

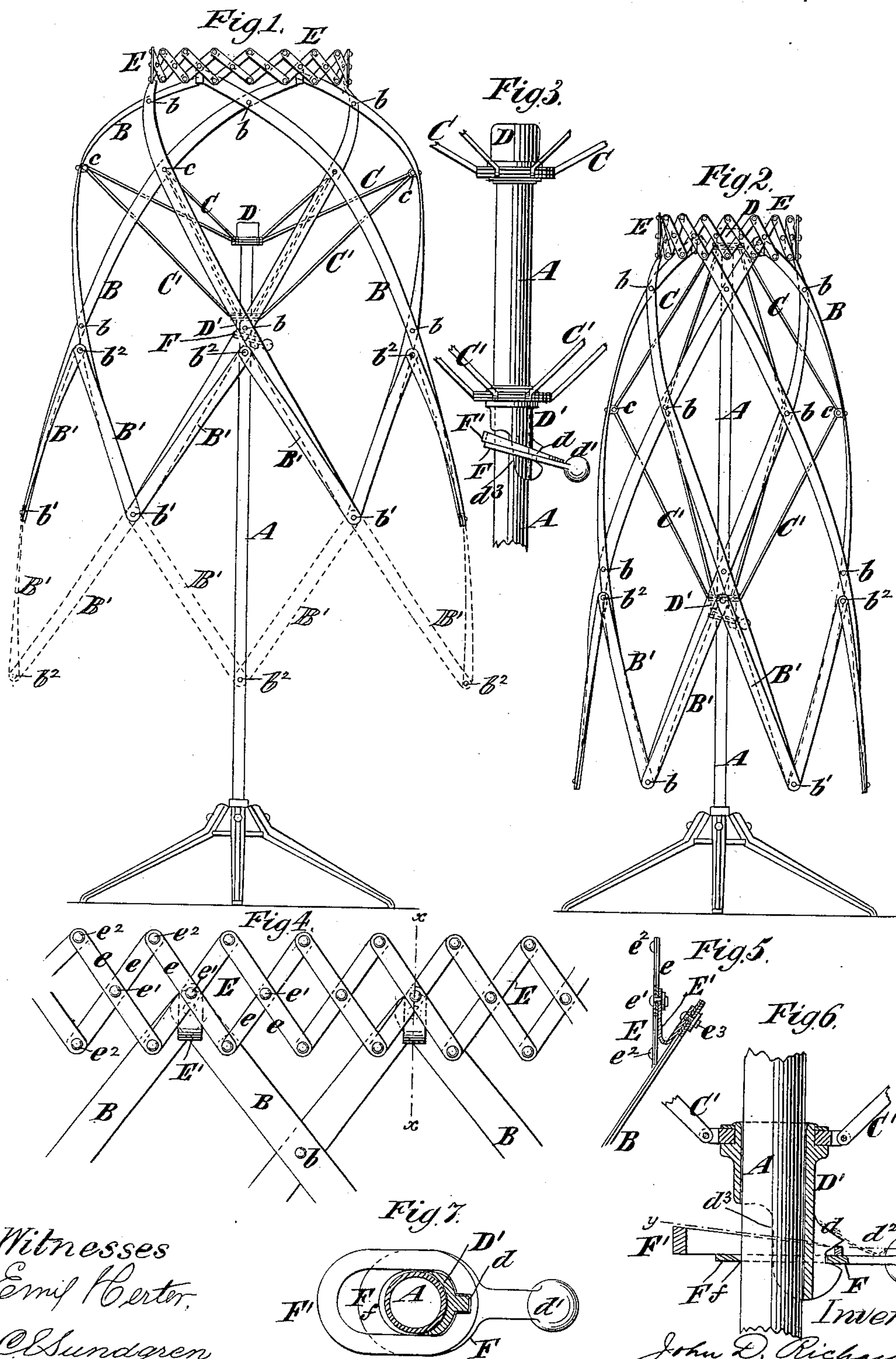
(No Model.)

J. D. RICHARDSON.

DRESS FORM.

No. 373,414.

Patented Nov. 15, 1887.



Witnesses  
Emil Hertor,  
O. Sundgren

Inventor:  
John D. Richardson  
By his atty  
Brown & Hall



# UNITED STATES PATENT OFFICE.

JOHN D. RICHARDSON, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF  
AND FRANCIS L. MANCHESTER, OF SAME PLACE.

## DRESS-FORM.

SPECIFICATION forming part of Letters Patent No. 373,414, dated November 15, 1887.

Application filed August 30, 1886. Serial No. 212,169. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN D. RICHARDSON, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Dress-Forms, of which the following is a specification.

My invention more particularly relates to a dress-form in which the expansible ribs are arranged obliquely and pivoted together at their points of intersection, as is shown in Letters Patent No. 343,729, granted to me June 15, 1886; but the invention, or certain features thereof, may also be embodied in dress-forms having parallel expansible ribs, as is shown in Letters Patent No. 277,344, granted to me May 8, 1883.

In dress-forms of either of the kinds above referred to the ribs are expanded by means of one or more series of stretchers, which spring from collars fitted to a central standard, and one or more of these collars are usually arranged to slide upon the standard in order to expand and contract the ribs, and a suitable holding device is employed for securing the sliding collar in different positions on the standard. An ordinary set-screw has most commonly been employed for this purpose.

The invention consists in the combination, in a dress-form with obliquely-arranged ribs pivotally connected as lazy-tongs and stretchers for expanding them, of an expansible band connected with the upper ends of said ribs, completely encircling the waist portion of the form and composed of strips or members pivotally connected as lazy-tongs.

In securing the expansible band constructed as above described to the upper ends of the ribs, I preferably employ bent angle-pieces of spring-steel or other suitable material, which are secured at one end to the pivots connecting the strips or members of the expansible band and are at the other end secured to the ribs, as hereinafter described.

The invention also consists in the combination, with the ribs of a dress-form and stretchers for expanding them, of bottom extension-pieces pivoted together at fixed points and to the lower ends of the ribs and made of flexible steel, so that they may be bent or deflected to enable them to be swung downward to form an extension of the ribs, or upward into posi-

tions approximately parallel with the ribs, so as to bring the dress-form into small space for convenience in packing.

The invention also consists in the combination, with the ribs and stretchers of a dress-form, a central standard, and a sliding collar from which the stretchers spring, of a clutch for holding the collar, consisting of a ring surrounding the standard, having a bearing on the collar at one side of the standard and loaded by a weight or spring, so as to tilt it into a position oblique to the standard, whereby the ring will be free to rise with the collar, but will grip the standard and hold the collar against descending. This feature of the invention also includes a counterbalance-weight, which is adjustable upon the clutch-ring so as to counteract the effect of the weight or spring, whereby the ring is loaded whenever desired, so that the ring will be maintained in a horizontal position and will be prevented from acting automatically to grip the standard; and this feature of the invention also includes a novel construction of the sliding collar and ring, so that the said ring may be combined with the collar in a very simple manner and will be held from disengagement therefrom after the collar is slipped upon the standard.

In the accompanying drawings, Figure 1 is an elevation of a dress-form embodying my invention and expanded ready for use. Fig. 2 is an elevation of a dress-form in a partly-collapsed state. Fig. 3 represents, on a larger scale, a portion of the standard with the collars from which the two series of stretchers spring, showing the clutch applied to the sliding collar and gripping the central standard so as to hold the collar against descending. Fig. 4 represents a portion of the expansible band and portions of the ribs with which it is connected upon a still larger scale. Fig. 5 is a sectional view upon the plane of the dotted line *xx*, Fig. 4. Fig. 6 represents a portion of the central standard and a sectional elevation of the sliding collar with its gripping device applied thereto, showing the parts as adjusted to prevent the gripping device from clutching the standard; and Fig. 7 is a horizontal section upon the plane of the dotted line *yy*, Fig. 6.



Similar letters of reference designate corresponding parts in all the figures.

A designates the central standard, and B the expansible ribs of the form. In the example of the invention here shown these ribs are arranged obliquely and are pivotally connected at their points of intersection,  $b$ , so as to constitute a species of lazy-tongs, and, as here shown, the ribs are sustained by two series of stretchers, C C', which are attached to the ribs at substantially the same points,  $c$ , and which spring from collars D D', fitting the central standard, A. I have here shown the collar D, from which the upper and shorter series of stretchers, C, spring, as fast upon the upper end of the standard A, and the collar D', from which the lower and longer series of stretchers, C', spring, slides upward and downward on the standard A in order to expand and contract the form. This combination of two series of stretchers with a fixed and a sliding collar I do not claim as a part of my invention, as it is shown and described in the pending application of Francis L. Manchester, Serial No. 213,854, filed September 18, 1886.

At the top of the form I have represented an expansible band, E, which is composed of strips or members  $e$ , pivoted together at their points of intersection,  $e'$ , and at their ends  $e''$ , as best shown in Figs. 4 and 5. This band will readily expand and contract as the ribs B are expanded or contracted by the movement of the sliding collar D' upon the standard. The ribs B at their upper ends incline inward toward the center of the standard A, as shown in Fig. 5, while the band E is preferably arranged in a vertical plane, and for connecting the band E with the ribs I employ bent angle-pieces E', which may be of steel, and which are connected at one end with the rivets or pivots  $e'$ , joining the strips or members  $e$  at their points of intersection, and at their other ends with the ribs B by rivets or pivots  $e''$ . The angle-pieces E' will readily adapt themselves to the different angles at which the ribs B may stand relatively to the plane of the band E when the form is expanded or contracted.

It is desirable to have the dress-form packed within as short a box as is possible when it is contracted, and such comparatively short ribs might not be alone sufficient to secure the necessary length of the form for use when expanded, and I have therefore represented the ribs B as provided with bottom extension-pieces, B', which are pivoted to the lower ends of the ribs at  $b'$ , and which at their opposite ends are connected at fixed points by pivots  $b''$ . The bottom extension-pieces, B', are of flexible and elastic spring-steel, and they may therefore be readily deflected or bent to enable them, even when pivoted together at fixed points  $b''$ , to be adjusted upward to the position shown by full lines in Fig. 1, or downward to the position shown by dotted lines in said figure. The elasticity of the strips will enable them to

be deflected outward, so that the pivotal points  $b''$ , connecting them, may pass a horizontal line drawn between the pivots  $b'$ .

I do not here claim, broadly, bottom extension-pieces, as they are shown and described in the application of Francis L. Manchester, above referred to. As they are there shown, one bottom extension-piece is slotted throughout its length, so that the pivot  $b''$  may play in said slot to enable the extension-pieces to pass a horizontal position. According to my invention, neither of the extension-pieces B' is slotted; but it is necessary that they be of elastic spring-steel, in order that they may be adjusted upward and downward, as described, when pivoted together at the fixed points  $b''$ .

F designates a gripping ring or clutch, which surrounds the standard A and serves to automatically hold the collar D' against slipping down on the standard after it has been once raised thereon to expand the form. As here represented, the ring F is held or has a bearing in a notched bearer,  $d$ , formed upon the sliding collar D', and on one side of the standard it is loaded by a weight,  $d'$ , or by an equivalent spring,  $d''$ , as shown by dotted lines in Fig. 6. The sliding collar D' is cut away or has a gap,  $d'''$ , upon the side opposite the notched bearer  $d$ , as best shown in Fig. 6, and this enables the clutch-ring F to be readily combined with the sliding collar D' and the standard A. The parts are formed separately by casting or otherwise, and before the sliding collar D' is placed upon the standard the ring F may be readily placed in position in the notched bearer  $d$ , and then, after the collar is slipped upon the standard, the ring F will be held in secure engagement with the notched bearer  $d$  and cannot become detached therefrom.

The action of the weight  $d'$  or equivalent spring  $d''$  is to tilt the clutch-ring F into position oblique to the standard A, as shown in Fig. 3, and when tilted to such position its inner edge portion,  $f$ , which is thin or brought to a knife-edge, as shown in Fig. 6, will grip the side of the standard and have a tight hold thereon, preventing the collar D' from descending until the ring F is brought to a horizontal position by counteracting the effect of the loading weight or spring  $d'$  or  $d''$ . In order to hold the clutch-ring F in such horizontal position whenever desired, I have represented a counterbalance-weight, F', which may consist simply of a cast-metal piece having an oblong hole or slot, through which the standard A passes, and which enables the weight F' to be readily slipped upon or adjusted relatively to the clutch-ring F, so as to cause its projection to a greater or less degree on one side or the other of the standard. When the counterbalance-weight F' is adjusted to the position shown in Fig. 3, the weight  $d'$  or the loading-spring  $d''$  will tilt the ring F into an inclined position oblique to the standard, as shown in Fig. 3, and said ring will automatically grip the standard. When the counterbalance-weight F' is adjusted to the position shown in Figs. 6 and



7, it will counterbalance the effect of the weight or spring  $d'$  or  $d^2$  and will hold the clutch-ring F out of action, so that by the two hands applied to the ribs the collar D' will be slipped downward upon the standard and the ribs contracted closely around the form.

I am aware that an expansible band portion composed of lazy-tongs has been combined with a series of straight and substantially parallel ribs in a dress-form, and in my Letters Patent No. 343,729, dated June 15, 1886, I have shown a dress-form having oblique ribs which cross each other and are pivoted together, after the manner of lazy-tongs. I do not, therefore, attempt to cover, broadly, by my invention the band composed of strips pivoted together as lazy-tongs, in combination with any and all ribs in dress-forms. When a band composed of strips pivoted together as lazy-tongs is employed in connection with ribs which cross each other obliquely and are pivoted together as lazy-tongs, a new and improved combination is produced, for by it the band is held more accurately in any position to which it is adjusted, owing to the bracing action of the ribs. It will be seen from my drawings that the ribs B extend in opposite directions toward and meet at the pivotal points, to which the band is attached, and these opposing braces, which extend in opposite directions obliquely from the points at which the band is attached, serve to brace the band and prevent its collapsing. Consequently it is possible to button or secure the waist of a dress-skirt tightly around the band without the band being collapsed thereby, as it might be were it supported only by straight and parallel ribs.

I do not claim, broadly, the combination, in a dress-form with ribs and stretchers for expanding them, of bottom extension-pieces connected at their one end to the lower ends of the ribs by pivots which provide for swinging them downward to form extensions of the ribs, or upward into positions parallel with the ribs for convenience in packing the form, as such subject-matter is claimed in the application, Serial No. 213,854, filed September 18, 1886, by Francis L. Manchester.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the obliquely-arranged ribs pivotally connected as lazy-tongs, and stretchers for expanding them, of an expansible band, E, completely encircling the waist portion of the form, connected with the upper portions of the ribs and composed of

cross-strips pivotally connected as lazy-tongs, whereby the ribs which extend in opposite directions obliquely from the band serve to brace the band and prevent its collapsing, substantially as herein described.

2. The combination, with the expansible ribs and the stretchers of a dress-form, of an expansible band composed of strips or members pivotally connected together as lazy-tongs, and the bent angle-pieces E', secured at one end to the band and at the other end to the ribs, substantially as herein described.

3. The combination, with the ribs of a dress-form and stretchers for expanding them, of bottom extension-pieces pivoted together at fixed points and to the lower ends of the ribs and made of flexible steel, so that they may be bent or deflected to enable them to be swung downward to form an extension of the ribs, or upward for convenience in packing the form, substantially as herein described.

4. The combination, with the ribs and stretchers of a dress-form, a central standard, and a sliding collar from which the stretchers spring, of a clutch for holding the collar, consisting of a ring having a bearing on the collar at one side of the standard and loaded so as to tilt it into a position oblique to the standard, whereby the ring will be free to rise with the collar, but will grip the standard and hold the collar against descending, substantially as herein described.

5. The combination, with the ribs and stretchers of a dress-form, the central standard, and a sliding collar from which the stretchers spring, of the clutch consisting of the ring F, having a bearing on the collar at one side of the standard and loaded to tilt it into an oblique position, and a counterbalance-weight, F', adjustable relatively to the ring to maintain it in horizontal position, when desired, substantially as herein described.

6. The combination, with the ribs and stretchers of a dress-form and the central standard, of the sliding collar D', from which the stretchers spring and which has a gap at one side, as at  $d^3$ , and provided at the opposite side with the notched bearer  $d$ , and the loaded clutch-ring F, supported by the notched bearer and gripping the standard where it is exposed by the gap in the collar, substantially as herein described.

J. D. RICHARDSON.

Witnesses:

FREDK. HAYNES,  
HENRY J. MCBRIDE.