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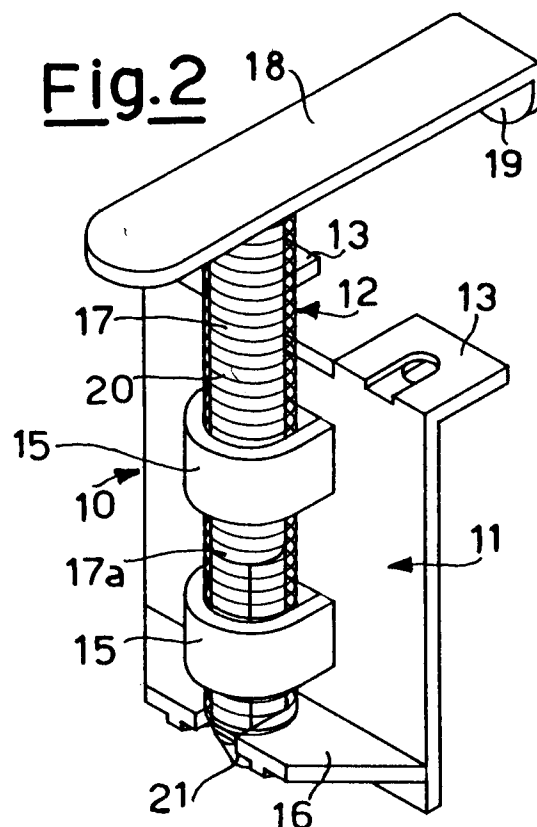
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I-20121 Milano(IT)(54) **Device for removably mounting a plinth on the base wall of a furniture item.**

(57) A device for removably mounting a plinth (14) on the base wall (22) of a furniture item (23) comprises a means for its stable fixing to the plinth (14) and an elastically yieldable element acting between said fixing means and said base wall (22). According to the invention, the elastically yieldable element consists of a plunger (12) extending from said fixing means and terminating with a thrust surface arranged to act against said base wall.

**Fig. 2****EP 0 517 289 A1**

This invention relates to an improved device for removably mounting a plinth between the base wall of a furniture item and the floor, particularly but not exclusively for a kitchen furniture unit.

As is well known to the expert of the art, the current tendency for manufacturers is to manufacture kitchen furniture units which do not rest directly on the floor but are provided with height-adjustable feet both to provide stability to the furniture unit and to allow cleaning of the space beneath it.

However it is advisable to fit a plinth, both for aesthetic reasons in the sense of hiding the feet of the furniture unit and any service cables and pipes from view, and for preventing build-up of dirt.

For this purpose metal and/or plastics hooks have been proposed in the form of a plate to be fixed to the inside of the plinth, with two pairs of suitably shaped opposing arms projecting from the plate to be snap-fitted to the feet of the furniture unit.

Mounting devices of this type are completely satisfactory in operation but require to be fixed to the inner face of the plinth in positions spaced apart by a predetermined distance corresponding with the feet of the furniture unit.

Mounting devices formed as a single piece from plastics material have also been proposed comprising a means for its fixing to the upper edge of the plinth, from which an elastically yieldable annular element extends to act between said fixing means and the base wall of the furniture unit, in the sense of retaining the plinth in position by the thrust exerted on it and which is discharged to the floor.

Mounting devices of this type suffer from the drawback that once inserted and acting between the base wall of the furniture unit and the plinth, the elastically yieldable annular plastics element tends to quickly lose its elasticity characteristics, its deformation then becoming practically permanent so that the device is no longer able to ensure stable positioning of the plinth, particularly after it has been removed a number of times, for example to clean the floor below the furniture unit.

A main drawback of elastically yieldable ring-type devices derives from the fact that their correct positioning under working conditions, ie the position in which the plinth is perfectly perpendicular to the base of the furniture unit, is left to the skill and precision of the installer. In other words the yieldability of the ring means that the plinth may be mounted in a position which is not perfectly perpendicular.

A further drawback of these devices is that they are not always easy to grip by the user to remove the plinth.

A further drawback is that the structure of de-

vices provided with an elastically yieldable plastics ring is such that it is not completely hidden from view, in which respect they could seem anti-aesthetic.

The general object of the present invention is to obviate the aforesaid drawbacks of the known art by providing a device which ensures correct and time-stable mounting of the plinth even after repeated removal, and which allows the plinth to be both mounted and removed in a simple manner.

This object is attained according to the present invention by a device for removably mounting a plinth on the base wall of a furniture item of the type comprising a means for its fixing to the plinth and an elastically yieldable element acting between said fixing means and said base wall, characterised in that said elastically yieldable element consists of a plunger extending from said fixing means and terminating with a thrust surface arranged to act against said base wall.

Preferably said plunger is spring-loaded and comprises a shaft about which said spring extends, the shaft and the spring being slidably guided by guides provided on said fixing means, said spring acting between said thrust surface at the top of the shaft and an opposing shoulder on said fixing means.

Preferably said thrust surface consists of a bar fixed perpendicular to the top of the shaft and terminating at one end with a hand gripping appendix.

Preferably the shaft and bar are rotatable together within said guides, said shaft comprising travel stop means cooperating with said fixing means.

The structural and operational characteristics of the invention and its advantages compared with the known art will be more apparent from the description given hereinafter with reference to the accompanying drawings, which show one practical embodiment of the invention. In the drawings:

Figure 1 is an exploded perspective view of the mounting device of the invention;

Figures 2 and 3 are two perspective views showing the assembled device of Figure 1 in two different operating conditions, namely with the hand gripping appendix positioned external and internal to the plinth respectively;

Figure 4 is a front elevation of the mounting device with the elastic plunger in its raised position;

Figure 5 is a front elevation as Figure 4, but showing the elastic plunger in its lowered position;

Figure 6 is an elevation showing the opposite side of the device to that shown in Figure 4;

Figure 7 is a plan view of the device;

Figures 8 and 9 are two side elevations showing

the device in the two different operating conditions illustrated in Figures 2 and 3 respectively;

Figure 10 is a front elevation showing the device of Figures 1-9 applied to a plinth;

Figure 11 is a plan view of Figure 10;

Figures 12 and 13 are two side elevations showing the device fixed to the plinth in the two different operating conditions shown in Figure 2, 3 and 8, 9;

Figure 14 is a plan view showing the device of the invention applied to a corner plinth; and

Figure 15 is a vertical section showing the application of a plinth provided with the mounting device of the invention. With reference to the drawings, the mounting device according to the invention is indicated overall by 10 and is formed structurally in two parts, namely a plate or bracket 11 for fixing the device to a plinth, and a plunger 12.

The plate 11 comprises a pair of flanges 13 for its fixing to the upper edge of a plinth 14, as shown in Figures 10-15, a pair of guide rings 15 for the plunger 12, and a shoulder 16 the purpose of which is explained hereinafter.

The plunger 12 comprises three parts, namely a shaped shaft 17, a bar-like thrust surface 18 provided at the top of said shaft 17 and terminating at one end with a hand gripping appendix 19, and a spring 20 within which said shaft 17 is inserted. As can be seen from Figure 1, said shaft 17 has a polygonal section 17a, the length of which corresponds to the useful travel of the shaft 17.

As can be clearly seen from the drawings, the plunger 12 formed in the stated manner is slidably mounted within guide rings 15 and is forced into snap-engagement within the shoulder 16 via a head 21 with which the portion 17a of the shaft 17 terminates. The spring 20 exerts its thrust action between the shoulder 16 and the bar 18.

When in its rest position, the head 21 with which the shaft 17 terminates cooperates with the shoulder 16 to prevent the plunger 12 escaping from its seat.

In addition, the shoulder 16 cooperates with the polygonal section 17a to guide the travel of the shaft 17 in order to maintain the bar 18 in the required operating position.

The method of using the mounting device of the invention is clearly shown in Figures 10-15 of the drawings, from which it can be seen that the plate 11 is fixed by the flanges 13 to the top of the plinth 14 such that it is hidden from external view, ie against the inner surface of the plinth 14.

Several mounting devices 10 can be provided along the same plinth, according to the plinth length.

When the mounting devices 10 have been

fixed to the plinth, this is applied to the base wall 22 of a furniture item 23 so that it rests against the feet 24 of the furniture item 23, as clearly shown in Figure 15 of the drawings.

This is done by firstly inclining the plinth and resting it against the feet 24 of the furniture item, then pushing the plinth 14 against the feet 24 in the direction of the arrow F of Figure 15, by which the plunger 12 is pushed downwards so that its bar 18 is thrust by the action of the spring 20 against the base wall 22 of the furniture item once the plinth 14 has reached the vertical position against the feet 24, so ensuring stable positioning of the plinth. This action is facilitated by the relative yieldability of the plastics material with which the bar 18 may be constructed, and by the fact that the plinth 14 is generally provided at its base with a gasket 25 of yieldable material.

From Figure 14 it can be seen that if the front of the plinth 14 lies behind the outline 26 of the furniture item 23, the bar 18 is positioned with the gripping appendix 19 (not exposed because it is covered by the furniture item) on the outside of the plinth 14, whereas if the side plinth 14 is nearly in line with the outline 27 of the furniture item 23 the bar 18 is turned through 180° so that the gripping appendix 19 lies on the inside of the plinth 14, in a non-exposed position.

The front plinth is removed by simply gripping the gripping appendix 19 and pulling in the direction of the arrow F1 (Figure 14). Having removed the front plinth, the side plinth can be removed from the inside.

From the foregoing description it is apparent that by virtue of its structure in the form of a plunger and a spring of suitably resistant material, the mounting device of the invention enables the plinth to be easily fitted in a correct and time-stable position, even after repeated removal. The object stated in the introduction to the description is therefore attained.

Claims

1. A device for removably mounting a plinth (14) on the base wall (22) of a furniture item (23), of the type comprising a means for its stable fixing to the plinth (14) and an elastically yieldable element acting between said fixing means and said base wall, characterised in that said elastically yieldable element consists of a plunger (12) extending from said fixing means and terminating with a thrust surface arranged to act against said base wall.
2. A device as claimed in claim 1, characterised in that said plunger (12) is spring-loaded (20).

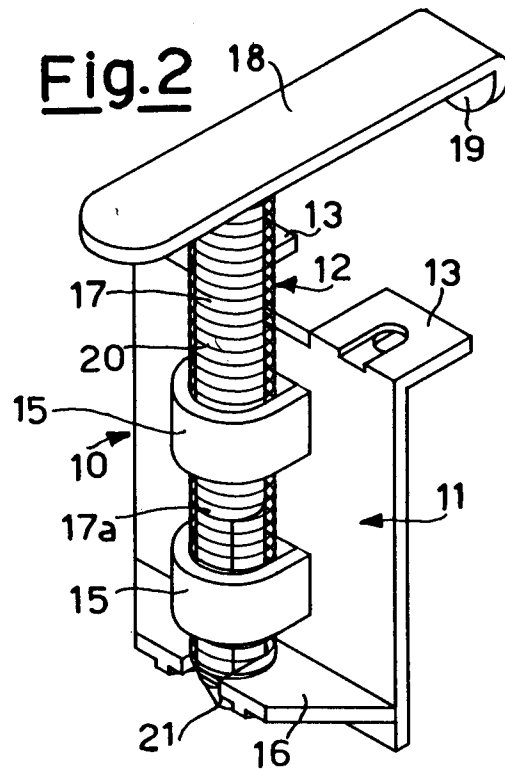
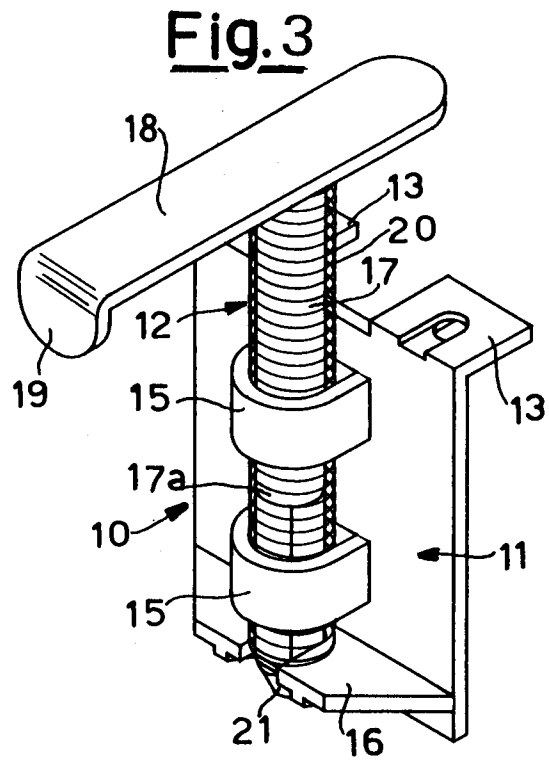
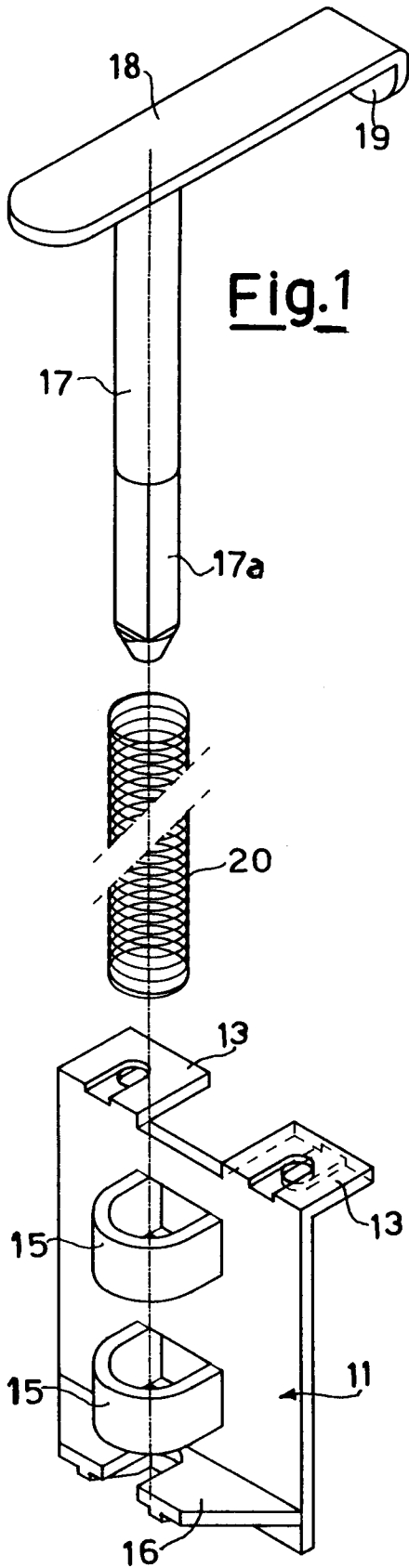
3. A device as claimed in claim 2, characterised in that said plunger (12) comprises a shaft (17) about which said spring (20) extends, the shaft and the spring being slidingly guided by guides (15) provided on said fixing means, said spring (20) acting between said thrust surface at the top of the shaft (17) and an opposing shoulder (16) on said fixing means. 5
4. A device as claimed in claim 1, characterised in that said thrust surface consists of a bar (18) fixed perpendicular to the top of the shaft (17). 10
5. A device as claimed in claim 4, characterised in that said bar (18) terminates at one end with a band gripping appendix (19). 15
6. A device as claimed in claims 3, 4 and 5, characterised in that said shaft and bar are rotatable together within said guides (15). 20
7. A device as claimed in claim 3, characterised in that said shaft comprises travel stop means cooperating with said fixing means. 25
8. A device as claimed in claim 7, characterised in that said travel stop means consist of a terminal head (21).
9. A device as claimed in claim 1, characterised in that said fixing means consists of a plate (11) provided with flanges (13) for its fixing to the upper edge of the plinth (14). 30
10. A device as claimed in claim 3, characterised in that said shaft (17) comprises a polygonal section (17a) which cooperates with said shoulder (16) in such a manner as to retain said bar (18) in the desired operating position. 35

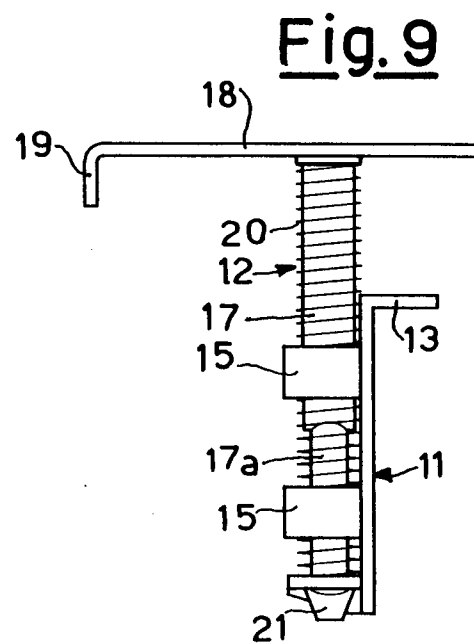
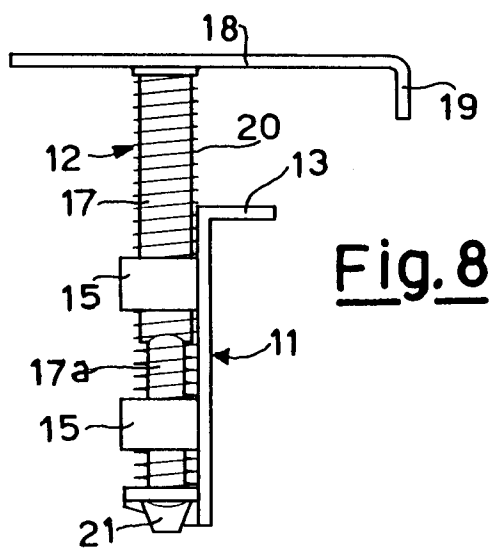
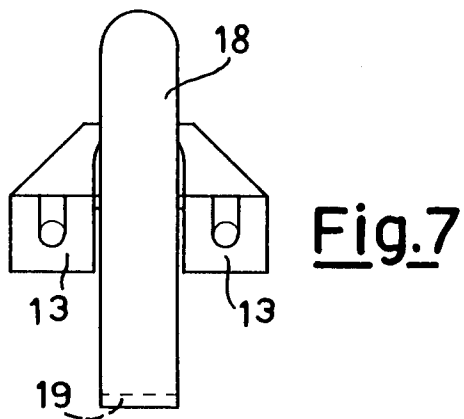
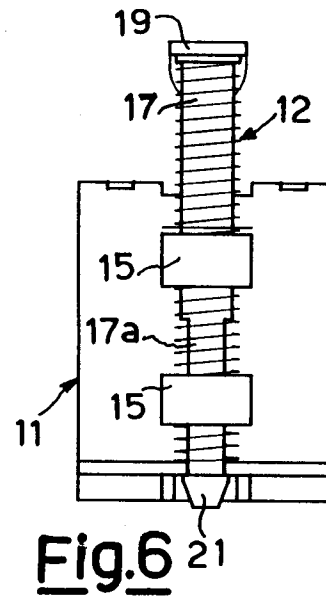
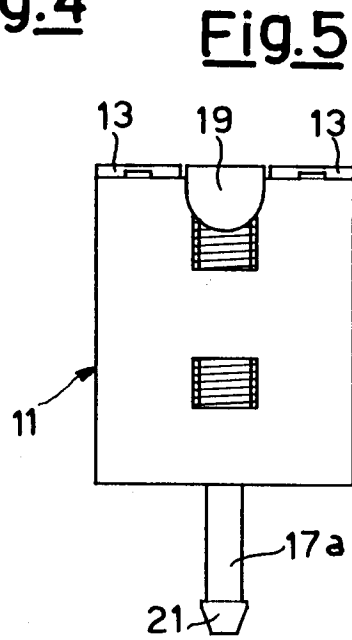
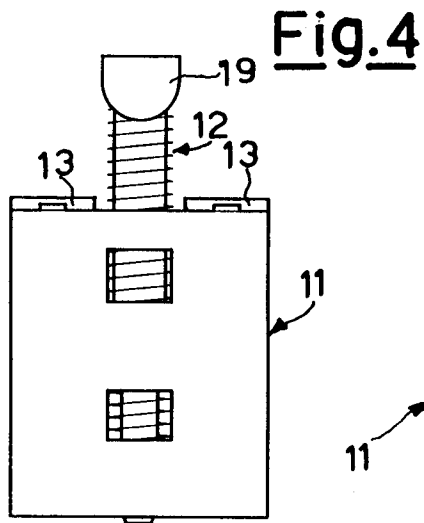
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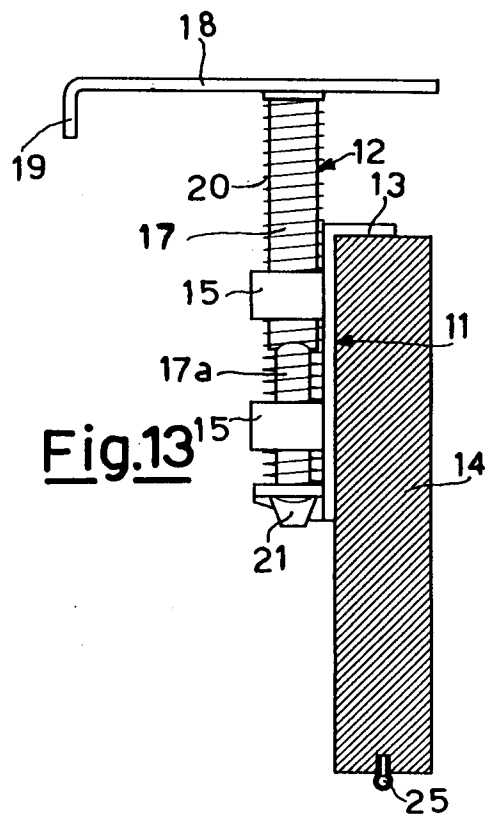
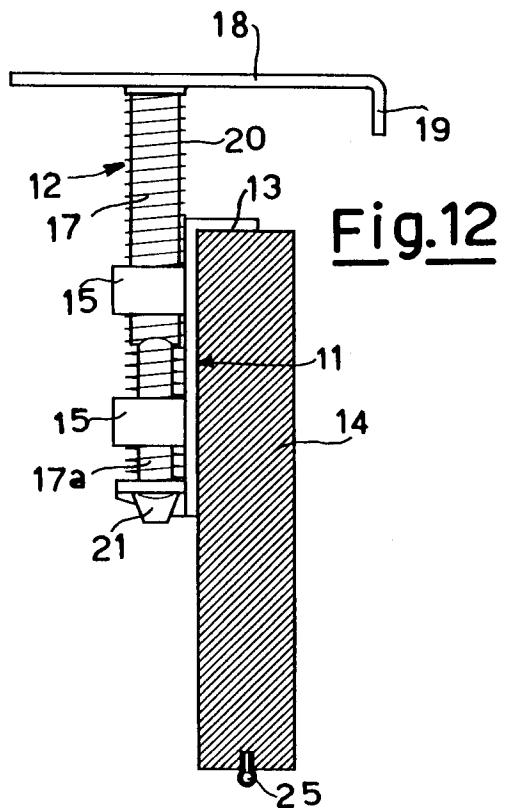
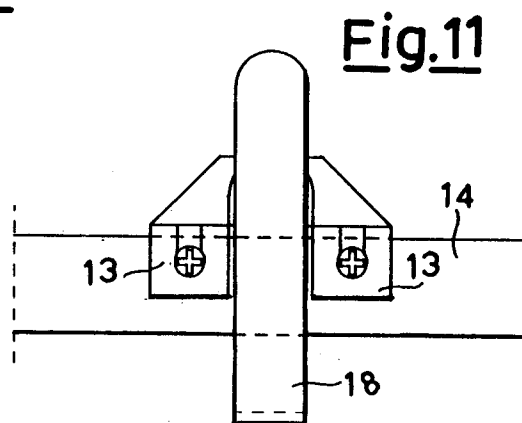
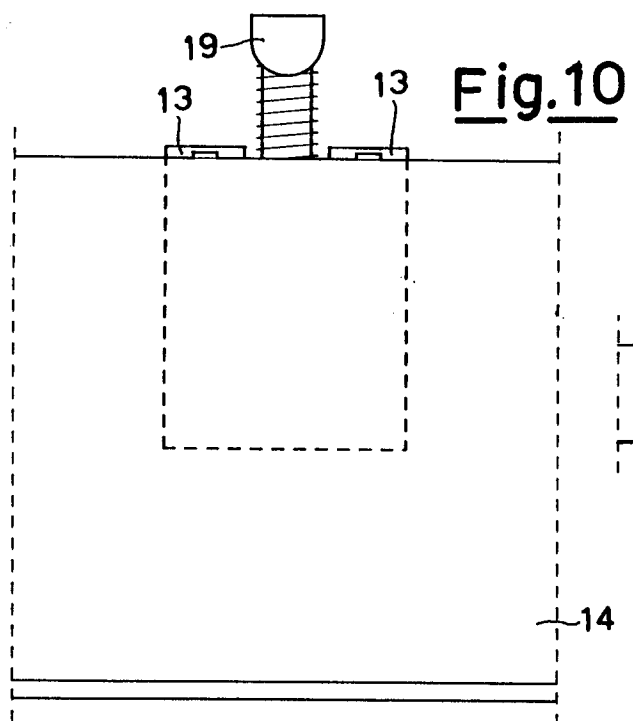
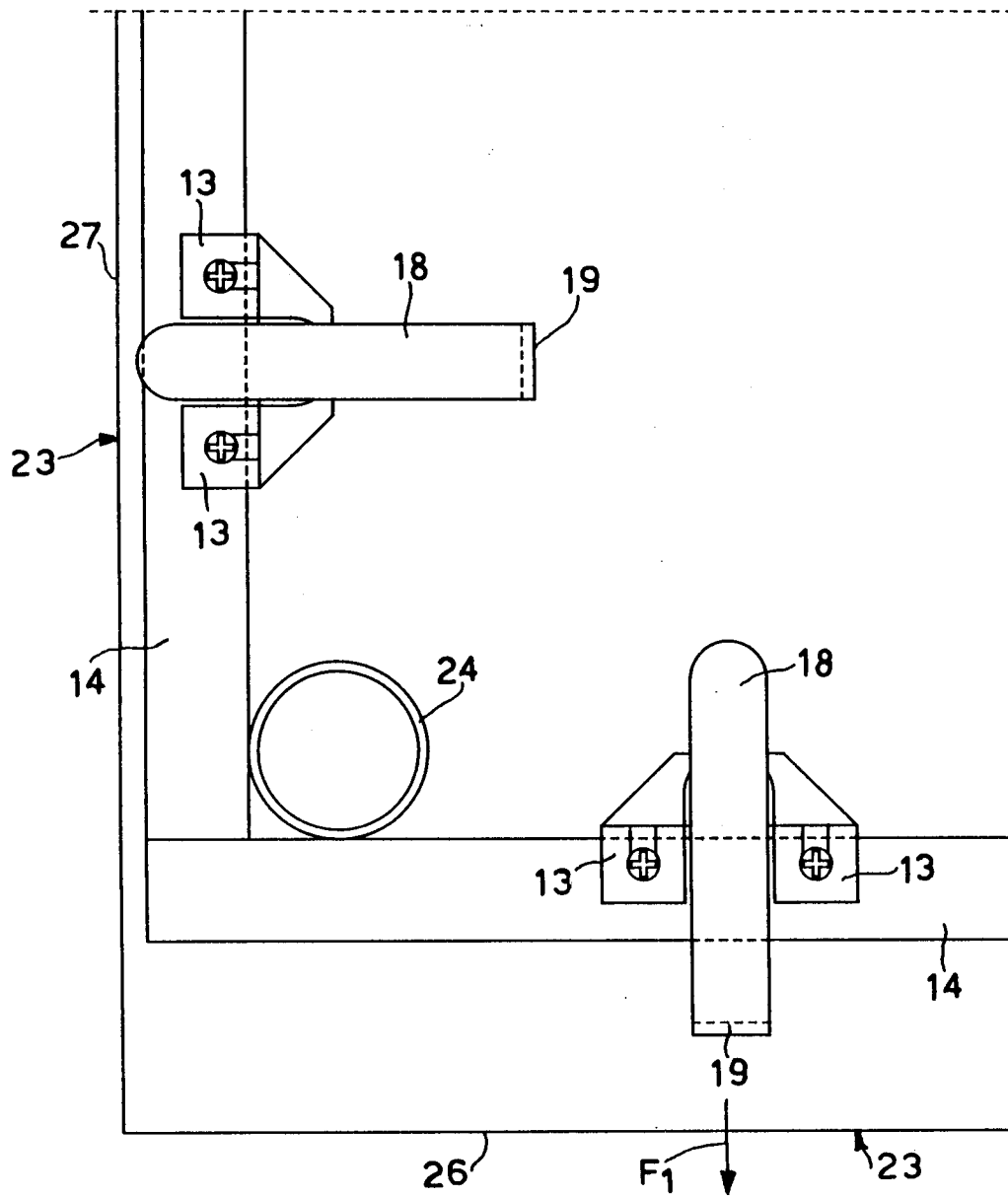
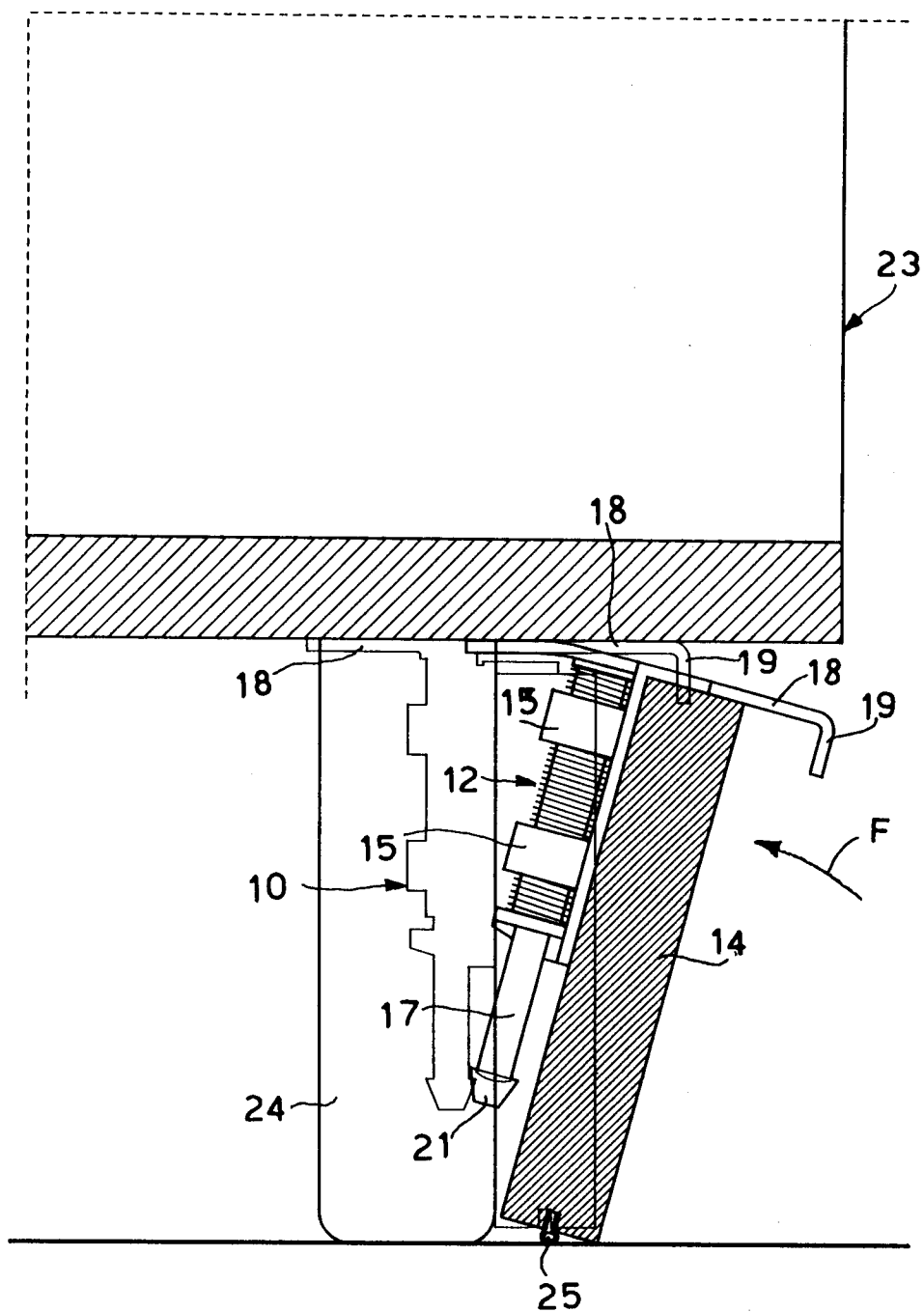


Fig. 14







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EUROPEAN SEARCH REPORT

Application Number

EP 92 20 1164

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	FR-A-2 136 075 (ALEX LIMBER GMBH)	1,2,4	A47B95/00
A	* page 11, line 35 - page 12, line 41; figures 1,4 *	3,6,7,10	

A	DE-U-8 526 160 (FRANKE GMBH & CO KG.)	1,2,4,5,9	
	* claim 1; figures 1-3 *		

A	DE-U-9 109 148 (BACHLEITNER GMBH)		

			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A47B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14 JULY 1992	Examiner JONES C.T.
CATEGORY OF CITED DOCUMENTS			
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 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	