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(54) **Dummy for drawing up dressmaking dresses**

Dummy zum Hochziehen von geschneiderten Kleidern

Mannequin pour dessiner des robes de confection

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Description

[0001] The present invention refers to a dummy for drawing up and designing models of dressmaking dresses of the type that completely reproduces a human figure and therefore presents legs and arms, these latter articulated in correspondence with the shoulders and, eventually, the elbows.

[0002] Dummies of the type defined above are known, they have the function of representing the human body to scale, respecting the proportions.

[0003] A simplified version is represented by the so-called window dummies, which usually have a fixed shape, and rarely include a simplified articulation.

[0004] For dressmaking drawing up, however, the so-called tailors' dummies are known, without legs.

[0005] The dummies of this type serve, therefore, principally to allow the application of trial models already partially prepared, to observe how they will be worn.

[0006] Their use necessitates a notable experience of tailoring for the designing of a dress with original lines, and often needs later applications of fillers, enlargements and so forth.

[0007] After a series of approximations that step by step come closer to the model imagined by the designer, the definitive model is obtained and which, based on the desired size, is needed to obtain the cuts of cloth that are necessary for the composition of the dress.

[0008] Such dummies, however, do not have an active part in the drawing up and designing of a model, procedures which thus require a thorough knowledge of empirical techniques and numerous trials before arriving at the desired model of a dress.

[0009] US 2010/0070384 A1 discloses a dummy with means for adjusting the shape of the shoulders, neck, chest and back. The means comprise electric motors which actuate telescopic links.

[0010] The technical problem which is the basis of the present invention consists of supplying a dummy as specified above which allows one to overcome the limitations of known dummies with reference to the state of the technique.

[0011] Said problem is resolved by a dummy as specified above, and which comprises:

- a main body, divisible in two portions along an anterior-posterior vertical plane, which substantially corresponds to the section that extends from the crotch to the axis of the neck; and
- at least one shoulder joint that allows the rotation of the arm according to an anterior-posterior axis that is substantially horizontal, from a position adjacent to the body to a position that is substantially horizontal, and the vertical sliding of the arm with respect to the profile of the shoulder from a lower position, in which the joint of the arm is lowered with respect to the profile of the shoulder, to a higher position, in

which the joint of the arm is raised, with respect to the profile of the shoulder.

[0012] The principal advantage of the above-described dummy consists in supplying a direct aid in the drawing up of the model, because it allows modelling to be effected directly on the body of the dummy, thanks also to the direct access to the area of the crotch and to the sliding of the joint at the shoulder, and of the parts which make up the model itself.

[0013] According to a preferred embodiment of the invention, the dummy also comprises a head that rotates on the neck and which can be removed from it. Furthermore, the joint at the shoulder may also comprise the rotation of the arm along a lateral horizontal axis, that is the axis which unites the two opposing shoulders, as well as the partial separation of the proximal extremity of the arm. Other characteristics and advantages of the invention will become evident from the description of an embodiment, given with the aim of a non-limiting example and with reference to the attached plans in which:

- Figure 1 shows a full view of the frontal elevation of the dummy according to the invention, in a complete configuration;
- Figure 2 shows a partially exploded lateral prospect of the dummy in Figure 1, with some construction details highlighted;
- Figure 3 shows a partially exploded prospect viewed from above of the dummy in Figure 1, with the construction details of the preceding Figure seen from another angle and in use;
- Figure 4 shows a partially exploded lateral view in prospect of the dummy in Figure 1, taken from the opposite point of view to that of Figure 3 and with other construction details highlighted.

[0014] With reference to the figures, a dummy according to the invention is indicated in its entirety by 1. It reproduces a human figure proportionally and to scale, for example of 50%. It presents a main body or corset with respective arms 2, a head 3, and respective legs 10 separated in correspondence to a crotch 7.

[0015] At least one arm, in particular the right arm 2, visible in the Figures, is completely articulated at the level of the shoulder 4 and at the level of the elbow 9. Said arm therefore comprises a proximal portion of arm 5, or more correctly an arm, and a forearm 6.

[0016] The elbow 9 simply allows the forward rotation of the forearm when the arm is in a distended position, not in a lateral one.

[0017] The opposite arm to that completely articulated may also be complete with articulations as previously described, but may also be a simple mock-up without joints, and in this manner is indicated by 2, having a fixed proximal portion of arm 5, forearm 6 and elbow 9.

[0018] The head 3 can be separated from the dummy and from the respective neck 8, onto which it fits by simple

joint so that it can be turned according to the vertical axis of the neck 8.

[0019] The dummy 1 can be separated along an anterior-posterior vertical plane, that is a plane that is substantially perpendicular to the section that extends from the crotch 7 to the axis of the neck.

[0020] A main semi-corset 1' is identified, which comprises said completely articulated arm, and a secondary semi-corset 1'', with the mock-up of an arm 2'. In the present example, the main semi-bust 1' is that on the right, but it is intended that the two semi-busts can be totally interchangeable.

[0021] The respective planes of separation comprise a connection system with two projecting pins 13, set on the same plane or on opposite planes, with two recesses 13' in complementary positions to said pins. When the two planes of separation are overlying, the pins 13 use the respective recesses 13', ensuring a connection by the interfacing between the surfaces of the pins and the recesses. Of course, any system of connection, preferably not perceivable from outside the dummy 1 when assembled, may be considered adequate for the purpose.

[0022] The legs 10 of the dummy stand on a supporting base 11, substantially conforming to a pedestal or a plate. The leg 10 which extends from the secondary semi-corset 1'' may not be connected to the base 11, with the dummy therefore supported only by the leg 10 of the main semi-corset 1'. This configuration allows the secondary semi-corset 1'' from the main one without touching the base 11, which may be wide and balanced in such a way to maintain the main semi-corset 1' in a vertical position.

[0023] Other solutions may foresee a separable base in correspondence with the secondary semi-corset 1'' or the possibility of disconnecting both the legs 10 from the base, for example by connections with reversible joints or with a plug, with pins that project from the upper face of the base 11.

[0024] In any case, these configurations permit the dismantling of the secondary semi-corset 1'' from the main one 1', maintaining this last in a vertical and stable position, eventually after partial re-assembly.

[0025] In the above-described conformation the cavity (not visible), formed at the base of the head and into which the trunk of the neck is inserted, functions as a further means of connection.

[0026] With reference to the jointed arm 2, hereafter is described the articulation of the shoulder 4. It permits the proximal portion of the arm 5 various movements:

- to rotate around a horizontal anterior-posterior axis;
- to rotate around a lateral horizontal axis, which substantially coincides with the line that unites the shoulders;
- a translation along a vertical axis (Y) of the articulation of the arm with respect to the profile of the shoulder from a lower position, in which the joint of the arm is lowered with respect to the profile of the shoulder,

to a higher position, in which the joint of the arm is raised with respect to the profile of the shoulder — this translation also permits the arm, when placed in a horizontal position, to bring the upper profile of the proximal portion of the arm 5 and the profile of the shoulder to the same level, but also to lower said portion 5, leaving the shoulder 4 substantially free; and

- an optional translation of the proximal portion of the arm 5 away from and nearer to the shoulder, along a horizontal axis (X) coinciding with said line that unites the two shoulders.

[0027] The four movements described above are set up by a particular articulation indicated as a whole by 14, which is inserted and assembled in a suitable cavity 21, made in the main semi-corset 1' in correspondence with the shoulder. The cavity 24 is shaped in such a way to permit the movement of the mobile parts of the articulation 14.

[0028] It comprises a fixing plate 15 in order to be fixed to said main semi-corset 1' from said plane of separation, when the dummy 1 is in a separated configuration. The plate 15 supports a guide plate 16 which faces, in said cavity 24 towards the shoulder, and is accessible by it. Said arm 2 is installed through this cavity. The guide plate 16 is furnished with a pair of grooves 17, in which the sliding elements of a mobile equipment 18 are inserted. It is intended that this sliding connection is to permit the sliding and vertical translation along a vertical or slightly inclined axis towards the exterior of the shoulder. It can be constructed in diverse ways, for example with a track and counter-track connection, or with a screw shaft that commands the movement of the mobile equipment 18. Said motion can be carried out manually by pushing or by other methods. The mobile equipment 18 and the guide-plate 16 present respective elements that permit the reciprocal motion of the two parts by trip-release, thus identifying the pre-established positions of arrest. This may be obtained with a rack structure or, as in this case, with protruding spheres on an elastic support which protrude from the guide-plate 16 towards the mobile equipment 18 and find their seats in a series of equidistant semi-spherical cavities 22 along a linear course. The above-described connection permits a vertical excursion with 5mm trips and eight different positions, in such a way that, with respect to the initial position, it is possible to raise the articulation by 25mm and to lower it by 10mm.

[0029] From the mobile equipment 18 a fixing pin 19 extends horizontally, which according to a particular version of constructing the present dummy 1 is telescopic, and capable of elongation or a limited excursion from a retracted position. The fixing pin 19 has a magnetic proximal base, which is inserted into a hollow in the mobile equipment 18 in such a way as to permit an easy separation of the entire arm 2 from its seat.

[0030] Said connection allows rotation around the axis of the pin 19, that is a rotation around a lateral horizontal

axis, which substantially coincides with the line that unites the shoulders. The distal extremity of the pin 19 presents, instead, a further joint 20, which permits the above-said rotation around an anterior-posterior horizontal axis.

[0031] Said articulation comprises a cogwheel that interacts with a cog(not shown), retractable into said articulation, to permit a rotation with trips, in such a way as to identify positions that are fixed, precise and repeatable in the course of the rotation.

[0032] From the joint 20 a further distal pin 21 extends, which serves to wedge itself into the full body of the arm 2.

[0033] It results therefore as evident how the above-described articulation permits the rotation of the arm 2 according to a substantially horizontal anterior-posterior axis from a position adjacent to the body to a substantially horizontal position, and the vertical movement of the arm in said horizontal position from a lower position to a higher position in which the upper profile of the arm is aligned with the upper profile of the shoulder in such a way that, with the arm extended, the continuity of the arm-shoulder surface is assured.

[0034] Of course, the anterior-posterior rotation described here may, however, also be of limited excursion.

[0035] Furthermore, the excursion of the articulation 4 of the shoulder also permits the proximal extremity of the arm to be raised with respect to the profile of the shoulder, other than lowered, always to permit the maximum freedom in drawing up the model.

[0036] Furthermore the subdivision of the body of the dummy in two portions consents, of course, an easy access to the area of the crotch, where it is thus possible to give shape to the mock-ups thanks to the visibility of the profiles of the section. In this way, any type of modelling can be created around it, even in a very complex manner and always with absolute freedom.

[0037] The height of the dummy is divided into 8 modules of 11cms each for the construction to scale 1:2, with a height of 88cms.

[0038] The choice of this module is not casual, but results as the most suitable for determining vertical levels that affect particular and significant areas of the body. The dummy is covered in a semi-elastic fabric and on it some vertical and horizontal reference lines are traced, in order to favour a specific position during the planning and during the drawing up.

[0039] On the right part of the dummy, with horizontal lines, 5 vertical reference levels have been highlighted.

[0040] To these some vertical lines are the added: two of these establish the limits of the lateral sector, below the sleeve circumference; one, situated in the lateral sector, indicates the separation between the lower and the upper portions.

[0041] Also in the internal part of the leg, with another vertical line, the separation between the anterior and posterior portions is highlighted.

[0042] Another line descends frontally, from the level below the breast to the ankle, maintaining the vertical

along the central part of the leg.

[0043] In correspondence with it, to the rear, an identical line descends centrally on the leg.

[0044] The lines on the shoulder that constitute the separation, in that zone, between the anterior and posterior parts and the lines of the neck circumference are also highlighted.

[0045] Still on the arm, centrally and externally, the extension of the line situated on the shoulder is highlighted.

[0046] In the internal part of the arm there is a cross-checking line, in correspondence with the sleeve circumference line situated on the dummy.

[0047] Finally, internal to the plane of the vertical section, the profiles of the same section in proximity to the crotch zone are highlighted.

[0048] In this way, even the inexperienced user has the possibility to modify, by moving the articulation of the arm up and down, the line or the profile of the shoulder, obtaining new lines and configurations that assure the dressmaker the maximum freedom of interpreting that part of the dress.

[0049] To the above described dummy a technician in the field, with the aim of satisfying further and contingent needs, can make numerous further modifications and variations, all however comprised within the protected area of the present invention, which is defined by the attached claims.

Claims

1. A dummy (1) for drawing up dressmaking dresses of the type integrally reproducing a human figure, having legs and arms, the latter articulated at the shoulder and possibly at the elbow, comprising:

- at least a shoulder joint (4) allowing the rotation of the arm (2) according to an anterior-posterior substantially horizontal axis from a position adjacent to the body to a substantially horizontal position, and the arm vertical sliding with respect to the shoulder profile from a lower position, wherein the arm joint is lowered with respect to the shoulder profile, to an upper position, wherein the arm joint is raised with respect to the shoulder profile, **characterised in that** it further comprises a main body which can be divided into two portions according to an anterior-posterior vertical plane (A) substantially corresponding to the section extending from the crotch (7) to the neck axis.

2. The dummy (1) according to claim 1, wherein the head (3) can be separated from the dummy and from the respective neck (8), whereon it is put so as to be able to rotate according to the vertical axis of the neck (8).

3. The dummy (1) according to claim 1, wherein the main body is divided into a main half-corset (1'), which comprises a wholly articulated arm (2), and a secondary half-corset (1''), the respective separation planes comprising a connection system, which preferably cannot be detected from the outside of the dummy. 5
4. The dummy (1) according to claim 3, wherein the legs (10) erect on a supporting basis (11) so as to allow separating the secondary half-corset (1'') from the main one by keeping it in vertical position. 10
5. A dummy (1) according to claim 1, wherein said joint of the shoulder (4) allows the following motions: 15
 - a rotation around an anterior-posterior horizontal axis;
 - a rotation around a side horizontal axis substantially coinciding with the line joining the shoulders; 20
 - a translation according to a vertical axis (Y) allowing the arm, when it is placed horizontally, to bring the upper profile of the proximal portion of the arm (5) and the shoulder profile at the same level, but even to lower said portion 5, by leaving the shoulder (4) substantially free; and 25
 - an optional translation of the proximal portion of the arm 5 by moving away or re-approaching with respect to the shoulder, according to a horizontal axis (X) coinciding with said line joining the two shoulders. 30
6. The dummy (1) according to claim 5, wherein the joint of the shoulder (4) allows the sliding and the vertical translation according to a vertical axis or an axis slightly tilted towards the outside of the shoulder with a jump motion, thus by identifying pre-established locking positions, wherein the arm (2) can even be raised with respect to the profile of the shoulder (4). 35 40
7. The dummy (1) according to claim 5, wherein the joint of the shoulder (1) comprises a hinge joint (20) allowing the above-mentioned rotation around an anterior-posterior horizontal axis with a jump rotation, so as to identify fixed and precise positions which can be repeated during the rotation. 45
8. The dummy (1) according to claim 1, wherein the dummy is coated with a semi-elastic fabric and whereon some vertical and horizontal reference lines have been traced apt to favour a specific orientation during planning and drawing-ups. 50 55

Patentansprüche

1. Dummy (1) zum Hochziehen von geschneiderten Kleidern der Art, die eine menschliche Figur vollständig wiedergibt und dann Beine und Arme aufweist, wobei die Letzteren an der Schulter und möglicherweise am Ellbogen gelenkig sind, umfassend:
 - mindestens ein Schultergelenk (4), das die Drehung des Arms (2) gemäß im Wesentlichen einer horizontalen Anterior-Posterior-Achse aus einer Position nahe dem Körper in eine im Wesentlichen horizontale Position ermöglicht, und das vertikale Gleiten des Arms mit Bezug auf das Schulterprofil aus einer unteren Position, in der das Armgelenk mit Bezug auf das Schulterprofil abgesenkt ist, in eine obere Position, in der das Armgelenk mit Bezug auf das Schulterprofil angehoben ist, **dadurch gekennzeichnet, dass** er weiter Folgendes umfasst:
 - einen Hauptkörper, der in zwei Abschnitte unterteilt werden kann, gemäß einer vertikalen Anterior-Posterior-Ebene (A), im Wesentlichen entsprechend dem Abschnitt, der sich vom Schritt (7) zur Halsachse erstreckt.
2. Dummy (1) nach Anspruch 1, wobei der Kopf (3) vom Dummy und vom entsprechenden Hals (8), auf den er gestellt ist, getrennt werden kann, um dazu in der Lage zu sein, sich gemäß der vertikalen Achse des Halses (8) zu drehen.
3. Dummy (1) nach Anspruch 1, wobei der Hauptkörper in ein Haupt-Halbkorsett (1') unterteilt ist, das einen vollständig gelenkigen Arm (2) umfasst, und in ein sekundäres Halbkorsett (1''), wobei die entsprechenden Trennebenen ein Verbindungssystem umfassen, das vorzugsweise von der Außenseite des Dummys nicht festgestellt werden kann.
4. Dummy (1) nach Anspruch 3, wobei sich die Beine (10) auf einer Stützbasis (11) aufrichten, um eine Trennung des sekundären Halbkorsetts (1'') vom Haupt-Halbkorsett zu ermöglichen, wobei es in einer vertikalen Position gehalten wird.
5. Dummy (1) nach Anspruch 1, wobei das Gelenk der Schulter (4) die folgenden Bewegungen ermöglicht:
 - eine Drehung um eine horizontale Anterior-Posterior-Achse;
 - eine Drehung um eine seitliche horizontale Achse, die im Wesentlichen mit der Linie übereinstimmt, die die Schultern verbindet;
 - eine Translation gemäß einer vertikalen Achse (Y), die es dem Arm, wenn er horizontal angeordnet ist, ermöglicht, das obere Profil des proximalen Abschnitts des Arms (5) und das Schul-

terprofil auf die gleiche Ebene zu bringen, aber auch, den Abschnitt 5 abzusenken, indem die Schulter (4) im Wesentlichen frei gelassen wird; und

- eine optionale Translation des proximalen Abschnitts des Arms 5 durch die Wegbewegung oder die Wiederannäherung mit Bezug auf die Schulter gemäß einer horizontalen Achse (X), die mit der Linie übereinstimmt, die die zwei Schultern verbindet.

6. Dummy (1) nach Anspruch 5, wobei das Gelenk der Schulter (4) das Gleiten und die vertikale Translation gemäß einer vertikalen Achse oder einer Achse, die geringfügig zur Außenseite der Schulter geneigt ist, mit einer Sprungbewegung ermöglicht, so durch die Identifizierung von vorher festgesetzten Blockierpositionen, wobei der Arm (2) auch mit Bezug auf das Profil der Schulter (4) angehoben werden kann.
7. Dummy (1) nach Anspruch 5, wobei das Gelenk der Schulter (1) ein Scharniergelenk (20) umfasst, das die oben erwähnte Drehung um eine horizontale Anterior-Posterior-Achse mit einer Sprungdrehung ermöglicht, um feste und präzise Positionen zu identifizieren, die während der Drehung wiederholt werden können.
8. Dummy (1) nach Anspruch 1, wobei der Dummy mit einem halbelastischen Gewebe beschichtet ist, und auf dem einige vertikale und horizontale Referenzlinien gezogen wurden, die dazu ausgelegt sind, während der Planung und des Hochziehens eine spezifische Orientierung zu erleichtern.

Revendications

1. Un mannequin (1) pour dessiner des robes de confection d'un type reproduisant intégralement une figure humaine ayant aussi des jambes et des bras, ceux-ci étant articulés au niveau de l'épaule et éventuellement au niveau du coude, comprenant :
 - au moins une articulation de l'épaule (4) permettant la rotation du bras (2) suivant un axe antérieur postérieur essentiellement horizontal depuis une position adjacente au corps vers une position essentiellement horizontale et le coulissement vertical du bras par rapport à la ligne de profil de l'épaule à partir d'une position basse dans laquelle le bras est abaissé par rapport à la ligne de profil de l'épaule, vers une position haute, dans laquelle l'articulation du bras est relevée par rapport à la ligne de profil de l'épaule, **caractérisé en ce qu'il** comprend de plus
 - un corps principal qui peut être divisé en deux parties selon un plan antérieur postérieur verti-

cal (A) correspondant essentiellement à la section s'étendant de l'entrejambe (7) à l'axe du cou.

2. Le mannequin (1) selon la revendication 1, où la tête (3) peut être séparée du mannequin et du cou respectivement (8), sur lesquels elle est placée afin de pouvoir tourner suivant l'axe vertical du cou (8).
3. Le mannequin (1) selon la revendication 1, où le corps principal est divisé en un demi-corset principal (1'), qui comprend un bras entièrement articulé (2) et un second demi-corset (1''), les plans de séparation respectifs comprenant un système de connexion, qui de préférence, ne peut pas être détecté à l'extérieur du mannequin.
4. Le mannequin (1) selon la revendication 3, où les jambes (10) sont érigées sur une base support (11) de manière à permettre la séparation du demi-corset secondaire (1'') du principal en le maintenant en position verticale.
5. Un mannequin (1) selon la revendication 1, où ladite articulation de l'épaule (4) permet les mouvements suivants :
 - une rotation autour d'un axe antérieur postérieur horizontal ;
 - une rotation autour d'un axe horizontal de côté essentiellement coïncidant avec la ligne joignant les épaules ;
 - une translation selon un axe vertical (Y) permettant au bras, lorsqu'il est placé à l'horizontale, d'amener la ligne de profil supérieure de la partie du bras vers le centre du corps (5) et la ligne de profil de l'épaule au même niveau, mais égal au bas de ladite partie 5, en laissant l'épaule (4) de façon essentiellement libre ; et
 - une translation en option de la partie du bras vers le centre du corps 5 en s'éloignant ou se rapprochant par rapport à l'épaule, selon un axe horizontal (X) coïncidant avec ladite ligne joignant les deux épaules.
6. Le mannequin (1) selon la revendication 5, où l'articulation de l'épaule (4) permet le glissement et la translation verticale selon un axe vertical ou un axe légèrement incliné vers l'extérieur de l'épaule avec un mouvement par sauts, donc par l'identification des positions de verrouillage préétablies dans lesquelles le bras (2) peut même être soulevé par rapport à la ligne de profil de l'épaule (4).
7. Le mannequin (1) selon la revendication 5, où l'articulation de l'épaule (1) comprend une articulation à charnière (20) permettant la rotation autour d'un axe antérieur postérieur horizontal avec une rotation par

sauts, de façon à identifier des positions fixes et précises qui peuvent être répétées au cours de la rotation.

8. Le mannequin (1) selon la revendication 1, où le mannequin est couvert d'un tissu semi-élastique sur lequel des lignes de référence verticale et horizontale ont été tracées de façon convenable pour favoriser une orientation spécifique lors de la planification et de la préparation.

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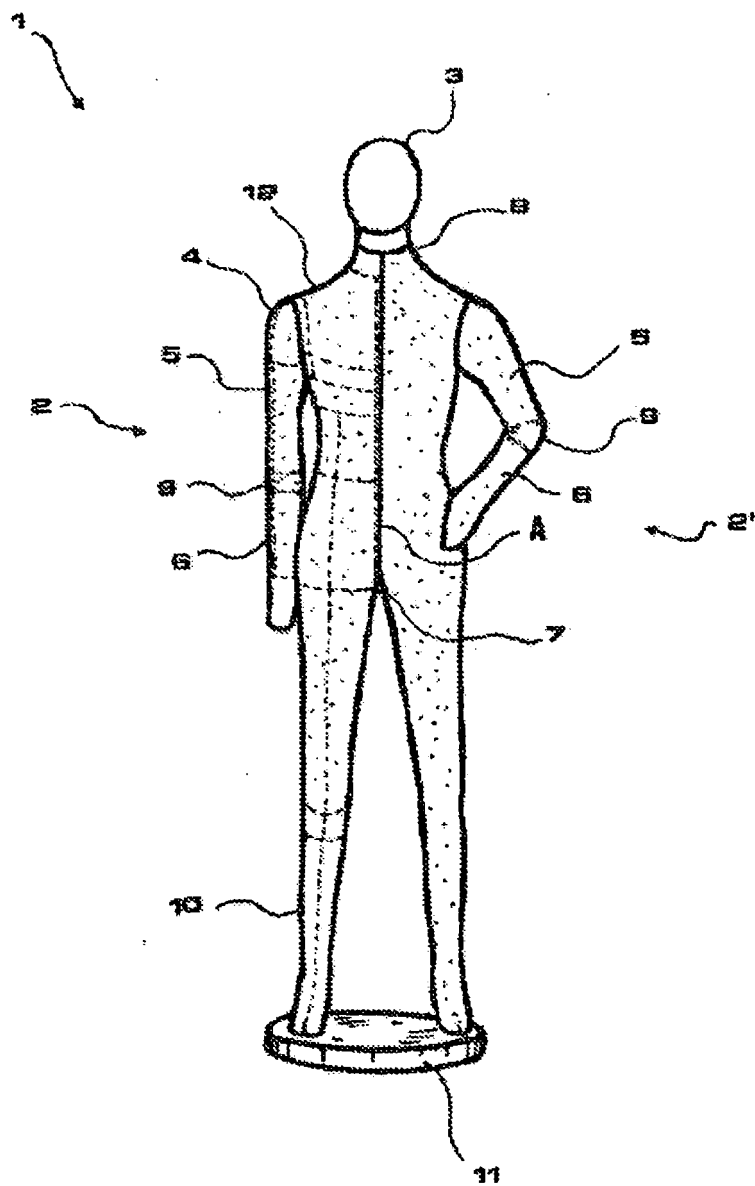


Fig.1

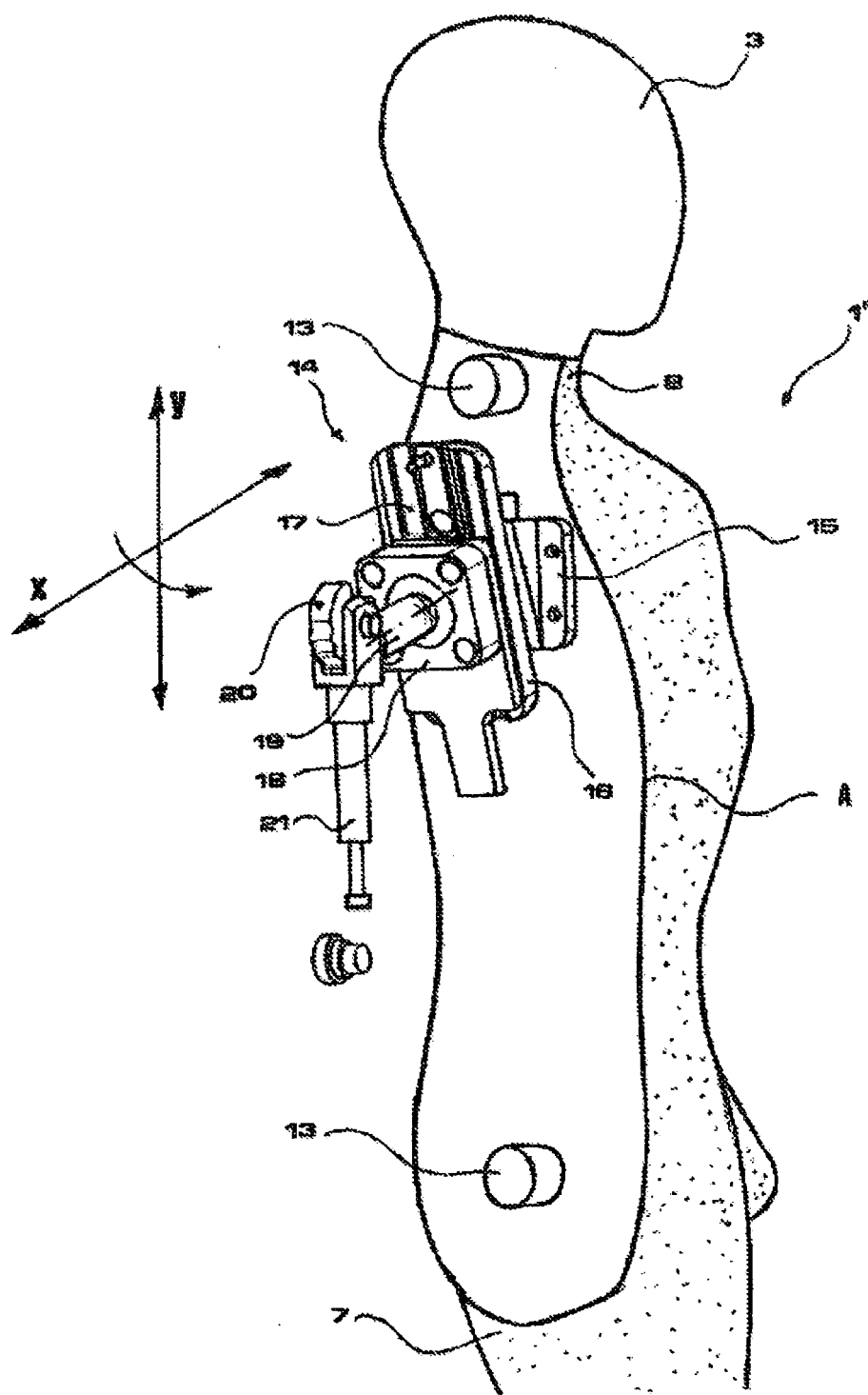


Fig. 2

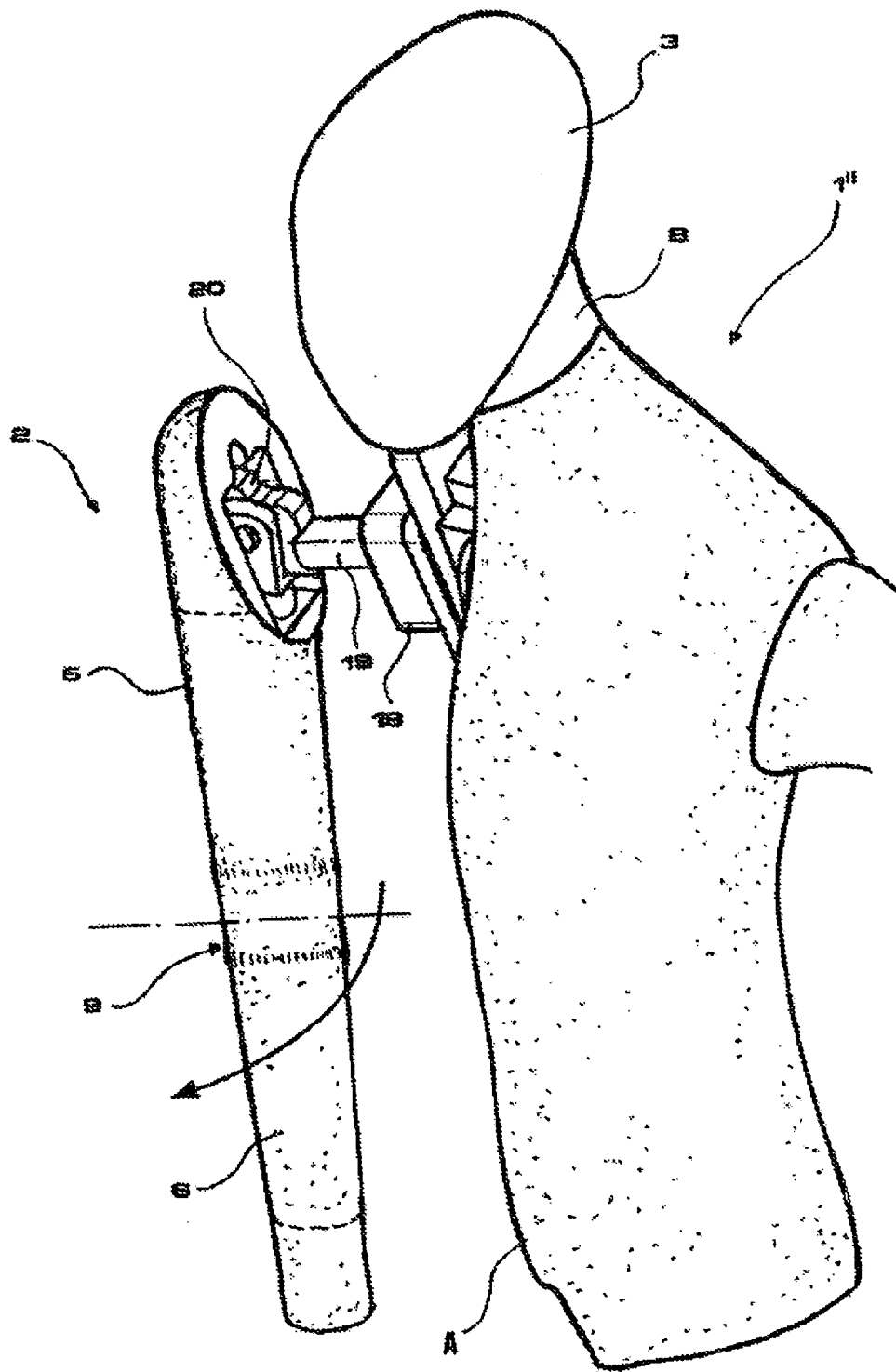


Fig.3

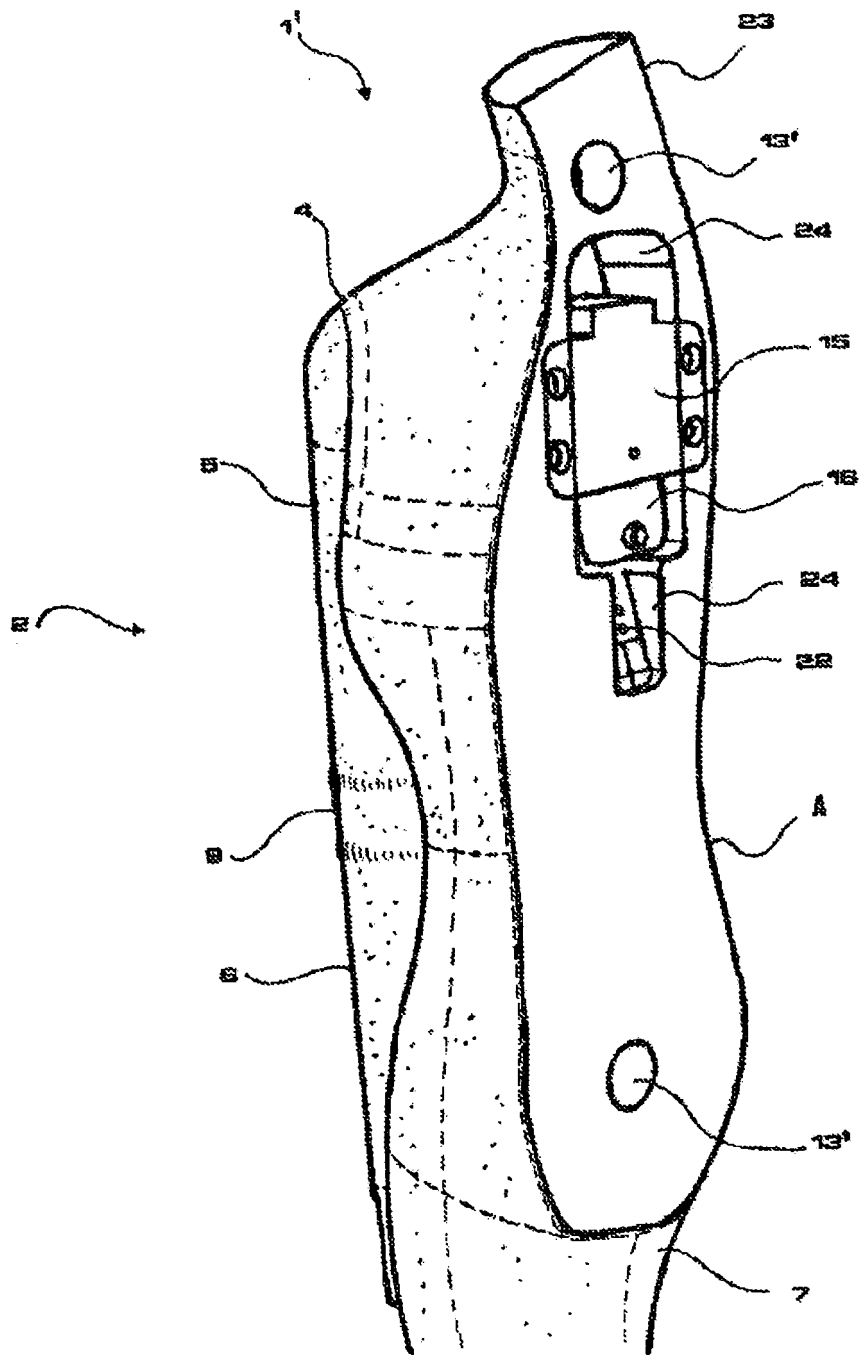


Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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