant of the invention illustrated in figures 19-25 is suitable for the assembly of only one cupboard, as several dimes cannot be interconnected due to the lack of free end shanks 37.

[0037] The objective of the invention mentioned in the preamble of the description has therefore been achieved.

[0038] The protection scope of the invention is defined by the enclosed claims.

Claims

1. A method for the wall assembly (P) of a wall cupboard (M) comprising a plurality of plaques (30, 130) destined for being fixed to the wall (P), and a plurality of wall-bracket devices (31) inserted in abutments (32) of said cupboard (M) destined for being hooked by means of hooks (33) to openings (34) of said plaques (30, 130), and wherein the interaxis "a" between said abutments (32) must be substantially identical to the interaxis "b" between said plaques (30, 130), **characterized in that** it comprises the following operative

phases:

- a. removably pre-assembling said plaques (30, 130) on a supporting and positioning instrument (29, 129) with an interaxis "b" between the plaques substantially identical to the interaxis "a" between the abutments (32) of the cupboard (M) to be assembled, so as to obtain a rigid complex (S);
 - b. fixing said plaques (30, 130) assembled on said instrument (29, 129) of said complex (S), to the wall;
 - c. separating said instrument (29, 129) from said plaques (30, 130) which remain fixed to the wall;
 - d. assembling said cupboard on said plaques (30, 130) by hooking the hooks (33) of the wall brackets (31) to said openings (34) of the plaques (30, 130).
2. The method according to claim 1, **characterized in that** said instrument comprises a dime (29, 129) consisting of the combination of a spacer (35, 135) and two end joints (36, 136) on which said plaques (30, 130) are removably assembled.
 3. The method according to claim 2, **characterized in that** said spacer (35, 135) is in the form of a straight sectional piece (35, 135), provided with two end connections (36, 136) at opposite ends.
 4. The method according to claim 2, **characterized in that** said spacer (35, 135) is in the form of a tubular sectional piece at whose ends two end connections (36, 136) are applied.
 5. The method according to any of the claims 2-4, **characterized in that** shanks (37, 137) extend laterally from said end connections (36, 136), suitable for being firmly coupled with said tubular sectional piece (35, 135).
 6. The method according to claim 2, **characterized in that** said end connections (36, 136) are equipped with freely removable clip-engagement means with the opening (34) of said plaques (30, 130).
 7. The method according to claim 6, **characterized in that** said engagement means consist of elastically yielding interspaced tongues (39) ending with teeth (40) suitable for being clip-engaged with the opening (34) of the plaque (30).
 8. The method according to any of the previous claims, **characterized in that** said end connections (36, 136) are substantially box-shaped.
 9. The method according to any of the previous claims, **characterized in that** said instrument or dime is

composed of a single piece made of plastic material.

Patentansprüche

1. Verfahren für die Wandmontage (P) eines Wandschranks (M), der eine Mehrzahl von Beschlägen (30, 130), die zur Befestigung an der Wand (P) bestimmt sind, und eine Mehrzahl von Wandträgereinrichtungen (31) umfasst, die in Auflagern (32) des Schranks (M) eingesetzt sind und zum Einhaken mittels Haken (33) in Öffnungen (34) der Beschläge (30, 130) bestimmt sind, und wobei die Zwischenachse "a" zwischen den Auflagern (32) im Wesentlichen identisch mit der Zwischenachse "b" zwischen den Beschlägen (30, 130) sein muss, **dadurch gekennzeichnet, dass** es die folgenden Arbeitsphasen umfasst:
 - a. Abnehmbares Vormontieren der Beschläge (30, 130) an einem Stütz- und Positionierinstrument (29, 129) mit einer Zwischenachse "b" zwischen den Beschlägen, die im Wesentlichen identisch mit der Zwischenachse "a" zwischen den Auflagern (32) des zu montierenden Schranks (M) ist, um einen starren Komplex (S) zu erhalten;
 - b. Befestigen der Beschläge (30, 130), die an das Instrument (29, 129) des Komplexes (S) montiert sind, an der Wand;
 - c. Trennen des Instruments (29, 129) von den Beschlägen (30, 130), die an der Wand befestigt bleiben;
 - d. Montieren des Schranks an den Beschlägen (30, 130) durch Einhaken der Haken (33) der Wandträger (31) an den Öffnungen (34) der Beschläge (30, 130).
2. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** das Instrument eine Lehre (29, 129) umfasst, die aus der Kombination eines Abstandshalters (35, 135) und zweier Endverbindungsstücke (36, 136) besteht, an denen die Beschläge (30, 130) abnehmbar montiert sind.
3. Verfahren nach Anspruch 2, **dadurch gekennzeichnet, dass** der Abstandshalter (35, 135) in der Form eines geraden Profilstücks (35, 135) vorliegt, das mit zwei Endverbindungen (36, 136) an entgegengesetzten Enden versehen ist.
4. Verfahren nach Anspruch 2, **dadurch gekennzeichnet, dass** der Abstandshalter (35, 135) in der Form eines rohrförmigen Profilstücks vorliegt, an dessen Enden zwei Endverbindungen (36, 136) angebracht sind.
5. Verfahren nach einem der Ansprüche 2 - 4, **dadurch**

gekennzeichnet, dass sich Schäfte (37, 137) seitlich von den Endverbindungen (36, 136) erstrecken und zur festen Kopplung mit dem rohrförmigen Profilstück (35, 135) geeignet sind.

6. Verfahren nach Anspruch 2, **dadurch gekennzeichnet, dass** die Endverbindungen (36, 136) mit frei abnehmbaren Mitteln für einen Klippeingriff mit der Öffnung (34) der Beschläge (30, 130) ausgerüstet sind.
7. Verfahren nach Anspruch 6, **dadurch gekennzeichnet, dass** die Eingriffsmittel aus elastisch nachgiebigen, beabstandeten Zungen (39) bestehen, die mit Zähnen (40) enden, die für einen Klippeingriff mit der Öffnung (34) des Beschlages (30) geeignet sind.
8. Verfahren nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Endverbindungen (36, 136) im Wesentlichen kastenförmig sind.
9. Verfahren nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** das Instrument oder die Lehre aus einem einzigen Stück gebildet ist, das aus Kunststoffmaterial hergestellt ist.

Revendications

1. Procédé de montage mural (P) d'un placard mural (M) comprenant une pluralité de plaques (30, 130) destinées à être fixées au mur (P), et une pluralité de dispositifs de support mural (31) insérés dans des butées (32) dudit placard (M) destinées à être accrochées au moyen de crochets (33) à des ouvertures (34) desdites plaques (30, 130), et dans lequel l'entraxe "a" entre lesdites butées (32) doit être substantiellement identique à l'entraxe "b" entre lesdites plaques (30, 130), **caractérisé en ce qu'il** comprend les phases fonctionnelles suivantes :
 - a. pré-assembler de façon amovible lesdites plaques (30, 130) sur un instrument de support et de positionnement (29, 129) avec un entraxe "b" entre les plaques substantiellement identique à l'entraxe "a" entre les butées (32) du placard (M) à assembler, afin d'obtenir un ensemble rigide (S) ;
 - b. fixer au mur lesdites plaques (30, 130) assemblées sur ledit instrument (29, 129) dudit ensemble (S) ;
 - c. séparer ledit instrument (29, 129) desdites plaques (30, 130) qui restent fixées au mur ;
 - d. monter ledit placard sur lesdites plaques (30, 130) en accrochant les crochets (33) des supports muraux (31) auxdites ouvertures (34) des

plaques (30, 130).

2. Procédé selon la revendication 1, **caractérisé en ce que** ledit instrument comprend un accessoire (29, 129) consistant en la combinaison d'une entretoise (35, 135) et de deux jonctions d'extrémité (36, 136) sur lesquelles lesdites plaques (30, 130) sont montées de façon amovible.
3. Procédé selon la revendication 2, **caractérisé en ce que** ladite entretoise (35, 135) se présente sous la forme d'une pièce de section droite (35, 135), pourvue de deux connexions d'extrémité (36, 136) en ses extrémités opposées.
4. Procédé selon la revendication 2, **caractérisé en ce que** ladite entretoise (35, 135) se présente sous la forme d'une pièce de section tubulaire aux extrémités de laquelle sont appliquées deux connexions d'extrémité (36, 136).
5. Procédé selon l'une quelconque des revendications 2 à 4, **caractérisé en ce que** des tiges (37, 137) s'étendent latéralement depuis lesdites connexions d'extrémité (36, 136), adaptées pour être solidement accouplées à ladite pièce de section tubulaire (35, 135).
6. Procédé selon la revendication 2, **caractérisé en ce que** lesdites connexions d'extrémité (36, 136) sont munies d'un moyen de mise en prise par pression librement amovible avec l'ouverture (34) desdites plaques (30, 130).
7. Procédé selon la revendication 6, **caractérisé en ce que** ledit moyen de mise en prise est constitué de languettes élastiques (39) espacées entre elles et se terminant par des dents (40) adaptées pour être mises en prise par pression avec l'ouverture (34) de la plaque (30).
8. Procédé selon l'une quelconque des revendications précédentes, **caractérisé en ce que** lesdites connexions d'extrémité (36, 136) sont substantiellement en forme de boîtes.
9. Procédé selon l'une quelconque des revendications précédentes, **caractérisé en ce que** ledit instrument ou accessoire se compose d'une seule pièce en matière plastique.

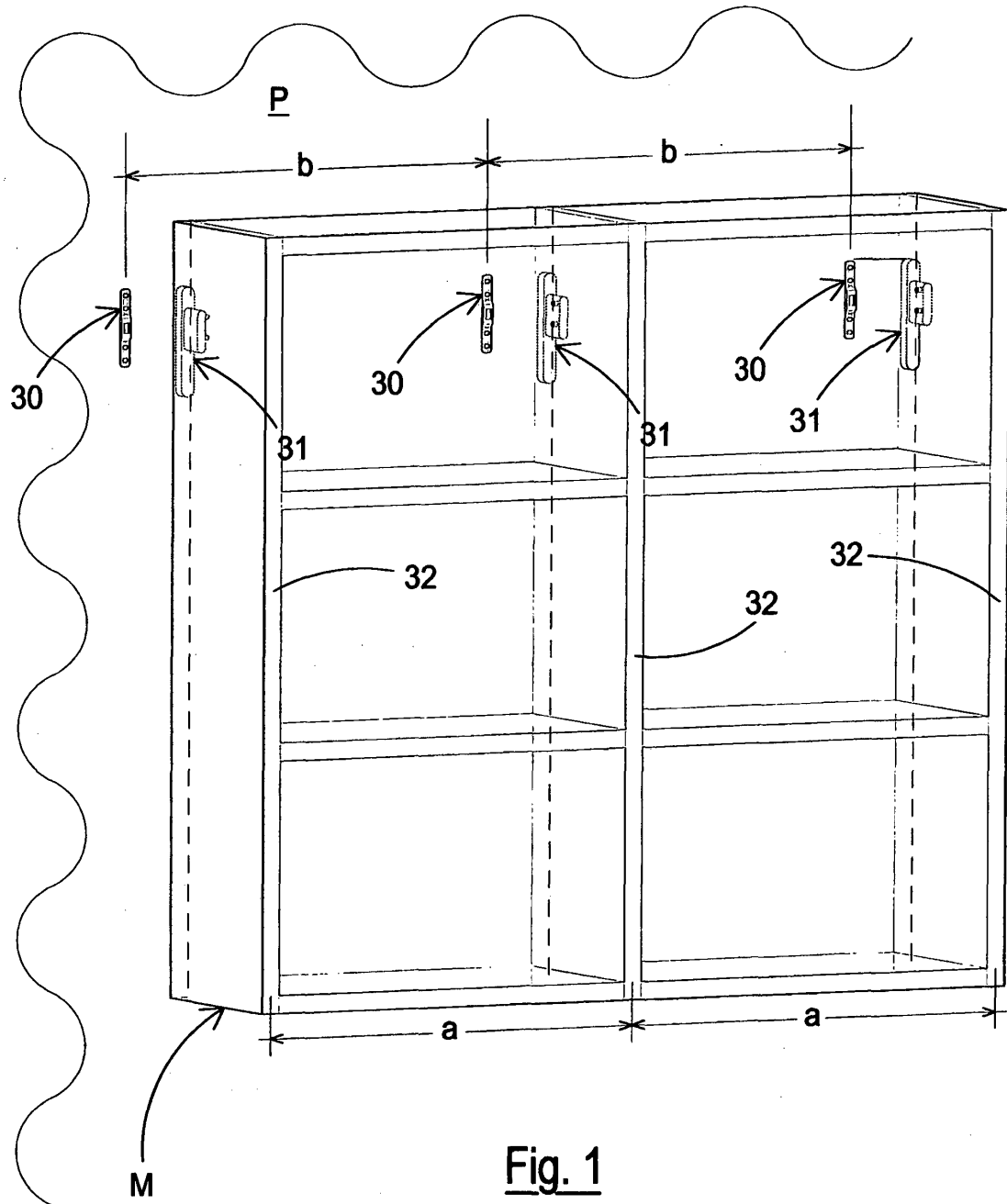


Fig. 1

Fig. 2

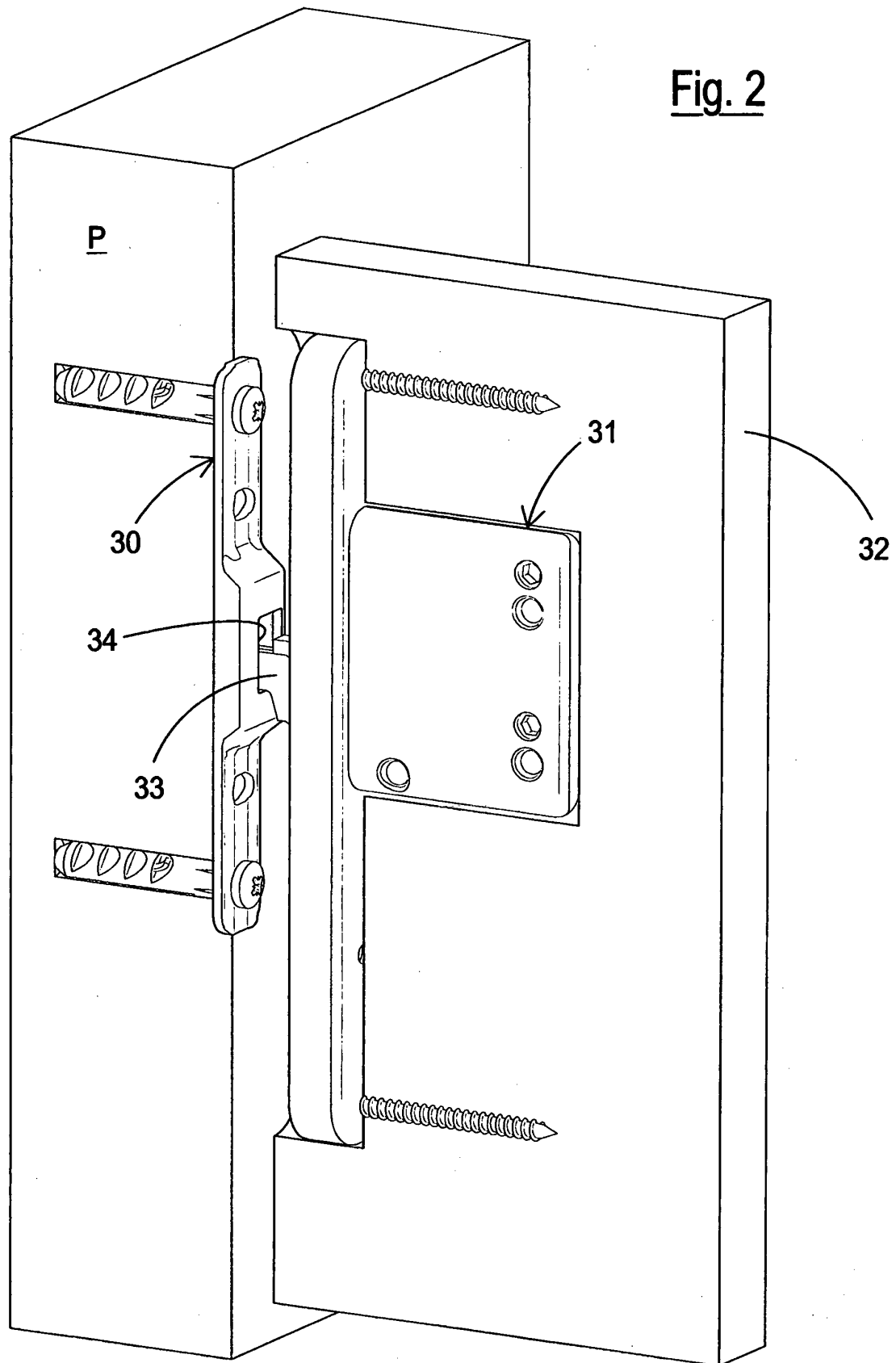


Fig. 3

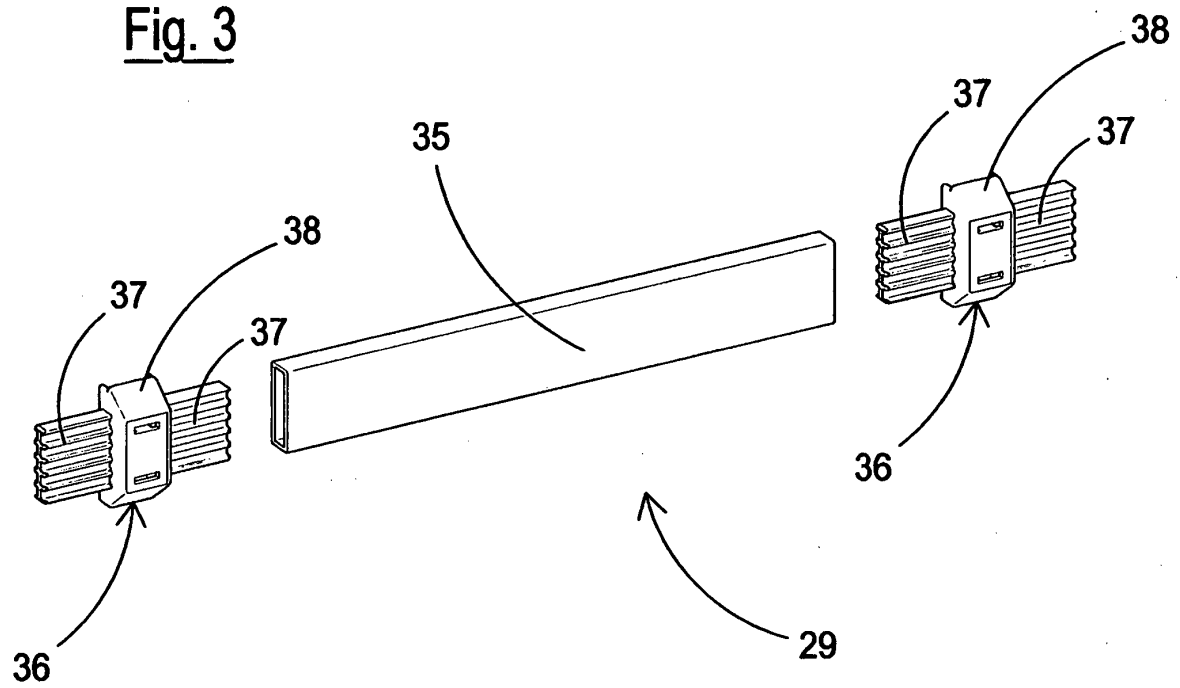


Fig. 4

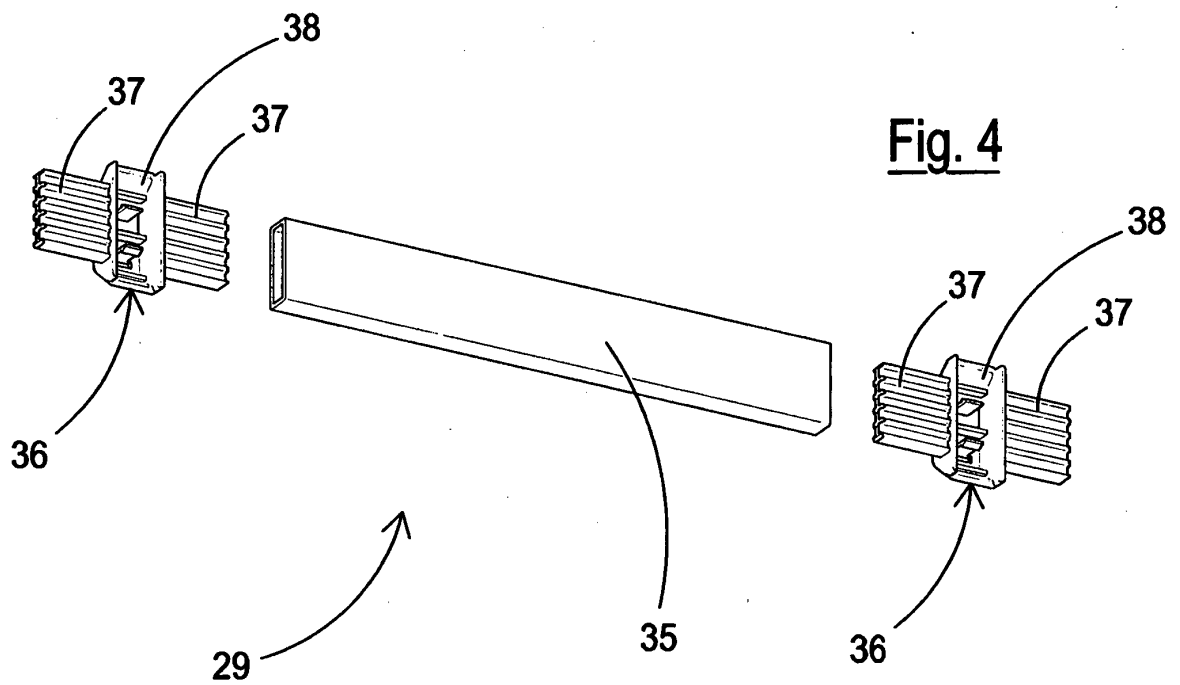


Fig. 5

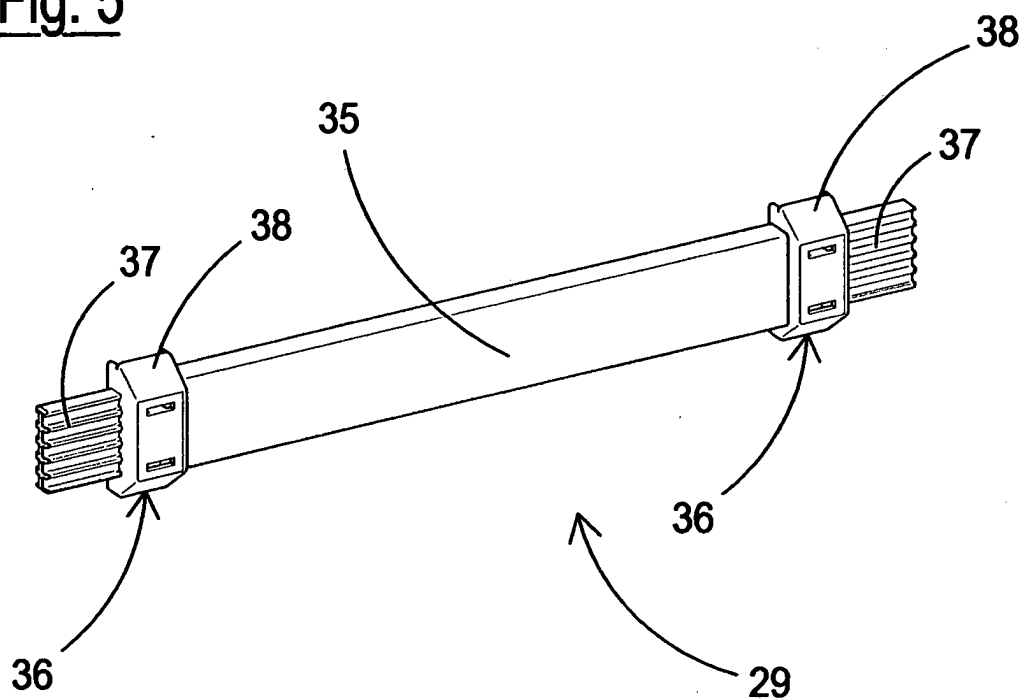
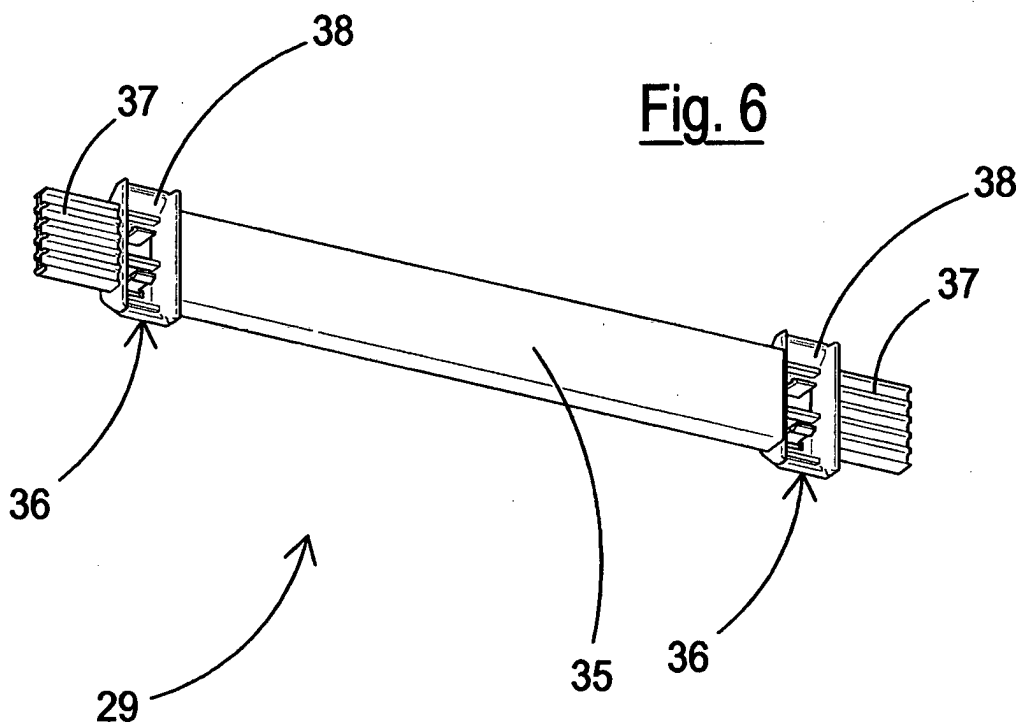


Fig. 6



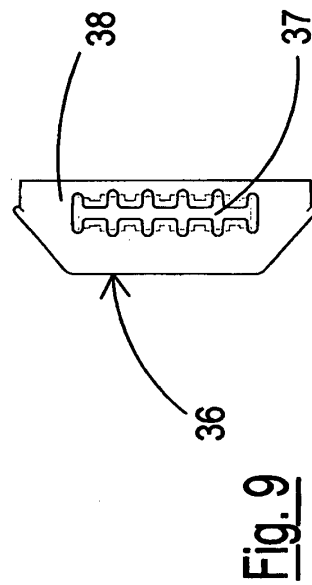
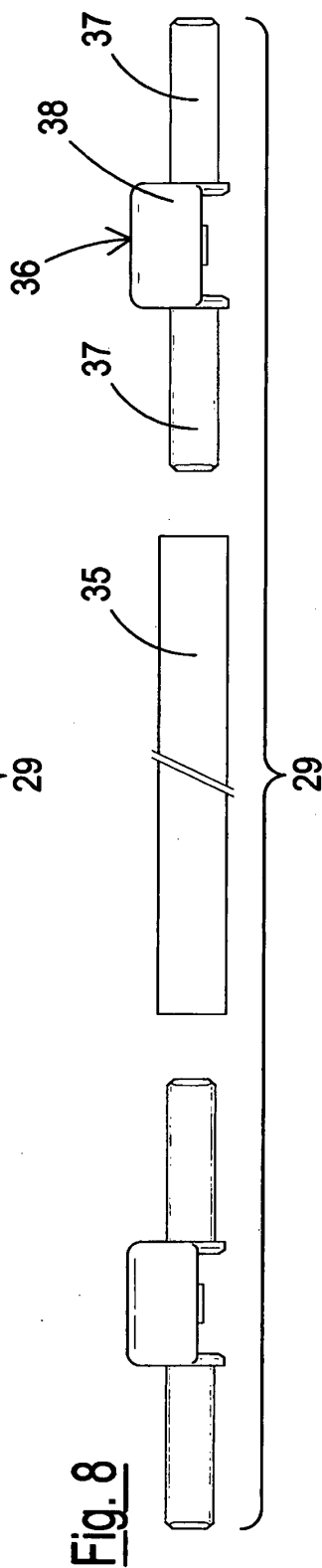
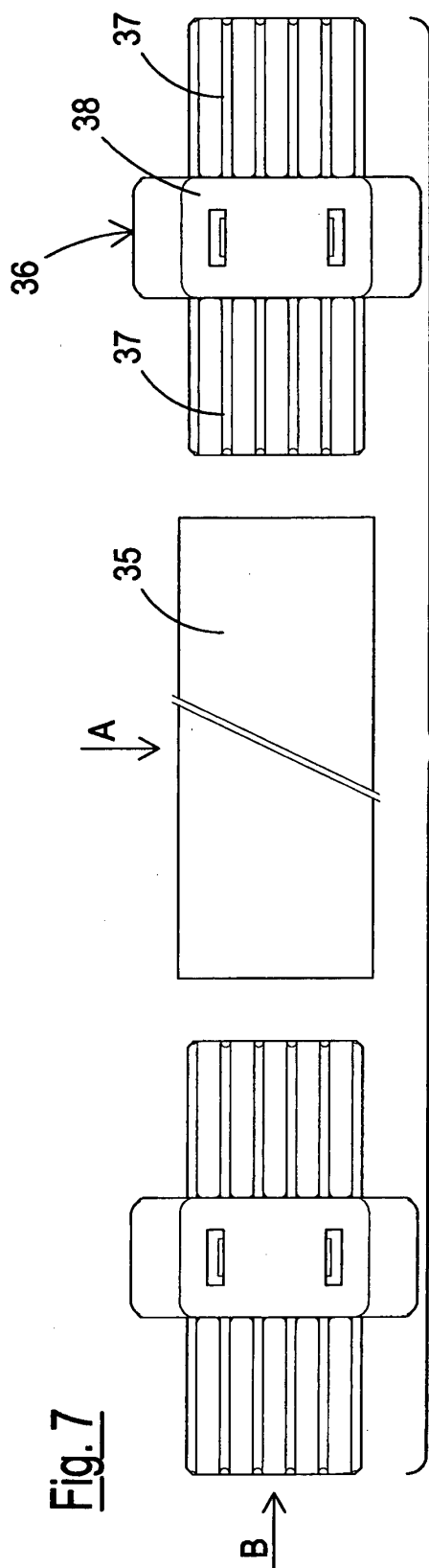


Fig. 10

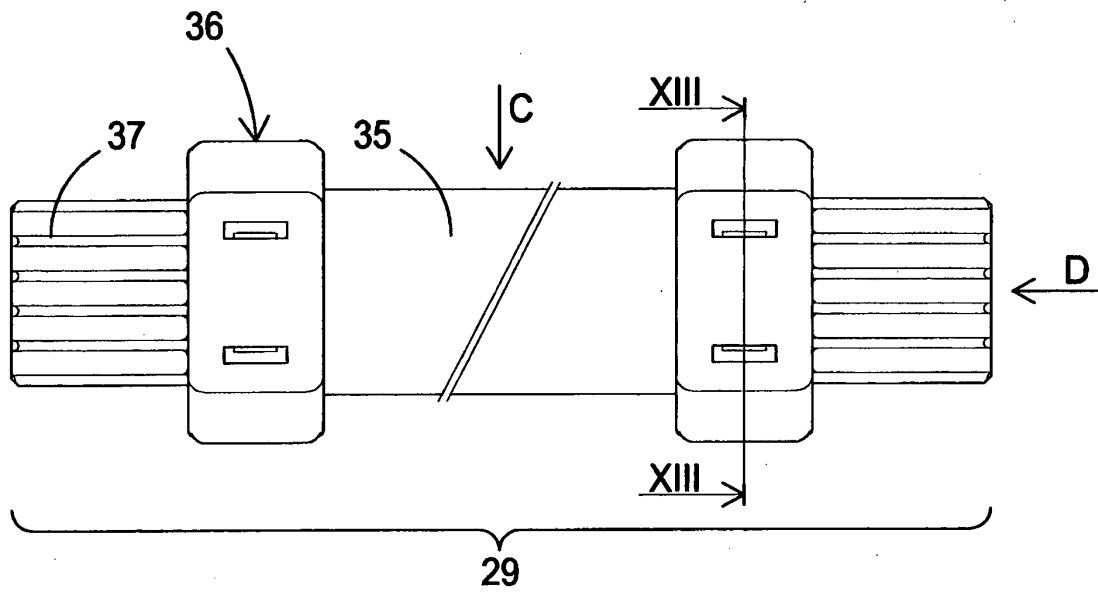


Fig. 11

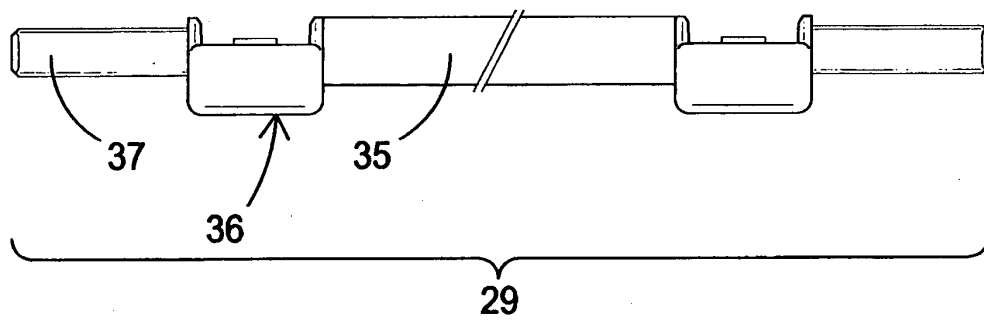


Fig. 12

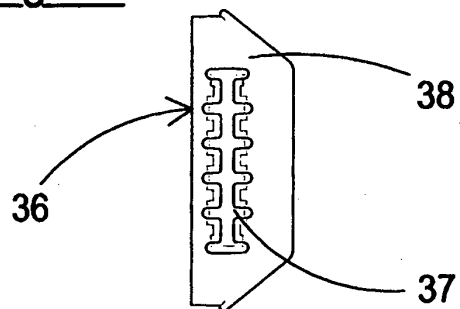


Fig. 13

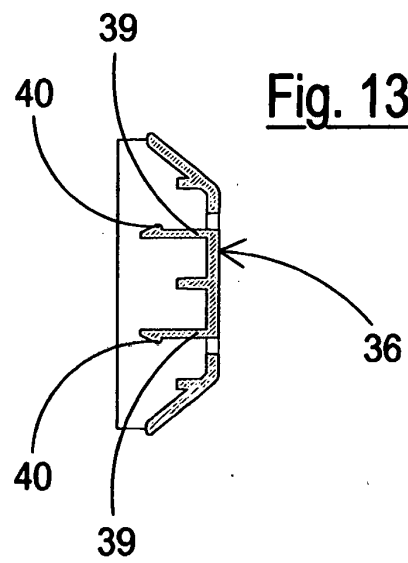


Fig. 14

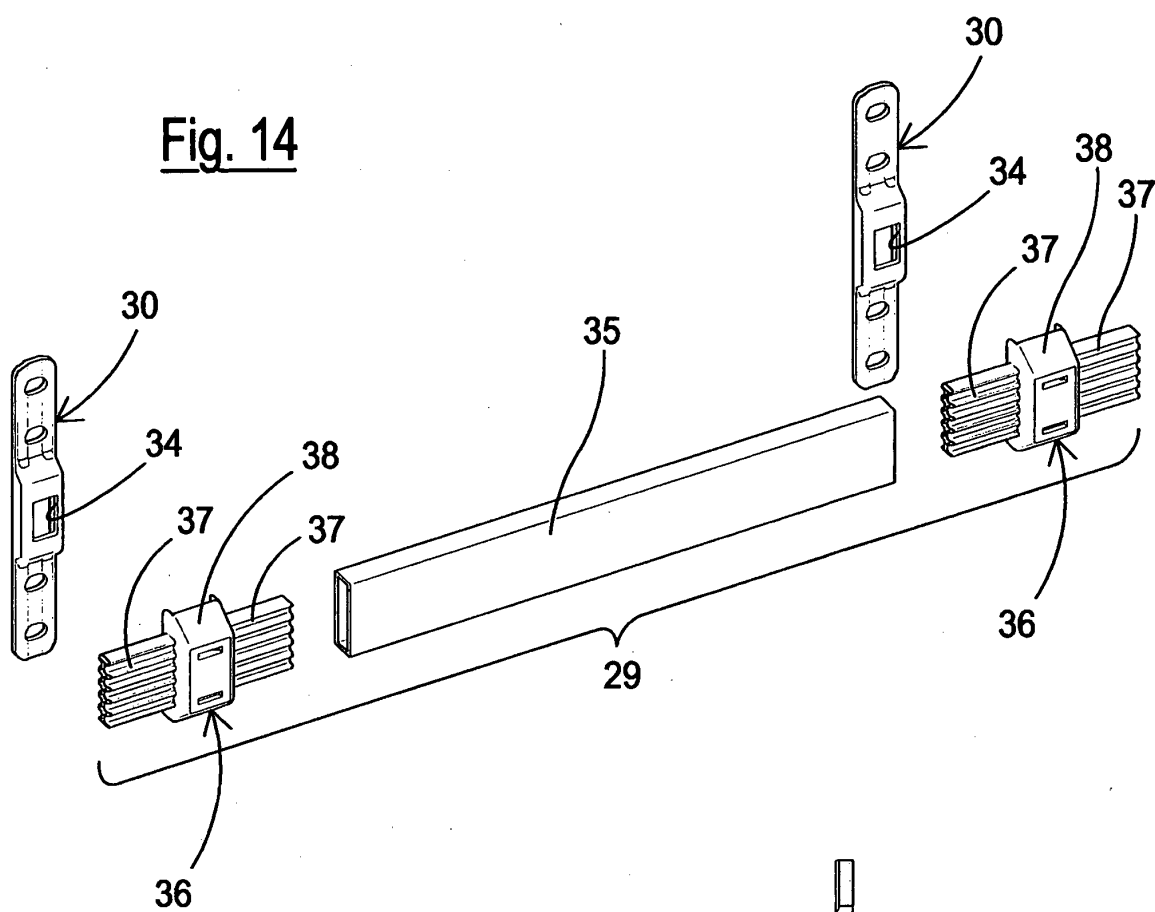


Fig. 15

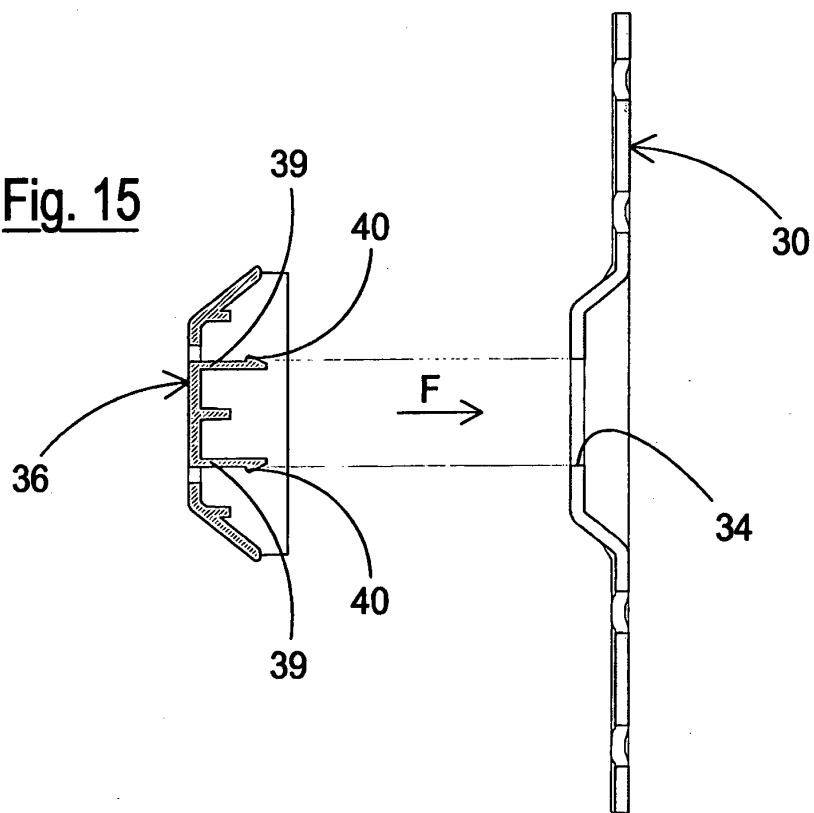


Fig. 16

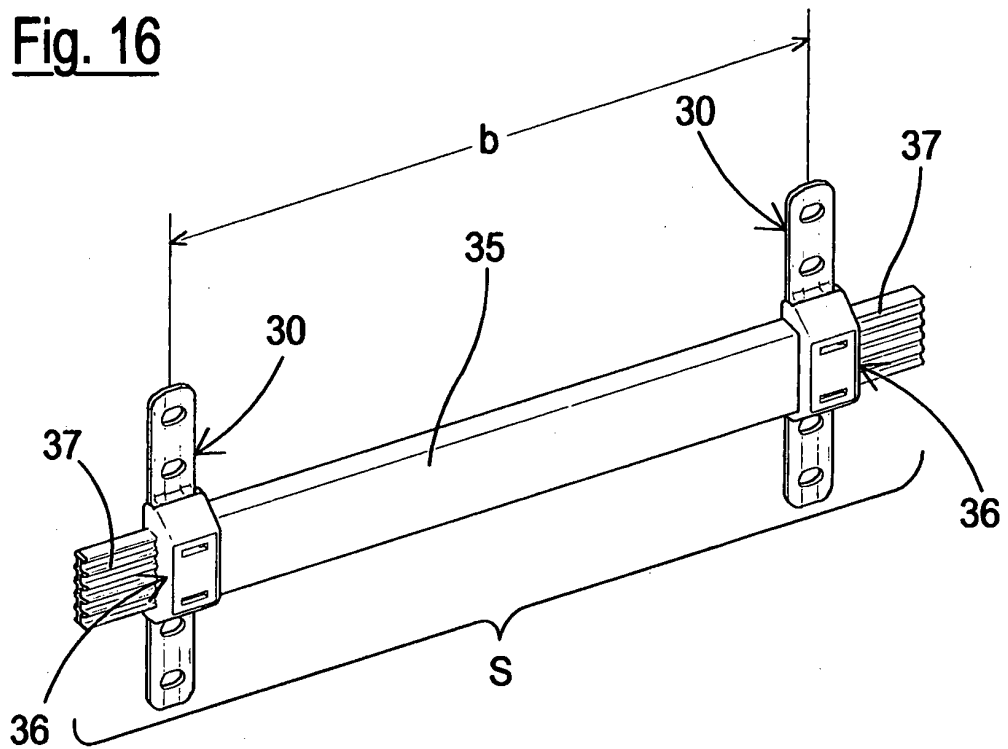
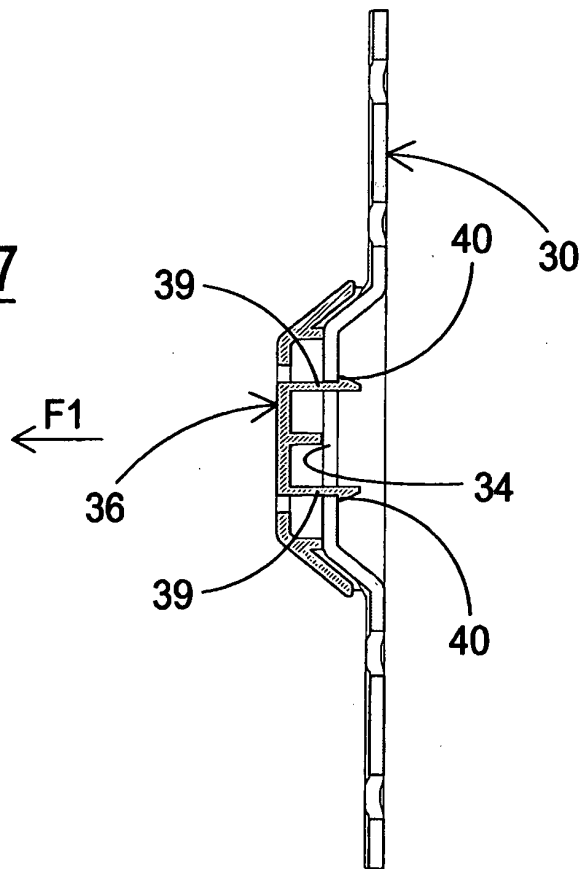


Fig. 17



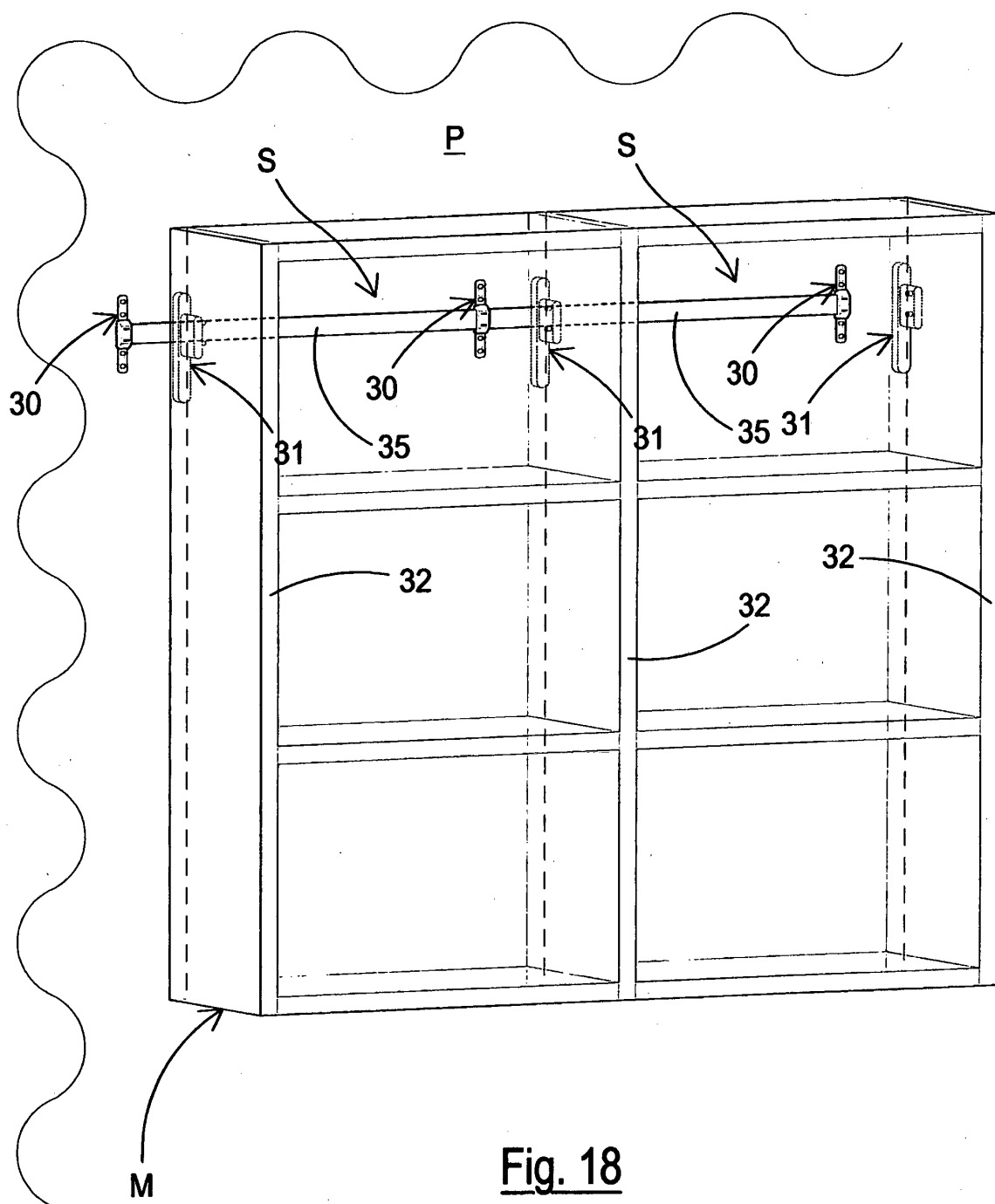


Fig. 18

Fig. 19

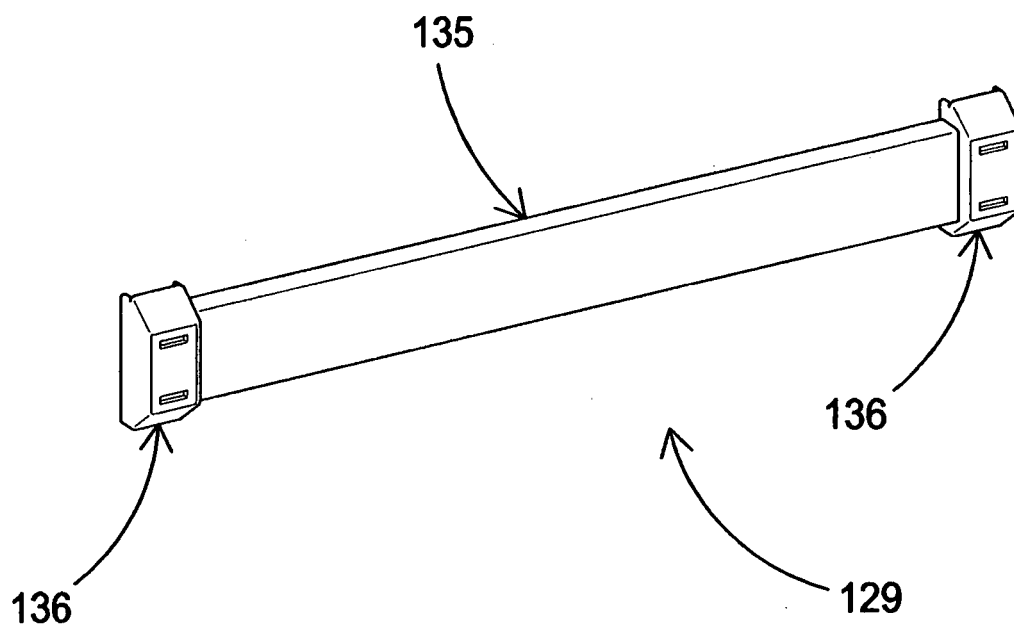


Fig. 20

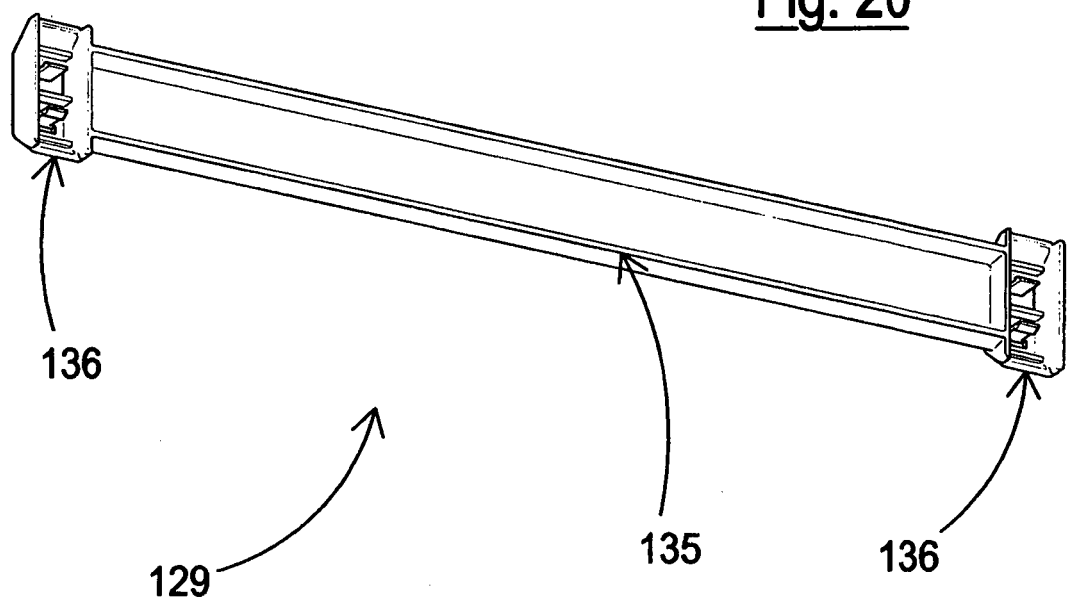


Fig. 21

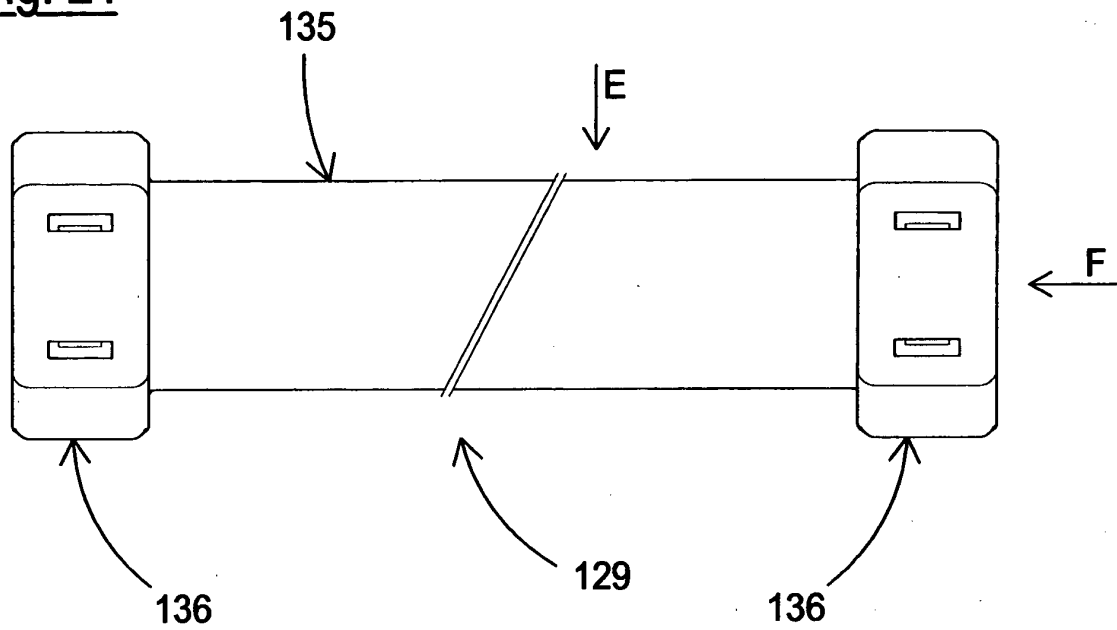


Fig. 22

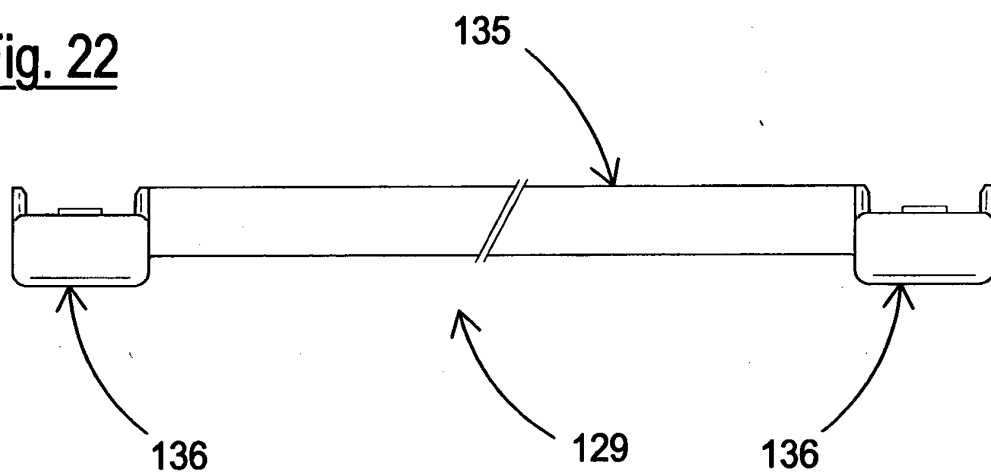


Fig. 23

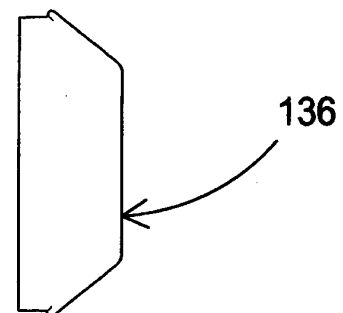


Fig. 24

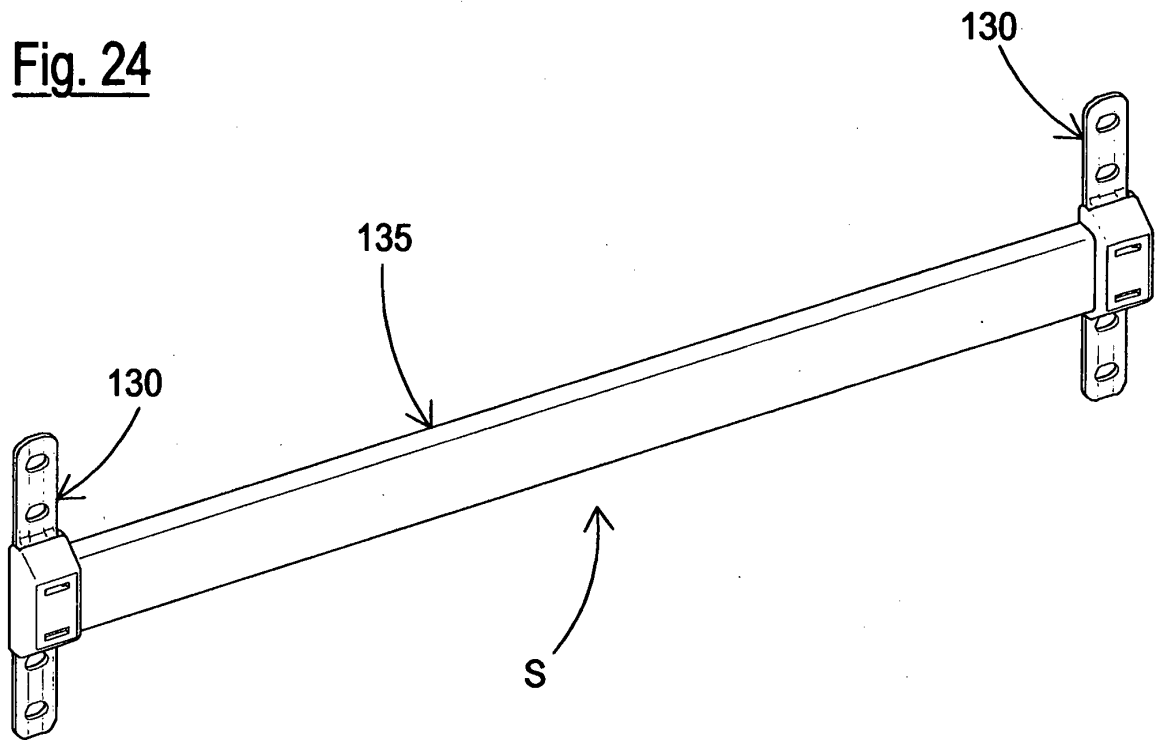
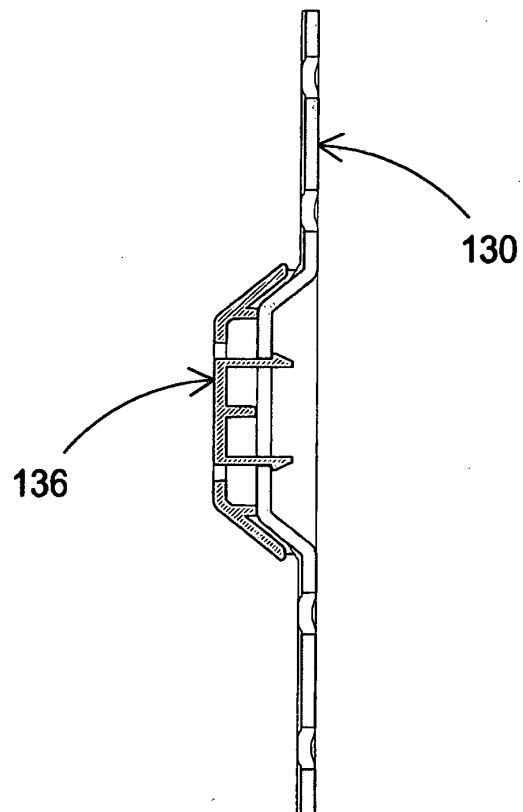


Fig. 25



REFERENCES CITED IN THE DESCRIPTION

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