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Description

This invention relates to improvements in and relating to constructional elements used in the construction of furniture, and is more particularly but not exclusively related to such elements for office storage furniture, e.g. cupboards and filing cabinets. It also concerns furniture constructed or assembled using such elements.

In the assembly of furniture, it is frequently necessary to fit a constructional element in such a way that it fits into a space between two surfaces which are fixed and spaced apart. Especially in the construction of office storage furniture, such an element must often be capable of being fitted in one of a number of alternative positions, depending on the precise use to which the article of furniture concerned is to be put. For example, a horizontal element for supporting a shelf or drawer or other internal storage fitting must often be capable of being fitted between two vertical and spaced supports at a variety of different levels, depending on the number, spacing or size of the internal fittings that are to be incorporated. This horizontal element may for example carry a suspension slide, from which a storage fitting such as a roll-out filing frame, roll-out shelf, or roll-out drawer may be suspended.

With conventional constructions, it is difficult to provide an element which can exactly fit into a space between two members, and which can at the same time be easily and quickly fixed without special tools in one of a number of alternative positions.

German Patent Publication DE—A—1529693 describes an item of metal furniture, such as a cupboard, comprising a load-bearing inner frame and skin-type walls. Certain of the frame members can be shortened in overall length to allow them to be fitted into a given space by bending about a hinge. When in position these members can be locked against hingeing by a locking plate which is fixed against a surface of the member adjacent to the surface in which the hinge is located.

According to one aspect of this invention we therefore provide a constructional element for an article of furniture to fit between two spaced surfaces thereof, comprising an elongated beam which has fixing means at opposite ends to enable it to be attached to the two surfaces, a hinge on one surface of the beam and between those two ends so that by folding the beam about the hinge the distance between the fixing means can be altered, the pivot axis of the hinge being parallel to said surface of the beam, and locking means enabling the beam to be locked against hingeing when the fixing means are at a desired distance apart, characterised in that said locking means are located on said surface of the element containing the hinge.

The fixing means preferably comprises at least one lug extending from each end of the beam, more preferably a pair of spaced lugs extending from each end of the beam.

The locking means enabling the beam to be locked against hinging preferably comprises at least a pair of aligned fastening means, one on each side of the beam, to which a rigid element can be fixed. Each fastening means may comprise an opening into which lugs of the rigid element can engage. Preferably, the locking means comprises a rigid element in the form of a suspension slide, e.g. for a drawer or a filing frame.

We also provide an article of furniture comprising such a constructional element to fit between two spaced surfaces, of said article, which element has fixing means at opposite ends to enable it to be attached to the two surfaces, a hinge between those two ends so that by folding the element about the hinge the distance between the fixing means can be altered, and means enabling the element to be locked wherein the locking means include a rigid element which is in the form of a suspension slide enabling support of a furniture storage fitting between two such slides.

We further provide an article of storage furniture having two spaced apart side walls between which a fitment is to be housed, wherein each side wall is provided with a pair of inwardly-directed vertical flanges forming two spaced surfaces and each flange has an internal vertical row of fixing holes and comprising two constructional elements as defined above, said elements having a beam with at least one fixing lug extending from each end of the beam of each of the beams being the lugs engaged in the fixing holes in the flanges of a respective one of the side walls.

An item of office furniture (i.e. a storage cupboard) embodying the invention will now be described by way of example and with reference to the accompanying drawings in which:

Figure 1 is a perspective view of the constructional element in accordance with the invention in a part-folded condition and a wall portion of the article of furniture to which it is about to be fitted;

Figure 2 shows in perspective the same element fitted to the same article of furniture, and a rigid member about to be fitted to the element; and

Figure 3 shows in perspective the same element, article of furniture, and rigid member, all assembled together.

A storage cupboard 1 includes a side wall panel 2 provided with end flanges 3, 4 forming spaced-apart vertical members. The space between these members 3, 4 can be spanned by a hinged beam 5, which is the constructional element of the present invention. This beam 5, when fitted, is arranged to support a suspension slide 10 which can carry out a roll-out drawer, shelf, or filing frame. The beam 5 has a front wall provided with a hinge line 6, and at each end with a pair of vertically-spaced lugs and parallel top and bottom walls cut away at 11 adjacent to the hinge to permit limited hingeing therabout, as shown in Figure 1, which lugs can fit into correspondingly-spaced holes or slots 8 in the vertical flanges 3

and 4. These vertical flanges include a row of such slots 8 evenly spaced apart so that each end of the beam 5 can be fixed to any desired pair of adjacent slots and so can be fixed between the vertical flanges 3 and 4 at a variety of different heights, to suit the exact use to which the cupboard is to be put.

The suspension slide 10 includes a pair of spaced-apart projecting lugs having downwardly hooked ends (not shown) and the beam 5 has on its front face two corresponding spaced apart openings 9 into which these lugs can be fitted.

In use, the beam 5 is fitted in a horizontal position between the vertical flanges 3 and 4, by folding it about the hinge 6 to the configuration shown in Figure 1 so that the overall length of the beam is shortened, thereby allowing the beam, including the projecting lugs 7, to be inserted between the flanges 3 and 4. The beam 5 is positioned so that the lugs 7 are aligned with the desired holes in the vertical flanges 3 and 4, and then straightened to the configuration shown in Figure 2 so that the lugs become inserted into the holes. The suspension slide 10 is then fitted to the beam 5 in the manner shown in Figure 3, the hooked lugs hooking into the openings 9 in the beam, and, being rigid, prevents any subsequent folding of the beam 5 about the hinge 6, so that the beam 5 remains firmly fixed in the desired position between the vertical flanges 3 and 4. The suspension slide 10 thus constitutes the rigid element mentioned above.

The opposite side wall of the cupboard 1 is a mirror-image of that illustrated and a second beam 5 carrying a second suspension slide 10 is fitted to that side wall and at the same height as that described above. These suspension slides are of conventional type and a fitting such as a roll-out fitting frame, shelf, or drawer can be fitted in known manner to them.

In order to change the position of the beams 5, for example if a different configuration of fittings is to be incorporated into the cupboard, each suspension slide 10 is disconnected from its assembled beam 5 so that the beam can then be folded again about the hinge 6. Folding of the beam in this way enables the lugs 7 to be withdrawn from the holes 8, and the beam can then be moved vertically and the lugs refitted in different holes at the desired new height. The beam is then re-straightened and the suspension slide 10 re-fitted.

Claims

1. A constructional element for an article of furniture to fit between two spaced surfaces thereof, comprising an elongated beam (5) which has fixing means (7) at opposite ends to enable it to be attached to the two surfaces, a hinge (6) on one surface of the beam (5) and between those two ends so that by folding the beam about the hinge the distance between the fixing means (7) can be altered, the pivot axis of the hinge being parallel to said surface of the beam (5), and locking means (9, 10) enabling the beam to be locked against hingeing when the fixing means are at a desired distance apart, characterised in that said locking means (9, 10) are located on said surface of the element containing the hinge.

2. A constructional element according to Claim 1, characterised in that the elongated beam (5) is of channel cross-section having two spaced parallel walls spanned by the transverse wall containing the hinge, at least one of the parallel walls being cut away (11) in the vicinity of the hinge (6) to permit folding of the beam about the hinge, the beam being straight when the fixing means are at the desired distance apart.

3. A constructional element according to Claim 1 or Claim 2, characterised in that the fixing means (7) comprises at least one lug extending from each end of the beam.

4. A constructional element according to Claim 2, characterised in that the fixing means (7) comprises a pair of spaced lugs extending from each end of the beam.

5. A constructional element according to any preceding claim, characterised in that the locking means enabling the beam (5) to be locked against hingeing comprise at least a pair of aligned fastening means (9), one on each side of the beam (5), to which a rigid element (10) can be fixed.

6. A constructional element according to Claim 5, wherein each fastening means comprises an opening (g) into which lugs of the rigid element (10) can engage.

7. A constructional element (5) according to Claims 5 or 6, wherein the locking means comprise a rigid element (10) in the form of a suspension slide.

8. An article of furniture comprising an elongated structural element (5) according to Claim 1 to fit between two spaced surfaces of said article, which element (5) has fixing means (7) at opposite ends to enable it to be attached to the two surfaces, a hinge (6) between those two ends so that by folding the element about the hinge the distance between the fixing means (7) can be altered, and means enabling the element to be locked wherein the locking means include a rigid element (10) which is in the form of a suspension slide enabling support of a furniture storage fitting between two such slides.

9. An article of storage furniture (11) having two spaced apart side walls between which a fitment is to be housed, wherein each side wall is provided with a pair of inwardly-directed vertical flanges (3, 4) forming two spaced surfaces and each flange has an internal vertical row of fixing holes (8), and comprising two constructional elements according to Claim 1, said elements having a beam (5) with at least one fixing lug (7) extending from each end of the beam of each of the beams (5) being the lugs (7) engaged in the fixing holes (8) in the flanges of a respective one of the side walls.

10. An article of storage furniture according to Claim 9, characterised in that the constructional elements (5) associated with the two side walls

are fixed at the same height and are locked in the straight configuration by rigid elements in the form of suspension slides (10) between which a storage fitting can be supported.

Patentansprüche

1. Bauelement für ein Möbelteil, welches zwischen zwei im Abstand befindlichen Flächen paßt und einen länglichen Träger (5), der eine Festlegeeinrichtung (7) an gegenüberliegenden Enden hat, um zu ermöglichen, daß dieser an den beiden flächen anbringbar ist, ein Gelenk (6) an einer Fläche des Trägers (5) und zwischen den beiden Enden derart aufweist, daß durch Klappen des Trägers um das Gelenk der Abstand zwischen der Festlegeeinrichtung (7) verändert werden kann, wobei die Schwenkachse des Gelenks parallel zur Fläche des Trägers (5) ist, und eine Festlegeeinrichtung (9, 10) aufweist, welche ermöglicht, daß der Träger entgegen der Gelenkbewegung festlegbar ist, wenn die Festlegeeinrichtung in einem gewünschten Abstand entfernt ist, dadurch gekennzeichnet, daß die Festlegeeinrichtung (9, 10) sich auf der Fläche des das Gelenk enthaltenden Elements befindet.

2. Bauelement nach Anspruch 1, dadurch gekennzeichnet, daß der längliche Träger (5) einen U-förmigen Querschnitt hat, welcher zwei beabstandete, parallele Wände hat, die durch eine das Gelenk enthaltende Querwand überspannt sind, daß wenigstens eine der parallelen Wände in der Nähe des Gelenks (6) ausgenommen (11) ist, um ein Klappen des Trägers um das Gelenk zu ermöglichen, und daß der Träger gerade ist, wenn die Festlegeeinrichtung in dem gewünschten Abstand entfernt ist.

3. Bauelement nach Anspruch 1 oder Anspruch 2, dadurch gekennzeichnet, daß die Festlegeeinrichtung (7) wenigstens einen Ansatz aufweist, der sich von jedem Ende des Trägers weg erstreckt.

4. Bauelement nach Anspruch 2, dadurch gekennzeichnet, daß die Festlegeeinrichtung (7) zwei beabstandete Ansätze aufweist, die sich von jedem Ende des Trägers weg erstrecken.

5. Bauelement nach einem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß die Festlegeeinrichtung ermöglicht, daß der Träger (5) entgegen einer Gelenkbewegung festlegbar ist und wenigstens zwei fluchtende Befestigungseinrichtungen (9) aufweist, von denen jeweils eine an der jeweiligen Seite des Trägers (5) angebracht ist und mit der ein starres Element (10) fest verbunden werden kann.

6. Bauelement nach Anspruch 5, bei dem jede Befestigungseinrichtung eine Öffnung (g) aufweist, in die die Ansätze des starren Elements eingreifen können.

7. Bauelement (5) nach Anspruch 5 oder 6, bei dem die Festlegeeinrichtung ein starres Element (10) in Form einer Hängegleitschiene aufweist.

8. Möbelteil, das ein längliches Bauelement (5) nach Anspruch 1 aufweist, welches zwischen zwei beabstandete Flächen des Teils paßt, wobei das Element (5) eine Festlegeeinrichtung (7) an gegenüberliegenden Enden hat, welche ermöglicht, daß es an die beiden Flächen angebracht werden kann, ein Gelenk (6) zwischen diesen beiden Enden derart vorgesehen ist, daß beim Klappen des Elements um das Gelenk der Abstand zwischen der Festlegeeinrichtung (7) verändert werden kann, und eine Einrichtung zur Festlegung des Elements, wobei die Festlegeeinrichtung ein starres Element (10) umfaßt, das in Form einer Hängegleitschiene ausgelegt ist, die eine Abstützung für eine Möbelablage bildet, die zwischen die beiden Gleitschienen paßt.

9. Ablagemöbelstück (11), das zwei beabstandete Seitenwände hat, zwischen denen ein Schlittenstück unterzubringen ist, bei dem jede Seitenwand mit zwei nach innen weisenden, vertikalen Flanschen (3, 4) versehen ist, die zwei beabstandete Flächen bilden, und bei dem jeder Flansch eine innere, vertikale Reihe von Festlegeöffnungen (8) hat, bei dem zwei Bauelemente nach Anspruch 1 vorgesehen sind, die Elemente einen Träger (5) mit wenigstens einem Festlegeansatz (7) haben, der sich von jedem Ende des Trägers der jeweiligen Träger (5) weg erstreckt und bei denen es sich um die Ansätze (7) handelt, die in die Festlegeöffnungen (8) in den Flanschen einer der zugeordneten Seitenwände eingreifen.

10. Ablagemöbelstück nach Anspruch 9, dadurch gekennzeichnet, daß die Bauelemente (5), die mit den beiden Seitenwänden verbunden sind, in derselben Höhe festgelegt und in der geraden Anordnung durch starre Elemente in Form von Hängegleitschienen (10) festgelegt sind, zwischen denen ein Ablageteil abgestützt werden kann.

Revendications

1. Elément constructif pour un meuble, à monter entre deux surfaces du meuble qui sont distantes l'une de l'autre, comprenant une poutrelle oblongue (5) qui possède des moyens de fixations (7) sur des extrémités opposées afin de lui permettre d'être fixée sur les deux surfaces, une articulation à charnière (6) sur une surface de la poutrelle (5) et entre ces deux extrémités, de sorte qu'en pliant la poutrelle autour de l'articulation, on peut modifier la distance entre les moyens de fixation (7), l'axe de pivotement de l'articulation étant parallèle à la surface de la poutrelle (5), et des moyens de blocage (9, 10) permettant de verrouiller la poutrelle afin d'empêcher son pivotement lorsque les moyens de fixation se trouvent à une distance souhaitée les uns des autres, caractérisé en ce que les moyens de blocage (9, 10) sont situés sur la surface de l'élément contenant l'articulation à charnière.

2. Elément constructif selon la revendication 1, caractérisé en ce que la poutrelle oblongue (5) possède une section en U présentant deux parois parallèles espacées réunies par la paroi transversale contenant l'articulation à charnière, au moins une des parios parallèles étant découpée en (11) au voisinage de l'articulation à charnière (6) afin

de permettre le pliage de la poutrelle autour de l'articulation, la poutrelle étant droite lorsque les moyens de fixation sont à la distance souhaitée les une des autres.

3. Elément constructif selon la revendication 1 ou 2, caractérisé en ce que les moyens de fixation (7) comprennent au moins une patte s'étendant à partir de chaque extrémité de la poutrelle.

4. Elément constructif selon la revendication 2, caractérisé en ce que les moyens de fixation (7) comprennent une paire de pattes espacées s'étendant à partir de chaque extrémité de la poutrelle.

5. Elément constructif selon l'une quelconque des revendications précédentes, caractérisé en ce que les moyens de blocage permettant de verrouiller la poutrelle (5) afin d'empêcher son pivotement comprennent au moins une paire de moyens de fixation alignés (9), un de chaque côté de la poutrelle (5), auxquels peut être fixé un élément rigide (10).

6. Elément constructif selon la revendication 5, dans lequel chaque moyen de fixation comprend une ouverture (9) dans laquelle peuvent s'engager des pattes de l'élément rigide (10).

7. Elément constructif (5) selon la revendication 5 ou 6, dans lequel les moyens de blocage comprennent un élément rigide (10) sous la forme d'une glissière accrochée.

8. Partie de meuble comprenant un élément structurel oblong (5) selon la revendication 1, à monter entre deux surfaces du meuble qui sont distantes l'une de l'autre, lequel élément (5) possède des moyens de fixation (7) sur des extrémités opposées afin de lui permettre d'être fixé sur les deux surfaces du meuble, une articulation à charnière (6) entre ces deux extrémités, de sorte qu'en pliant la poutrelle autour de l'articulation, on peut modifier la distance entre les moyens de fixation (7), et des moyens permettant de bloquer l'élément, les moyens de blocage comprenant un élément rigide (10) qui se présente sous la forme d'une glissière accrochée, permettant de supporter une étagère entre deux glissières de ce genre.

9. Partie de meuble d'entreposage (11) possédant deux parois latérales distantes l'une de l'autre entre lesquelles doit être montée une étagère, chaque paroi latérale étant munie d'une paire de brides verticales dirigées vers l'intérieur (3, 4) formant deux surfaces distantes l'une de l'autre, et chaque bride possédant une rangée verticale intérieure d'orifices de fixation (8), ladite partie de meuble comprenant deux éléments constructifs selon la revendication 1, ces éléments consistant en une poutrelle (5) avec au moins une patte de fixation (7) s'étendant à partir de chaque extrémité de la poutrelle (5), les pattes (7) étant engagées dans les orifices de fixation (8) pratiqués dans les brides des parois latérales respectives.

10. Partie de meuble d'entreposage selon la revendication 9, caractérisée en ce que les éléments constructifs (5) associés aux deux parois latérales sont fixés à la même hauteur et sont bloqués en configuration droite par des éléments rigides sous la forme de glissières accrochées (10) entre lesquelles une étagère peut être supportée.

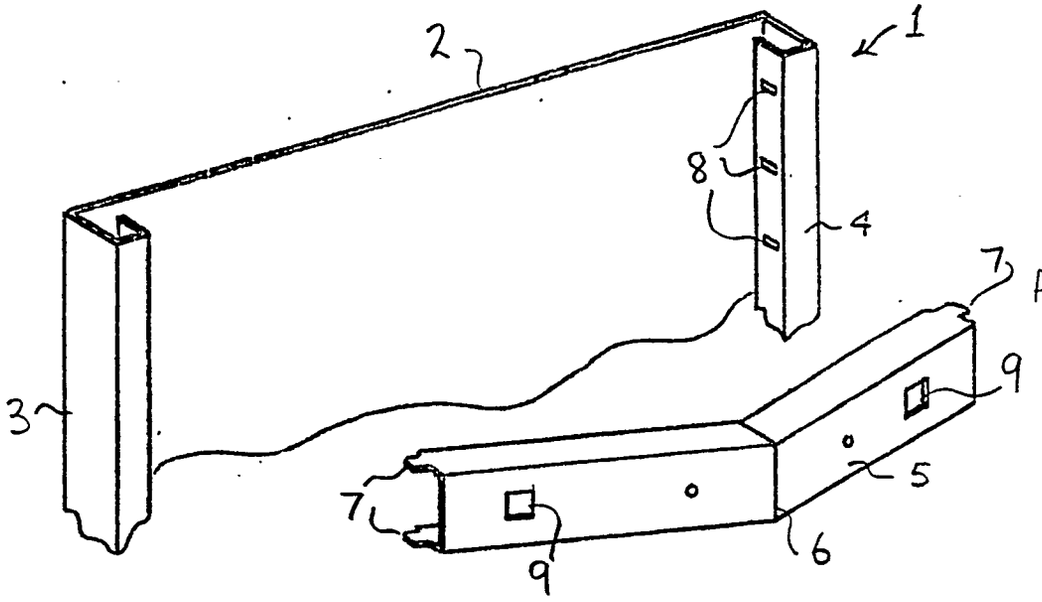


Fig. 1.

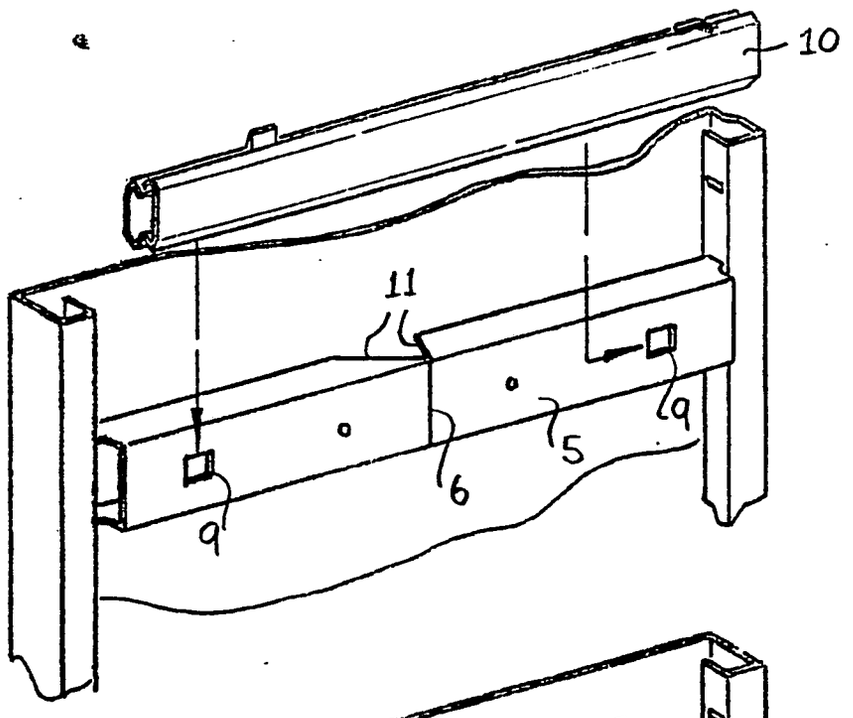


Fig. 2.

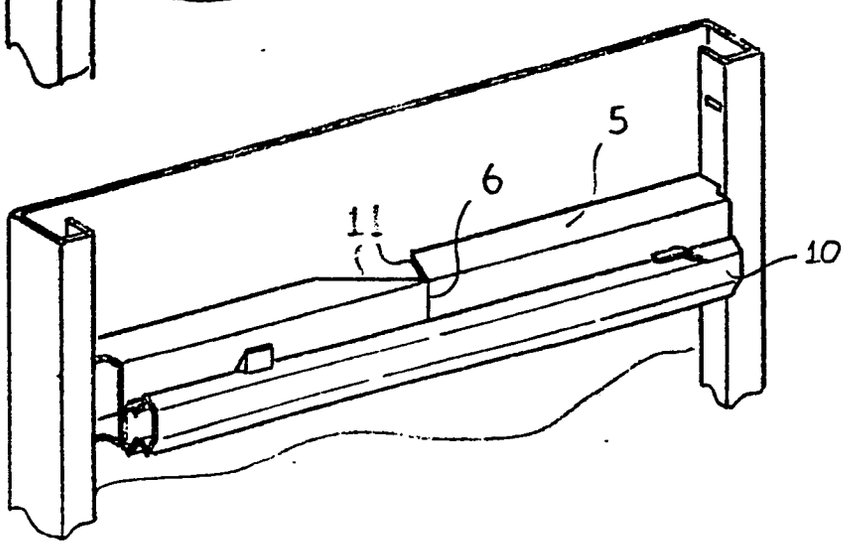


Fig. 3.