Nov. 30, 1948. J. H. RICHA ET AL 2,454,977

ADJUSTABLE SHOULDER SUPPORT FOR GARMENT FINISHING APPARATUS

Filed March 10, 1947 2 Sheets-Sheet 1

Fig. 1.

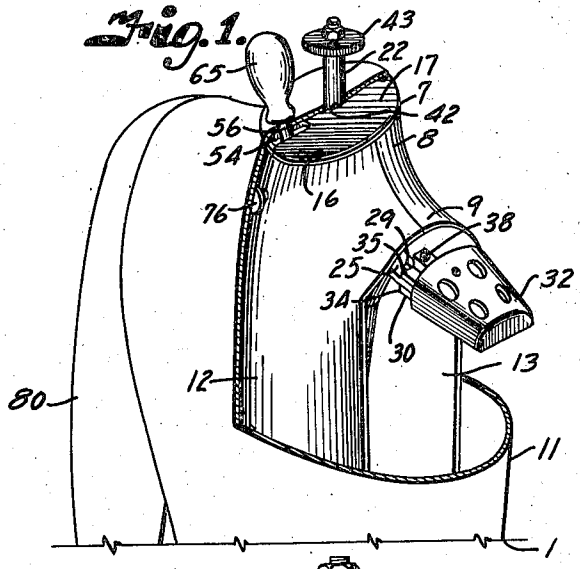
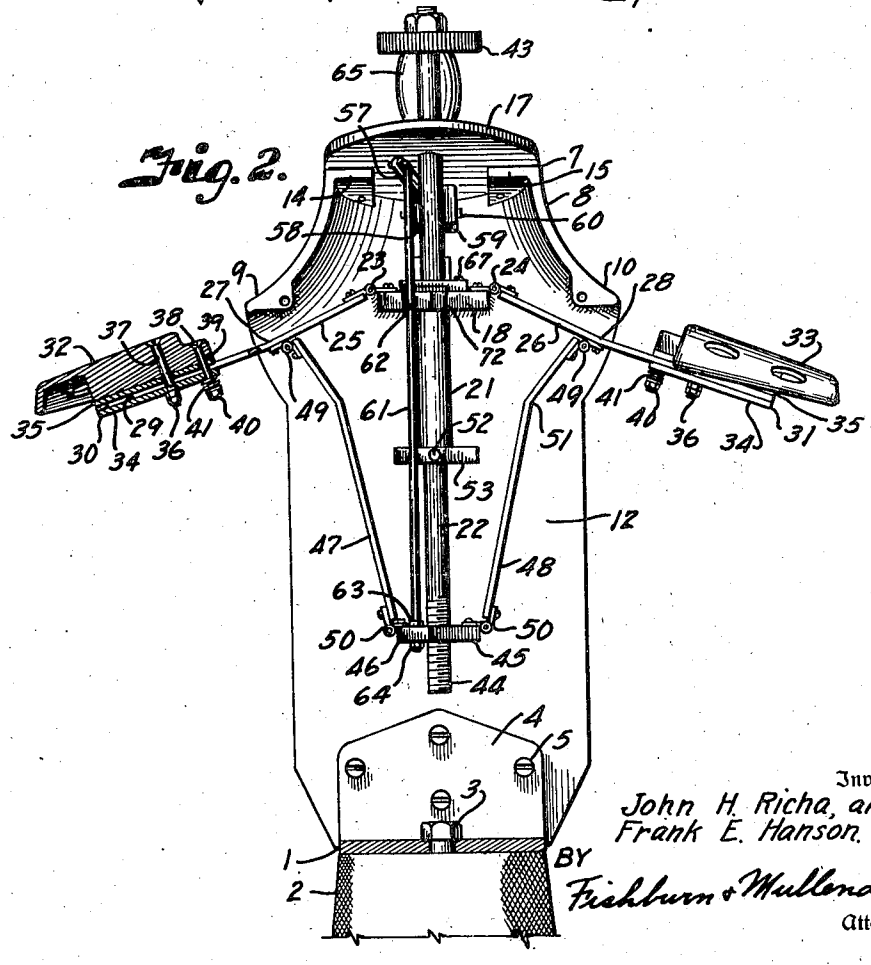


Fig. 2.



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Fig. 3.

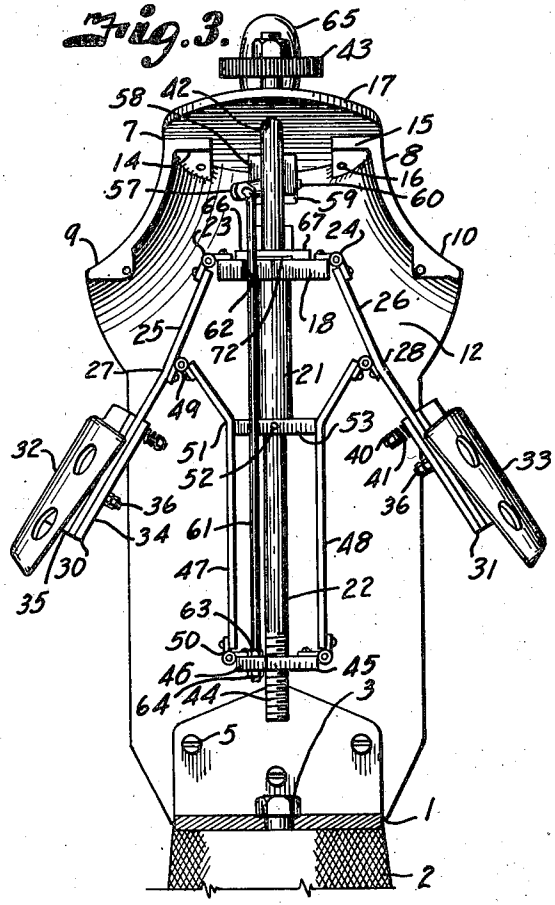


Fig. 4.

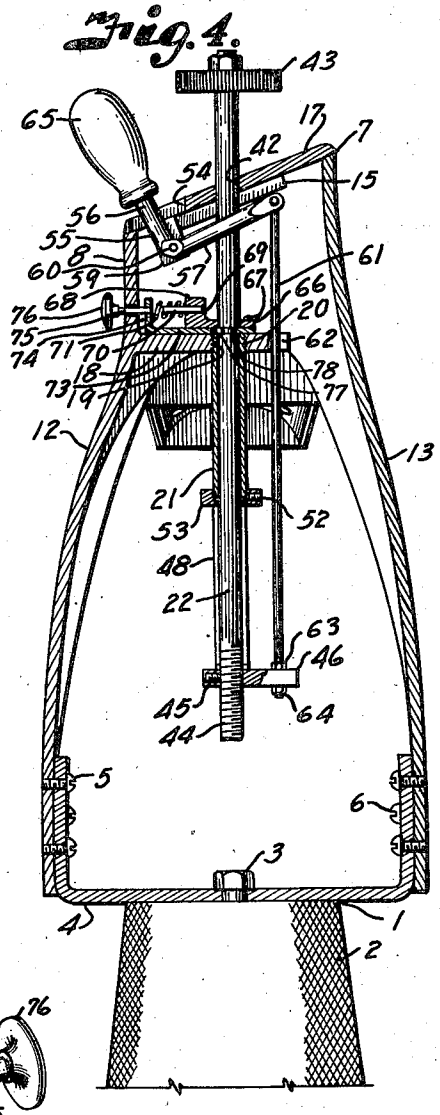
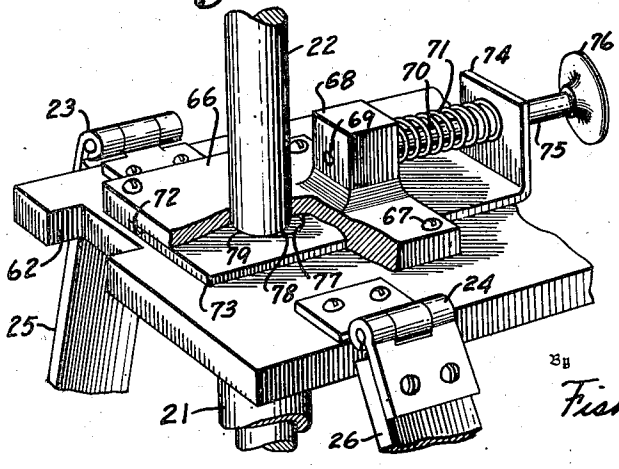


Fig. 5.



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ADJUSTABLE SHOULDER SUPPORT FOR GARMENT FINISHING APPARATUS

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15 Claims. (Cl. 223—70)

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This invention relates to garment finishing machines of the type diclosed in the John H. Richa Patent No. 2,436,731, issued February 24, 1948, and more particularly to a machine having adjustable shoulder elements to facilitate shaping of the form to the neck and shoulder portions of a garment operable exteriorly of the device.

Finishing machines of this character require a form for supporting a permeable bag and over which a garment is applied so that the garment is steamed and brought to shape by steam and/or air discharged into the bag. Heretofore in devices of this character it has been necessary to manually raise the shoulder portions, thus causing wear on the bag and requiring replacement of the bag at frequent intervals. The present machine is particularly adaptable for applying dresses and similar narrow-waisted garments over the form so that the waists of such garments will pass over the shoulder portions of the form.

It is, therefore, a principal object of the present invention to provide a garment finishing machine with a permeable bag on a supporting form having adjustable collapsible shoulder portions so as to facilitate application of a dress or similar garment over the form, and with which the shoulder portions may be raised and lowered with means exteriorly of the form and bag.

Other objects of the invention are to provide means exteriorly of the form for adjusting the slope of the shoulder portions with respect to the neck portion to conform the device to garments having different shapes in the neck and shoulder portions; to provide a form with adjustable shoulder elements to facilitate shaping the form to the neck and shoulder portions of a garment; to provide a stop means for limiting downward movement of the shoulder portions; to provide means for latching the shoulder portions in raised position; and to provide a form that is simple and inexpensive to construct and which is readily operated and adjusted to support a garment over a permeable bag.

In accomplishing these and other objects of the present invention, we have provided improved details of structure, the preferred form of which is illustrated in the accompanying drawings, wherein:

Fig. 1 is a fragmentary perspective view of a garment finishing machine embodying the features of the present invention, the upper portion of the bag being broken away to better illustrate the supporting form therefor.

Fig. 2 is a vertical section through the upper

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portion of the form and its supporting form showing the shoulder portions in extended position.

Fig. 3 is a view similar to Fig. 2 showing the shoulder portions in collapsed position.

Fig. 4 is a vertical section particularly illustrating the means for raising and lowering the shoulder portions and adjusting the slope of said shoulder portions.

Fig. 5 is a perspective view of the latching means with parts broken away to better illustrate the invention.

Referring more in detail to the drawings:

1 designates a garment finishing machine constructed in accordance with the present invention and particularly adapted for finishing dresses and similar small-waisted garments. The machine includes a support comprising a fabric-covered distributor 2 mounted upon a base (not shown) for containing a source of heated air under pressure, such as a motor actuated blower, steam supply lines and valves (also not shown) for controlling flow of steam and air into the distributor. Pivotally mounted on the upper end of the distributor by a bolt or the like 3 is a bracket 4. Attached to the bracket by screws or the like 5 and 6 is a form 7 comprising a neck element 8 and laterally extending shoulder portions 9 and 10 which suspendingly support a permeable bag 11 having the general shape of a dress or similar garment. The form includes a breast portion 12 and a back portion 13. The bracket 4 mounted on the bolt 3 provides for rotation of the bracket and form about a vertical axis on the support.

The neck element of the form may be constructed of suitable material and is preferably of hollow character so as to accommodate the working parts of the form now to be described.

The top of the neck element is provided with flanges 14 and 15 upon which is fastened by screws or the like 16 a top plate 17. While we have here shown the top plate to be in slanting position, it will be obvious that it may be in any position desired. Extending inwardly from the front portion of the neck element is a lug or bracket 18 having a threaded bore 19 adapted to receive the threaded end 20 of a tubular member 21 through which is extended a rod 22 for a purpose later described.

Extending laterally under the shoulder portions 9 and 10 and hingedly connected to the respective sides of the lug 18 by hinges 23 and 24 or other suitable means are arms 25 and 26. The arms are adapted to move from an extended position shown in Fig. 2 to a collapsed position shown in Fig. 3. The shoulder supporting arms

may be of any suitable shape but are here illustrated as being of substantially flat pieces of metal and are curved slightly as indicated at 27 and 28 (Fig. 3).

The arms are provided with slots 29 at their outer extremities. Slidably supported in the slots at the outer ends of the arms are extensions 30 and 31 carrying shoulder supporting pads 32 and 33 adapted to engage within the shoulder portion of a garment. The extensions 30 and 31 comprise substantially flat bars 34 and 35 adapted to engage on each side of the outer ends of the arms 25 and 26 and are slidable thereon. The bars 34 and 35 are provided with transverse bores and adapted to receive a bolt or the like 36 extending through the slots 29 in the ends of the arms and through a transverse bore 37 in the shoulder pads 32 and 33 as best illustrated in Fig. 2 so that the pads are slidable on the arms to adjust the device for different size garments. The inner ends of the bars 34 and 35 are also provided with openings adapted to receive a bolt 38 which also engages in the slot 29 and extends through a bore opening in the offset portion of the shoulder pads 32 and 33 as indicated at 39 (Fig. 2). The bolt is provided with a nut 40 and a coil spring 41 is adapted to engage between the nut and the lower bar 34 of the extension member to provide tension of the extension member on the ends of the arms to hold the pads in any laterally adjusted position.

The top plate 17 of the form is provided with an opening 42 through which the rod 22 extends. The rod is provided on its outer end with a hand nut 43 for rotating the rod as later described. The lower end of the rod is provided with threads 44 adapted to receive a nut 45 having a rearward extension or lug 46.

Links or brackets 47 and 48 are provided for supporting the arms 25 and 26. The upper ends of the links are pivotally connected to the arms at substantially the curved portions thereof as best illustrated in Fig. 3 by hinges 49. The lower ends of the brackets are pivoted to the respective sides of the nut 45 by hinges 50. While we have here shown hinges for pivotally connecting the links, any other suitable means may be utilized. The links 47 and 48 are curved as indicated at 51 (Fig. 2) and secured to the lower end of the tubular member by a set screw or the like 52 is a stop 53 which engages the inside of the brackets 47 and 48 to provide a stop for the device when the shoulder portions are lowered.

The front portion of the top plate 17 is provided with a slot 54 adapted to receive a lever 55 of substantially L-shape having arms 56 and 57. The lever 55 is pivotally mounted on inwardly extending lugs 58 and 59 secured to the underneath side of the plate member by screws or other suitable means, the lever being pivoted to the lugs by a pin or the like 60. Pivotally mounted on the inner end of the arm 57 is a rod 61 extending through a slot 62 in the outer end of the inwardly extending lug 18. The lower end of the rod is provided with threads and extends through an opening in the lug 46 of the nut 45 and is secured thereto by nuts 63 and 64. The arm 56 of the lever is provided with a knob 65 for manipulation of the lever for raising of the shoulder arms.

In order to hold the shoulder arms 25 and 26 in extended position as shown in Fig. 2 upon raising of the arms through the lever 55, we provide a plate 66 secured to the inwardly extending lug 18 by screws or the like 67. The plate is centrally bored as indicated at 67 so that the rod 22 will extend therethrough. The plate 66 is provided with an upstanding lug 68 provided with a bore 69 in which is secured a pin 70 which is adapted to engage a coil spring 71. The underneath side of the plate 66 is provided with a groove or slot 72 in which is adapted to engage a latching plate 73. The latching plate has one end turned laterally to provide a flange 74 and is provided with an opening adapted to receive the shank 75 of a push button 76, the inner end of the shank being rigidly secured to the flange 74 and if desired, it may extend through the flange and be engaged by one end of the spring 71 to hold the spring in place. The latching member is provided with an opening 77 through which the rod 22 extends, and the rod is provided with an annular groove 78 adapted to receive the side of the opening 77 as indicated at 79 (Fig. 5) so that when the rod is raised through manipulation of the lever 55 to position the shoulder arms in extended position, the latching member will hold the rod in its then raised position. Release of the latching member from the groove 78 by inward movement of the push button 76 will cause the arms to be lowered to collapsed position.

In using the machine the supporting arms 25 and 26 of the form are released by pushing on the button 76 to effect release of the latch plate 73 from the latch groove 78 in the rod 22. The shoulder supporting arms are then in the position shown in Fig. 3 and the brackets 47 and 48 will engage the stop member 53 on the tubular member 21 to limit downward movement of the shoulder arms. In this position the width of the form is of less size than the waist portion of the dress to be placed thereover.

A dress may then be applied over the bag 11 by drawing the skirt thereof over the top of the form. The sleeve portions 80 of the bag are then drawn into the sleeves of the dress and the shoulder supporting pads 32 and 33 adjusted inwardly or outwardly to accommodate the particular size of the dress to be finished. Then manipulation of the lever 55 by forward pull on the handle 65 will cause the supporting arms 26 and 27 to be raised to garment supporting position as shown in Fig. 2. When the arms are raised to substantially their upper limit, the springs exerting outward pressure on the flange 74 of the latching plate 73 cause the latching plate to engage in the groove 78 of the post. The arms are thus supported to carry the shoulder portions of the garment in proper position. The shoulder arm extensions 30 and 31 are then adjusted to conform the shoulder pads 32 and 33 to the shoulder width of the garment. By manipulation of the hand nut 43 and turning of the rod 22 the shoulder arms may be raised or lowered any desired slope or slant to conform to the contour of the shoulder or neck elements of the dress. In other words, the movement of the nut 45 upwardly or downwardly on the threaded end 44 of the rod 22 will shorten or lengthen the lifting effect of the links 47 and 48.

The garment is then steamed in accordance with ordinary practice by introducing steam into the bag by way of the distributor 2 to inflate the bag and cause the steam to permeate through the bag into contact with the garment for softening and raising the fibers. After steaming, heated air may be discharged into the bag to inflate the bag so as to extend the garment to its original size, the supply being maintained until the garment attains the desired shape and is dry; where-

on pressure is applied to the push button 76 to release the latch plate 73 from latching engagement with the rod 22 to cause collapse of the shoulder arms 26 and 27, whereupon the dress is readily removed from the top of the form.

It will be obvious from the foregoing that we have provided a garment finishing machine particularly adapted for finishing narrow-waisted garments, such as dresses, so that the garment may be readily applied to and removed from the form without stretching or tearing the fabric.

It is further obvious that this means is all exterior of the form and that when the supporting arms are extended, the garment carried thereon may be supported in proper position for the finishing process by regulation of the slope of the shoulder arms and pads on the ends of the arms to fit the garment being conditioned.

What we claim and desire to secure by Letters Patent is:

1. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, means connecting the shoulder supporting arms with the lower end of the rod for slidably supporting the rod in the opening in said lug, and latch means engageable with the rod when the shoulder supporting arms are in extended position to hold said arms in extended position.

2. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, a nut on the lower end of said rod, means connecting the shoulder supporting arms with said nut for slidably supporting the rod in the opening in said lug, and latch means engageable with the rod when the shoulder supporting arms are in extended position to hold said arms in extended position.

3. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, a nut on the lower end of said rod, links connecting the shoulder supporting arms with said nut for slidably supporting the rod in the opening in said lug, and latch means engageable with the rod when the shoulder supporting arms are in extended position to hold said arms in extended position.

4. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, a nut on the lower end of said rod, links connecting the shoulder supporting arms with said nut for slidably supporting the rod in the opening in said lug, latch means engageable with the rod when the shoulder supporting arms are in extended position to hold said arms in extended position, and means for releasing said latch means.

5. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, a nut on the lower end of said rod, links connecting the shoulder supporting arms with said nut for slidably supporting the rod in the opening in said lug, means engageable with the rod when the shoulder supporting arms are in extended position to support said arms, and means operable exteriorly of said form for shifting the shoulder supporting arms from a collapsed position to a position for supporting the shoulder portions of a garment.

6. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, a nut threaded on the lower end of said rod, links connecting the shoulder supporting arms with said nut for slidably supporting the rod in the opening in said lug, latch means engageable with the rod when the shoulder supporting arms are in extended position to support said arms, means for releasing said latch means, and means operable exteriorly of said form for shifting the shoulder supporting arms from a collapsed position to a position for supporting the shoulder portions of a garment.

7. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, a nut on the lower end of said rod, links connecting the shoulder supporting arms with said nut for slidably supporting the rod in the opening in said lug, latch means engageable with the rod when the shoulder supporting arms are in extended position to support said arms, means for releasing said latch means, means operable exteriorly of said form for shifting the shoulder supporting arms from a collapsed position to a position for supporting the shoulder portions of a garment, and means on said rod for turning same in said nut to adjust the position of said shoulder arms.

8. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, a nut on the lower end of said rod, links connecting the shoulder supporting arms with said nut for slidably supporting the

rod in the opening in said lug, latch means engageable with the rod when the shoulder supporting arms are in extended position to support said arms, means for releasing said latch means, means operable exteriorly of said form for shifting the shoulder supporting arms from a collapsed position to a position for supporting the shoulder portions of a garment, and means carried by and depending from said lug limiting downward movement of said shoulder supporting arms.

9. In a garment finishing apparatus including a support, a neck form including a breast and back portion, a bracket carrying the neck form on the support, a lug extending inwardly from the breast portion of said neck form having an opening therein, laterally extending shoulder supporting arms pivotally connected to said lug, a rod slidable in said opening in the lug and having its lower end threaded, movable means on the lower end of said rod, means connecting the shoulder supporting arms with said movable means for slidably supporting the rod in the opening in said lug, latch means engageable with the rod when the shoulder supporting arms are in extended position to support said arms, means for releasing said latch means, means operable exteriorly of said form for shifting the shoulder supporting arms from a collapsed position to a position for supporting the shoulder portions of a garment, and means carried by and depending from said lug limiting downward movement of said shoulder supporting arms.

10. In a garment finishing apparatus including a neck form having a breast and rear portion, a support for the form, a lug extending inwardly from said breast portion provided with an opening, a latching plate slidable on said lug having an opening aligning with the opening in said lug, said latching plate having a groove therein, a latch slidable in said groove, laterally extending shoulder supporting portions, a rod extending through the opening in said lug and said latching plate and having its lower end provided with threads, a nut on said threaded end of the rod, means pivotally connected to said nut and said shoulder portions, means operable exteriorly of said form for raising said shoulder portions from collapsed to extended position, and means on said rod adapted to be engaged by said latch to hold the shoulder portions in extended position.

11. In a garment finishing apparatus including a neck form having a breast and rear portion, a support for the form, a lug extending inwardly from said breast portion provided with an opening, a latching plate slidable on said lug having an opening aligning with the opening in said lug, said latching plate having a groove therein, a latch slidable in said groove, laterally extending shoulder supporting portions, a rod extending through the opening in said lug and said latching plate and having its lower end provided with threads, a nut on said threaded end of the rod, means pivotally connected to said nut and said shoulder portions, means operable exteriorly of said form for raising said shoulder portions from collapsed to extended position, means on said rod adapted to be engaged by said latch to hold the shoulder portions in extended position, and means for releasing said latch to lower the shoulder portions.

12. In a garment finishing apparatus including a neck form having a breast and rear portion, a support for the form, a lug extending inwardly from said breast portion provided with an opening, a latching plate secured to said lug having an opening aligning with the opening in said lug, said latching plate having a groove therein, a latch slidable in said groove, laterally extending shoulder supporting portions, a rod extending through the opening in said lug and having its lower end provided with threads, a nut on said threaded end of the rod, links pivotally connected to said nut and said shoulder portions, means for exerting tension on said latch member, means operable exteriorly of said form for raising said shoulder portions from collapsed to extended position, and means for releasing said latching means from extended latched position.

13. In a garment finishing apparatus including a neck form having a breast and rear portion, a lug extending inwardly from said breast portion provided with an opening, a latching plate secured to said lug having an opening aligning with the opening in said lug, said latching plate having a groove therein, a latch slidable in said groove, laterally extending shoulder supporting portions, a rod extending through the opening in said lug and having its lower end provided with threads, a nut on said threaded end of the rod, links pivotally connected to said nut and said shoulder portions, spring means for exerting tension on said latch member, means operable exteriorly of said form for raising said shoulder portions from collapsed to extended position, said rod having a groove adapted to receive the latch upon raising of the shoulder supports, and means for releasing said latch.

14. In a garment finishing apparatus including a neck form having a breast and rear portion, a support for said form, a lug extending inwardly from said breast portion provided with an opening, a latching plate secured to said lug having an opening aligning with the opening in said lug, said latching plate having a groove therein, a latch slidable in said groove, laterally extending shoulder supporting portions, a rod extending through the opening in said lug and having its lower end provided with threads, a nut on said threaded end of the rod, links pivotally connected to said nut and said shoulder portions, spring means for exerting tension on said latch, a groove in said rod for engaging said latch, a lever pivotally mounted in said neck form having an arm extending through the top of said form, a rod pivotally mounted on the inner end of said lever and having its lower end secured to the nut on the lower end of the rod for raising said shoulder portions to extended position upon operating the lever, and means for releasing said latch.

15. In a garment finishing apparatus including a neck form having a breast and rear portion, a support for said form, a lug extending inwardly from said breast portion provided with an opening, a boss secured to said lug having an opening aligning with the opening in said lug, said boss having a groove therein and an upstanding lug, a latch slidable in said groove, laterally extending shoulder supporting portions, a rod extending through the opening in said lug and having its lower end provided with threads, a nut on said threaded end of the rod, links pivotally connected to said nut and said shoulder portions, spring means engaging said upstanding lug on the boss for exerting tension on said latch, a groove in said rod for engaging said latch, a lever pivotally mounted in said neck form having an arm extending through the top of said form, a rod pivotally mounted on the inner end of said

lever and having its lower end secured to the nut on the lower end of the rod for raising said shoulder portions to extended position upon operating the lever, and means for releasing said latch.

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