

June 3 , 1924.

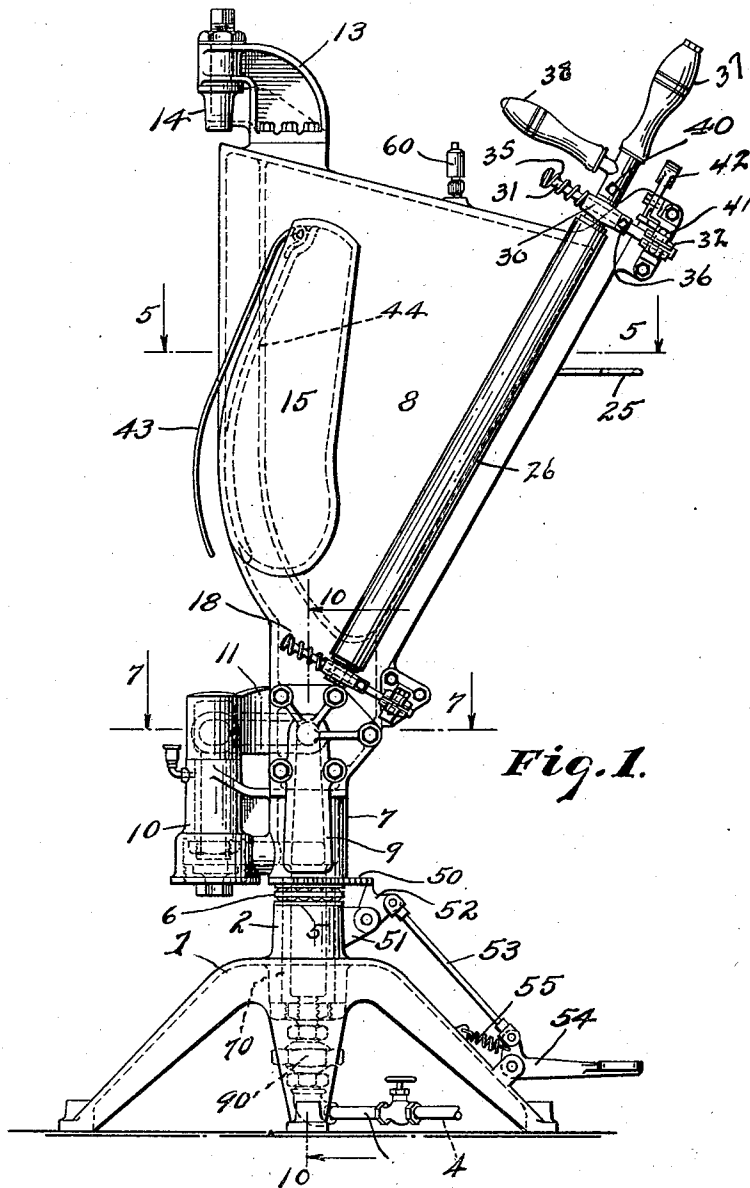
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W. M. CHACE

GARMENT SHAPING MACHINE

Filed May 10, 1920

6 Sheets-Sheet 1



WITNESS:

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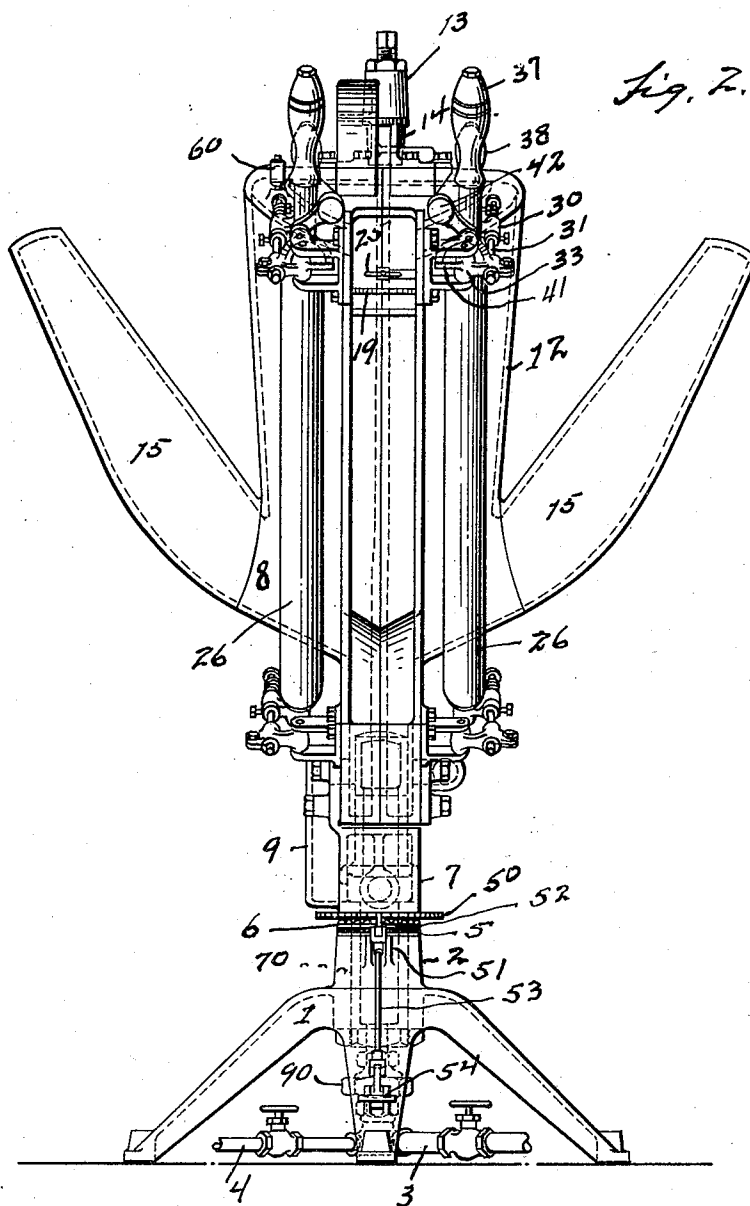
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6 Sheets-Sheet 2



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GARMENT SHAPING MACHINE

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6 Sheets-Sheet 3

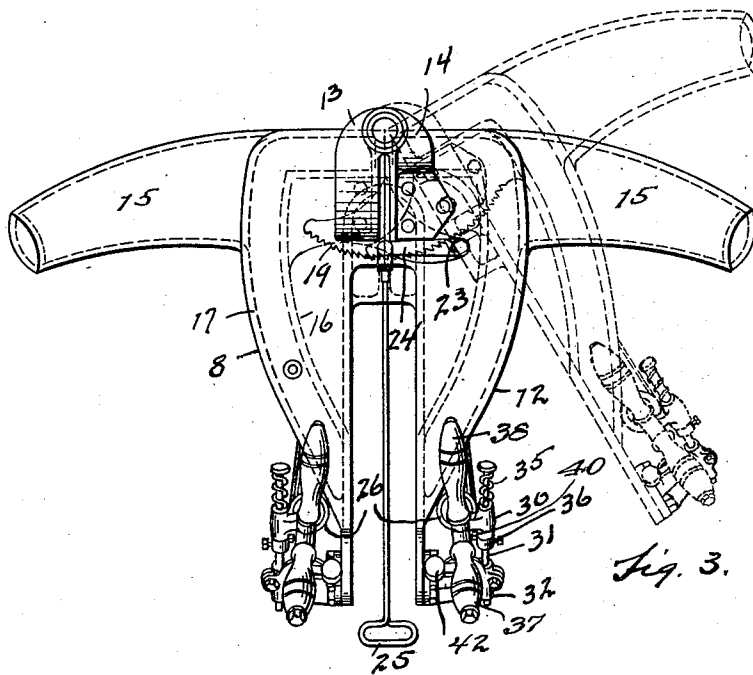


Fig. 3.

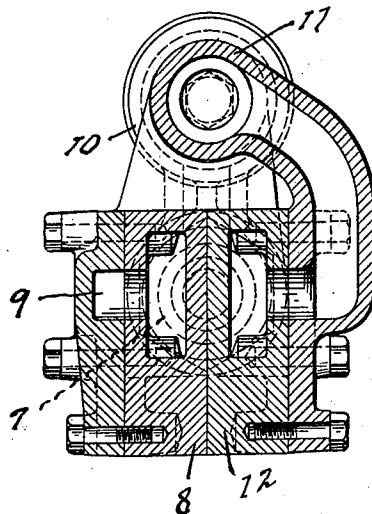


Fig. 7.

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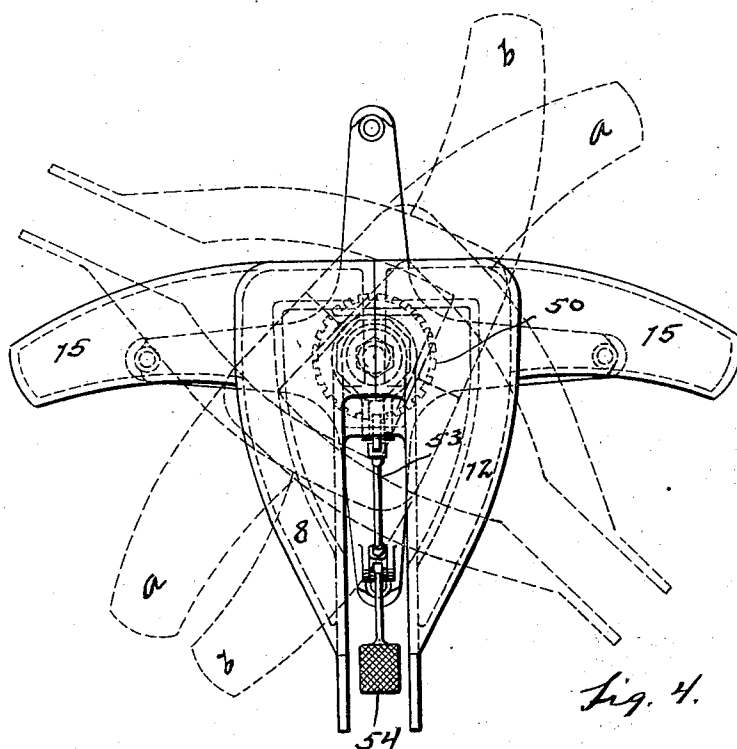
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GARMENT SHAPING MACHINE

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6 Sheets-Sheet 4



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GARMENT SHAPING MACHINE

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6 Sheets-Sheet 5

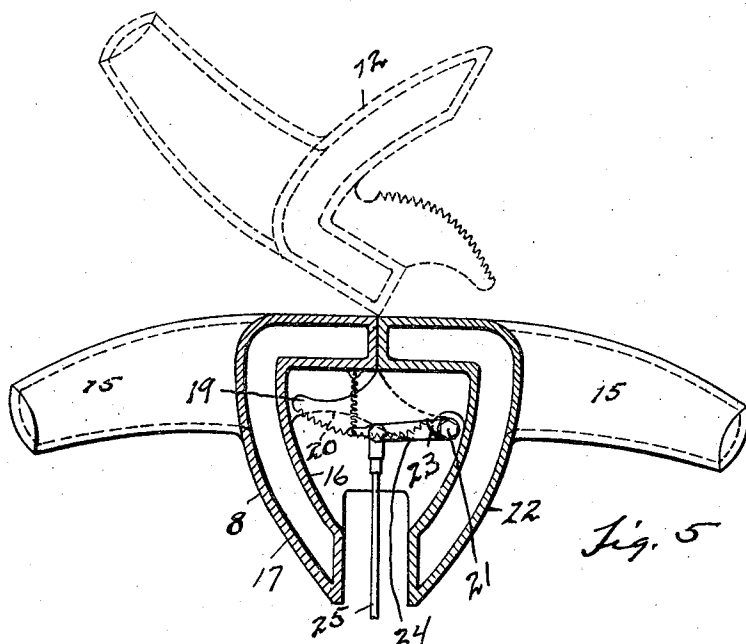


Fig. 5

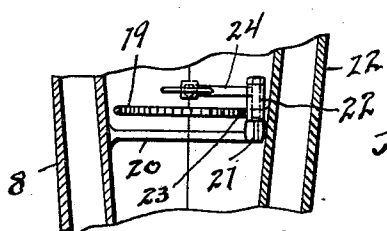


Fig. 6.

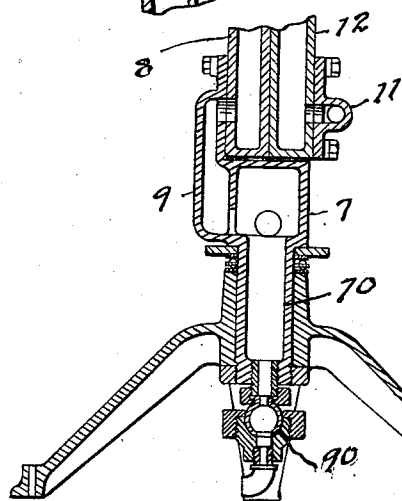


Fig. 10.

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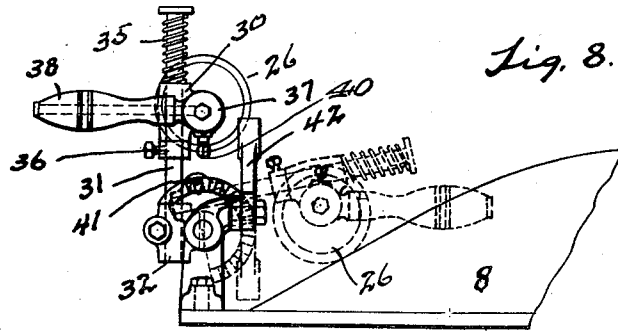
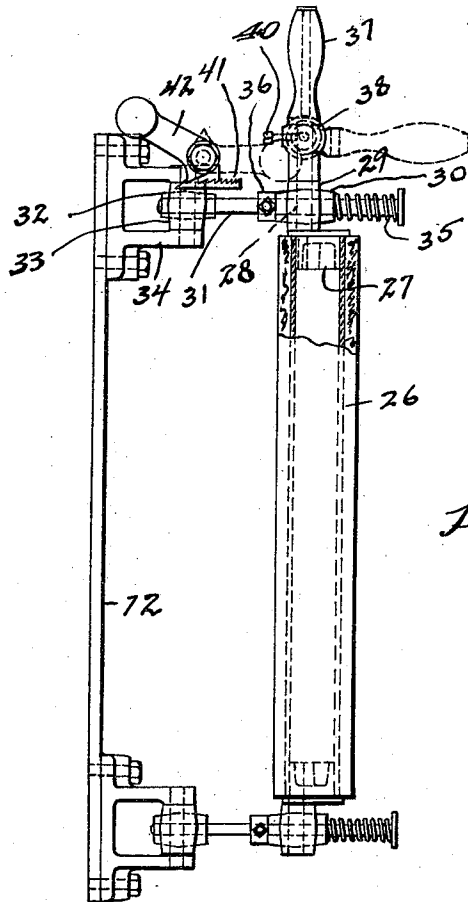
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GARMENT SHAPING MACHINE

Filed May 10, 1920

6 Sheets-Sheet 6



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UNITED STATES PATENT OFFICE.

WILLIAM M. CHACE, OF DETROIT, MICHIGAN.

GARMENT-SHAPING MACHINE.

Application filed May 10, 1920. Serial No. 380,042.

To all whom it may concern:

Be it known that I, WILLIAM M. CHACE, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Garment-Shaping Machines, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to garment ironing devices, and an object thereof is to provide a device having a form on which the garment may be stretched, the form being adapted to be heated by any approved means and the garment being placed thereon while damp and dried while stretched on the form. A further object of the invention is to provide a form having hinged parts adapted to be folded in a manner to permit the ready introduction of the garment onto the form and then turned in a manner to stretch the garment tightly over the form to hold the cloth in an unwrinkled condition while being dried by the heat of the form. An additional feature of the invention is involved in the means for firmly holding the free edges of the garment and to stretch the same tautly subsequent to placing the garment on the form thereby holding the free edges firmly in position against the form and preventing a wrinkling of the garment along the said edges. Other features of the invention are involved in the specific means of automatically holding the garment sleeves of various sizes taut on the sleeve portion of the form and in the particular construction of the means for grasping the free edges of the garment and in the means and manner of hinging the two portions of the form and introducing of the steam thereinto to heat the form. These and other objects and the novel features of the invention are hereinafter more fully described and claimed and the preferred form

of construction of a garment ironing device embodying my invention is shown in the accompanying drawings in which—

Fig. 1 is a side elevation of my improved garment ironing machine.

Fig. 2 is a front elevation thereof.

Fig. 3 is a plan view thereof.

Fig. 4 is a similar view showing by dotted lines the manner in which the entire form may be swung upon a central support.

Fig. 5 is a section taken at 5—5 of Fig. 1 through the hinged part of the form showing in plan view the releasable device for holding the two parts in fixed relationship.

Fig. 6 is an edge elevation of the releasable device shown in Fig. 5.

Fig. 7 is a section taken on line 7—7 of Fig. 1 showing the steam channels leading into the two parts of the form.

Fig. 8 is a plan view of the means employed to engage and stretch the free edges of the garment.

Fig. 9 is an elevation thereof.

Fig. 10 is a section through the supporting standard and stem taken on line 10—10 of Fig. 1, showing the steam channels.

The device as here shown consists of a base member 1 preferably provided with legs as shown having a vertical central hollow portion 2 in which is positioned the stem 70 of the standard 7. The stem 70 is provided with a steam inlet at the lower end to which the inlet pipe 3 is attached and an outlet pipe 4 attached to the said end at one side of the inlet. Both the inlet and the outlet pipes are provided with valves as shown and condensation may be drawn off through the pipe 4. This upright portion 2 is provided with a shoulder 5 supporting a thrust bearing 6 encircling the reduced portion or stem 70. This stem 70 and standard 7 is attached to the hollow half-form 8 hereinafter described. Formed integral with this portion 7 is the hollow portion 9 providing a conduit for steam leading into the half-form 8 as shown in Fig. 10. Extending outwardly and upwardly from the portion 7 is an integral

hollow member 10, the interior of which is open to the interior of the member 7 providing a steam channel. The upper end of the upright portion of the part 10 has a hinge member 11 hollow in form rotatably mounted thereon. This member 11, as shown particularly in Fig. 7 and Fig. 10, is attached to the neck end of the half-form 12 corresponding to the half-form 8 before mentioned. The upper end of the part 8 has attached thereto an upwardly and outwardly bent hinge member 13 and the part 12 has complementary hinge member 14 attached thereto, the two parts 13 and 14 turning on a pivot, the axis of which is vertically in alignment with the axis of the portion 10 at the lower end of the forms. The two sets of hinge members together support the hinged half 12 on the relatively stationary half 8 of the form.

The two half-forms are hollow shells, the outer faces of the two forms corresponding in shape to that of the garment to be stretched thereon each being provided with a hollow arm portion 15 over which the arm of a garment may be stretched. The interior of these arm portions are open to the hollow interior of the respective half of the form and the forms, as shown in plan view in Fig. 3 consist of spaced outer and inner walls 16 and 17 providing a steam space therebetween. It is also to be observed that these half forms are positioned with the neck end at the bottom so that the skirt of the garment comes about the upper end of the form and the neck portion about the lower end of the form.

It is preferable to hold the forms in relatively fixed position and for this purpose I have provided in the interior of the hinged form 12 a toothed segment 19 and on the half-form 8 I have provided an arm having at its outer end a bearing or support for an upright shaft 21 on the upper end of which is a hub 22 having formed thereon a pawl 23 adapted to engage the notches of the segment 19. Attached to the hub is a spring-retracted arm 24 having attached near the outer end thereof an operating lever 25 by means of which the pawl may be withdrawn from the segment releasing the movable half of the form permitting the same to be relatively turned as shown by dotted lines in Fig. 5. When in this position, the garment, as for instance a barber's or surgeon's coat, can be introduced thereonto and then the movable form swung back to normal position stretching the coat on the forms particularly on the back thereof. When the pawl 23 engages a notch of the segment 19, the two parts are held in a fixed relationship. The free edges of the coat extending toward the forward edges of each part of the form are next stretched into position and held tightly against the sides of the

form. For this purpose I have provided on each of the outer free edges of each half of the form a roller 26 which is preferably covered with a padding as indicated more particularly in Fig. 9. This roller is provided at each end with a head 27 having a pin 28 extending outwardly therefrom, the center of which is eccentric to the center of the roll. This pin member in each instance extends through a vertical block 29 preferably formed integral with a horizontal block 30 which is slidable on a horizontal rod 31. The rod is carried by an arm or block 32 formed integral with a vertically apertured block 33 which block 33 is pivotally supported on a bracket 34 in each case mounted on the respective edge of the form. A spring 35 is positioned on each rod 31 and engaging against the slidable block 30 forcing the same against a collar 36 secured to the rod. The upper eccentric pin 28 in each instance is of sufficient length to receive a vertical handle member 37. There is also provided a horizontal handle member 38 on the vertical block 29 through which the rod or pin 28 extends and a set screw 40 is provided for securing the said handle 38 to the pin.

The normal position of this roller and correlated parts is shown in full lines in Fig. 8, the rods 31 supporting the handle being pivoted to the blocks 32 permitting the roller to be turned to the position shown in full lines in Fig. 8. Considering now that the garment has been placed on the two forms and the forms brought to the normal closed position indicated in Fig. 5 the operator may turn the roller member by means of the handle 37 for instance on the brackets 34 swinging the same to the position shown by dotted lines in Fig. 8. Thereupon by use of the horizontal handle 38 the roller is rotated in the supporting brackets 29 and by reason of the eccentric relationship of the roller in these brackets, the roller is brought to engagement with the free edges of the garment lying on the respective part of the form causing the roller to bind against the form and compressing the springs 35. This binding of the roller against the form and continued rotation thereof on the eccentric bearing members engages the free edges of the garment and draws the same over the form. It is to be noted that the upper bearing member 33 in the upper bracket 34 has provided on the upper side thereof a notched segment 41. On the bracket is pivotally supported a weighted pawl 42 adapted to engage the notches of the segment 41 and, as will be understood from Fig. 9, the notches of the segment are inclined in one direction permitting the segment to be turned under the pawl in that direction of movement when being brought into engagement with the garment on the form. When brought to such position, as is shown by

dotted lines in Fig. 8, the pawl securely holds the roller member so that further turning of the roller on its pivots does not force the supporting frame for the roller outward away from the form, the frame being held in a substantially fixed position by the pawl. Such movement therefore tends to compress the spring members which holds the rollers yieldingly in contact with the garment.

In order that the sleeves of the garment may be stretched tautly on the sleeve portions of the form, I have provided a longitudinal spring member 43 supported at the upper free end of the sleeve to extend outwardly from the said portion shown in Fig. 1. Each sleeve portion is grooved longitudinally to permit the spring member 43 to lie therewithin but with sleeves that are somewhat larger than the form 15 this spring member tends to withdraw from the groove and to pull the sleeve portion taut.

It will thus be noted that by hinging the two portions of the form for the garment that garments of various sizes may be readily stretched in place. Those of less distance across the back between the points of connection of the sleeve with the garment will not permit the forms to be turned fully back to the position shown in Fig. 5 but the two forms may be locked together at any point by use of the notched segment 19. Then, by use of the eccentrically pivoted roller members the edge of the garment may be grasped and pulled across the form. The apparatus is thus adapted for use with garments of various sizes as garments of any usual size may be stretched tautly thereon.

When a garment has thus been stretched tautly thereon (and it is to be understood that the garment has been placed on forms while damp) the heat of the form through application of steam dries the garment while stretched and much of the labor ordinarily required in the usual method of ironing a garment is dispensed with. For convenience of the operator in positioning a garment on the form, both the forms which are hinged together may be locked in relative position and, while so locked, the entire form may be turned upon the vertical axis provided by the stem 70. This turning of the forms is suggested in Fig. 4 which shows the form in full lines, the operator's position being normally on the side of the figure at the bottom. The dotted lines *b-b* show the locked form turned with the back toward the operator and the dotted lines *a-a* indicate the locked forms turned with the side of the garment toward the operator. These forms when so locked together may be also locked from turning as above described by means of a geared or notched wheel member 50 formed or secured to the lower end of the portion 7. On the portion

5 of the base is provided a bracket 51 on which is pivotally supported a pawl 52 having an end normally engaging a notch of the member 50. To this pawl is pivotally connected a rod 53 which is pivoted to the end of a foot operating lever 54. A spring 55 is utilized tending to normally hold the pawl 52 in engagement with a notch of the member 50. By depressing the end of the foot lever 54 the pawl is released and the two forms may be swung upon the vertical standard.

For convenience I preferably employ a relief valve 60 in the upper end of each of the half forms similar to that used with steam radiators and permitting escape of air from the forms upon an introduction of steam thereinto.

It is evident that steam may be introduced into the forms in various ways. Preferably, however, I employ the central standard as shown. In any case the essential characteristic of the invention is involved in the hinging of the two parts of the form together; in the provision of a locking means and means for stretching the garment on the forms; and the provision of means permitting the locked parts of the garment from various sides without necessity of the operator moving about the form. It is further evident that the forms may be shaped to permit ironing of garments of different shapes, each different shape of garment requiring a corresponding shape of form. It is to be noted that, to permit the member 7 to rotate, the stem portion 70 should be provided at the bottom with a union coupling 90 below which is connected the steam lines. This permits rotation of the form without disturbing the steam lines.

From the foregoing description it is evident that the device is comparatively simple in construction providing means whereby garments of various types may be readily ironed with much less labor than with the usual hand methods heretofore employed and therefore reducing the expense involved in the ironing of a garment.

Having thus fully described my invention, its utility and mode of operation, what I claim and desire to secure by Letters Patent of the United States is—

1. In a garment shaping machine, a base, a form revolvably supported on the base, said form comprising two similar hollow parts hinged together on which the garment is adapted to be stretched, means for holding the garment tightly in contact with the forms, and means for introducing steam into the said hollow parts.

2. In a garment shaping machine, a base, a form composed of two similar hollow parts revolvably mounted on the base, said parts being hinged together and each having a hollow outwardly extending portion for the

sleeves of the garment, means for stretching the garment on the form, and means for introducing steam into the said hollow parts.

3. In a garment shaping machine, a support, a form revolvably mounted thereon and composed of two similar hollow parts hinged together, each part having an outwardly and upwardly extending hollow portion for the sleeves of the garment, the hinged parts being adapted to be turned respectively outwardly to bring the sleeve portions in adjacent relation permitting introduction of the garment thereon and the turning of the forms respectively in the reverse direction stretching the garment onto the form, and means for introducing steam into the said parts.

4. In a garment shaping machine, a base, a form composed of two similar hollow parts hinged together each having an outwardly extending hollow sleeve portion for a garment, the said parts being revolvably supported relative to the base, permitting the form parts to be turned back to back to receive a garment and to be turned in the reverse direction to stretch the garment thereon, means carried by each part of the form for engaging the respective free edge of the garment to tightly hold the same in contact therewith, and means for introducing steam into said hollow parts.

5. In a garment shaping machine, a support, a form revolvably mounted thereon, the form being composed of two similar members exteriorly shaped to correspond to the shape of substantially one-half of the garment, the parts being hinged together vertically permitting the same to be turned back to back for positioning the garment thereon and the turning of the parts in the reverse direction stretching the garment on the form, and means for heating the said parts.

6. In a garment shaping machine, a base, a form revolvably mounted thereon and composed of two similar half parts together having an exterior shape corresponding to that of the garment, said parts being pivotally connected together permitting the same to be turned back to back for positioning the garment thereon and the turning of the parts together stretching the said garment on the two parts, means for locking the parts with the garment in the stretched relation thereon, and means for heating the said parts.

7. In a garment shaping machine, a form composed of two similar parts hinged together each having a portion extending outwardly thereof to receive the sleeve of the garment, the said parts when turned outwardly permitting the introduction of the garment thereon and the drawing of the same together stretching the garment, a spring member in each sleeve portion adapted to draw the sleeve tautly thereon, means for locking the parts with the garment

stretched thereon, and a spring-pressed roller member mounted at the free edge of each part adapted to be turned to engage the free edge of the garment to pull the same tautly in contact with the form surface, and means for heating the said form.

8. A garment shaping machine comprising a base member having a vertical aperture, a hollow member rotatably mounted on the base, having a stem extending through the aperture thereof, valved steam intake and exhaust lines connected with the lower end of the said stem in a manner to permit independent revolution of the stem, a garment form consisting of two hollow half forms hinged together, said forms being carried by the revoluble member, a steam line connected with the hollow revoluble member, each half form being independently in communication with the said hollow member, means for holding the forms from revolution on the base, said forms being adapted to be turned back to back for positioning of a garment thereon and reversely turned to stretch the same, and means for locking the hinged parts when turned to stretch the garment.

9. A garment shaping machine comprising a form composed of two similar hollow half parts hinged together at one edge, the forms corresponding to the shape of the garment and having hollow portions for the sleeves extending outwardly therefrom, the forms being placed with the neck portion at the bottom and the skirt portion at the top, the hinging of the forms permitting the turning of the same back to back about a vertical axis to permit the positioning of the garment thereon and reversely turned to stretch the garment across the back, the free edges of the garment extending toward the forward edges of each half form respectively, means for drawing the free edges of the garment forward to stretch and hold the same closely in contact with the form, and means for introducing steam into each half form to dry the garment while stretched thereon.

10. In a machine for shaping garments, a base, a hollow form revolvably mounted thereon having an exterior surface corresponding substantially to that of the garment and being provided with hollow arm portions, the form extending practically in vertical position with the neck portion downward, means for stretching the garment on the form to hold it closely in contact therewith, and means for introducing steam into the form through said base.

11. A garment shaping machine comprising a revoluble form consisting of two similar hollow half parts, releasable means for locking the form from rotation, said half parts being hinged together on a vertical axis, means for admitting steam to both said parts through the hinge connection, and

means for stretching a garment on the form.

12. A garment shaping machine comprising a revoluble form consisting of two similar hollow half parts, releasable means for locking the form from rotation, the two parts being hinged together on a vertical axis, the forms when turned back to back permitting the positioning of the garment thereon and stretching the same by revolubly

turning the form, a releasable locking device for holding the forms in position when the garment is stretched thereon, and means for grasping the free edges of the garment to stretch and hold the same closely in contact with the form.

In testimony whereof, I sign this specification.

WILLIAM M. CHACE.