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(54) **Device to suspend fitted furniture units.**

(57) Device (10) to suspend furniture units of an advantageously fitted type, the device consisting of a supporting case (11) for suspension means (12), the case (11) being able to be secured laterally at an upper, end corner of the furniture unit to be fitted to a wall, such fitting taking place by cooperation of the suspension means (12) with a coordinated attachment means positioned on the wall, the suspension means (12) being capable of being traversed lengthwise by the action of a first adjustment screw (13)

and having to be adjusted vertically in relation to the case (11) by the action of a second adjustment screw (22), the first and second adjustment screws (13-22) being accessible on the same side of the case (11), the device comprising a cam (20) positioned within the case (11) above and in cooperation with the suspension means (12), the cam (20) being supported by a sheath (15) arranged within the case (11) and being able to be rotated in its position by the second adjustment screw (22).

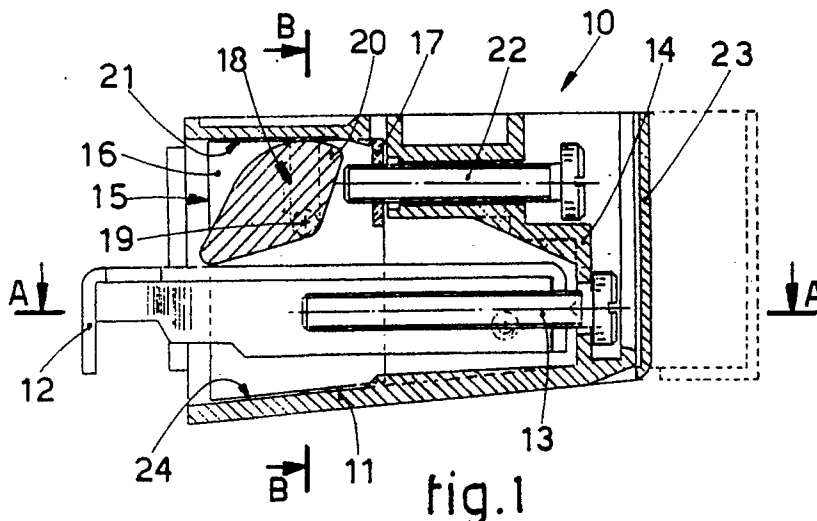


fig.1

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This invention concerns a device to suspend fitted furniture units and the like. To be more exact, the invention concerns a structurally simple device suitable to obtain the required action of alignment of the furniture unit by the use of a limited force.

The state of the art contains a plurality of suspension devices, especially for fitted furniture units. These devices are generally applied at the side of an upper end corner of the units so as to be able to cooperate with coordinated attachment means pre-arranged on the wall to which the furniture unit is to be fitted.

These devices comprise for this purpose a supporting case for a suspension means, which can protrude from the case by a desired, adjustable length.

In fact, the suspension means can be actuated, normally by a screw accessible from outside the case, so as to be displaced along its lengthwise axis. The suspension means has also to be able to be displaced vertically, namely substantially at a right angle to its lengthwise displacement, so as to enable the required alignments to be carried out between fitted furniture units arranged side by side. So as to obtain this, the suspension means is actuated suitably in various ways, among which we should cite, for instance, the embodiment disclosed in document DE-GM-8501591.1.

In the above document the suspension means is actuated by a wedge driven by a screw in the same direction as the lengthwise displacement of the suspension means. The wedge, the whole length of which is traversed by the actuation screw, is displaced within a case and adheres to an inner surface of that case, which is tilted in relation to the horizontal.

The overall structuring of the above assembly is burdensome, while the force to be imparted to the actuation screw of the wedge to cause the wedge to slide under load against the tilted wall of the case is particularly great.

This situation leads to design problems, bearing in mind also the fact that the case and wedge normally consist of a plastic material.

The present applicant has designed, tested and embodied a device suitable to overcome the problems of the state of the art.

The invention is set forth in the main claim, while the dependent claims describe various features of the invention.

Like the state of the art, the device of the invention comprises a case to support a suspension means which can be driven lengthwise by a screw.

According to the invention a sheath element bearing a means to actuate the suspension element vertically is inserted within the supporting case. This actuation means is supported rotatably

by the sheath and is advantageously a cam, which is rotated by a screw from outside the case.

By means of the device of the invention it is unnecessary to apply great force to the cam, which has to act by rotation, thereby providing particular constructional advantages for the invention as a whole.

These and other special features of the invention will be made clearer in the description that follows.

The attached figures, which are given as a non-restrictive example, show the following: -

- Fig.1 shows a vertical lengthwise section of a device of the invention;
- Fig.2 shows the section of Fig.1 in a different working step;
- Fig.3 is a horizontal lengthwise section of the device of Fig.1 along the line A-A;
- Fig.4 is a cross section of the device of Fig.1 along the line B-B;
- Fig.5 shows a detail of a variant of the device of Fig.1.

In the figures a device to suspend fitted furniture units according to the invention is referenced with 10 and consists of a supporting case 11 for a suspension means 12 able to cooperate with a coordinated means positioned on a wall to which the furniture unit is to be fitted.

The suspension means 12 can be traversed lengthwise (see the position marked with lines of dashes in Fig.2) by a first screw 13 cooperating with a seating 14 forming part of the case 11.

A sheath 15 is positioned within the case 11 in the part of the case 11 facing towards the wall to which the furniture unit is to be applied. This sheath 15, which is advantageously introduced by force into the case 11, comprises two sidewalls 16 connected together by an end wall 17 at their end towards the inside of the case 11.

This end wall 17 extends vertically only by a partial segment.

The sheath 15 is wholly open on its side towards the outside of the case 11, while its sidewalls 16 include two openings 18.

A hub 19 of a cam 20, which is the actuation means for the substantially vertical displacement of the suspension means 12, cooperates with the openings 18.

The cam 20 thrusts against the upper side of the suspension means 12 and against a part of the upper, inner surface 21 of the case 11.

Vertical adjustment of the suspension means 12 is brought about by rotation of the cam 20 by a second screw 22, which also cooperates with the seating 14 and acts by means of a frontal thrust.

Vertical displacement of the suspension means 12 is increased by a sloped lower wall 24 of the case 11.

The heads of the first and second screws 13-22 are accessible from the outside of the case 11 by means of a momentarily rotatable panel 23 (see the positions marked with lines of dashes in Figs.1 and 3).

The case 11, sheath 15 and cam 20 may consist advantageously of a suitable plastic material but may consist equally well of a metallic material such as aluminium, for instance.

Where the device 10 may undergo strong stresses, the variant partly shown in Fig.5, whereby the sheath 15 may be metallic and may include an upper wall 25 cooperating with the cam 20, may be employed to prevent contact between the cam 20 and the inner surface 21 of the case 11, especially if the case 11 is made of a plastic.

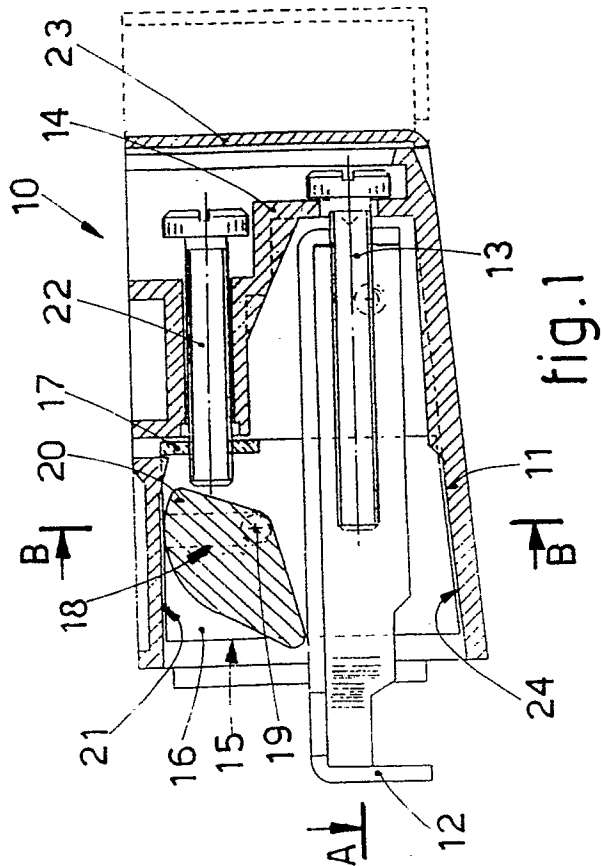
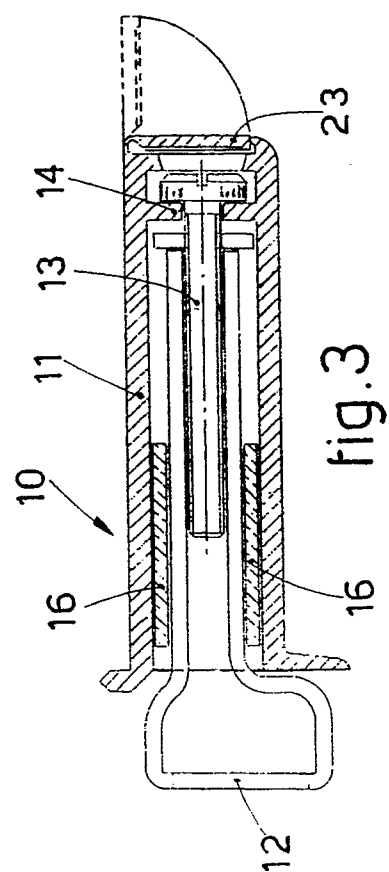
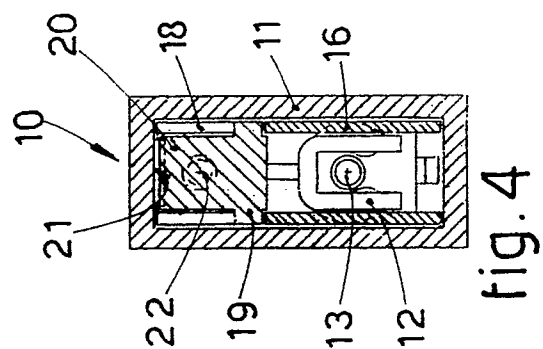
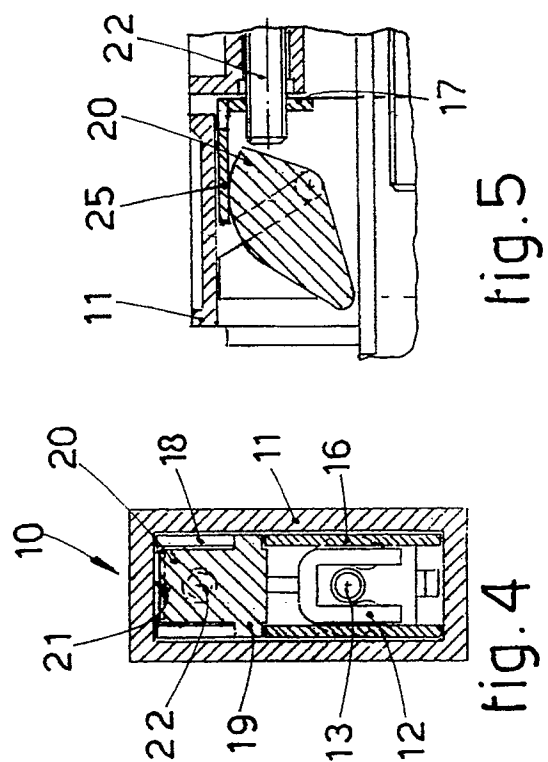
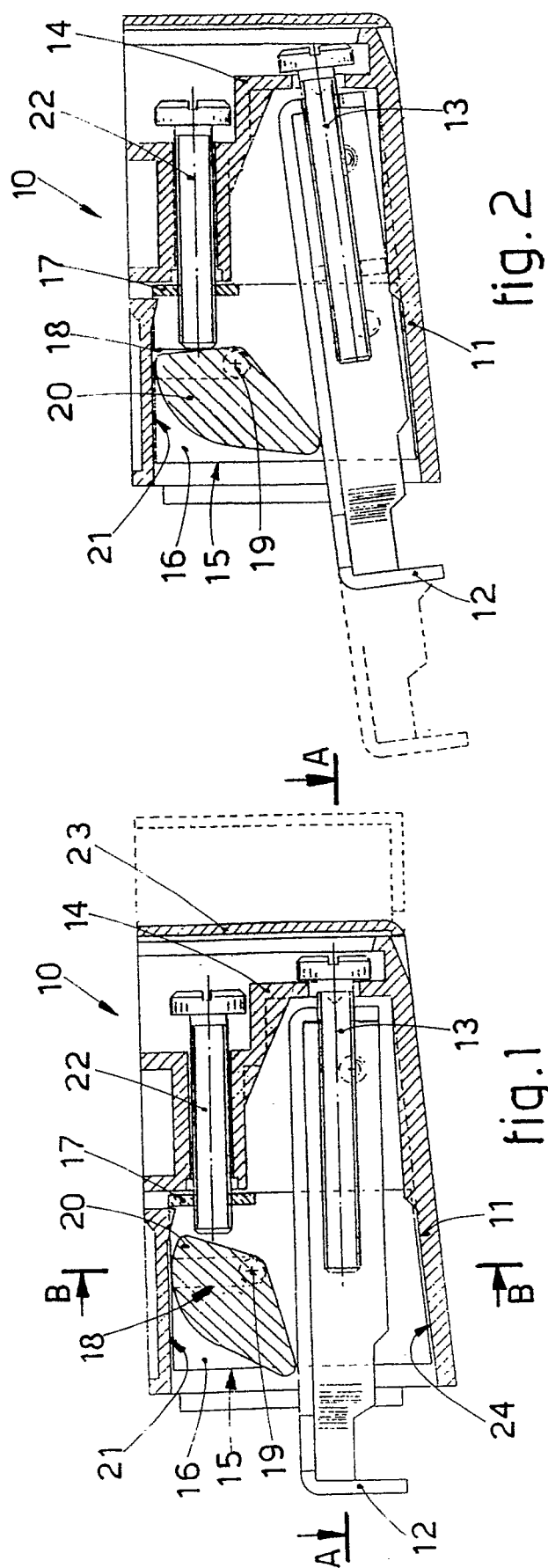
We have described here a preferred embodiment of the invention, but many other variants are possible to a person skilled in this field without departing thereby from the scope of the invention as claimed.

Claims

1. Device (10) to suspend furniture units of an advantageously fitted type, the device consisting of a supporting case (11) for suspension means (12), the case (11) being able to be secured laterally at an upper, end corner of the furniture unit to be fitted to a wall, such fitting taking place by cooperation of the suspension means (12) with a coordinated attachment means positioned on the wall, the suspension means (12) being capable of being traversed lengthwise by the action of a first adjustment screw (13) and having to be adjusted vertically in relation to the case (11) by the action of a second adjustment screw (22), the first and second adjustment screws (13-22) being accessible on the same side of the case (11), the device (10) being characterized in that it comprises a cam (20) positioned within the case (11) above and in cooperation with the suspension means (12), the cam (20) being supported by a sheath (15) arranged within the case (11) and being able to be rotated in its position by the second adjustment screw (22).
2. Device (10) as claimed in Claim 1, in which the sheath (15) consists of sidewalls (16) and an end wall (17).
3. Device (10) as claimed in Claim 1, in which the sheath (15) consists of sidewalls (16), an end wall (17) and an upper wall (25).
4. Device (10) as claimed in any claim hereinbefore, in which the sidewalls (16) of the

sheath (15) comprise openings (18).

5. Device (10) as claimed in any claim hereinbefore, in which the cam (20) comprises a hub (19) that cooperates with the openings (18).
6. Device (10) as claimed in any claim hereinbefore, in which the cam (20) cooperates with the second screw (22) by frontal thrust thereagainst.
7. Device (10) as claimed in any claim hereinbefore, in which the case (11) has a lower sloping wall (24).
8. Device (10) as claimed in any claim hereinbefore, in which the case (11) comprises a panel (23) which can be actuated momentarily.





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EUROPEAN SEARCH REPORT

Application Number

EP 91 10 1661

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	EP-A-0 033 179 (CAMAR S.p.A.) * Figures 1-2; pages 1-6 *	1,6,7	A 47 B 95/00
A	-----	2,3,4	
A	DE-A-2 833 404 (HAGENHENRICH & CO. KG) * Figures 1-2; pages 4-11 * -----	1,6	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A 47 B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of search 15 May 91	Examiner NOESEN R.F.
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention</div> <div>E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document</div>			