



Europäisches Patentamt
European Patent Office
Office européen des brevets



Publication number: **0 516 035 A1**

EUROPEAN PATENT APPLICATION

Application number: **92108833.2**

Int. Cl.⁵: **A47G 25/20, A47G 25/62**

Date of filing: **26.05.92**

Priority: **28.05.91 IT VR910052**

Applicant: **NEW TECHNOLOGIES SRL**
Via Amatore Sciesa, 13
I-37122 Verona(IT)

Date of publication of application:
02.12.92 Bulletin 92/49

Inventor: **Sisler, Remo**
Via G.Galilei 4
I-37066 Sommacampagna (Verona)(IT)

Designated Contracting States:
AT BE CH DE DK ES FR GB GR IT LI LU MC
NL PT SE

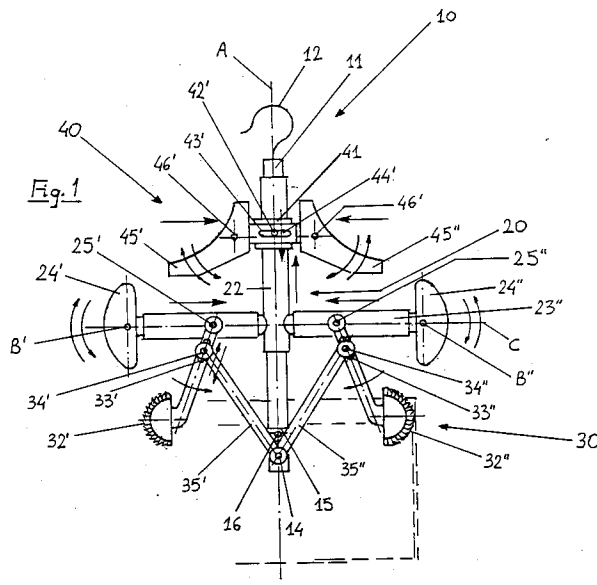
Self-restoring device for articles of clothing.

The self-restoring device (10) for articles of clothing according to the present invention comprises a first, substantially tubular and rectilinear element (11), at an end thereof a hook (12) is placed for hanging the device at a suitable supporting bar (13).

Said first element is suitable for forming a vertical sliding guide for a second element (20) formed by a spider assembly which is constituted by a pair of tubular elements (21',21'') which are disposed at right angles in respect of said first element (11) and by a further tubular element (22) which slides on

said first element.

According to the invention, each of the tubular elements (21',21'') belonging to said pair acts as a guide for a translating member comprising, at one end thereof a molding (24',24'') element which is pivotable about an axis (B) perpendicular to the longitudinal axis of said pair of elements (21',21'') and acting, in operation, in the area where the sleeve is joined to the body of a jacket which placed in cooperation with the device according to the invention.



EP 0 516 035 A1

FIELD OF APPLICATION

The present invention relates to a self-restoring device for articles of clothing.

More particularly, the present invention relates to a self-restoring device for articles of clothing such as, for instance, skirts, jackets, trousers, costumes which are supported by said device which allows the normal using conditions of said articles to be automatically restored, both in what concerns their appearance and their shape.

The invention may mainly be applied in the field of furniture-building and household articles building industry.

BACKGROUND ART

Various kinds of device and/or appliance suitable for supporting articles of clothing are known in the art.

Such kinds of device and/or appliance may substantially be subdivided into two large categories.

The first category comprises the dress-hangers, which are constituted by a roughly triangular-shaped tool having a curved hook at a vertex thereof, said hook being suitable for cooperating with a fixed supporting element, e.g. with a suitable bar housed within a wardrobe, the base of said tool acting, when present, as a support for a pair of folded trousers.

The second category comprises the suit hangers, which are constituted by an upright which is often assembled on swivelling wheels and which supports a generally wooden structure suitable for supporting and, apparently, to keep in a right and natural configuration various kinds of articles of clothing.

Some suit hangers are provided with further devices which, apparently, improve their performances such as, for instance, devices comprising a pair of plates suitable for keeping pressed and heated, thus well-creased, a pair of trousers which are conveniently folded and disposed between said plates.

All of the known devices undoubtedly solve the problem of supporting the hanged articles of clothing against possible falls.

However, the known devices are not suitable for keeping said articles in their natural and ideal shape.

In fact, specifically referring to devices suitable for supporting jackets, there is no device which may universally be adapted to any size: by way of example, when a large-sized jacket is supported by a dress-hanger, its sleeve juncture areas are located beyond the ends of the supporting bars of the dress-hanger, while a small-sized jacket, or a

children jacket, is supported by the bars within the sleeves, thereby causing unavoidable deformations thereof.

Concerning the devices suitable for supporting trousers, in most cases they are based upon the previous operation of creasing the trousers and the subsequent operation of transversally folding the trousers in order to hang them to a bar, thereby causing an unavoidable crease in correspondence of a middle zone of the trousers and requiring a remarkable ability for creasing the trousers in order to avoid the formation of further longitudinal creases.

The problems mentioned above are further amplified in the case where pressing devices are used which comprise a pair of thermo-heated plates: in fact, in this case it is absolutely necessary to place the trousers perfectly creased between the plates in order to avoid the formation of further, almost permanent, creases.

Furthermore, the fact of transversally folding the trousers is anomalous and inadvisable, since the upper part of the trousers is turned upside down, thus causing other undesired creases which are due to the overturning of the pockets and of the linings by the action of the force of gravity.

Beyond a typically household application, tailor's dummies are known in the art, which allow a suit or a dress to be adapted to a given size; however, these dummies may not be universally used, since they are expensive, bulky and not adaptable to articles of clothing having a different size from that of the dummy.

DESCRIPTION OF THE INVENTION

The present invention aims to obviate to the disadvantages and drawbacks which are typical of the background art, and to provide, therefore, for a device suitable for supporting articles of clothing which, in addition to carrying out the normal supporting functions of said articles, would automatically provide for an effective restoring operation of the normal configuration of said articles, thus keeping them in form, said device being at the same time adaptable to any size and producible at a low cost.

This is achieved by means of a device having the features disclosed in the main claim.

The dependent claims describe advantageous forms of embodiment of the invention.

The self-restoring device for articles of clothing according to the present invention comprises a first, substantially tubular and rectilinear element, at an end thereof a hook is placed for hanging the device at a suitable supporting bar.

Said first element is suitable for forming a vertical sliding guide for a second element formed

by a spider assembly which is constituted by a pair of tubular elements which are disposed at right angles in respect of said first element and by a further tubular element which slides on said first element.

According to the invention, each of the tubular elements belonging to said pair acts as a guide for a translating member comprising, at one end thereof a molding element which is pivotable about an axis perpendicular to the longitudinal axis of said pair of elements and acting, in operation, in the area where the sleeve is joined to the body of a jacket which placed in cooperation with the device according to the invention.

According to a further feature of the invention, each of said translating members is provided with a pivot which supports one end of a lever, the other end of which is provided with a suitably shaped and knurled member suitable for cooperating, in operation, with the waistband area of a skirt or of a pair of trousers which is placed in cooperation with the device according to the invention.

According to the invention, each of said levers is further provided with a longitudinal slit in which acts, by means of a suitable pivot, one end of a further lever, the other end of which cooperates with a fixed pivot which is placed at the other end of said substantially tubular and rectilinear element.

A device of the kind described above is suitable, in operation, for supporting a jacket (or a coat) and a pair of trousers (or a skirt) in such a way as it automatically fits to the the shape and to the size of the articles of clothing which cooperate with it, thus carrying out the same functions of a tailor's dummy which were able to automatically adapt itself to articles of clothing of any shape and size, what is nowadays not possible by means of the known devices.

A further quality of the device according to the invention is constituted by the fact that the trousers (or the skirts) are supported by acting on the waistband, thus hanging them in their free and natural using position.

This feature should be considered in combination with the fact that the jacket is also supported in its natural using position, and with the important function which is carried out by the molding elements and by the knurled members.

In fact, these act in an interdependent and concomitant way the in respect to each other and exert a pressure on the contact area with the articles of clothing which is proportional to the weight of said articles and which carries out a shape-restoring effect both on the jacket and on the trousers.

According to an advantageous form of embodiment of the invention, said first tubular and rectilinear element supports a further pair of molding

members, which are placed opposed to the longitudinal axis of said first element and whose mutual distance is adjustable.

These molding members are suitable to easily fit to any shape and/or size of jacket collar, thereby further improving the restoring action carried out by the device according to the invention.

ILLUSTRATION OF THE DRAWINGS

Further advantages and features of the invention will become apparent from reading the following description, of a form of embodiment of the invention, given as a non-limiting example, with the help of the figures shown in the attached sheets, in which:

- figure 1 shows a frontal view of a device according to the invention, in a "closed" position;
- figure 2 shows a partially sectioned plan view of the device of figure 1;
- figure 3 shows a frontal view of a device according to the invention, in an "open" position and
- figure 4 shows a frontal view of a suit which is placed in cooperation with a device according to the invention.

DESCRIPTION OF A PREFERRED FORM OF EMBODIMENT

In the figures, reference sign 10 generally indicates a self-restoring device for articles of clothing according to the present invention.

Device 10 comprises a first tubular and rectilinear element 11 having a vertical axis A, one end of which is provided with a hook 12 suitable for hanging the device 10 to a supporting bar 13 (see figures 3 and 4), while the other end is provided with a first pivot 14, whose functions will be later described in detail.

Furthermore, said first element 11 acts as a guide for a ring 15 which is movable along said first element 11 and which may be fastened to it through suitable screw means 16.

The functions which are carried out by said ring will be later described in detail.

Said first element acts as a further guide for the translating movement along axis A of a second element 20 which is formed by a spider assembly constituted by a pair of tubular elements 21', 21'' which are perpendicular to axis A and by a further element 22 which is aligned and superimposed to said first element 11 which acts as a guide.

Each of the the elements 21', 21'' belonging to said pair acts as a guide for a movable tubular member 23', 23'' acting as a slider and which is

provided at one end with a molding member 24', 24" which is freely pivotable about an axis B placed at right angles in respect of said pair of elements 21', 21".

According to the invention, each of members 23', 23" is provided, within a zone comprised the centre and one of the ends thereof, with a pivot 25', 25" to which is connected one end of a lever 31', 31" belonging to a third element 30 for supporting a pair of trousers or a skirt.

Each of said levers 31', 31" is provided, at its other end, with a suitably shaped and knurled member 32', 32" suitable for cooperating with the waistband of a pair of trousers or of a skirt in a way which will later be described in detail.

Furthermore, each of said levers 31', 31" is provided with a slit 33', 33" in which acts a pivot 34', 34" which is connected to one end of a connecting rod 35', 35", whose other end is connected to the previously described pivot 14.

Said first pivot 11 further supports a fourth element 40 suitable for keeping in its right form the collar zone of a jacket.

Said fourth element 40 comprises a supporting block 41, which is releasably connected to said first element 11 and which is provided with a pair of pivots 42', 42" (see fig. 2) for guiding a pair of opposed brackets 43', 43", each of which is provided with a slit 44', 44" in which acts pivot 42', 42", each of said brackets 43', 43" being connected to a member 45', 45" for supporting the collar zone by means of a pivot 46', 46".

The device 10 according to the invention is operated as follows.

In the case where a suit 50 (see fig. 4) formed by a jacket 51 and a pair of trousers 52 having any size would have to be put in cooperation with device 10, the first operation to be done is that of carrying out a pre-setting of device 10 in such a way as it would become suitable for supporting and restoring the suit 50 of that given size.

Bearing in mind that fig. 3 represents the device in its widest open position, which corresponds to the largest possible size, while figure 1 represents the device in its smallest open position, which corresponds to a very small size, or to a size for children clothing, ring 15 is raised along first element 11 and it is fixed in a position for which the widest open position (which corresponds to the maximum distance between respective elements 24', 24" and between respective knurled members 32', 32" suffices for device 10 to keep slightly tensioned, thus to support in an effective way, both of the jacket 51 and the pair of trousers 52 cooperating with device 10.

Thereafter, jacket 51 is set to cooperate, in its collar zone, with said fourth element 40 (which element 40 keeps said collar in its right and natural

shape by means of tilting members 45', 45") and, in correspondence with the juncture zone of the sleeves, with elements 24', 24".

Similarly, the waistband of the trousers 52 is set into cooperation with knurled members 32', 32".

In the case shown in fig. 4, device 10 is hanged, by means of hook 11, to a bar 12 belonging to a supporting structure 17 placed on the floor.

Thus, when placing jacket 51 and trousers 52 in cooperation with device 10, the jacket weight causes lowering of said second element 20 along the guide formed by said first element 11 and, simultaneously, widening of the angle formed by the pair of connecting rods 35', 35".

At the same time pivots 34', 34", which are placed at the respective ends of connecting rods 35', 35", are moved within slits 33', 33" which are formed inside of levers 31', 31", thereby causing the double and interdependent effect of pushing away from axis A both the respective pair of elements 24', 24" connected to the tubular members 23', 23" and the respective pair of knurled members 32', 32".

The final result of such operation is clearly visible in figure 4, in which it may be remarked that:

- jacket 51 leans on the collar zone supporting element 40 which, by means of its tilting elements, keeps the collar in its most natural form, just as from a tailor's cut;
- jacket 51 is kept slightly tensioned, by means of the action of its own weight, in the sleeves juncture zone, thereby causing a pressing operation of eventual creases existing in the rear part of the jacket and, when the jacket is buttoned up, of eventual creases existing in its front part;
- the trousers 52 are kept vertically upright by means of a support (knurled members) which acts on the waistband, exactly as the trousers were worn; this feature implies a plurality of nice side effects, such as automatically pressing the front crease and, when provided, of the rear crease, due to the effect of the force of gravity on the trousers, and automatically pressing of linings and pockets for the same reason; in this respect, it should be noted that, contrary to the known devices, device 10 according to the invention keeps the trousers in the same position as they were worn, thereby neither causing an additional longitudinal crease (uncorrect creasing of the trousers before putting them away), nor causing an additional transversal crease (when folding up the trousers).

Thus, the device according to the invention carries out a self-restoring action on the articles of

clothing placed on it, said restoring action resulting in the automatic pressing of said articles which takes place, for instance, during the night by means of the sole force of gravity.

In this context, it may be remarked that, when a damp, just washed, shirt is placed on device 10, within few hours the shirt will appear perfectly dry and ironed, on the grounds cited above.

Therefore, the invention may economically fully replace a tailor's dummy and, furthermore, be adapted to any dress or suit size, what is possible, according to the prior art, only by providing a series of dummies.

The invention has been previously described with reference to a particularly advantageous form of embodiment.

However, it comprises several variants which fall within its scope.

By way of example, it were possible to provide for resilient means acting between levers 31', 31'', in order to diminish the side pressure of knurled members 32', 32'' in the case where a particularly heavy article were placed on the jacket supporting element 20.

In this case, the resilient means operate the simultaneous actions of raising the pressure on the jacket and of lowering the pressure on the trousers, said actions being automatically adjusted by means of the simultaneous movement of pivots 34', 34'' within their respective slits 33', 33''.

Furthermore, the invention comprises forms of embodiment according to which said third, skirt or trousers supporting element 30 and/or said fourth, collar zone supporting element 40, are not present.

In its simplest form of embodiment, thus, connecting rods 35', 35'' are connected by one end to pivot 14, just as already described, while the respective opposed ends are directly connected to pivots 25', 25'', thereby causing elements 24', 24'' to move away from each other.

Claims

1. Self-restoring device (10) for articles of clothing, comprising a first elongated element (11) provided with a first longitudinal vertical axis (A), one end of said first element being provided with a hook (12) suitable for hanging the device (10) to suitable supporting means, further comprising a pair of substantially tubular elements (21', 21'') disposed at right angles in respect of said first axis (A), characterised in that said first element (11) forms a guide for the rectilinear translation movement of a second element (20) formed by a spider assembly constituted by said pair of substantially tubular elements (21', 21'') and by an element (22) coaxial with said first element (11), in that each

of the substantially tubular elements forms a guide for the rectilinear translation movement of a tubular member (23', 23'') which bears, at one end thereof, a molding element (24', 24'') suitable for supporting, in operation, an article of clothing such as a jacket, a coat or a similar article, and in that the other end of said first element (11) is provided with a rotation pivot (14) to which is connected one end of a pair of connecting rods (35', 35''), the other end (34', 34'') of each connecting rod (35', 35'') cooperating with a pivot (25', 25'') disposed on each tubular member (23', 23'').

2. Device (10) according to claim 1, characterised in that each of said molding elements (24', 24'') is rotatably movable about a second axis (B', B'') perpendicular to said first axis (A).
3. Device (10) according to anyone of the preceding claims, characterised in that it comprises a ring (15) disposed about said first element (11), said ring being suitable to be fixed to said first element (11) through screw means (16), said ring (15) being suitable for limiting the translating movement of said coaxial element (22) relative to said first element (11).
4. Device (10) according to anyone of the preceding claims, characterised in that said other end (34', 34'') of each connecting rod (35', 35'') is connected to a lever (31', 31'') belonging to a third element (30) for supporting an article of clothing such as a skirt or a pair of trousers.
5. Device (10) according to claim 4, characterised in that said other end (34', 34'') of each connecting rod (35', 35'') is provided with a pivot suitable for translating within a slit (33', 33'') provided in said lever (31', 31'').
6. Device (10) according to anyone of claims 4 and 5, characterised in that a first end of said lever (31', 31'') is articulated on said pivot (25', 25'') disposed on each tubular member (23', 23'').
7. Device (10) according to anyone of claims 4 to 6, characterised in that said lever (31', 31'') is provided, at one end thereof, with a member (32', 32'') suitable for exerting a side pressure on the waistband of said skirt or pair of trousers.
8. Device (10) according to claim 7, characterised in that said member (32', 32'') has a suitably shaped and knurled contacting surface.

9. Device (10) according to anyone of the preceding claims, characterised in that said coaxial element (22) is connected to a fourth element (40) suitable for supporting the collar zone of an article of clothing such a jacket or a coat. 5
10. Device (10) according to claim 9, characterised in that said fourth element (40) comprises a block (41) suitable for being fixed to said coaxial element (22), said block being provided with a pair of pivots (42', 42''), and in that a pair of brackets (43', 43''), each of which is provided with a collar supporting element (45', 45''), is provided with slits (44', 44'') in which said pivots (42', 42'') are inserted, said pair of brackets being slidable according to a direction perpendicular to said first axis (A). 10
15
11. Device (10) according to claim 10, characterised in that each collar supporting element (45', 45'') is connected to its respective bracket (43', 43'') by means of a rotation pivot (46', 46''). 20
12. Device (10) according to anyone of claims 4 to 11, characterised in that it comprises resilient means connected to the levers (31', 31'') of said third element (30). 25

30

35

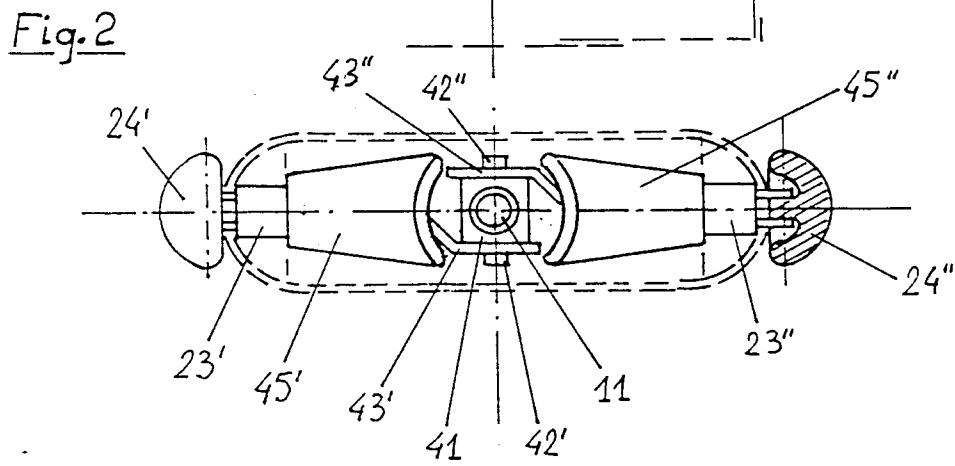
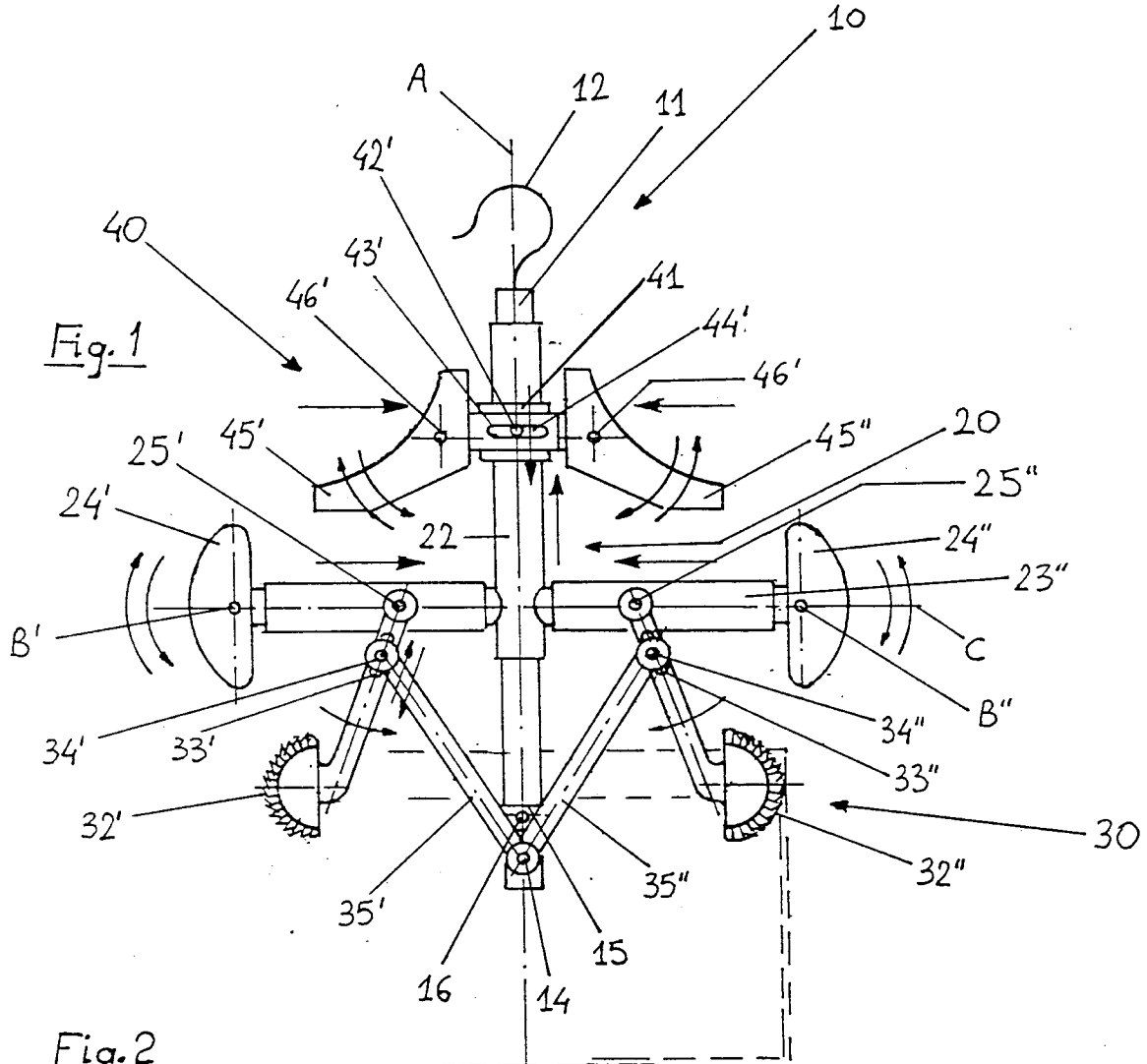
40

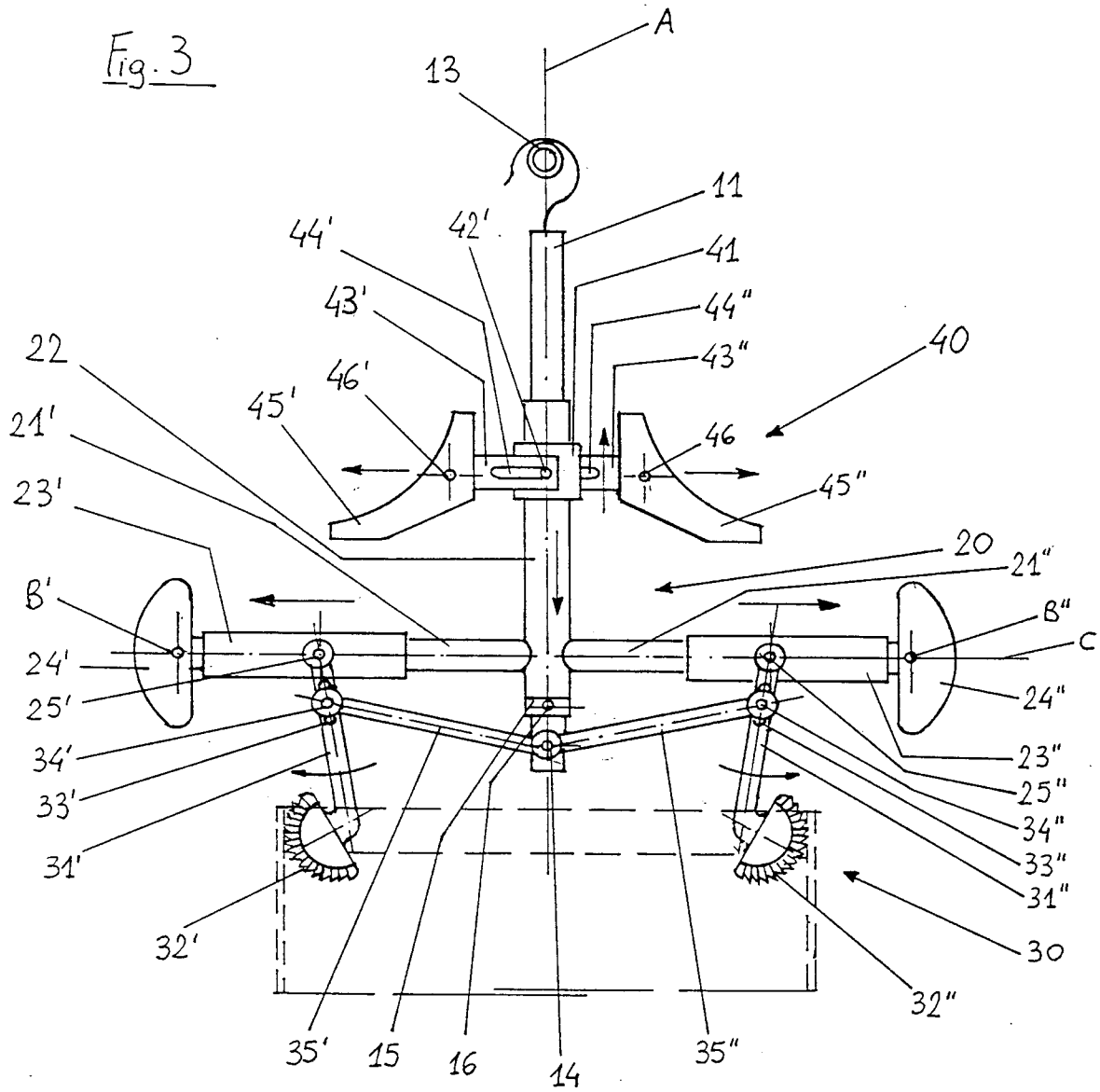
45

50

55

6





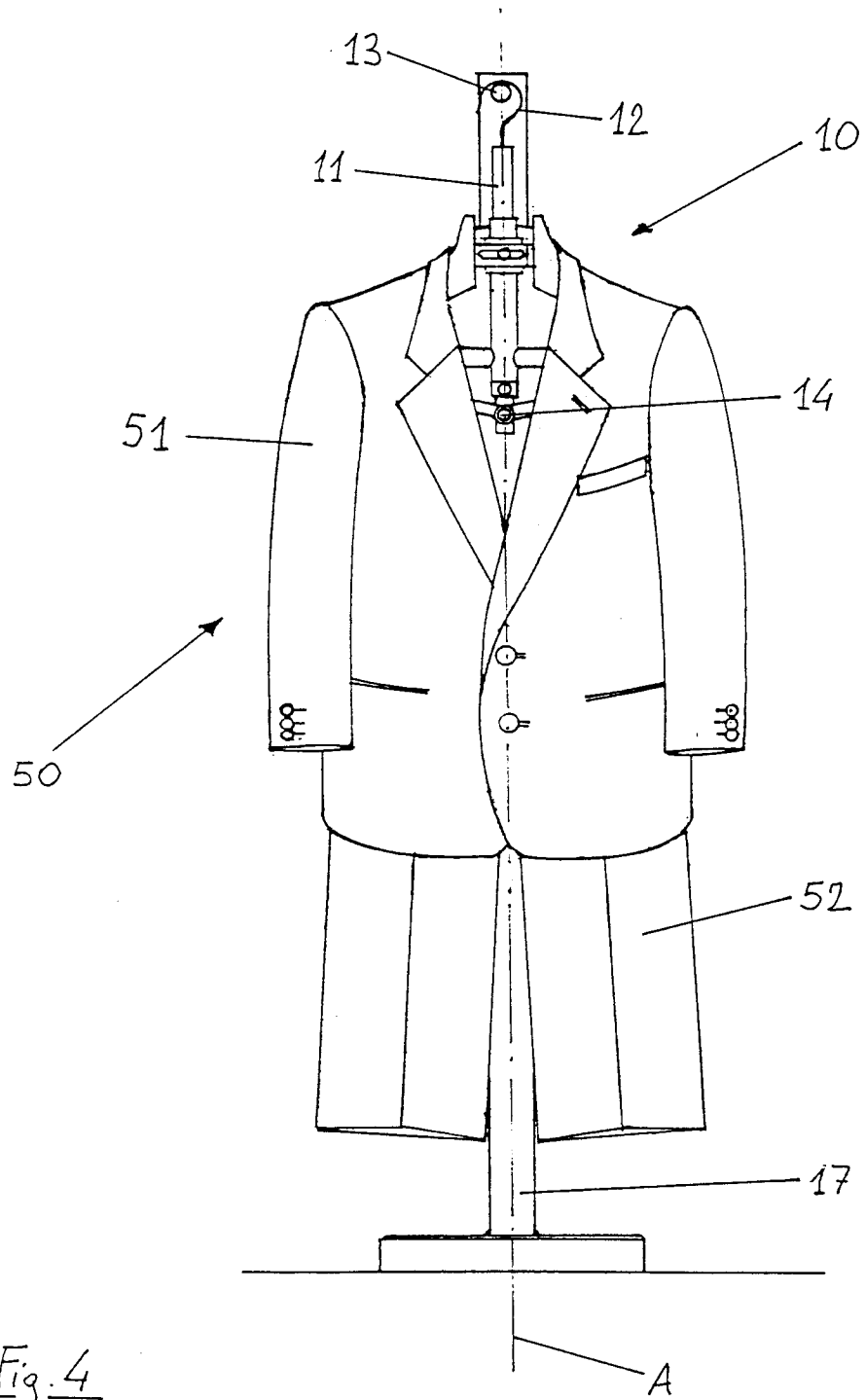


Fig. 4



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)
A	DE-U-8 707 072 (BENETTON) * page 8, paragraph 2 - page 9, paragraph 2; figures 1,3 *	1, 3	A47G25/20 A47G25/62
A	GB-A-2 128 079 (BRAITRIM LIMITED) * the whole document *	1, 4, 6-8, 12	
A	US-A-2 883 095 (GREENBAUM) * column 2, line 6 - column 3, line 46; figures 1-4 *	1	
A	US-A-3 174 663 (CAMPBELL) * column 2, line 35 - column 3, line 61; figures 1,2 *	1, 4, 6, 12	
A	FR-A-969 858 (HAW) * the whole document *	2	
A	US-A-4 669 642 (NICHOLAS) * column 2, line 45 - column 3, line 6; figure 9 *	9	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			A47G A47J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 07 SEPTEMBER 1992	Examiner VISTISEN L.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p> <p>..... & : member of the same patent family, corresponding document</p>			