V. E. D'URSO.

DRESS FORM.

APPLICATION FILED MAY 18, 1911.

1,069,055.

Patented July 29, 1913.

2 SHEETS—SHEET 1.

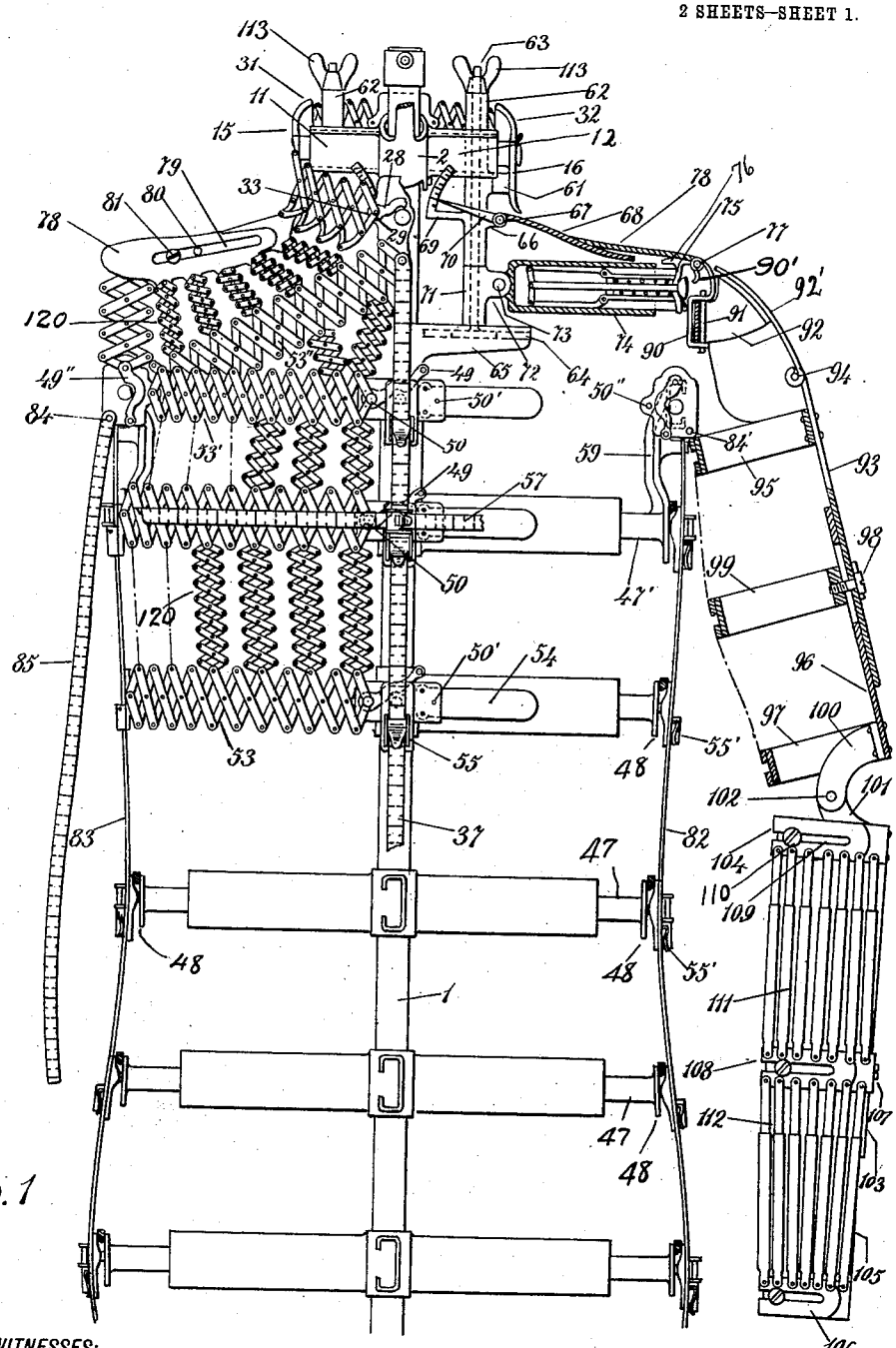

Fig. 1

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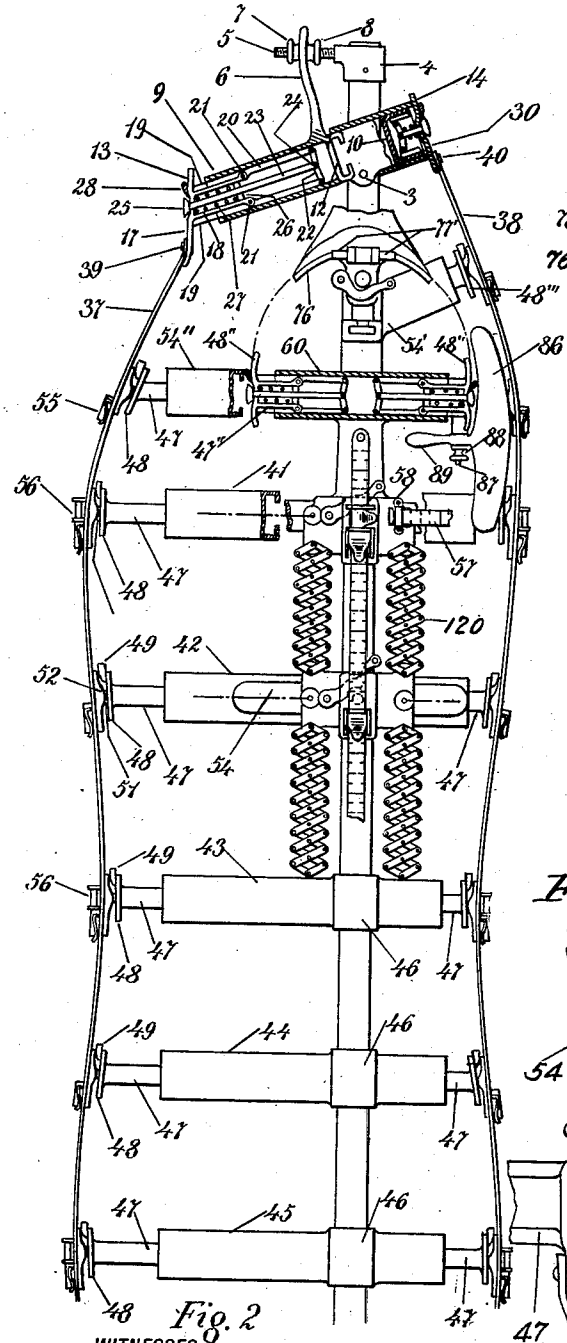

Fig. 2

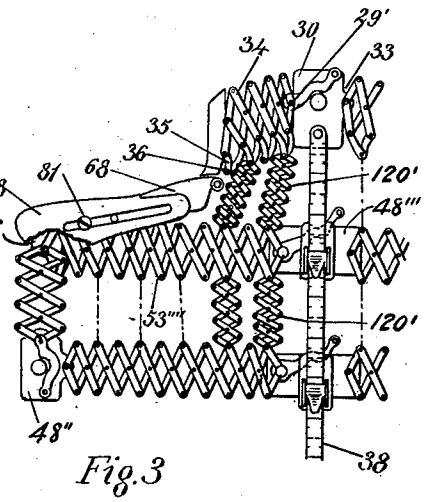

Fig. 3

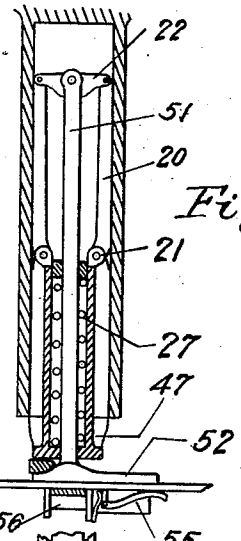

Fig. 5.

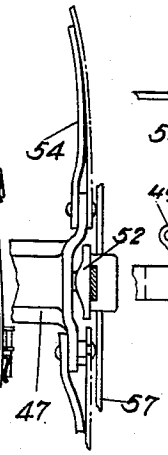

Fig. 6.

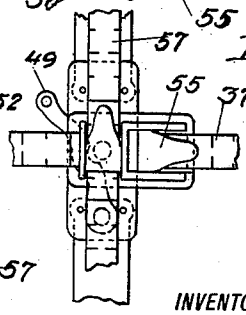

Fig. 4.

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DRESS-FORM.

1,069,055. Specification of Letters Patent. Patented July 29, 1913.

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To all whom it may concern:

Be it known that I, VITO ETTORE D'URSO, a subject of the King of Italy, residing at New York, county and State of New York, have invented certain new and useful Improvements in Dress-Forms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to dress forms, and has for its object the production of an adjustable frame, capable of a variety of adjustments to suit the outer contour of different human figures.

Another object of this invention, is to provide a dress form having means for reproducing several of the imperfections most commonly found in different individuals, such as unevenness of shoulders, gibbosities, etc., in a ready manner, and having means for readily reproducing all the measurements which are usually taken on the human body for the purposes of tailoring.

A still further object of this invention, is to provide a dress form composed of different sections adjustable independently one from the other, having many improved means of different design for quickly effecting all the desired adjustments.

With these and other objects in view, as will more fully appear as the description proceeds, this invention consists of certain constructions and arrangements of parts, the novel and useful points of which will be hereinafter described and claimed in the appended claims.

The drawings show my improved dress form adjusted to the contour of a man's figure, but it can be readily understood that the same may assume any desired shape, and that with few additions of minor importance the same construction may be adopted for forms to be used in connection with the making and measuring of women's dresses.

Referring to said drawings, Figure 1 is a front view in elevation of my improved dress form, partly broken away to more fully show the different adjustments, and showing one of the arms mounted in position. Fig. 2 is a side view in elevation of the same, also partly broken away for the purposes of illustration; Fig. 3 is a partial view in elevation of the back of my dress form, showing the construction of neck and shoulders; Fig. 4, is a detail front view in elevation in an enlarged scale of the means shown in the other drawings for expanding or contracting the various lines of the contour; Fig. 5 is a side view in elevation, partly sectional, of the same; and Fig. 6 is a plan view of the same, from the top, partly broken away.

This dress form can be considered as composed of an upper part comprising neck, shoulders and attachments for the arms: two detachable arms and a body part composed of a plurality of collapsible belts connected all along their circumference by collapsible links of the same character. These belts are attached at four points to the frame, these four points being those at which the adjustments take place.

In the drawings 1 is a standard to which a neck frame 2 is pivotally attached at its upper part by means of a pin 3. 4 is a collar attached to said standard 1 bearing a screw stud 5.

6 is an arm projecting from neck frame 2 which can be fixed at different points on screw stud 5 by means of check-nuts 7, 8, according to the angle to which it is desired to set neck frame 2. This neck frame has four hollow arms or projections, one, 9, at the front, one, 10, at the back and two, 11, 12 at the sides. Four blocks, 13, 14, 15 16 are slidably mounted respectively in each projection, 9, 10, 11, 12 and are provided with means for fixing them at any desired point. Block 13, consists of a front plate 17, provided with a tubular projection 18 on the rear and with ribs 19 adapted to fit into the groove of projection 9.

20 are two arms pivotally mounted in 21, at the end of projection 18 and connected at their free ends by a toggle joint composed of two links 22 in such a manner that when said toggle joint is expanded, arms 20 are forced against the upper and lower inside surfaces of projection 9, and will firmly hold block 13 in that position. When the toggle joint is released the friction of the arms 20 against the surfaces ceases and block 13 is free to move longitudinally within its housing. The toggle joint is operated by means

of a rod 23 connected at 24 to links 22 and having a button 25 on the outside of plate 17. 26 is a collar fixed to said rod 23, and 27 is a spring inserted within tubular projection 18, abutting against said collar and against the inside face of plate 17. The pressure normally exerted by said spring 27 against collar 26, keeps links 22 in their expanded position, thus causing the locking of block 13 to projection 9. Button 25 is beveled so that by swinging lever 28 around its fulcrum pin 29 forcing the same between button 25 and plate 17, said button 25 is forced outward pulling rod 23 and consequently causing the release of links 22. In this position block 13 can be slid back or forth by hand to the position at which it is desired to fix it, when lever 28 is swung back and spring 27 is free to again expand links 22. Blocks 14, 15, 16 are operated in a similar manner and are respectively provided with plates 30, 31, 32 similar to plate 17 of sliding block 13. These plates are of a suitable height and constitute sections of the neck of the dress form. Each is provided with two side lugs 33, to which by means of pins 29, 29′ are pivotally attached the ends of four collapsible belts 34, connecting one plate to the next and completing the circumference of the neck. These collapsible belts are composed of sets of two links of an even length pivoted at their central points forming an X, being in their turn pivotally connected with the two ends of the next X, the result being an articulated belt which is susceptible of being expanded or contracted at will according to a well known principle of mechanical construction. The lower points of belts 34 bear supplementary links 35 pivotally connected in couples at 36, curved so as to reproduce the curve of the attachment of the neck to the rest of the body. Front plate 17 and rear plate 30 are respectively provided at their lower part with means for attaching graduated tapes 37, 38 extending longitudinally along the front and back of the body. The means for attaching the same to plates 17, 30 can be of any suitable design and are shown in the drawings as consisting of riveted studs 39, 40. Tapes 37, 38 must be flexible and at the same time strong as they are intended to sustain the weight of all the other parts as will be hereinafter described; I find steel to be for this purpose a most satisfactory material to use.

Freely moving along standard 1 are provided a number of body frames 41, 42, 43, 44, 45 each having four projections similar to those of neck frame 2 and each guided by a bushing 46. In the drawings frame 41, corresponds to the chest line, frame 43 to the waist line and frame 45 to the hip line, while frames 42, 44 correspond to intermediate lines. Each projection of the above mentioned body frames is provided with a sliding block similar in operation to the sliding block 13, all these sliding blocks being operated in an analogous manner. I shall represent them all with the same numeral 47 having plates 48 on which are pivotally mounted levers 49 at points 50; said levers 49 corresponding in their operation to lever 28 of sliding block 13. Rods 51 operating the toggle joints of sliding blocks 47 terminate with a clip plate 52, the rear face of which is cam shaped so that when levers 49 are lowered, plates 52 pull out rods 51, releasing the corresponding toggle joint. At the points 50, 50′ of plates 48 are attached the ends of collapsible belts 53, which connect each plate 48 to the next one, four belts 53, completing the entire circumference of the body. Said belts 53 correspond in shape and operation to belts 34 described, but to insure their taking a proper curve, they are reinforced on the back by springs 54 attached to the rear of plates 48. Plates 52 are provided with clips 55 of any suitable design adapted to clamp tapes 37, 38, holding therefore body frames 41, 42, 43, 44, 45, hanging from the same at any desired height. For the purposes of tailoring measurements are also usually needed for the circumference of the chest line, the waist line and the hip line, and plates 52 corresponding to these lines are therefore provided with auxiliary clips 56 adapted to clamp graduated tape 57, transversely extending around the body of the dress form. Said tapes 57 are attached at points 58 on side plates 48 and are of sufficient length to cover the range of different sizes of human figures that the dress form will be called to reproduce.

Side sliding blocks 47′ of the chest line are provided with upright projections 59, holding hollow frames 60 corresponding to the lower side of the arm. Sliding blocks 47″ are slidably mounted in said frames 60, one at the front and one at the rear and are provided with plates 48″, operating levers 49″ and lugs 50″ projecting on the inward side of said plates 48″. Lugs 50″ are connected by means of collapsible belts 53′ with points 50, 50′ of plates 48, corresponding to upper body frame 54″ which has only one front and one rear projection and has no side projections, constituting an intermediate line between the neck and the chest line. Lugs 50″ are also connected by means of collapsible belts 53″ to point 39 in plate 17.

The shoulders of my improved dress form are constructed in such a way as to allow their proper adjustment as to their width and as to their vertical and horizontal angle in relation to the body. To blocks 15, 16 are

horizontally pivoted in 61, two tubular parts 62 inserted on vertical bolts 63, the head of which is inserted in a horizontal slot 64 of an arm 65 attached to standard 1 and is slidably movable therein. Said parts 62 are each provided with a lug 66 to which is pivotally attached by means of horizontal pivot 67 a plate 68, shaped so as to reproduce the inner part of the shoulder. To parts 62, is also attached a graduated segment 69 on which an arrow 70 fixed to parts 68 marks the inclination of the shoulder. On bolts 63 are also pivotally mounted directly underneath part 62, parts 71, each being provided with a lug 72 and horizontal pivot 73. On each pivot 73 is mounted a hollow frame 74 bearing a slidable block 75 similar in all respects in its operation to the sliding blocks previously described and bearing on top a curved segment 76 reproducing the outer line of the shoulder. Segment 76 is provided with a horizontal pivot 77 to which is attached plate 78 shaped so as to reproduce the outer part of the shoulder.

Plates 78 are provided with slots 79 on the front and rear while plates 68 are provided with pins 80 and screws 81 passing through slots 79, guiding the relative longitudinal motion of plates 78 on plates 68; screws 81 are further used for clamping plates 78 at the desired points when adjusting the width of the shoulders. The inclination of the shoulders is also regulated by the clamping of said plates by means of screws 81, as when screws 81 are loosened, frame 74 can be swung to the desired degree of inclination, to be held therein by screwing up the said screws.

To projections 59, underneath frames 60, are attached flexible graduated tapes 82, 83, hanging therefrom; to these the side sliding blocks are attached by means of clips 55′ at the desired height. Plates 48″ on the front are further provided with graduated tapes 85 at points 84, 84′ said tapes freely hanging down and being used for measuring the circumference of the arm and the distance from points 84, 84′ to the rear central point of the neck, 40.

To plates 48″ on the rear are pivotally attached parts 86, mounted on vertical studs 87, and clamped in any desired position by means of nuts 88. Same are operated by means of handles 89, and have a shape suitable to force outward the framework at the sides of the back, reproducing the protuberances which are usually to be found at these points in imperfect human figures. Another common imperfection is a gibbosity usually found in more or less degree on the back at about the level of the shoulders; this can be reproduced by pulling out sliding block 48‴ clamped to projection 54′ in the manner described, thus pulling out collapsible belts 53′′′′ connecting sliding block 48‴ with the rear end of segments 76. Said collapsible belts 53′′′′ are connected by means of collapsible links 120′ to neck belts 34 and to the collapsible belt directly underneath connecting rear plates 48″ to the corresponding central sliding block. In a similar manner, the various collapsible belts are connected to each other by a plurality of collapsible links 120, completing the surface of the body. These I prefer to construct in a manner similar to that described for the belts, with a number of X portions pivoted to each other, owing to the ease with which said links contract and expand without friction. The same could be made in the manner shown in the construction of the arms, of two parts in a slidable relation to each other, as will be hereinafter described; but an important point in my improved construction is that these collapsible links are pivotally connected to the various belts. I am aware that there are devices of this character having collapsible links connecting the various belts, but they are either rigidly connected to the same, or mounted so as to be free to slide thereon. The wide differences existing in the conformation of human bodies, render it necessary that the various belts be expanded and collapsed according to instances, in a wide variety of combinations, and the links connecting the belts must be capable of assuming different inclinations. A rigid connection between the links and the belts will not allow the free expansion of the belts, while a slidable connection is liable to offer some frictional resistance to the same. I have found that a pivoted connection does away with these inconveniences, and allows the different belts to assume whatever expansion or contraction it will be necessary to have, in order to reproduce the dimensions of any particular body; the links freely disposing themselves so as to reproduce the outer surface of the body. In constructing my improved dress form, it is advisable however to make said connecting links 120 rather narrow in width, and in a number sufficient to fairly fill the spaces existing between the various belts; links of the shape shown allow a considerable adjustment in the distances between the belts to be made in a short time, and in an easy manner.

Pivots 77 are projecting at 77′, and afford a convenient means for pivotally hanging removable arm holders 90, by means of hooks 90′. To these are pivotally attached to vertical pivot 91, parts 92 and to these are attached parts 92′, to which are in their turn attached the arms proper of the device.

Each arm is composed of a longitudinal band 93 pivoted at 94 to part 92′ and to which is attached a circular adjustable band

95; a longitudinal band 96 to which is attached a circular adjustable band 97, mounted in a slidable relation toward band 93 and clamped in position by means of a screw 98. Said screw 98 also holds a circular adjustable band 99. At the lower end of band 96 is attached a bracket 100 to which is pivoted another bracket 101 at the point 102. Bracket 101 holds a longitudinal band 103 and a circular adjustable band 104. Another longitudinal band 105 holds a circular adjustable band 106 and is mounted in slidable relation toward band 103, being clamped in position by means of a screw 107 holding a circular adjustable band 108. Circular adjustable bands 95, 99, 97, 104, 108, 106 are each constituted by a flexible strip having the two ends overlapping each other, one end being provided with a slot 109 and being clamped in position by a screw 110. Bands 95, 99, 97, and bands 104, 108, 106 are further connected between themselves by collapsible links consisting of a sheath part 111 and inner sliding parts 112 pivotally connected to said bands.

From the foregoing description it can be seen that each arm is composed of an upper and a lower section, each independently adjustable in its circumference at various points and also adjustable in its length. The connections described for connecting two portions of the arm and for connecting the upper portion to the body, I have also found to be sufficient for the purposes of this device.

The construction of this device is such, that the same is capable of a wide range of adjustments in a short time. In fact having to reproduce the figure of a given individual and having adjusted the neck to the proper inclination and circumference, the various belt lines are clamped to tapes 37, 38, 82, 83 according to distances, clips 55 being released. The chest, the waist and hip line are then expanded or contracted until corresponding to measurements when they are clamped in position on their respective frames. Tapes 57 are also clamped in position by clips 56. By loosening screws 81, the width and the vertical inclination of the shoulders can be adjusted independently one from the other and set at the desired point by tightening again screws 81. Thumb nuts 113 will clamp the shoulders in position when the same have been independently adjusted in relation to their horizontal angle, which is found to be different in different individuals. The width of the arm attachments can be regulated by moving sliding blocks 47''. The protuberances and gibbosities at the back if any, can be adjusted by means of parts 86 and 48'''. The arms are then adjusted and hung on pivots 77.

The number of the various belt lines is arbitrary, provided the distances between them are short enough to allow a fair approximation in reproducing the various sections of the human body; the collapsible links connecting one belt to another, as shown, allow a considerable adjustment of the distances between said belts.

Having thus described my invention what I claim as new and desire to protect by Letters Patent of the United States, is:

1. In a dress form, the combination with a standard, of a plurality of frames slidably arranged thereon, each frame carrying a circumferentially collapsible and expansible belt, means for holding said belts at desired distances, and a plurality of longitudinally collapsible and expansible links connecting said belts, said links being automatically collapsed or expanded as said belts are moved toward or away from each other.

2. In a dress form, the combination with a standard, of a plurality of frames slidably arranged thereon, each frame carrying a circumferentially collapsible and expansible belt, each belt being composed of centrally pivoted X-shaped elements pivotally connected at their ends, means for holding said belts at desired distances, and a plurality of longitudinally collapsible and expansible links connecting said belts, said links being automatically collapsed or expanded as said belts are moved toward or away from each other.

3. In a dress form, the combination with a standard, of a plurality of frames slidably arranged thereon, each frame carrying a circumferentially collapsible and expansible belt, means for holding said belts at desired distances, a plurality of longitudinally collapsible and expansible links connecting said belts, said links being automatically collapsed or expanded as said belts are moved toward or away from each other, and means for expanding or contracting said belts, substantially as described.

4. In a dress form, the combination with a standard, of an adjustable neck portion attached thereto, tapes depending from the front and rear parts of said neck portion, a plurality of frames slidably arranged upon said standard, each frame carrying a circumferentially collapsible and expansible belt adapted to be clamped to said tapes, and a plurality of longitudinally collapsible and expansible links connecting said belts, said links being automatically collapsed or expanded as the belts are moved toward or away from each other.

5. In a dress form, the combination with a standard, of a neck portion consisting of a frame pivotally attached thereto, having four projecting arms, sliding blocks adjustably clamped to said arms, and circumfer-

entially collapsible and expansible belts connecting said sliding blocks; substantially as described.

6. In a dress form, the combination with a standard, of an adjustable neck portion attached thereto, graduated tapes depending from the front and rear parts of said neck portion, a plurality of frames slidably arranged upon said standard, each frame carrying a circumferentially collapsible and expansible belt adapted to be clamped to said tapes, and a plurality of longitudinally collapsible and expansible links connecting said belts, said links being automatically collapsed or expanded as the belts are moved toward or away from each other, and means for expanding or contracting said belts, substantially as described.

7. In a dress form, the combination with a standard, and with an adjustable neck portion attached thereto, of two shoulder parts each composed of two plates slidably clamped to each other, the inner plates being horizontally pivoted at the sides of said neck portion, and the outer plates being horizontally pivoted to independently adjustable supporting arms connected by a universal joint to said neck portion; substantially as described.

8. In a dress form, the combination with a standard, and with an adjustable neck portion attached thereto, of two shoulder parts vertically attached to said neck portion, means for clamping the same at different angles, and means for measuring the inclination of said shoulder parts; substantially as described.

9. In a dress form, the combination with a standard, and with an adjustable neck portion attached thereto, of two adjustable shoulder parts pivoted to said neck portion, tapes hanging down from the front and rear parts of said neck portion, a part having four adjustable projecting arms having the front and rear arms adjustably clamped to said tapes, transversely adjustable means mounted on the side projecting arms, forming the base of the arm holes, and collapsible and expansible links connecting said transversely adjustable means with the outer ends of the shoulders; substantially as described.

10. In a dress form, the combination with a standard, and with an adjustable neck portion attached thereto, of tapes hanging down from the front and rear parts of said neck portion, a part slidable on said standard having front and rear adjustable arms clamped to said tapes, and having two adjustable side arms each bearing an additional hanging tape, a plurality of similar slidable parts having four adjustable arms slidably clamped to said four tapes, collapsible and expansible belts connecting the four arms of each slidable part, and a plurality of longitudinally collapsible and expansible links connecting said belts and pivotally attached to the same; substantially as described.

11. In a dress form, the combination with a standard, and with a plurality of parts slidable thereon having four projecting arms, of sliding blocks adjustably clamped to said projecting arms, collapsible and expansible belts connecting said sliding blocks, graduated tapes attached to each sliding block at the chest, waist and hip lines, extending along the entire circumference of the dress form when fully expanded, and means for clamping said tapes to the other sliding blocks on the same circumference; substantially as described.

12. In a dress form, the combination with a standard, and with an outer adjustable framework, of connections between said standard and said framework, said connections including a hollow arm, a sliding block, toggle joint operated expanding arms clamping said sliding block to the inner surface of said hollow arm, a spring keeping said toggle joint normally expanded, and means for releasing the same and for keeping it in a released position so as to allow the free motion of said sliding block; substantially as described.

13. In a dress form, the combination with a standard, and with an adjustable neck portion attached thereto provided with longitudinally hanging tapes, of circumferentially collapsible and expansive belts connected to each other by a plurality of collapsible and expansible links, frames having four hollow arms slidably mounted on said standard, means connecting said belts to said frames, said means consisting of a sliding block having expanding arms for clamping the same to the inner surface of said hollow arms, a toggle joint and a rod connected thereto for operating said expanding arms, a spring keeping said toggle joint normally expanded, a cam-shaped plate attached to said rod and connected to sections of said belts, a lever attached to said plate for operating said rod, and means for clamping said plate to said tapes at different heights; substantially as described.

14. In a dress form, the combination with a standard, and with an outer adjustable frame work comprising a plurality of collapsible and expansible belts formed of X shaped elements pivotally attached to each other, of arms outwardly extending from said standard, sliding blocks adjustably clamped to said belts, and springs attached to said sliding blocks for keeping said belts in an outwardly expanded position; substantially as described.

15. In a dress form, the combination with a standard of an adjustable neck portion

pivotally attached thereto, tapes attached to said neck portion, an adjustable framework comprising expansible and collapsible belts clamped to said tapes and suspended thereto and connected to each other by collapsible and expansible links, and means for adjusting the inclination of said neck portion in relation to said standard and for fixing the same in position; substantially as described.

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