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(54) **WALL USED AS A PARTITION AND FURNITURE SUPPORT**

ALS RAUMTEILER UND MÖBELTRÄGER VERWENDBARE WAND

PANNEAU DE SEPARATION ET DE SUPPORT DE MOBILIER

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Description

OBJECT OF THE INVENTION

[0001] The invention here disclosed relates to elements which comprise a screen for partitions and furniture support, from among those which are meant to partition a working space in a flexible and reconfigurable manner, characterised by special sections, a transverse universal connection means for the screens, an anchoring system for external elements at any height and an anchoring system for the walls by clips.

BACKGROUND OF THE INVENTION

[0002] Partitions are widely known and form a part of accessories for offices and more, so that they require no further explanation. The applicant is unaware of the existence of systems for connection, attachment and construction such as those described in this description.

[0003] It is known from the state of the art the screens for partitions as the ones disclosed in DE 2501272 and US 5116161. Neither of the partitions disclosed comprises lower brackets connected on their lower surface to the section of baseboard incorporating an expansion wedge which slides between flaps which are self centering and lock inside the internal hollow of the sections. Those mentioned patents also lack of connection systems which allow connected the panels at different heights and with different angles. They also lack of top brackets and attachments clips for fixing the panels to the walls.

[0004] Now the objective of the present invention is to overcome the above mentioned drawbacks developing a screen for partitions which comprises the additional pieces and configuration to get the above mentioned advantages.

DESCRIPTION OF THE INVENTION

[0005] The invention object of the present description relates to systems for attachment, connection and construction of a partition screen comprising specially designed metallic sections, plate brackets, universal connection elements, rhomboidal parts for supporting external elements and clips for attachment of walls.

DESCRIPTION OF THE DRAWINGS

[0006] As a complement of the description a set of drawings is accompanied where for purposes of illustration and in a non-limiting manner the following is shown:

[0007] Figure 1 shows the general section of the screens.

[0008] Figure 2 shows the lower bracket of the screen as well as the section which forms the baseboard of the screen, and also the levelling element which is screwed on to the bracket and end piece (10).

[0009] Figure 3 shows the universal connection system for any angle and height.

[0010] Figure 4 shows the part which when inserted in the side groove of figure 1 will be used to support working plans, shelves, hanging closets, illumination etc.

[0011] Figure 5 shows an elevation and plan view of the top connection bracket between the upright pillars and the top crossbeam.

[0012] Figure 6 shows a partially sectioned view of the screen, showing the walls employed as well as their assembly to the structure by clip type connectors.

PREFERRED EMBODIMENT OF THE INVENTION

[0013] The partition screen and furniture support comprises three segments (two upright pillars and a top crossbeam) of a special section (1) which allows to obtain rectangular screens of width and height adjustable at will by the lengths cut of said pillars and crossbeams. On the bottom the frame is closed by a bottom bar (8) (figure 6) with a triple function: bottom structural element; baseboard and wiring conduct allowing installation without threading.

[0014] The section of figure 1 is provided with lateral grooves (1.1) which allow to couple at any point and without breaking continuity screws with Allen mortises and rhomboidal ends (figure 4). It is also provided with a groove (1.4) on its lower face, of identical geometry as (1.1) which allows to couple at any point and without breaking continuity attachment part (7.1) (figure 6) antagonist of clips (7.2) (figure 6) which are screwed to the walls.

[0015] The section of figure 1 is also provided with longitudinal grooves which allow to insert parts (3) (figure 3) known as universal connectors, meant to allow coupling to adjacent panels by pairs or in knots of three or four panels at different angles and heights. It is further provided with a lower groove (1.3) such that it allows to insert a top bracket (figure 5) meant to assemble both pillars and the top crossbar at 90°. The same groove (1.3) allow insertion of a lower bracket (figure 2).

[0016] The lower bracket (figure 2) fulfils several functions required by the screen's function and assembly. The first, a stiff connection to the bracket which allows a quick and self-centering assembly of the upright pillars (section 1) and which meet plateau (2.3) parallel to the base on said bracket and the lower structural cross beam. Stiffness is achieved by the expansion of two pyramidal trunks (2.2) which self-centre on the lower geometry of pillars (1.3) (section 1), by the action of a screw (2.4) which forces a wedge (2.1) to slide downwards, driven by the inner geometry (1.3) of section (1) and the inclined planes of arms (2.2) which expand and cause it to lock in place.

[0017] The second function of the bracket of figure 2 is to hold an end clip (10) of the electricity baseboard when the screen is an end screen. Thirdly, the bracket

is used to couple a levelling element (9), The sturdiness and design of its plate reinforcements allow to reduce the thickness of the element in order to allow the fourth function, which is the free passage of cables on either side of the bracket from each panel to adjacent ones without exceeding the total width of the screen and without reducing the structural strength required to support the classification and working drawings accessories incorporated as well as standard loads.

[0018] Universal connection part (3) (figure 3) consists of a vertical connection membrane between two panels which ends in corresponding vertical cylinders provided with internal elastic hollow spaces, which allow by insertion of male elements (3.1.2) (figure 3) expansion of their walls and locking and attachment of each cylinder to grooves (1.2) of sections (1), corresponding to the pillars of two adjacent panels, whatever the height (figure 3.1) and angle in which they are to be connected, a 180° angle between panels in figure 3.2, a 90° angle between panels in figure 3.3 or a variable angle in figure 3.4. In this manner both panels are rigidly connected in position.

[0019] Allen screws with rhomboid ends (figure 4) are mounted on groove (1.1) of section (1), inserted by the longer end of the rhomboid parallel to the groove (figure 4) and then turned ¼ turn with the aid of an Allen wrench. (Figure 4.3). This simple operation leaves the part secured in place by the locking of the rhomboid in the walls of the groove. Thus, in any point of grooves (1.1) of the section can be inserted an element on which to screw any external elements required at the desired height.

[0020] The top bracket (figure 5) allows connection and self centering of the upright bars to the top pillar by two perpendicular arms in a U shape (5.2) which are tightly fitted in the inside (1.3) of section (1). Vertical groove (5.1), continuous with groove (1.2) of section (1) allows to connect adjacent panels without requiring disassembly of the walls by inserting the parts described in figure 1 along the entire length of section (1). Similarly, any screen may be removed from the set by extracting these parts (figure 3) without moving the adjacent screens nor disassembling any walls.

[0021] The means of attaching the walls to the screen is through parts (7.1) coupled to groove (1.4) of the section, allowing a double anchoring of the walls by attachment clips (7.2) (figure 6). This allows a simple assembly, disassembly, replacement and exchange of the walls and access to the inside of the screen.

Claims

1. Partition screen and furniture support having:

   - metallic sections (1) which form a structure to which other remaining constituent elements of the screen are coupled to,
   - lower brackets (2) placed on the bottom corners of the screen,
   - a universal connection system (3) for connecting the screen to similar ones,
   - top brackets (5) placed on the top comers of the screen
   - wall attachment clips (7.1,7.2); **characterized in that** the screen further comprises rhomboid parts with Allen mortises (6) for supporting external elements;

   in that the metallic sections are provided with: two first grooves (1.1) to attach the rhomboid parts with the Allen mortises (6) by which the external elements may be supported, a second groove (1.4) for inserting the clips (7.1), of antagonistic support (7.2) which allow the securement of the walls to the sturcture, and further grooves (1.2) which, with the universal connection system (3), connect adjacent similar screens; and **in that** the lower brackets (2) are connected on their lower surface to the section of a base board (8) and **in that** they incorporate an expansion wedge (2.1) which slides between flaps (2.2) which are self centering, and lock inside the internal hollow (1.3) of the special metallic sections (1), thereby attaching the baseboard section (8) to the special metallic sections (1) which comprise the upright pillars of the screen.

2. Partition screen and furniture support according with claim 1, **characterized in that** the universal connection system (3) is inserted in the further grooves (1.2) of the special metallic section (21) allowing the connection at several heights and angles of two, three or four adjacent screens.

3. Partition screen and furniture support in accordance with any of the previous claims, **characterized in that** the rhomboid parts with Allen mortises (6) are inserted in the first grooves (1.1) allowing supporting furniture such as work drawings or shelves.

4. Partition screen and furniture support in accordance with any of the previous claims, **characterized in that** the top bracket (5) connect vertical bars to a top bar and allow to pass the universal connection part (3) towards the further grooves (1.2) of the special metallic section (1) in its entire length.

5. Partition screen and furniture support in accordance with any of the previous claims, **characterized in that** the wall attachment clips (7.1) and (7.2) allow the simple assembly, disassembly, replacement and exchange of the walls and the accessing to the inside of the screen.

Patentansprüche

1. Unterteilungsschirm und Möbelauflagerung, der über Folgendes verfügt:

   - metallische Abschnitte (1), die eine Struktur bilden, auf der andere Bestandteile des Schirms befestigt werden,
   - untere Träger (2), die auf den unteren Ecken des Schirms angebracht werden
   - ein universelles Befestigungssystem (3), um den Schirm mit ähnlichen Schirmen zu verbinden
   - obere Träger (5), die auf den oberen Ecken des Schirms angebracht werden
   - Klammern (7.1, 7.2) zur Befestigung an der Wand; **dadurch gekennzeichnet, dass** der Schirm desweiteren romboide Teile mit Sechskantnuten (6) umfasst, um externe Elemente aufzunehmen, die metallischen Abschnitte über zwei erste Vertiefungen (1.1) verfügen, um die romboiden Teile mit den Sechskantnuten (6) zu befestigen, durch die die externen Elemente gehalten werden können, eine zweite Vertiefung (1.4), um die Klammern (7.1) der antagonistischen Halterung (7.2) einzuführen, die es erlauben, die Wände an den Strukturen zu befestigen und weitere Vertiefungen (1.2), die mit dem universellen Befestigungssystem (3) nebeneinanderliegende ähnliche Schirme verbinden und dadurch, dass die unteren Träger (2) auf ihrer unteren Oberfläche mit den Abschnitten des Grundbretts (8) verbunden sind und dadurch, dass sie einen Ausdehnungskeil (2.1) umfassen, der zwischen Klappen (2.2) gleitet, die selbstzentrierend sind und innerhalb des inneren Hohlraums (1.3) der speziellen metallischen Abschnitte (1) einrasten, womit der Abschnitt (8) des Grundbretts an den speziellen metallischen Abschnitten (1) befestigt wird, die die senkrechten Stützen des Schirms umfassen.

2. Unterteilungsschirm und Möbelauflagerung gemäss Anspruch 1, **dadurch gekennzeichnet, dass** das universelle Verbindungssystem (3) in die weiteren Vertiefungen (1.2) der speziellen metallischen Abschnitte (1) eingeführt wird, womit die Verbindung an verschiedenen Höhen und in verschiedenen Winkeln von zwei, drei oder vier nebeneinanderliegenden Schirmen ermöglicht wird.

3. Unterteilungsschirm und Möbelauflagerung gemäss einem der vorangegangenen Ansprüche, **dadurch gekennzeichnet, dass** die romboiden Teile mit Sechskantnuten (6) in die ersten Vertiefungen (1.1) eingeführt wird, was ermöglicht, dass es Möbel trägt wie Werkszeichnungen oder Regalbretter.

4. Unterteilungsschirm und Möbelauflagerung gemäss einem der vorangegangenen Ansprüche, **dadurch gekennzeichnet, dass** der obere Träger (5) vertikale Stangen mit einer oberen Stange verbindet und das universelle Verbindungssystem (3) auf seiner gesamten Länge zu den weiteren Vertiefungen (1.2) des speziellen metallischen Abschnitts (1) gelangen lässt.

5. Unterteilungsschirm und Möbelauflagerung gemäss einem der vorangegangenen Ansprüche, **dadurch gekennzeichnet, dass** die Klammern zur Befestigung an der Wand (7.1) und (7.2) den einfachen Aufbau, Abbau, Austausch und Ersatz der Wände und den Zugang zum Inneren des Schirms erlauben.

Revendications

1. Cloison et support de meuble ayant :

   - des sections métalliques (1) qui forment une structure à laquelle d'autres éléments constitutifs restants de la cloison sont accouplés,
   - des ferrures-supports inférieures (2) placées sur les angles inférieurs de la cloison,
   - un système de connexion universelle (3) pour relier la cloison à des cloisons similaires,
   - des ferrures-supports supérieures (5) placées sur les angles supérieurs de la cloison
   - des étriers de serrage muraux (7,1, 7,2); **caractérisée en ce que** la cloison comprend en outre, des pièces rhomboïdales avec des tenons-mortaises (6) pour supporter des éléments externes; **en ce que** les sections métalliques son pourvues de: deux premières rainures (1,1) pour fixer les pièces rhomboïdales avec les tenons-mortaises (6) au moyen desquels les éléments externes peuvent être supportés, une deuxième rainure (1,4) pour insérer les étriers (7,1), de support antagoniste (7,2) qui permettent la fixation des parois à la structure, et des rainures additionnelles (1,2) qui, avec le système de connexion universelle (3) relient les cloisons similaires attenantes; et **en ce que** les ferrures-supports inférieures (2) sont reliées sur leur surface inférieure à la section d'une plaque de base (8) et **en ce qu'**elles incorporent une cale d'expansion (2,1) qui glisse entre les volets (2,2) qui sont auto-centreurs, et qui se bloquent à l'intérieur du creux interne (1,3) des sections métalliques spéciales (1), en fixant de la sorte, la section de plaque de base (8) aux sections métalliques spéciales (1) qui comprennent les piliers verticaux de la cloison.

2. Cloison et support de meuble selon la revendication 1, **caractérisée en ce que** le système de connexion universelle (3) est inséré dans les rainures additionnelles (1,2) de la section métallique spéciale (1) qui permet la connexion à des hauteurs et des angles différents de deux, trois ou quatre cloisons attenantes.

3. Cloison et support de meuble selon l'une quelconque des revendications précédentes, **caractérisée en ce que** les pièces rhomboïdales avec les tenons-mortaises (6) sont insérées dans les premières rainures (1,1) qui permettent de supporter un meuble tel que des planchettes à dessiner ou des étagères.

4. Cloison et support de meuble selon l'une quelconque des revendications précédentes, **caractérisée en ce que** les ferrures-supports (5) relient les barres verticales à une barre supérieure et elles permettent de passer entièrement la pièce de connexion universelle (3) vers les rainures additionnelles (1,2) de la section métallique spéciale (1).

5. Cloison et support de meuble selon l'une quelconque des revendications précédentes, **caractérisé en ce que** les étriers de serrage muraux (7,1) et 7,2) permettent l'assemblage, désassemblage, remplacement et échange simple des parois et l'accès à l'intérieur de la cloison.

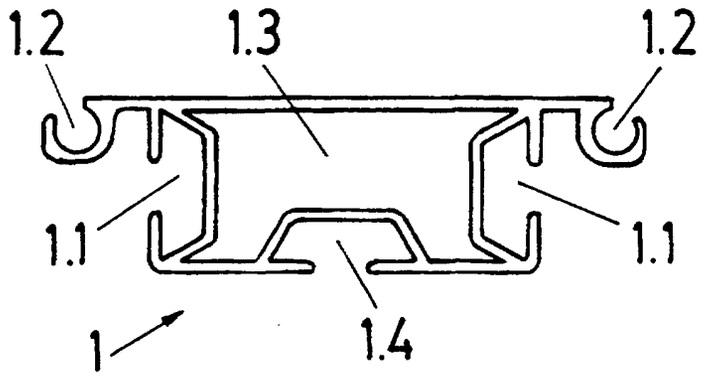

FIG.1

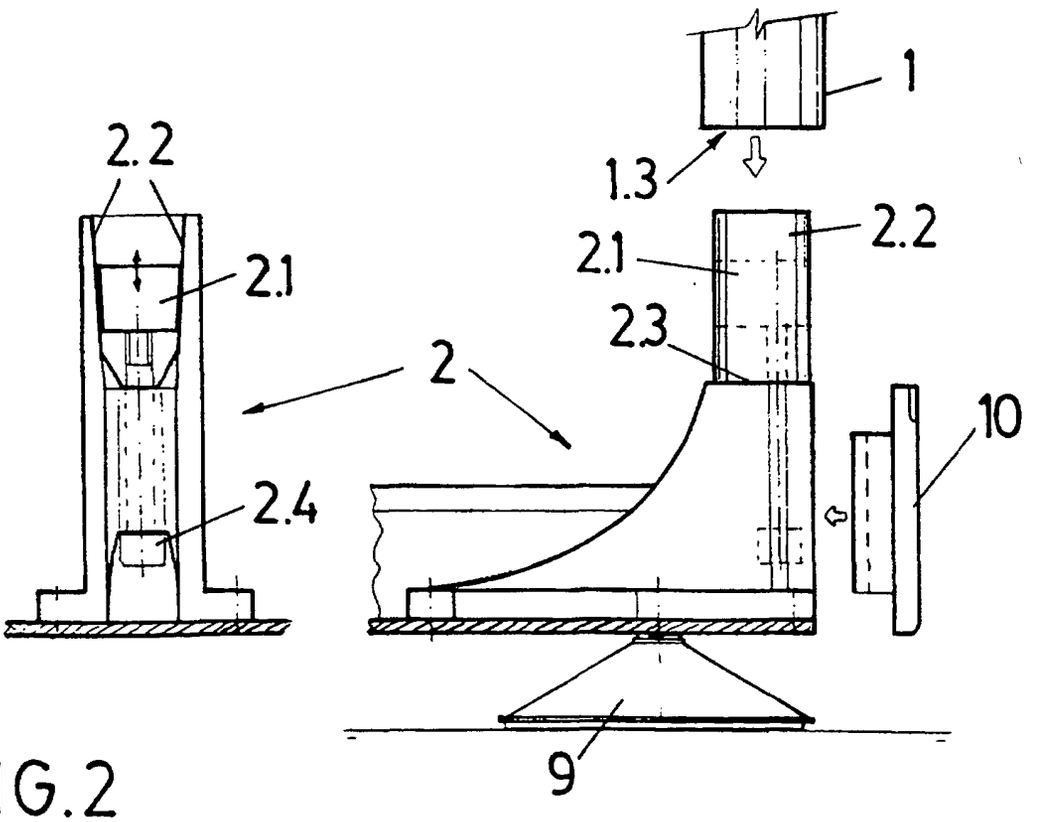

FIG.2

FIG.3.3

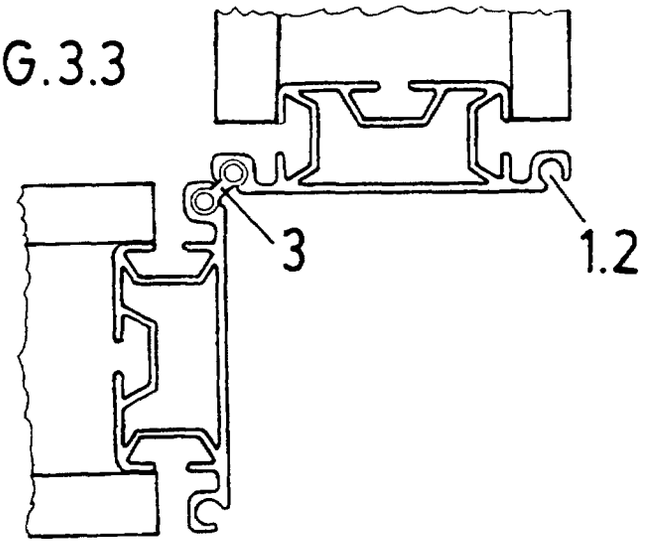

FIG. 3

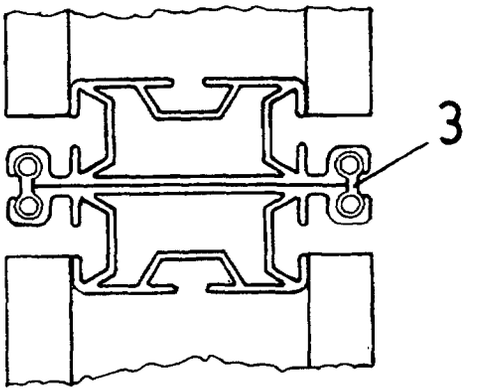

FIG. 3.2

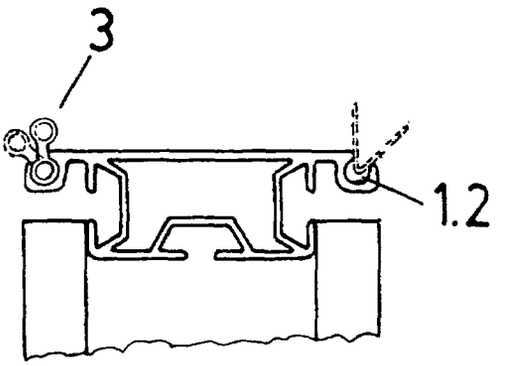

FIG. 3.4

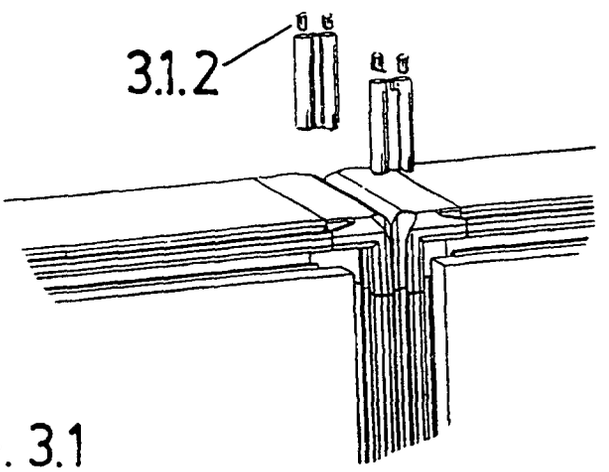

FIG. 3.1

FIG. 4

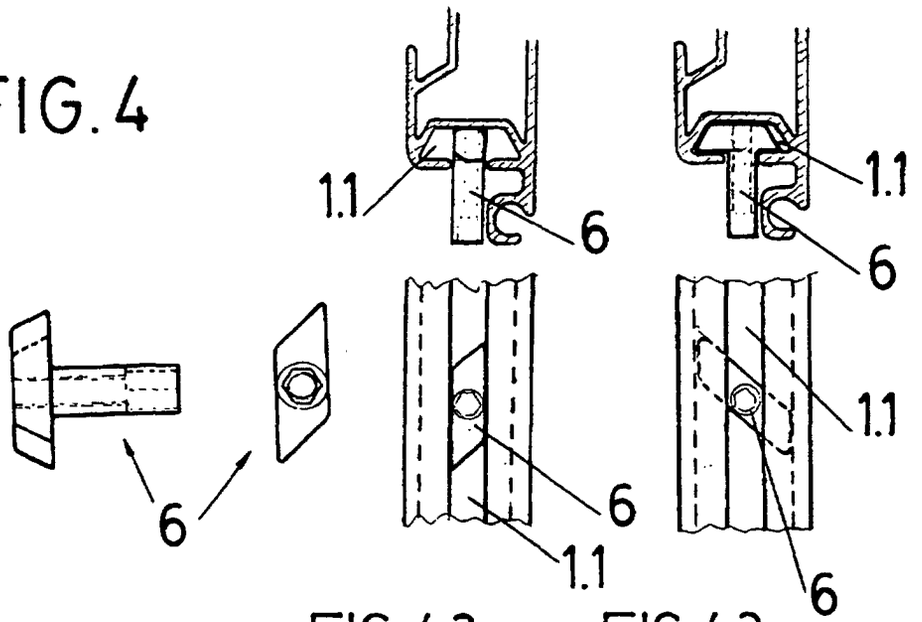

FIG. 4.2 FIG. 4.3

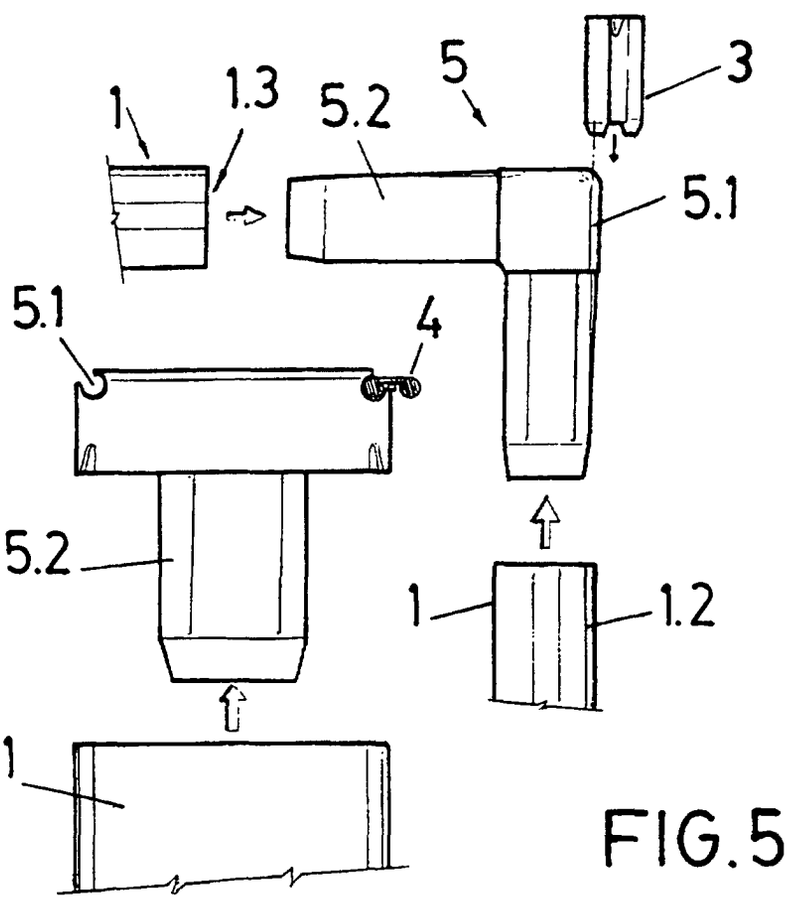

FIG. 5

FIG.6