Feb. 17, 1942. E. WEINSTEIN 2,273,743

COLLAPSIBLE DRESS FORM

Filed May 14, 1940 2 Sheets-Sheet 1

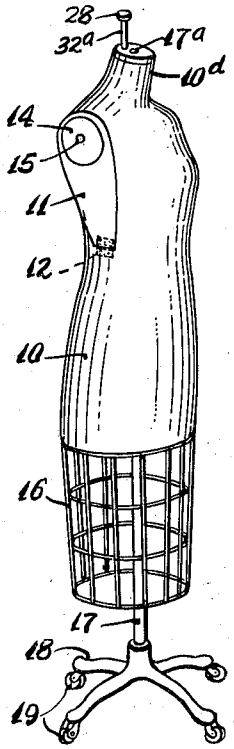


Fig. 1.

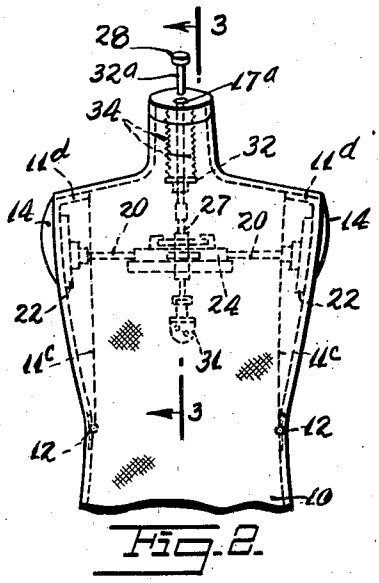


Fig. 2.

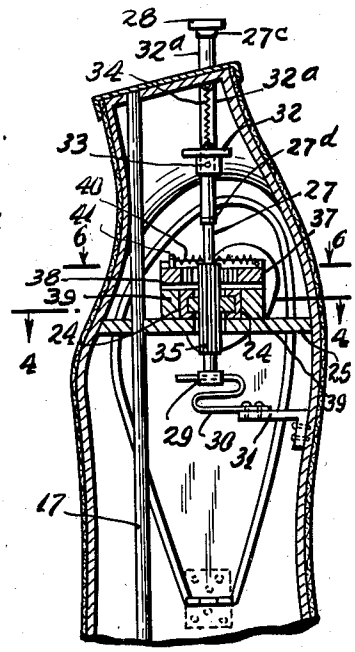


Fig. 3.

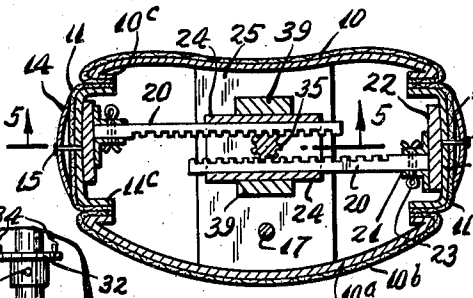


Fig. 4.

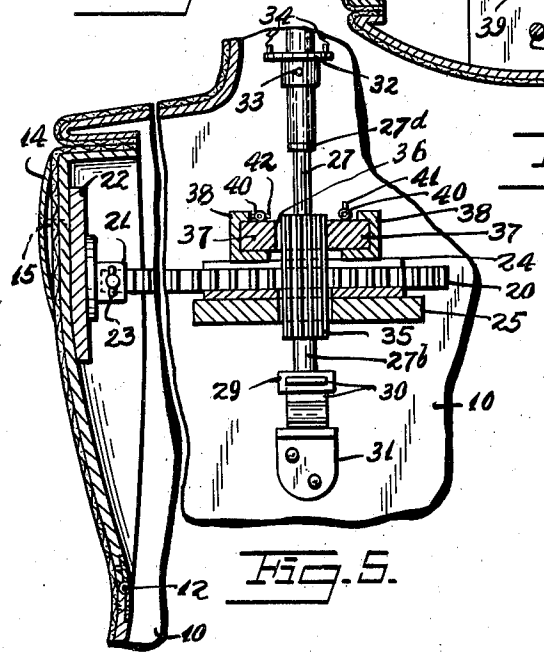


Fig. 5.

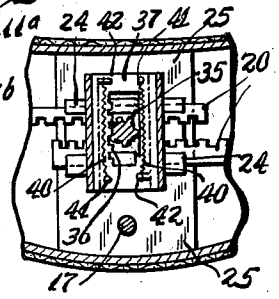


Fig. 6.

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COLLAPSIBLE DRESS FORM

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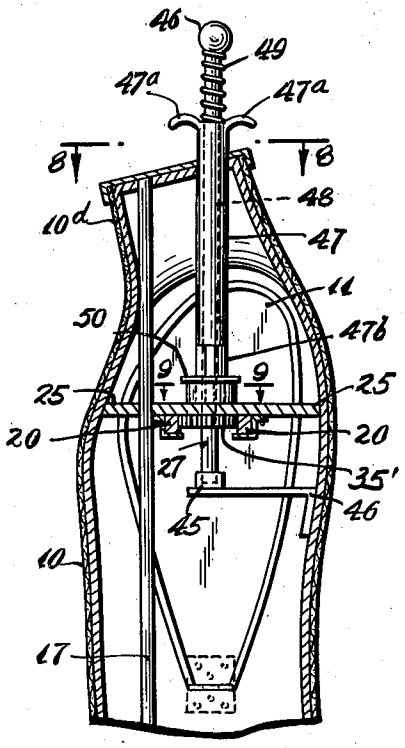


Fig. 7.

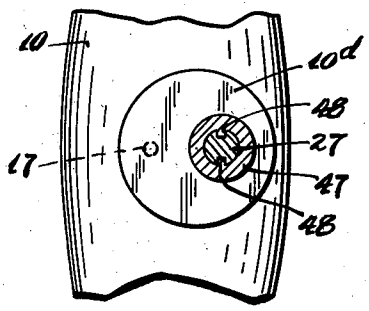


Fig. 8.

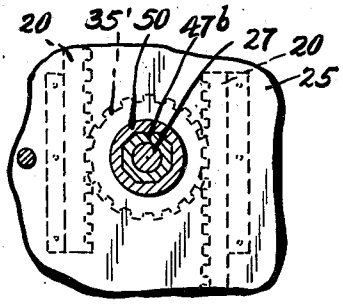


Fig. 9.

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2,273,743

COLLAPSIBLE DRESS FORM

Edward Weinstein, New York, N. Y.

Application May 14, 1940, Serial No. 335,075

6 Claims. (Cl. 223—68)

This invention relates to new and useful improvements in a collapsible dress form.

The invention has for an object the construction of a dress form having separate shoulder and side portions mounted in a particular way on the form body and associated with mechanism by which the shoulder and side portions may be extended or retracted, as desired, to permit the waistline to be pulled over the shoulders of the dress form. This adjustment permits the form to better fit various types of dresses having various types of shoulders.

Still further the invention contemplates characterizing the mechanism for moving the shoulder and side portions by a controlling knob projecting from the top of the form where it may be readily grasped and maneuvered.

Still further the invention proposes a novel arrangement by which the shoulder and side portions may be extended through small distances, and if desired, further extended by a particular operation of the extension means.

Still further the invention contemplates characterizing the extension means by racks connected with the shoulder and side portions and connected with controlling mechanism in a novel fashion.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure—

Fig. 1 is a perspective view of a dress form constructed in accordance with this invention.

Fig. 2 is a fragmentary front elevational view of the dress form shown in Fig. 1.

Fig. 3 is a fragmentary vertical sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a fragmentary vertical sectional view taken on the line 5—5 of Fig. 4.

Fig. 6 is a fragmentary horizontal sectional view taken on the line 6—6 of Fig. 3.

Fig. 7 is a fragmentary vertical sectional view similar to Fig. 3 but illustrating a modified construction.

Fig. 8 is a fragmentary horizontal sectional view taken on the line 8—8 of Fig. 7.

Fig. 9 is a fragmentary enlarged horizontal sectional view taken on the line 9—9 of Fig. 7.

The collapsible dress form, according to this invention, includes a form body 10 having separate shoulders and side portions 11 hingedly mounted at their bottom ends, with hinges 12 to the adjacent portions of the form body 10. The form body 10 has the usual interior rigid form material 10a with the customary covering material 10b. Similarly, the shoulder and side portions 11 comprise inner rigid shaping material 11a and outer cloth covering material 11b. Disc shaped members 14 are secured to the shoulder and side portions 11 by fastening elements 15. These disc shaped members 14 comprise the usual sockets for the arms of the form, not shown on the drawings, if such arms are desired. Each shoulder and side portion 11 has its side edges 11c and its top edge 11d bent inwards and engaging adjacent inwardly bent edge portions 10c of the form proper 10. The arrangement is such that each of the shoulder and side portions 11 is free to be moved inwards or outwards about the hinges 12 as pivots.

The usual wire frame extension 16 is mounted on the bottom of the form body 10. A vertical rod 17 extends through the form 10 and at its top end 17a is connected with the form 10 and supports the same in the conventional manner. This rod 17 is mounted on a foot bracket 18 provided with casters 19 for resting on the floor. The form body 10 has the conventional top neck portion 10d.

A pair of slidably supported parallel racks 20 extend in opposite directions and have their teeth opposed to each other, and at their outer ends are connected with the said shoulder and side portions 11 to move the latter parts into extended or retracted positions, as hereinafter more fully described. Each rack 20 is connected with its shoulder and side portion 11 by engaging a bracket 21 which is mounted on a plate 22 which is attached upon the inside of the shoulder and side portion 11. A cotter pin 23, or other pintle, engages through the bracket 21 and the outer end of the rack 20 for connecting these parts. Each rack 20 is slidably supported by engaging between the arms of channel members 24. These channel members are mounted upon a partition 25 horizontally supported across the interior of the form 10. There is sufficient play between each rack 20 and each bracket 21 to permit the shoulder and side portion 11 to move in an arcuate path about the hinge 12, while the rack 20 moves horizontally. The usual slot or other tolerance between the parts is provided.

A rod 27 is turnably and longitudinally movably supported in the form body 10 and extends in between the racks 20 and has its top section 27a projecting from the top of the form body. A knob 28 is mounted on the top end of the rod 27 by which it may be conveniently turned. The bottom end 27b of the rod 27 is rotatively supported by a bearing 29 which is mounted on a resilient element 30, such as a spring, which in turn is supported by a bracket 31 mounted on the form body 10. The arrangement is such that the rod 27 may be forced downwards against the

resilient action of the spring 30, or the rod may be allowed to be in its upward position.

Means is provided for urging the rod 27 upwards into its raised position. This means includes a collar 32 which is attached by fastening elements 33 on a tube 32a which is rotatively mounted on the rod 27. Springs 34 are attached to the collar 32 and extend upwards and at their top ends are attached to the top of the neck portion 10d of the form. The springs 34, in conjunction with the leaf spring 30, serve to hold the rod 27 in a raised position. The tube 32a is rotative on the rod 27 by reason of being disposed in between a pair of collars 27c and 27d which are fixedly mounted on the rod 27. The handle 28 may be turned to turn the rod 27 while the tubular member 32a remains non-rotative.

A very wide pinion 35 is mounted on the rod 27 and meshes with the said racks 20. Thus the rod 27 may be turned in one direction or the other to simultaneously extend or retract the racks 20.

Means is provided for limiting turning of the pinion 35 through a small amplitude, and this means includes rack teeth 36 meshing with the pinion 35 and disposed on a frame 37. This frame 37 is slidably mounted between the arms of an opposed pair of channel members 38. These channel members 38 are mounted at right angles across and upon the channel members 24. Blocks 39 are interposed between the partition 25 and the projecting ends of the channel members 38 to assist in the rigid support of the latter.

The frame 37 is resiliently urged into a neutral central position by a pair of parallel springs 40. The springs 40 are mounted at their opposite ends on pins 41 projecting from the frame 37, and the other ends of the springs 40 are mounted on pins 42 which project from the flanges of the channel members 38. The springs 40 are of equal length and equal dimensions and strength, and extend equal distances past the pinion 35. Normally, the springs 40 urge the frame 37 into the position shown by the full lines in Fig. 6. When the rod 27 is turned, the pinion 35 will move the frame 37 in one direction or the other against the resilient action of the springs 40 until one or the other of the ends of the frame 27 strike the pinion 35.

The operation of the device is as follows:

The separate shoulder and side portions 11 are normally in their retracted positions, as illustrated on the drawing. A dress may readily be placed on the form. The shoulders of the form may then be extended. This may be done by pressing downwards on the knob 28 to move the rod 27 downwards to a position in which the pinion 35 disengages from the rack teeth 36 but in which the pinion 35 retains its engagement with the teeth of the racks 20. The knob 28 may now be turned to extend the racks 20 any desired distance. This extends the shoulder and side portions 11. The knob 28 is now permitted to move upwards so that the rod 27 moves upwards and the pinion 35 re-engages the teeth 36 of the frame 37 and retains its engagement with the teeth of the racks 20.

If it is now desired to slightly extend or retract the shoulder and side portions 11 to contemplate the appearance of a displayed garment, it is merely necessary to turn the knob 28 in one direction or the other to correspondingly turn the rod 27. This moves the racks 20 outwards or inwards and simultaneously moves the frame 37 either forwards or rearwards to expand one or the other of the springs 40 until further motion is limited by one or the other end of the frame 37 striking the pinion 35. When the knob 28 is released the expanded spring 40 will contract and return the frame 37 to its central position, and this causes motion of the racks 20, returning the shoulder and side portions 11 back to their initial adjusted positions. The frame 37 acts as a centralizing device to always return the racks 20 and the shoulder and side portions 11 to their initial adjusted positions after the pinion 35 has been turned to either extend or retract these parts from their initial adjusted position.

In Figs. 7–9 inclusive a modified form of the invention has been disclosed which distinguishes from the prior form in the construction of the mechanism for extending and retracting the shoulder and side portions 11. In this form of the invention the racks 20, which are connected with the shoulder and side portions 11, mesh with a pinion 35' mounted on a rod 27. This rod is rotatively supported at its bottom in a bearing 45 which is mounted on a bracket 46 supported on the form 10. The upper end of the rod 27 is provided with a knob 46 by which it may be readily turned in one direction or the other. A tubular member 47 is slidably mounted on the rod 27. The slidable arrangement is accomplished with keys 48 on one of the parts engaging key cuts on the other of the parts. The tubular member 47 has top handle portions 47a by which the tubular member may be moved upwards. An expansion spring 49 acts between the knob 46 and the top of the tubular member 47 for normally urging it downwards. The bottom end 47b of the tubular member 47 is non-circular and engages into a complementary socket bracket 50 which is fixedly mounted on the partition 25.

The operation of this form of the invention is as follows:

The palm is engaged over the knob 46 and with the fingers engaging the handle portions 47a the tubular member 47 is moved upwards, compressing the spring 49. Thus the lower end 47b is disengaged from the socket bracket 50. It is now possible to turn the knob 46 in one direction or the other to correspondingly turn the rod 27 which because of the pinion 35' extends or retracts the racks 20. When the handle portions 47a are released, the spring 49 returns the tubular member 47 to its lowered position in which the bottom end 47b re-engages the socket 50 to hold the rod 27 in its adjusted position.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. A collapsible dress form, comprising a form body having separate shoulder and side portions hingedly mounted at their bottom ends to the adjacent portions of the form body, a pair of slidably supported parallel racks extending in opposite directions and having their teeth opposed to each other and at their outer ends connected with said shoulder and side portions to move into fully extended or retracted positions, a rod turnably and longitudinally movably supported in said form body and extending between said racks and having its top end projecting

from the top of said form body, means for urging said rod upwards into a raised position, a wide pinion mounted on said rod and meshing with said racks, and means for limiting turning of said pinion through a small amplitude and including rack teeth meshing with the top portion of said pinion in the raised position of said rod, whereby said rod may be moved down and then turned to fully extend or retract said shoulder and side portions.

2. A collapsible dress form, comprising a form body having separate shoulder and side portions hingedly mounted at their bottom ends to the adjacent portions of the form body, a pair of slidably supported parallel racks extending in opposite directions and having their teeth opposed to each other and at their outer ends connected with said shoulder and side portions to move into fully extended or retracted positions, a rod turnably and longitudinally movably supported in said form body and extending between said racks and having its top end projecting from the top of said form body, means for urging said rod upwards into a raised position, a wide pinion mounted on said rod and meshing with said racks, and means for limiting turning of said pinion through a small amplitude and including rack teeth meshing with the top portion of said pinion in the raised position of said rod, whereby said rod may be moved down and then turned to fully extend or retract said shoulder and side portions, said parallel racks being slidably supported between the arms of a pair of channel shaped members fixedly mounted within said form body.

3. A collapsible dress form, comprising a form body having separate shoulder and side portions hingedly mounted at their bottom ends to the adjacent portions of the form body, a pair of slidably supported parallel racks extending in opposite directions and having their teeth opposed to each other and at their outer ends connected with said shoulder and side portions to move into fully extended or retracted positions, a rod turnably and longitudinally movably supported in said form body and extending between said racks and having its top end projecting from the top of said form body, means for urging said rod upwards into a raised position, a wide pinion mounted on said rod and meshing with said racks, and means for limiting turning of said pinion through a small amplitude and including rack teeth meshing with the top portion of said pinion in the raised position of said rod, whereby said rod may be moved down and then turned to fully extend or retract said shoulder and side portions, said rod being rotatively supported in a bearing which is supported on a resilient member to permit the turning and longitudinal moving of said rod.

4. A collapsible dress form, comprising a form body having separate shoulder and side portions hingedly mounted at their bottom ends to the adjacent portions of the form body, a pair of slidably supported parallel racks extending in opposite directions and having their teeth opposed to each other and at their outer ends connected with said shoulder and side portions to move into fully extended or retracted positions, a rod turnably and longitudinally movably supported in said form body and extending between said racks and having its top end projecting from the top of said form body, means for urging said rod upwards into a raised position, a wide pinion mounted on said rod and meshing with said racks, and means for limiting turning of said pinion through a small amplitude and including rack teeth meshing with the top portion of said pinion in the raised position of said rod, whereby said rod may be moved down and then turned to fully extend or retract said shoulder and side portions, said means for urging the rod upwards comprising a tubular member through which said rod is turnably mounted, flanges on the rod engaging the ends of the tubular member, resilient means urging the tubular member upwards.

5. A collapsible dress form, comprising a form body having separate shoulder and side portions hingedly mounted at their bottom ends to the adjacent portions of the form body, a pair of slidably supported parallel racks extending in opposite directions and having their teeth opposed to each other and at their outer ends connected with said shoulder and side portions to move into fully extended or retracted positions, a rod turnably and longitudinally movably supported in said form body and extending between said racks and having its top end projecting from the top of said form body, means for urging said rod upwards into a raised position, a wide pinion mounted on said rod and meshing with said racks, and means for limiting turning of said pinion through a small amplitude and including rack teeth meshing with the top portion of said pinion in the raised position of said rod, whereby said rod may be moved down and then turned to fully extend or retract said shoulder and side portions, said limiting means comprising a frame provided with said rack teeth, resilient means for urging said frame into a neutral position, and means for limiting sliding of said frame in one direction or the other.

6. A collapsible dress form, comprising a form body having separate shoulder and side portions hingedly mounted at their bottom ends to the adjacent portions of the form body, a pair of slidably supported parallel racks extending in opposite directions and having their teeth opposed to each other and at their outer ends connected with said shoulder and side portions to move into fully extended or retracted positions, a rod turnably and longitudinally movably supported in said form body and extending between said racks and having its top end projecting from the top of said form body, means for urging said rod upwards into a raised position, a wide pinion mounted on said rod and meshing with said racks, and means for limiting turning of said pinion through a small amplitude and including rack teeth meshing with the top portion of said pinion in the raised position of said rod, whereby said rod may be moved down and then turned to fully extend or retract said shoulder and side portions, said limiting means comprising a frame provided with said rack teeth, resilient means for urging said frame into neutral position, and means for limiting sliding of said frame in one direction or the other, said frame being slidably mounted between the arms of channel shaped members fixedly mounted.

EDWARD WEINSTEIN.