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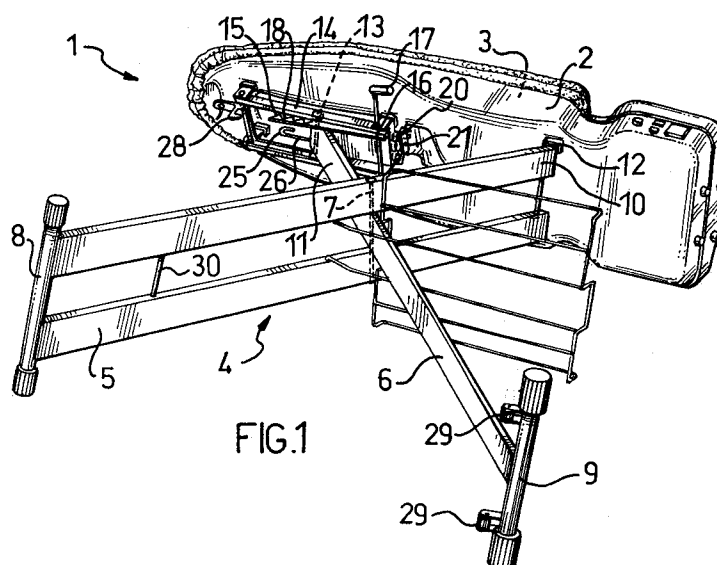
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I-20122 Milano (IT)(54) **An ironing board with folding stand.**

(57) An ironing board (1) with a folding stand (4), particularly for household use, has an elongate body (2) with an ironing top surface (3) supported on the stand (4), which stand has at least two legs (5,6) hinge connected to the elongate body (2) of which one has a movable hinge (13). A spring-action means (20) is arranged to act on the movable hinge (13) leg (6), and a releasable locking means (28) is

provided for locking the stand (4) to the elongate body (2) in the folded condition against the bias of said spring-action means (20) which provides a force to assist in the raising of the elongate body (2) during the ironing board (1) erecting operation and prevents the elongate body (2) from being dropped during the reverse operation.

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This invention relates to an ironing board with a folding stand, particularly for household use.

Ironing boards of this type comprise an elongate body having an ironing top surface and being supported on a folding stand which has at least two legs hinge connected together and to the elongate body.

Such a construction is both steady and compact, but the elongate body itself is a heavy and unwieldy part.

This aspect is the more apparent when the elongate body incorporates such accessory items as a rest plate for the iron and an arrangement for sucking steam away from the ironing top surface.

The heavy weight of the elongate body is a contributing factor to the ironing board steadiness during the ironing operations, and accordingly, the suppression of this feature in order to make the ironing board easier to handle would be undesirable.

The unwieldy character of the elongate body bears out especially in folding and unfolding the stand supporting the elongate body.

During the unfolding operation, the elongate body must be raised bodily to its working level, so that the stand legs can be extended and engaged in their working positions for a convenient level setting.

During the folding operation, upon disengaging the legs, the elongate body tends to fall and suddenly fold up the stand.

Unless this fall is opposed manually, the elongate body may become damaged or, more important still, injure individuals.

It is the object of this invention to provide an ironing board as indicated which can overcome the drawbacks with which the prior art is beset.

This object is achieved, according to the invention, by an ironing board comprising an elongate body with an ironing top surface, being supported on a folding stand which has at least two legs hinged to each other and to the elongate body by respective hinge connections of which at least one is movable along the elongate body, characterized in that it further comprises a spring-action means arranged to act directly on the movable hinge leg in a leg spreading direction, and a releasable locking means for locking the legs to the elongate body in the folded position against the bias of said spring-action means.

A major advantage of an ironing board according to this invention is that the spring-action means assists in unfolding the stand and slows down the fall of the elongate body by opposing the stand folding movement.

Another advantage is that this ironing board is simple construction-wise and easy and safe to use.

Further features and advantages of the ironing board according to this invention will become apparent from the description of an embodiment thereof, shown by way of example in the following drawing figures, namely:

Figure 1, being a perspective view from beneath of the ironing board of this invention;

Figure 2, being a perspective view from above of the ironing board shown in Figure 1;

Figure 3, being a perspective view from beneath of a detail of the ironing board in Figure 1;

Figure 4, being a side view of the detail shown in Figure 3 of the ironing board in Figure 1, in the unfolded condition;

Figure 5, being a side view of the aforesaid detail, with the ironing board at an intermediate setting; and

Figure 6, being a side view of the aforesaid detail, with the ironing board assembly in the folded up condition.

This ironing board, as generally shown at 1, comprises an elongate body 2 which has an ironing top surface 3 and is supported by an underlying stand 4 formed of two legs 5, 6.

In a preferred embodiment of the ironing board 1 according to the invention, the ironing top surface 3 is a suction type. For this purpose, the interior of the elongate body 2 accommodates an electric motor carrying a tangential impeller, not shown.

The legs 5 and 6 are mutually engaged by a fixed hinge 7 provided at an approximately mid-point location with respect to the stand legs. With the stand in the unfolded condition (Figure 2), the legs 5, 6 would cross each other at approximately right angles.

The legs 5, 6 have respective rest feet 8, 9 intended for contact with the floor, and respective upper ends 10, 11 connected to the elongate body 2. The end 10 is engaged with the elongate body 2 through a fixed hinge 12.

The end 11 is equipped with wheels 13 which function as a moving hinge connection, are side mounted, and engage in a straight track 14 lying approximately parallel with the elongate body 2.

Thus, the end 11 can be moved along the track 14 between a position where the stand is folded up and a position where the stand is unfolded.

To lock the end 11 in the unfolded stand position, a ratchet bar 15 is hinge connected with one end 16 to the elongate body 2 at a location intermediate the hinge 12 and the track 14. The swinging movement of the ratchet bar 15 is controlled manually through a handle 17 connected to one end 16 of the bar 15. The ratchet bar 15 is formed with a plurality of indentations 18 arranged to engage with a crosspiece 19 of the leg 6 located at the end 11. With the end 11 positioned for a desired unfolded setting of the stand 4, it will

suffice that the corresponding indentation 18 be engaged with the crosspiece 19 by operation of the handle 17.

In a preferred embodiment of the ironing board 1 according to the invention, a set of coil springs 20 is arranged to act between the crosspiece 19 and a hitch point 21 located on the elongate body 2 near the end 16 of the ratchet bar 15. The set of springs 20 comprises two side springs 22, 23 and a middle spring 24. The side springs 22, 23 are connected directly to the crosspiece 19, whereas the middle spring 24 is provided with an end hook 25 carried on a rod 26 which is passed through a center hole 27 in the crosspiece 19. Said set of springs 20 forms a spring-action means acting directly to unfold the stand 4.

To hold the stand 4 in the folded condition against the elongate body 2, a snap-action hook 28 is arranged to engage a crossmember 30 which is rigid with the leg 5 and locates near the rest foot 8 with the stand 4 folded up, thereby to provide a releasable locking means.

Arranged on the other lower end 9 of the leg 6 are a plurality of wheels 29 for greater convenience in moving around the folded up ironing board 1.

In order to unfold the ironing board from its folded condition, the snap-action hook 28 should first be disengaged from the crossmember 30 of the leg 5. Thereupon, the set of coil springs 20, presently under tension, becomes released and is allowed to shift the end 11 of the leg 6 along the straight track 14.

During an initial stage, all three of the springs 22, 23, 24 in the set 20 will be active, until the middle spring 24 reaches its retracted rest position while the side springs 22, 23 maintain their action but are by themselves unable to bring the stand 4 to the unfolded position.

The elastic force applied by the side springs 22, 23 will, however, supplement the manually applied force that, at this stage, is to be exerted to complete the ironing board setting.

During this second stage, the middle spring 24 is inactive, the rod 26 being held engaged in the hole 27 in the crosspiece 19 moving along the direction of the straight track 14.

Once the desired height level is attained for the ironing board 1, the stand is locked by means of the handle 17 as previously described.

To fold up the ironing board 1, the handle 17 should be operated to set the end 11 free along the track 14. The elongate body 2 will reduce the stand 4 to its folded condition by its own weight, with its action being resisted by the side springs 22, 23 to slow down the folding movement.

The folded state of the stand 4 results in the end hook 25 becoming engaged with the crosspiece 19, thereby also actuating the middle spring

24 which will first further slow down the fall of the elongate body 2 and then lock it in place. At this point, a force shall have to be applied manually against the bias of the set of springs 20 to completely fold up the stand.

The folding is completed by engaging the snap-action hook 28 on the crossmember 30 of the leg 5, thereby stopping the action of the set of springs 20 which is resisting the stand 4 folding.

The set of coil springs 20 may be replaced with some equivalent spring-action arrangements, e.g. a single spring, or cylinder/piston members utilizing the elasticity of compressed air on their interiors, or cords of an elastic material such as caoutchouc or the like.

Another possible modification concerns the ratchet bar 15, which could be replaced with some other locking arrangement, such as a stop screw, or a snap-action pin, or the like.

The snap-action hook 28 may also be replaced with some other mechanical equivalent thereof, such as a spring-retractable catch, or more generally any releasable lock means. The snap-action hook 28, or equivalent thereof, may be supplemented with a locking arrangement other than the snap-action one to make retention in the folded position more reliable.

Claims

1. An ironing board (1) comprising an elongate body (2) with an ironing top surface (3), being supported on a folding stand (4) which has at least two legs (5,6) hinged to each other and to the elongate body by respective hinge connections (12,13) of which at least one is movable along the elongate body, characterized in that it further comprises a spring-action means (20) arranged to act directly on the movable hinge (13) leg (6) in a leg (5,6) spreading direction, and a releasable locking means (28) for locking the legs (5,6) to the elongate body (2) in the folded position against the bias of said spring-action means (20).
2. An ironing board (1) according to Claim 1, characterized in that said spring-action means comprises at least one spring (20).
3. An ironing board (1) according to Claim 1, characterized in that said spring-action means (20) comprises at least one cylinder/piston air spring element.
4. An ironing board (1) according to Claim 1, characterized in that said spring-action means (20) comprises at least one cord made of an elastic material.

5. An ironing board (1) according to Claim 1, characterized in that it comprises a set of coil springs (20) arranged to act between the elongate body (2) and the movable hinge (13). 5
6. An ironing board (1) according to Claim 5, characterized in that said set of coil springs (20) comprises two side springs (22,23) connected directly to a crosspiece (19) of the movable hinge (13) leg (6), and a middle spring (24) having an end hook (25) carried on a rod (26) which is passed through a hole (27) in the crosspiece (19), said end hook (25) being intended for engagement with the crosspiece (19) at a stage prior to having the stand (4) folded up completely. 10 15
7. An ironing board (1) according to Claim 1, characterized in that said movable hinge comprises wheels (13) being side mounted on the leg (6) and engaged in a straight track (14) approximately parallel with said elongate body (2). 20
8. An ironing board (1) according to Claim 1, characterized in that said releasable locking means comprises a snap-action hook (28) adapted to hook on a crossmember (30) attached to one of the legs (5,6) at a location near a respective rest foot (8,9). 25 30

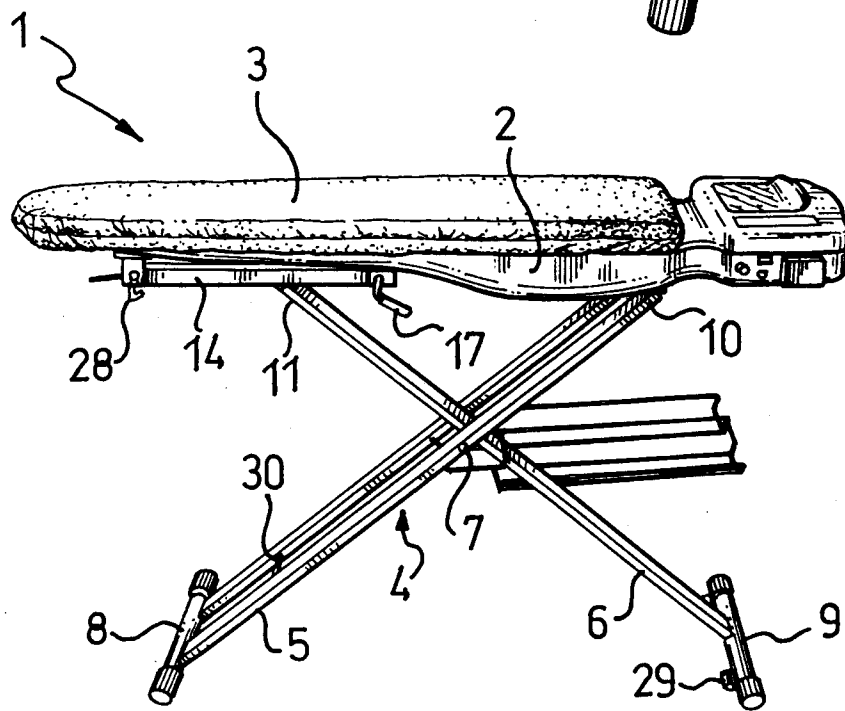
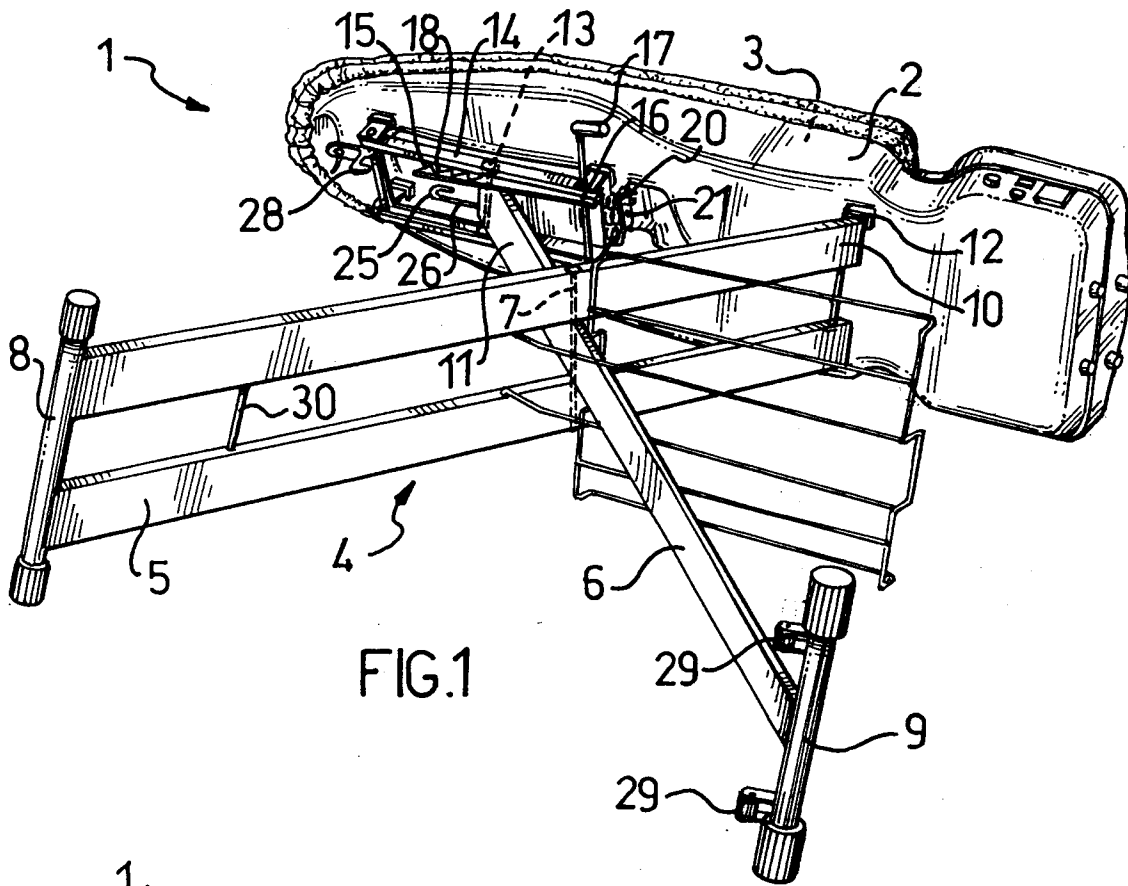
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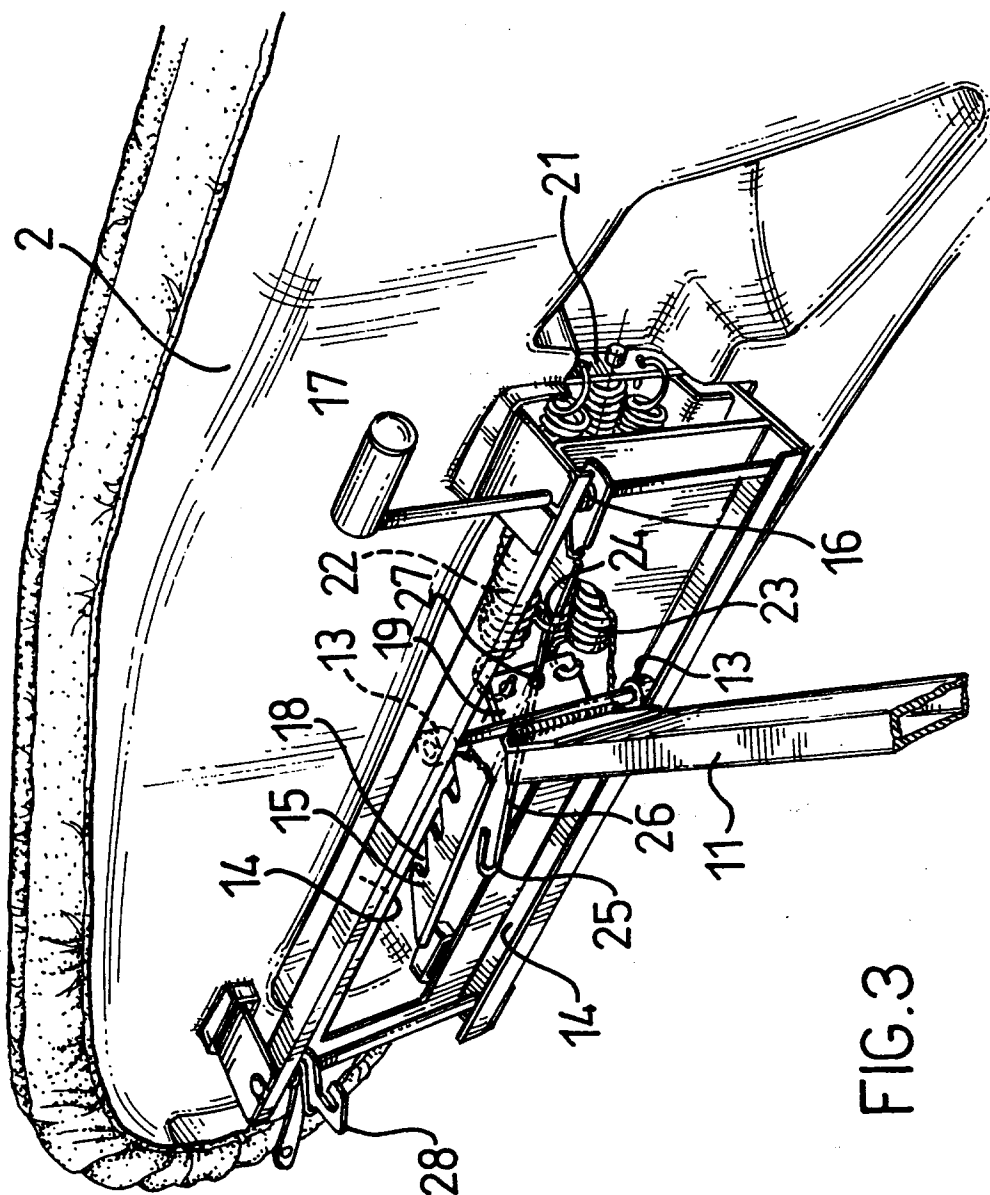
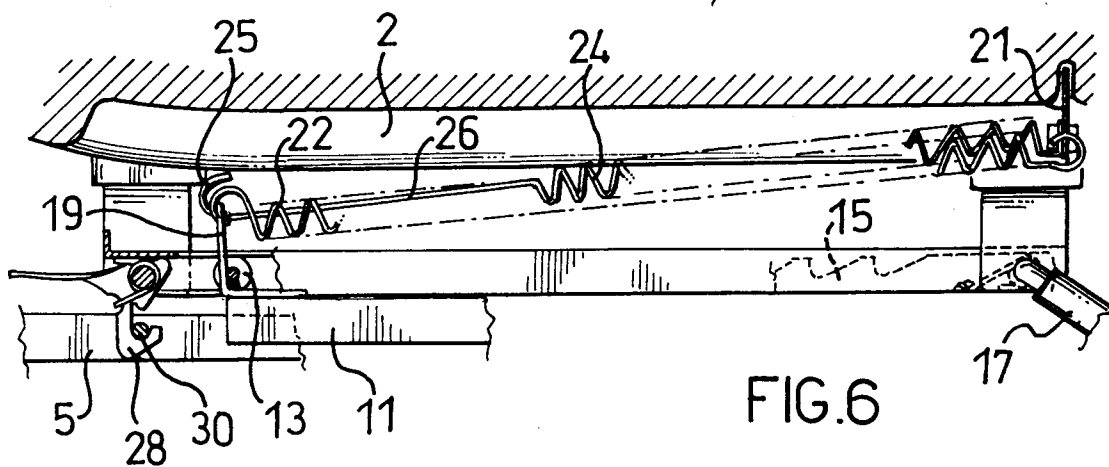
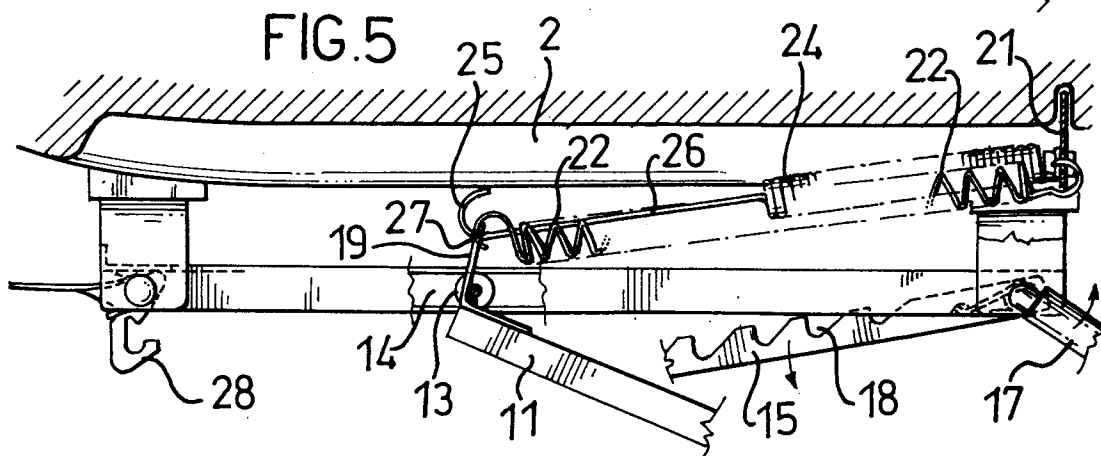
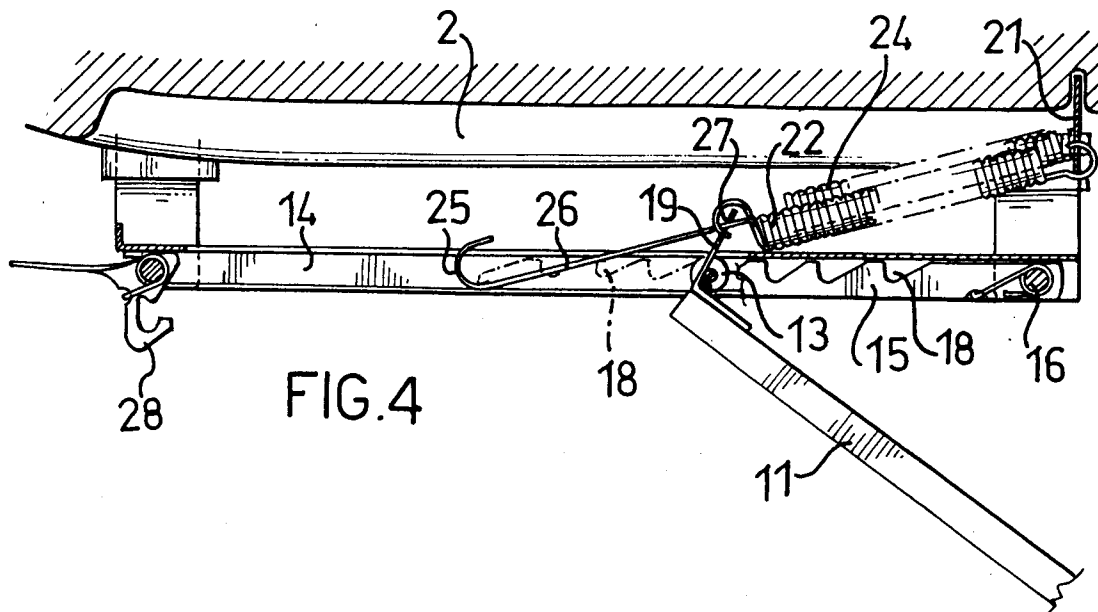


FIG.3





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EUROPEAN SEARCH REPORT

Application Number
EP 94 20 2379

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.6)
X	FR-A-1 143 957 (SOCIETE COUVERTURES CHAUFFANTES FLORIDE(ARL)) * the whole document *	1,2	D06F81/02
Y		3	
A		8	
Y	DE-B-10 77 402 (KOOPMANN,L.) * the whole document *	3	
X	US-A-3 199 472 (STELNICEANU,J.D.) * column 2, line 31 - column 5, line 55; claim 1; figures 8,9,10,11 *	1,2	
A		7	
A	US-A-2 873 543 (LANTZ,A.P.)		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			D06F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 14 November 1994	Examiner Munzer, E
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 I : document cited for other reasons & : member of the same patent family, corresponding document			