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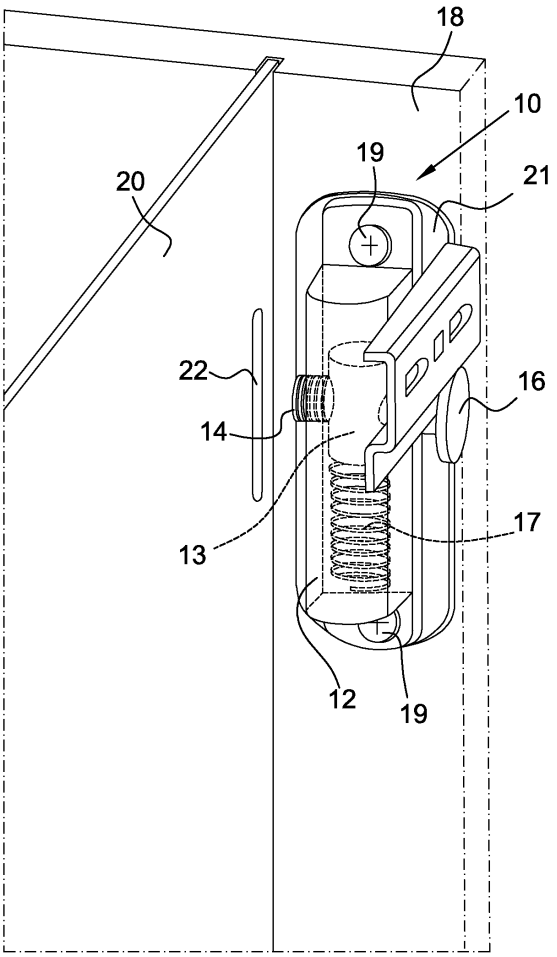
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(54) **Elastic wall fixing device of furniture with a ground rest**

(57) A wall fixing device (10) of furniture with ground rest comprises a fixing plate (11) to a side (18) of a piece of furniture, behind the cover (20) of the furniture, and an engagement element with corresponding engagement means fixed to the wall. According to the invention, said engagement element is free to move along a direction defined by a guide (12), by the action of stress exerted from the outside of the device and stress exerted by elastic means inside the device itself.

Fig. 1



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Description

[0001] The present invention relates to a wall fixing device of furniture with a ground rest, in particular to prevent it from overturning or falling forwards.

[0002] The invention is preferably, but non-limitingly, applied to kitchen furniture provided with rest feet.

[0003] Furniture with a ground rest is generally positioned close to the wall and only in some cases, in particular in the case of relatively high furniture, with at least one of the sides of the base having reduced dimensions with respect to the height, is it also fixed to the wall to increase its stability. In particular, the requirement for fixing a piece of furniture to the wall derives from the necessity of preventing, as a result of the non-homogeneous arrangement of objects in its interior, a lack of balance which can cause the furniture to overturn. The piece of furniture however may also fall for other reasons, such as leaning against it to reach overlying objects, or also due to events such as earth tremours.

[0004] A particular requirement which has recently arisen is to ensure the stability of the furniture also in the presence of extractable cantilever elements in which most of the furniture contents are pulled out, such as for example vertical compartments sliding on guides and similar equipment.

[0005] The wall fixing system currently known (and not frequently adopted) very simply consist in one or more L-shaped brackets for each piece of furniture, of which one side is fixed on the side or even better on the cap of the furniture, the other side being fixed to the wall by screws which pass through opposite openings on the brackets.

[0006] The problem of this type of solution is both aesthetical and functional. In order to be able to act on the wall fixing screws, in fact, the brackets and screws must be arranged in an external position with respect to the furniture profile, and are therefore visible.

[0007] From a functional point of view, position regulations after assembly are not possible, which, on the other hand, are extremely necessary for modern kitchen furniture.

[0008] For similar applications, i.e. with reference to wall units, wall fixing systems hidden from sight have been developed, consisting of fixing devices, arranged on the rear side of the furniture and comprising a coupling element with corresponding coupling means positioned on and integral with the wall. This type of solution envisages that both the fixing devices situated on the furniture and said coupling means fixed to the wall be prepared before positioning the furniture against the wall.

[0009] For this reason, according to this type of known devices, there is the presence of maneuvering means for regulating the vertical position of the hooking element, for adapting it to the position of the corresponding elements present on the wall, in addition to the possibility of regulating the length of the coupling element comprising the fixing device, i.e. the possibility of regulating the distance between the furniture and the wall.

[0010] Wall-supporting devices of this type are described for example in EP 555924 and EP 1250070.

[0011] The main objective of these fixing devices, however, is only to ensure that the furniture to which they are applied can remain correctly fixed to the wall, in the desired position, the prevention of overturning representing a further characteristic inherent in the solution adopted.

[0012] A general objective of the present invention is to solve the above drawbacks of the known art, in an extremely simple, economical and particularly functional manner, with particular reference to the problem of the danger of overturning present in kitchen furniture assembled on rest feet.

[0013] A further objective is to provide a device which can be easily applied not only to specifically designed new furniture, but also to pre-existing furniture, of the type resting on the ground, produced without envisaging the subsequent necessity of fixing it to the wall.

[0014] In view of the above objectives, according to the present invention, a wall fixing device for furniture with a ground rest has been conceived, having the characteristics specified in claim 1 enclosed. Preferred embodiments of the device according to the present invention are defined in the subsequent dependent claims.

[0015] The structural and functional characteristics of the present invention and its advantages with respect to the known art will appear even more evident from the following description, referring to the enclosed drawings, which show a wall fixing device of furniture with a ground rest produced according to the innovative principles of the invention itself.

[0016] In the drawings:

- figure 1 shows a perspective view of the fixing device of the present invention, seen from the rear side of a piece of furniture;
- figure 2 is a perspective view of the device of figure 1, seen from the front side of the cover of the furniture;
- figure 3 is a front view of the device of figure 1, seen from the rear side of the piece of furniture;
- figure 4A is a first sectional view of the device of the invention, along the line A-A of figure 3;
- figure 4B is a second sectional view of the device of the invention, along the line A-A of figure 3, in a different fixing position;
- figure 5 is a sectional view of the device of the invention, along the line B-B of figure 3; and figure 6 is a front view of the device of figure 1, seen from the front side of the piece of furniture, through the access opening of the fixing screw, through the cover.

[0017] With reference to the drawings, a fixing device for furniture according to the invention in question is indicated as a whole with 10, and in the example illustrated, according to the present invention, it structurally consists

of plate 11, on which there is a guide 12, situated perpendicularly with respect to the horizontal plane. The guide 12, shown in transparency in figure 1, has a box-shaped body and a slide 13 is free to move in its interior. A threaded hole passes through the body of the slide 13, in which a screw 14 is tightened.

[0018] The screw 14 has a cut 15, for the insertion of an Allen key, on one of its ends and a disk head 16 on the opposite end. A compression spring 17, situated inside the guide 12, acts on the slide 13, in a position below that of the slide 13.

[0019] The functioning of the device according to the present invention is evident from the following description.

[0020] The fixing device 10 for furniture is applied to the rear of a piece of furniture, in particular on the upper portion of both sides 18 of the furniture, on the side of said sides 18 facing inwards. The application of the device 10 on the sides 18 of the furniture is ensured by the screws 19 which pass through the holes present on the plate 11. In particular, the device 10 is applied behind the cover 20 which covers the back of the internal compartments of the piece of furniture.

[0021] The installation position of the device 10 envisages that the disk head 16 of the screw 14 be facing the wall, whereas the opposite end of the screw, on which there is the cut 15 for the insertion of an Allen key, is assembled facing the cover 20.

[0022] On the wall (not shown) to which the piece of furniture must be fixed, at a height corresponding to the positioning height of the device 10 on the piece of furniture, there is a shaped rod 21, situated parallel to the ground, and longitudinally divided into an upper portion which is fixed to the wall by means of screws and a lower portion detached with respect to the wall, so as to define a housing for the engagement of the disk head 16 of the screw 14.

[0023] The fixing of the piece of furniture to the wall by means of the device of the present invention is effected by positioning the furniture against the wall, keeping the slide 13 in a lowered position along the guide 12, so that the disk head 16 of the screw 14 is maintained at a lower height with respect to the height of the shaped rod 21. In order to act upon the slide 13, it is possible, for example, to make use of a slit 22 of the cover 20, through which a tool can be passed for pushing the slide 13 downwards, contrasting the action of the spring 17. When the disk head 16 is positioned below the housing defined between the shaped rod 21 and the wall, the slide 13 is released and, due to the action of the spring 17, rises until the disk head 16 has become engaged in said housing. Alternatively, it is also possible to act directly on the head of the slide 13, from above, in an axial direction.

[0024] At this point, all that remains is to define the distance of the piece of furniture from the wall, by acting with an Allen key on the screw 14, in order to vary the length of the screw 14 between the slide 13, and therefore the guide 12, and the wall.

[0025] It is evident from the above description with reference to the figures, how a wall fixing device of furniture with a foot rest according to the invention is particularly useful and advantageous, thus achieving the objective specified in the preamble of the description.

[0026] The forms of the wall fixing device of furniture can obviously differ from those shown for illustrative and non-limiting purposes in the drawings.

[0027] The protection scope of the invention is therefore delimited by the enclosed claims.

Claims

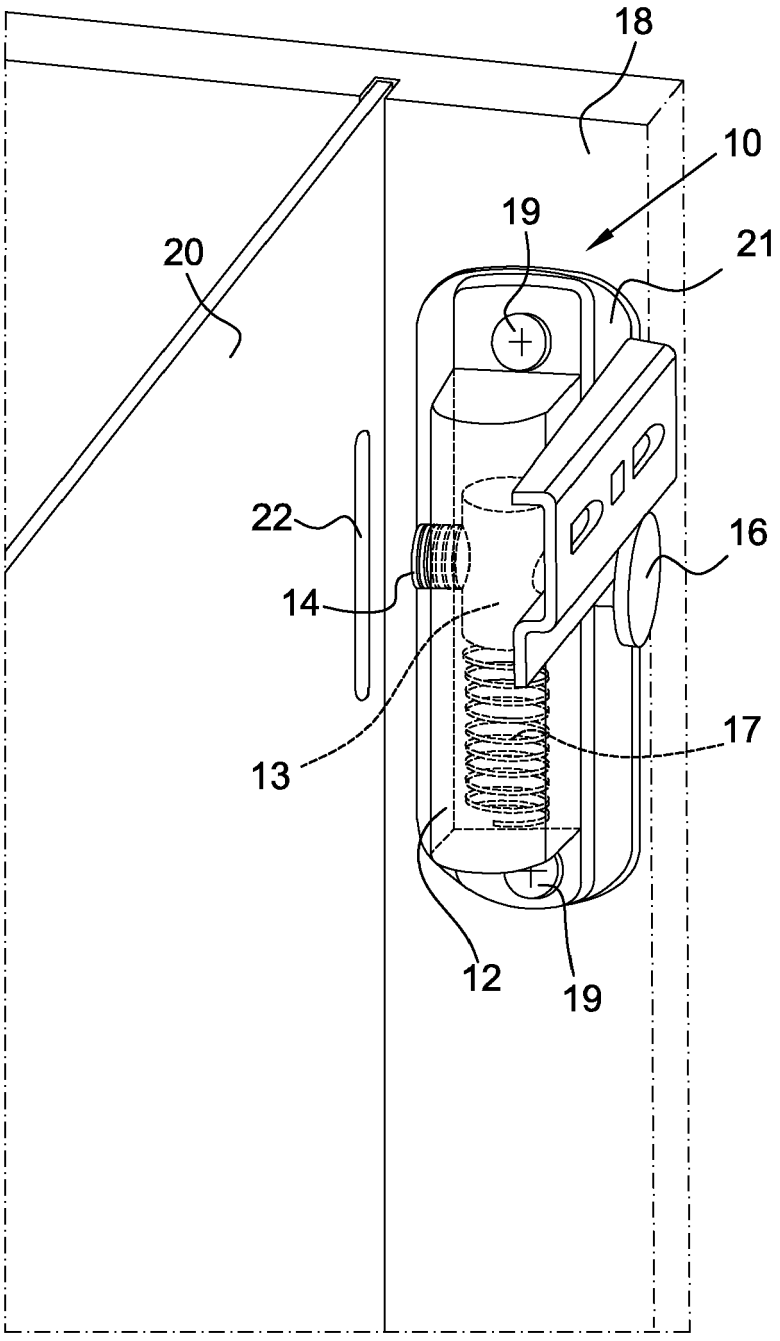
1. A wall fixing device (10) of furniture with a ground rest, of the type comprising a fixing plate (11) to a side (18) of a piece of furniture, behind the cover (20) of the furniture, and an engagement element with corresponding engagement means fixed to the wall, **characterized in that** said engagement element is free to move along a direction defined by a guide (12), by the action of stress exerted from the outside of the device and stress exerted by elastic means inside the device itself.

2. The fixing device according to claim 1, **characterized in that** said engagement element consists of a screw (14) with a head (16), suitable for being engaged with a housing defined by a shaped rod (21) fixed to the wall, said screw being inserted in a threaded hole of a slide (13), constrained to move inside said guide (12), due to said stress exerted.

3. The fixing device according to claim 1, **characterized in that** said elastic means comprise a compression spring (17).

4. The fixing device according to claim 1, **characterized in that** said screw (14) is accessible from the front side of the piece of furniture through a slit (22) in the cover (20).

Fig. 1



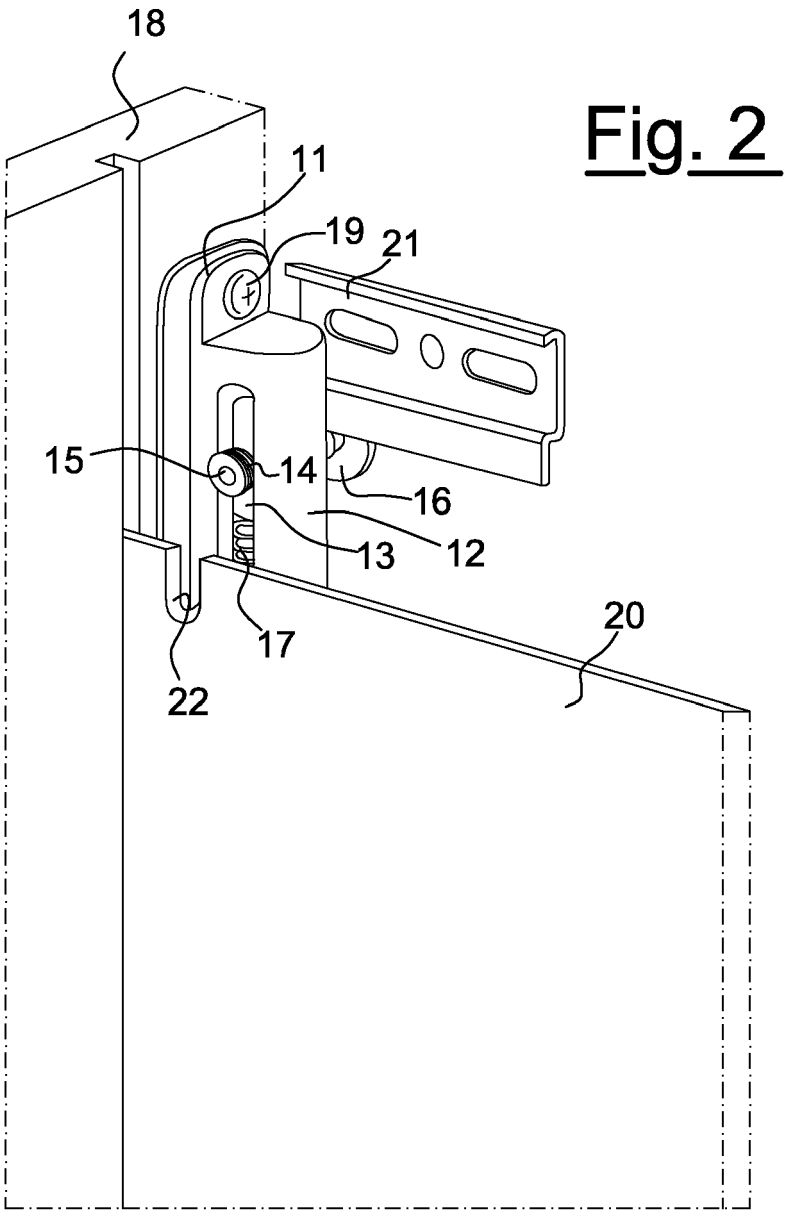


Fig. 2

Fig. 3

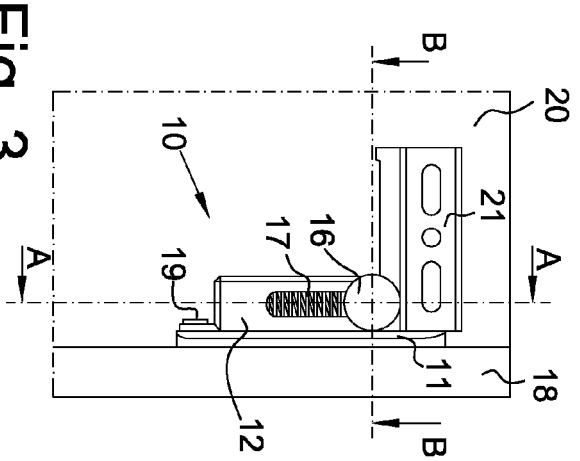


Fig. 5

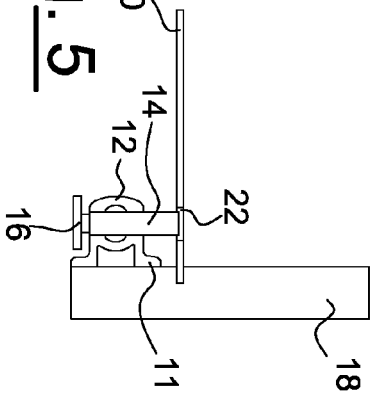


Fig. 4A

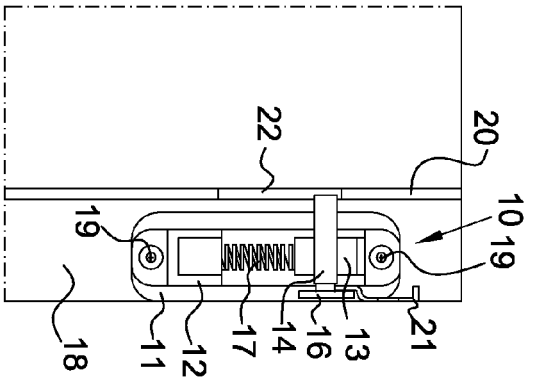


Fig. 6

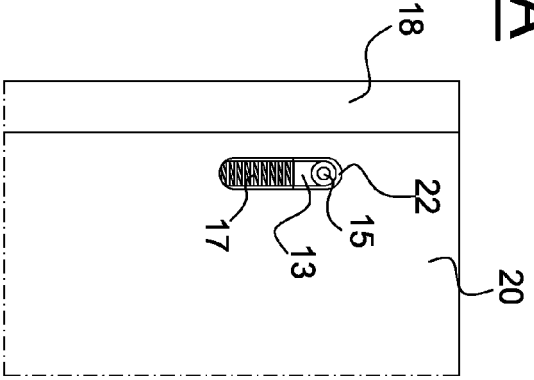
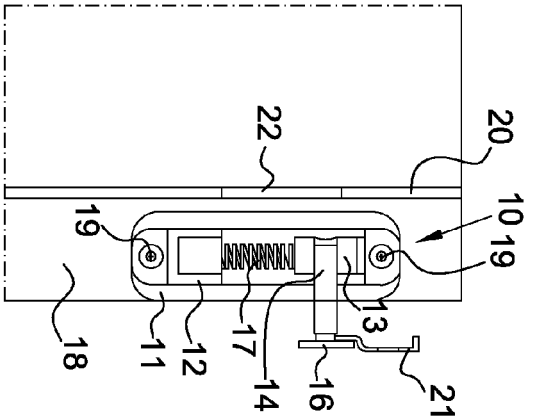


Fig. 4B



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EUROPEAN SEARCH REPORT

Application Number
EP 06 12 4343

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	DE 203 14 821 U1 (HETTICH HEINZE GMBH & CO KG [DE]) 18 December 2003 (2003-12-18) * page 3, column 1, paragraph 5 - column 2, paragraph 2; figure 5 *	1-4	INV. A47B95/00
X	DE 93 02 104 U1 (PAUL HETTICH GMBH & CO, 4983 KIRCHLENGERN, DE) 25 March 1993 (1993-03-25) * claim 1; figures 1,2,6 *	1-4	
X	DE 201 03 728 U1 (HETTICH PAUL GMBH & CO [DE]) 3 May 2001 (2001-05-03) * abstract; figure 1 *	1,3	
X	DE 33 34 768 A1 (HETTICH HETAL WERKE [DE]) 11 April 1985 (1985-04-11) * abstract; figures 1-3 *	1,3,4	
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	23 February 2007	Jones, Clive

CATEGORY OF CITED DOCUMENTS

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23-02-2007

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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