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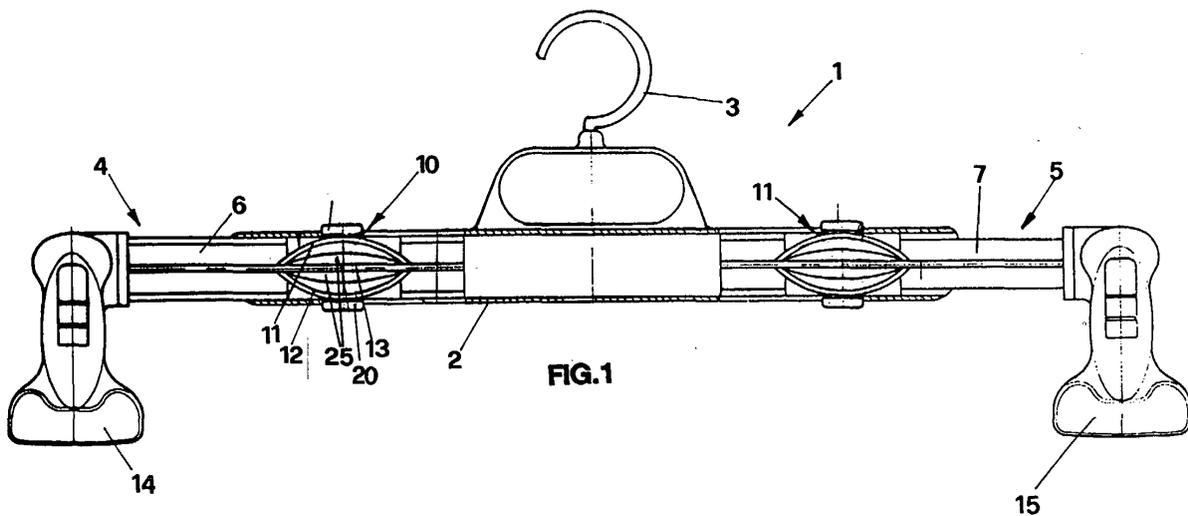
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(54) **Extensible hanger**

(57) A hanger (1) for clothing items and in particular for skirts and trousers, comprising a cross element (2) with substantially longitudinal configuration, combined with hooking means (3) suitable for hanging it to a support element, provided with at least two clips (14,15; 16,17) for the clothing item to be hung, said clips being coupled to said cross element (2) on opposite sides of said hooking means (3) and through sliding means (4,5) suitable for allowing them to be slid along said cross el-

ement (2). Said sliding means (4,5) comprise adjusting means (10,11) suitable for defining, for each one of said clips (14,15), one or more predetermined positions along said cross element (2).

The adjusting means (10,11) is constituted by an elastic structure comprising a pair of flexible curved sheets (11,12) with the concave parts facing each other, each one of which has the end fixed to the central rib (13) belonging to the double T-shaped elements of which the sliding means (4,5) are constituted.



**FIG.1**

## Description

**[0001]** The invention concerns a hanger particularly suitable for hanging skirts and trousers and provided with a system for adjusting the distance between the clips.

**[0002]** Skirt and trousers hangers are known, which substantially comprise a cross element, generally made of plastic, with a metal hook at its centre and two clips at its ends.

**[0003]** According to a known embodiment the clips are fixed, while according to another known embodiment the distance between the clips can be adjusted.

**[0004]** Obviously, the first type of hanger, that is, the hanger with fixed clips, presents the drawback that the distance between the clips cannot be modified.

**[0005]** A further drawback of this type of hanger is represented by the fact that it cannot be used for skirts and/or trousers of different sizes, especially, for example, for trousers whose width is shorter than the distance between the clips.

**[0006]** Another drawback of the hangers with fixed clips is represented by the fact that it isn't possible to replace the clips with clips of another type, for example clips with holding surfaces shaped differently to ensure better holding according to the clothing item that must be hung to the hanger.

**[0007]** On the other hand, the hangers in which the distance between the clips can be varied certainly solve the problem of limited use, since they can be used for clothes of different sizes, but still present other drawbacks.

**[0008]** One of these drawbacks is represented by the fact that it is difficult to adjust the clips according to a predefined distance, since the clips oppose to some extent any sliding movement along the cross element.

**[0009]** Another drawback is represented by the fact that there are no points of reference for the positioning of the clips according to predetermined distances, in such a way as to make the hanger suitable for use with clothing items of specific sizes.

**[0010]** Furthermore, the fact that there are no predetermined positions for the clips may lead, in case of impacts or incorrect handling, to a misplacement of the clips and therefore in some cases the clothes may fall down or be creased.

**[0011]** Another drawback is the fact that the structure of the type of hangers described above isn't rigid enough and therefore it is subject to twisting during the adjustment of the clips, since sometimes the cross element is loaded on its ends.

**[0012]** The invention aims at eliminating the drawbacks described above.

**[0013]** One of the first aims of the invention is the implementation of a hanger particularly suitable for skirts and trousers, in which the distance between the clips can be adjusted more easily and effortlessly compared to the hangers produced with the known technique.

**[0014]** Another aim is the implementation of a hanger in which the clips can be adjusted with precision at the desired distance.

**[0015]** A further aim of the invention is the implementation of a hanger whose structure is more rigid and less subject to deformations compared to the known types of hangers.

**[0016]** A further aim of the invention is the implementation of a hanger in which on the same cross element it is possible to apply different kinds of clips.

**[0017]** The aims mentioned above are reached through the implementation of a hanger for clothing items particularly suitable for hanging skirts and trousers, which, according to the main claim, comprises a cross element with mainly longitudinal configuration, combined with hooking means suitable for hanging it to a support element, provided with at least two clips for the clothing item to be hung, said clips being coupled to said cross element on opposite sides of said hooking means and being combined with sliding means suitable for allowing said clips to be slid along said cross element, said hanger being characterized in that said sliding means combined with said at least two clips comprise adjusting means suitable for defining for each one of said clips one or more predetermined positions along said cross element.

**[0018]** According to a favourite application of the invention, the means suitable for adjusting the distance between the clips are constituted by an elastic structure combined with the sliding means, in which it is possible to locate first opposing means in the shape of a push button, suitable for being fitted into second opposing means belonging to the cross element through interference. Said second opposing means are preferably constituted by a slit having at its ends openings that are suitable for receiving the push buttons of the elastic structure when the cross element is fully extended, in such a way as to prevent any further movement of the sliding means, which happens only when the push buttons are pressed, that is, pushed into the slit belonging to the cross element.

**[0019]** Further aims and advantages will be better highlighted in the description of two among many possible applications of the invention in question, with reference to the attached drawings, where:

- Fig. 1 shows a view and partial section of the hanger object of the invention when fully extended;
- Fig. 2 shows the hanger of Fig. 1 when retracted;
- Fig. 3 shows a section of the hanger object of the invention along line III-III;
- Fig. 4 shows a section of the hanger of Fig. 2 along line IV-IV;
- Fig. 5 shows a variant of the hanger of Fig. 1;
- Fig. 6 shows a section of Fig. 5 along line VI-VI;
- Fig. 7 is a top view of the hanger of Fig. 5;
- Fig. 8 shows a partial section of the adjusting means of the hanger object of the invention.

**[0020]** With reference to the figures mentioned above and in particular to Fig. 1, it is possible to observe that the hanger object of the invention, indicated as a whole by 1, is provided with a cross element 2 positioned centrally and having, as shown in Fig. 3, substantially tubular section. In central position there are hooking means 3 constituted by a metal hook joined to the cross element 2 during the moulding of the same through injection of plastic material.

**[0021]** Housed inside the cross element 2, on opposite sides, there are sliding means indicated by 4 and 5, constituted by a pair of elements shaped as a double T and indicated by 6 and 7, which slide inside the tubular cross element 2, since they are provided with adjusting means indicated by 10 for the sliding means 4 and by 11 for the sliding means 5.

**[0022]** Also the sliding means 4 and 5 and the adjusting means 10 and 11 are produced through injection moulding of plastic material.

**[0023]** The adjusting means, indicated as a whole by 10, is constituted by an elastic structure comprising a pair of flexible curved sheets 11 and 12, with the concave parts facing each other, each one of which has the end fixed to the central rib 13 belonging to said double T-shaped elements.

**[0024]** To advantage, said elastic structure is also moulded during the moulding of the double T-shaped elements 4 and 5.

**[0025]** In central position, at the top of each flexible sheet there is an adjustment button 20 that interacts with a slit 22 belonging to the cross element 2 (see Fig. 7).

**[0026]** As clearly visible in the detail of Fig. 3, the button 20 is constituted by a narrower central part 21 and by a wider base 24.

**[0027]** When the button emerges from one of the two extreme positions of the slit 22, for example in position 211 of Fig. 7, also the base 24 of the button 20 emerges, pushed as it is by the elastic action of the flexible sheets, and this leads to the locking of the button in the seat 211.

**[0028]** In fact it can be observed, always in Fig. 7, that in these conditions the button cannot pass from position 211 to position 210, unless the two opposite buttons 20 are previously pressed by hand, as shown in Fig. 8. In this case the slit 22, narrowed in the intermediate positions, allows the upper part 21 of the button 20 to slide and therefore the button itself, that is, the double T-shaped element 6, to pass from position 211 to position 210.

**[0029]** In order to prevent the buttons 20 from being pressed more than necessary, in the elastic structure 10 a stroke limiting element 25 is provided, which is formed by the thickening of the central rib 12, so that the flexible sheets 11 and 12 stop at a certain height, sufficient for pressing the button 20, but not such as to allow it to be pressed down beyond a given limit.

**[0030]** Obviously, what has been said regarding the elastic structure 10, as described now, applies also to the elastic structure 11, which is relevant to the double

T-shaped element 7 and is carried out and operated in the same way.

**[0031]** According to the example shown in Fig. 1 and in Fig. 2, both the double T-shaped elements 6 and 7 have a clip at one end, indicated respectively by 14 and 15.

**[0032]** As shown in Fig. 2, one half of the clip 15, more precisely the blade-shaped element 151, is moulded together with the double T-shaped element 7.

**[0033]** Equally, as shown in Fig. 4, the clip 14 is constituted by two blade-shaped elements 141 and 142, wherein the blade-shaped element 141, like the blade-shaped element 151, is moulded together with the double-T shaped element 6, while the other blade-shaped element 142 is connected to the blade-shaped element 141 by means of a connection spring.

**[0034]** According to a variant of the invention shown in Fig. 5, the clips 16 and 17 are independent of the hanger and are joined to the double T-shaped elements, now indicated by 8 and 9, since they are slidingly coupled to a shaped protrusion of each one of said double T-shaped elements.

**[0035]** More particularly, as shown in Fig. 5 and 6, the double T-shaped element 8 has at its end a cross-shaped part 81, such that the clip 16 can be inserted into it, said clip then resting against the wall 82.

**[0036]** The same happens for the clip 17 joined to the double T-shaped element 9 at its ends 91.

**[0037]** It is obvious that in these conditions the clips 16 and 17 can be easily changed and replaced with wider or narrower clips, according to the specific clothing items to be hung.

**[0038]** The above description shows that the hanger object of the invention achieves all the aims set.

**[0039]** In fact, the aim to implement a hanger that can be adjusted with precision with clips at predetermined distances has been achieved.

**[0040]** The aim that the adjustment should be carried out easily and effortless has also been achieved.

**[0041]** The aim to implement a hanger that is as versatile as possible, according to the needs related to the different clothing items has also been achieved.

## 45 Claims

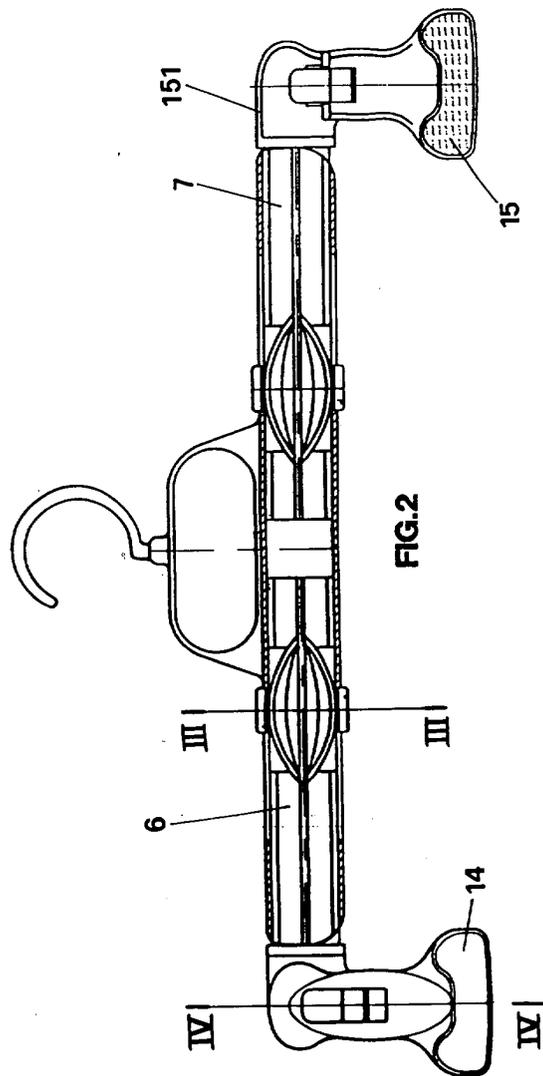
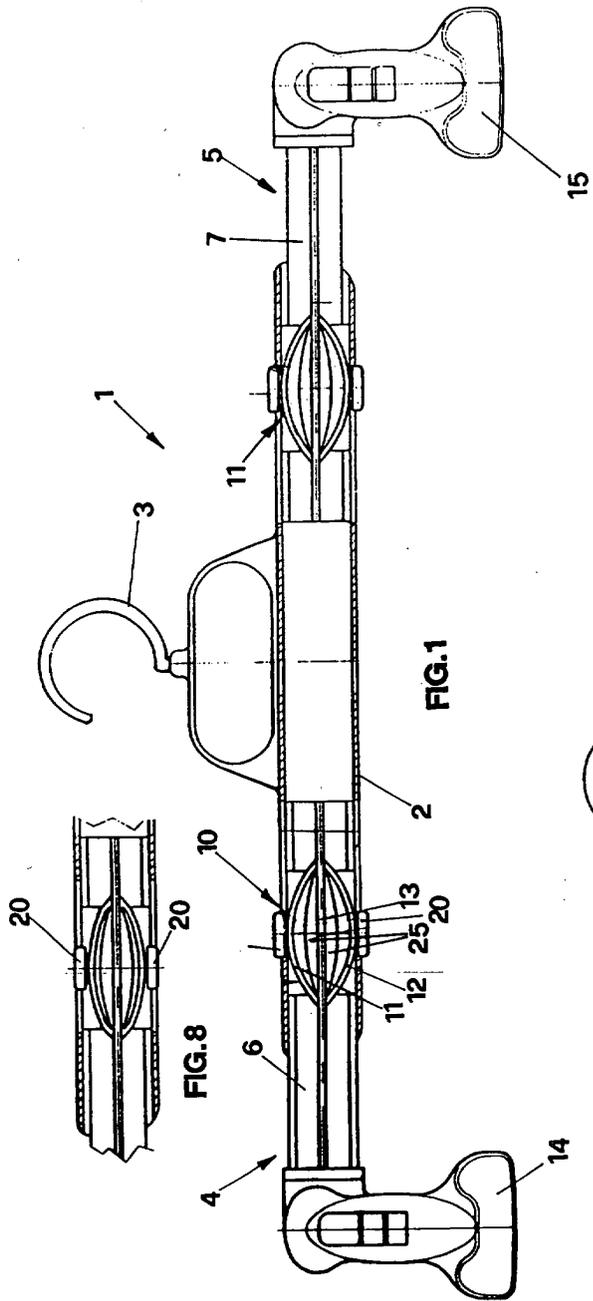
1. Hanger (1) for clothing items and in particular for skirts and trousers, comprising a cross element (2) with substantially longitudinal configuration, combined with hooking means (3) that allow it to be hung to a support element, provided with at least two clips (14, 15; 16, 17) for the clothing item to be hung, connected to said cross element (2) on opposite sides of said hooking means (3) and through sliding means (4, 5) suitable for allowing them to be moved along said cross element (2), **characterized in that** said sliding elements (4, 5) comprise adjusting means (10, 11) suitable for defining, for each one

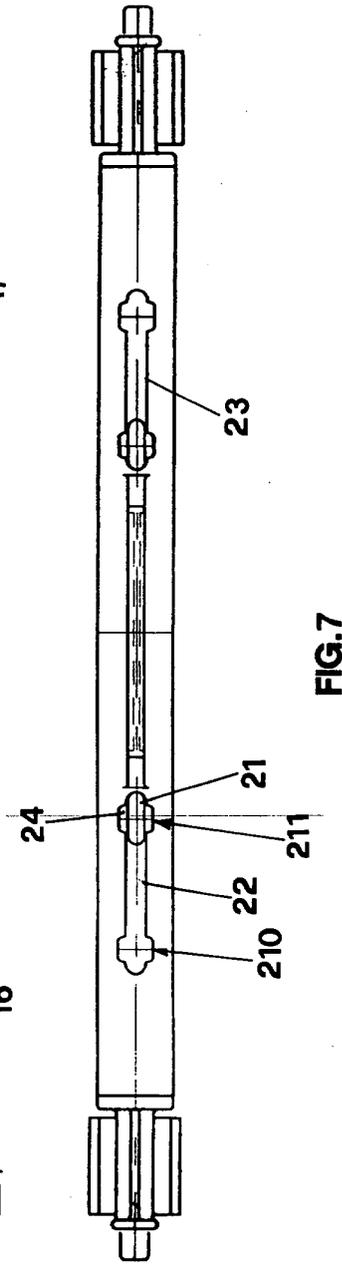
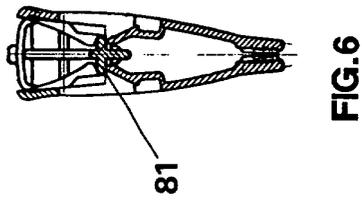
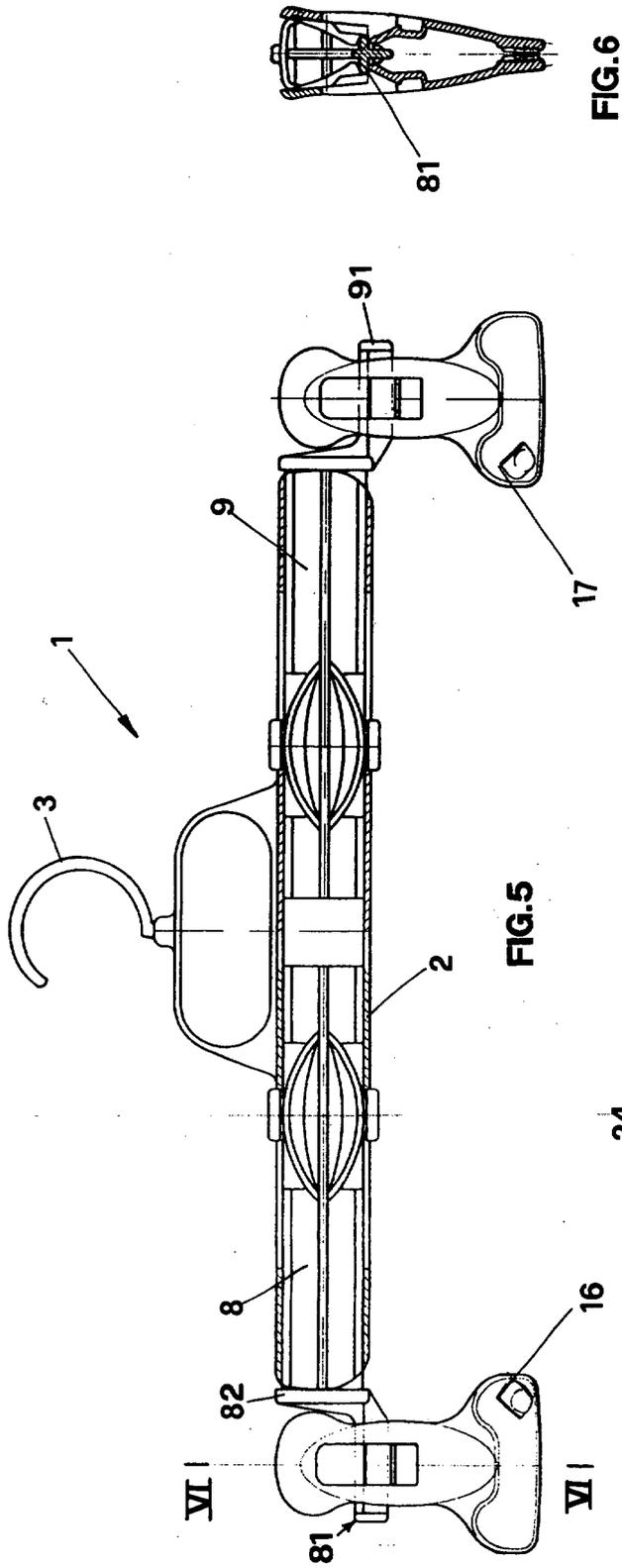
of said clips (14, 15), one or more predetermined positions along said cross element (2).

2. Hanger according to claim 1), **characterized in that** said sliding means (4, 5) comprise a pair of double T-shaped elements (6, 7; 8, 9) with cross section substantially in the shape of an I, slidingly connected to said cross element (2).
3. Hanger according to claim 1) or 2), **characterized in that** said adjusting means (10, 11) comprise an elastic structure combined with said sliding means (4, 5), in which it is possible to locate first opposing means (20, 21) suitable for coupling through interference with second opposing means (22, 23) belonging to said cross element.
4. Hanger according to claim 1) or 2), **characterized in that** said cross element (2) is constituted by a tubular element that houses said sliding means (4, 5).
5. Hanger according to claim 3), **characterized in that** said elastic structure (10, 11) of said adjusting means comprises at least one pair of flexible curved sheets (11, 12) arranged with the concave parts facing each other, each one of which having its end coupled to a central rib belonging to said double T-shaped elements, each of said flexible sheets being provided, in intermediate position, with an adjustment button (20) protruding from said cross element.
6. Hanger according to claim 5), **characterized in that** said elastic structure of said adjusting means comprises a stroke limiting element (25) of said adjustment buttons, constituted by a thickening of the central rib facing said flexible sheets.
7. Hanger according to claim 5), **characterized in that** each one of said adjustment button is inserted into a corresponding seat (22, 23) present in said cross element (2).
8. Hanger according to claim 5) or 7), **characterized in that** said adjustment button (20) has a central part (21) that is narrower compared to a wider base (24).
9. Hanger according to claim 7), **characterized in that** each seat (22, 23) where said adjustment buttons (20) slide is a longitudinal slit having at its ends two enlarged parts (210, 211) suitable for allowing said adjustment button to be pushed out, in such a way as to prevent its further longitudinal sliding.
10. Hanger according to claim 1), **characterized in that** said cross element (2) is constituted by a tubu-

lar element that houses on opposite sides said double T-shaped elements (5, 6) constituting said sliding means.

- 5 11. Hanger according to claim 1), **characterized in that** each one of said clips (13, 14) comprises a pair of blade-shaped elements hinged to each other with interposed elastic means, each blade-shaped element of each clip constituting a single body together with the corresponding sliding means with which it is combined.
- 10 12. Hanger according to claim 1), **characterized in that** each one of said clips (13, 14) comprises a pair of blade-shaped elements (24) hinged to each other with interposed elastic means, each one of said blade-shaped elements being elastically hinged to the end of the corresponding sliding means.







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EUROPEAN SEARCH REPORT

Application Number  
EP 03 00 6313

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The present search report has been drawn up for all claims			
Place of search <b>The Hague</b>		Date of completion of the search <b>6 July 2004</b>	Examiner <b>van Overbeek, K</b>
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	

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