Feb. 17, 1948. W. C. GLOVER, JR 2,436,255

HOLDING DEVICE FOR FINISHING MACHINES

Filed Oct. 3, 1945 2 Sheets-Sheet 1

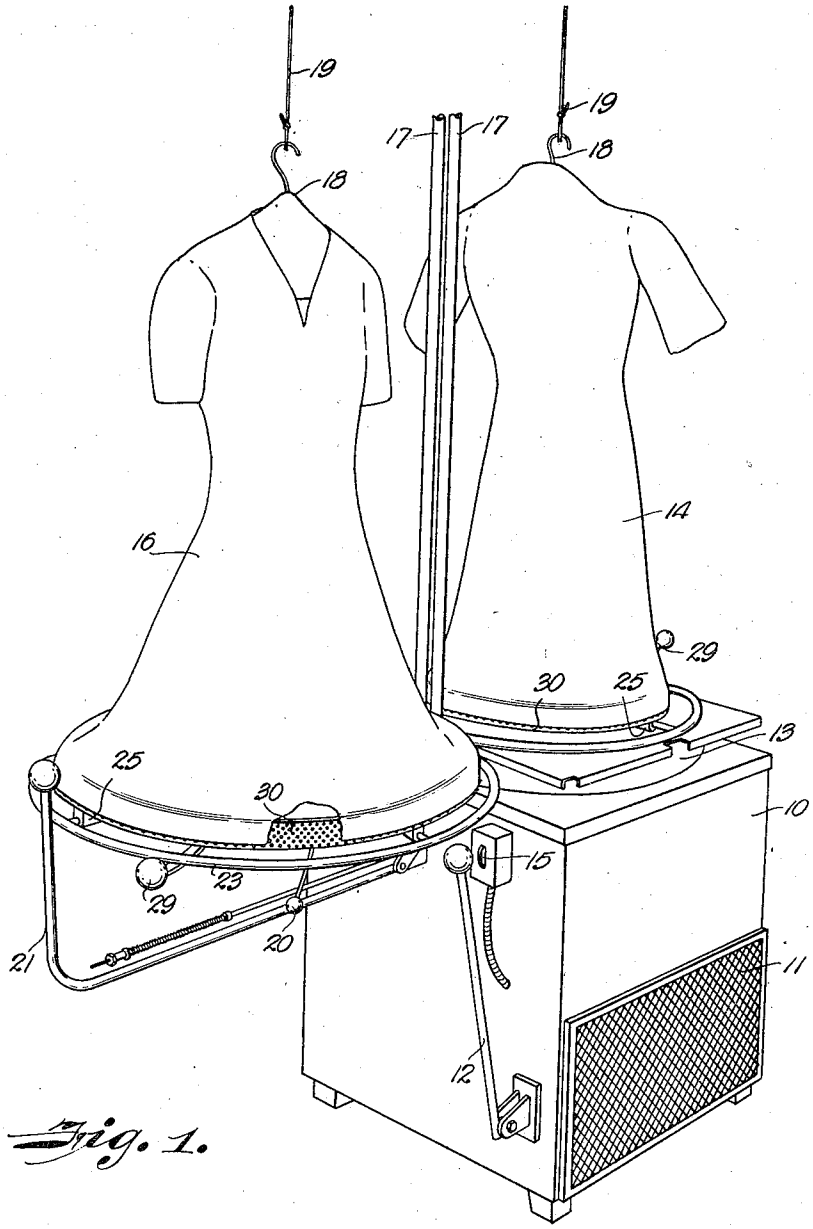


Fig. 1.

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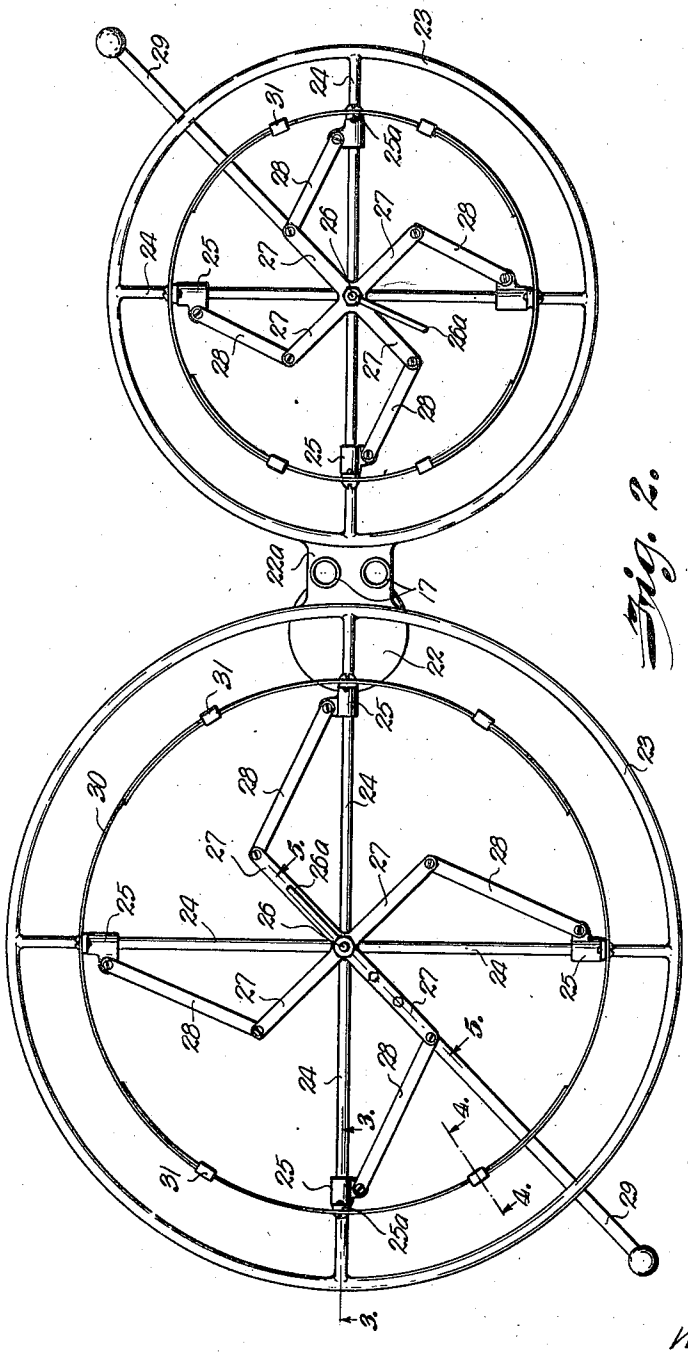


Fig. 2.

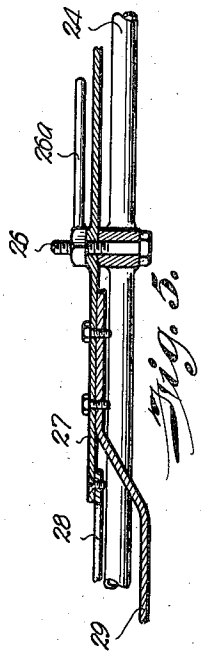


Fig. 5.

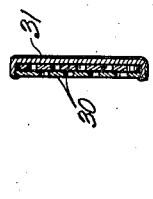


Fig. 4.

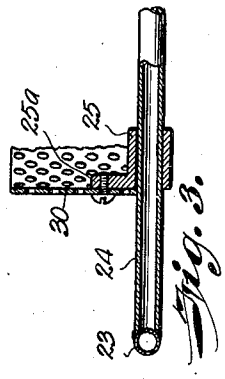


Fig. 3.

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UNITED STATES PATENT OFFICE

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HOLDING DEVICE FOR FINISHING MACHINES

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Application October 3, 1945, Serial No. 620,109

9 Claims. (Cl. 223—70)

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This invention relates to improvements in garment finishing machines used by dry cleaners and refers more particularly to the device for holding the lower extremity of the garments while they are being processed.

In finishing garments on this type of machine they are supported from hangers above an air or steam blast which bellows or balloons out the garment, forcing drying air or moisture through the fabric to remove solvent odors, wrinkles, raise the nap of the fabric and to return shape to the garments after they have been run through the cleaning operation.

It has been the common practice heretofore to grip the lower hem of dresses, coats, sweaters or the waist band of trousers by clamps to hold the garments in position while they are blasted with steam or air. The areas of the garments where the clamps are applied inevitably are unfinished and must be later hand processed.

An object of the present invention is to provide an expandable strip or band which fits within the lower extremity of the garment and holds it firmly during the drying and steaming operations.

Another object is to provide an expandable holding strip perforated to permit passage of the air and steam through the gripped area.

A further object is to provide a holding device which may be attached to the lower extremity of the garment by a single manual operation.

Other and further objects will appear from the following description.

In the accompanying drawings which form a part of the specification and are to be read in conjunction therewith and in which like reference numerals indicate like parts in the various views,

Fig. 1 is a perspective view of a finishing machine equipped with devices embodying the invention,

Fig. 2 is an enlarged plan view of two of the holding devices mounted upon a finishing machine,

Fig. 3 is an enlarged section taken along the line 3—3 in Fig. 2 in the direction of the arrows,

Fig. 4 is an enlarged section taken along the line 4—4 in Fig. 2 in the direction of the arrows, and

Fig. 5 is an enlarged section taken along the line 5—5 in Fig. 2 in the direction of the arrows.

Referring to the drawings and particularly to Fig. 1, at 10 is shown a box-like housing within

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which is a heating coil, not shown, supplied with steam or other heating fluid from any convenient source. On the side of the housing is a screened aperture 11 through which air is introduced to the housing. A damper in the screened inlet 11 is regulated by control handle 12. In conjunction with the radiator or heating coil within the housing is a fan by means of which air is drawn through the screened inlet 11 and is blasted through an aperture in the top of the housing, indicated at 13. The heated air blast produced by the fan is projected upwardly beneath the garment, such as the dress shown at 14. The operation of the fan is controlled by an electric switch 15 at the side of the housing.

At a separate station along the side of housing 10 is a perforated ring through which steam is blasted into garments such as the dress shown at 16. The details of the steaming mechanism and the alternate stations for separately air blasting and steaming the garments is conventional and forms no part of the present invention. The steam supply for adding moisture to the garment at the steaming station may be taken from the same source as the steam supply which heats the radiator or coil within housing 10. The garments are suspended over the air and steaming stations by rod supports 17 having suitable extensions or goosenecks to which hangers 18 are suspended by wires or cords 19. The steam blast is regulated by valve handle 20 while the air blast is regulated by control arm 12. To shift the garments from one station to another, control arm 21 is pulled outwardly to release a central latch on the pivoted base or pedestal upon which supports 17 are mounted. The frames holding the garment bottoms may be swung upon this pivot so the garment over one station may be shifted to the opposite station and back to its original location as desired. The structure for steaming and air blasting the garments and mechanism for shifting the garments from one station to another is shown and described in Patents 2,214,923, dated September 12, 1940, and 2,241,702, dated May 13, 1941.

As previously suggested the practice in the trade has been to grip or clamp the lower hems or bottoms of garments to be finished by a series of gripping members located about the frames on which they are held. Such clamps are shown in the patents referred to. When garments are clamped in this fashion the areas between the clamping members do not receive the air and steam blast and are consequently unfinished when

the garments are removed from the machine. To finish these small areas it necessitates considerable hand work and time and it is difficult to do a satisfactory finishing job or one that will correspond and make all areas uniform to the work done by the machine.

To avoid occurrence of these unfinished spots or areas about the lower extremities of the garments an expandable holding strip is provided, which is perforated to permit passage of the air or steam and may be increased or decreased in diameter, to be placed within the bottom of the garment then expanded to hold the garment while it is being steamed or air blasted. The structure of the expandable holding strips is shown in Figs. 2 and 5. At 22 is shown a pivoted pedestal attached to the side of the housing 10 and rotatable about its pivot by operation of handle 21. Integral with the pedestal is an arm 22a. This arm carries the vertical tubes 17 which serve as supports for the garments at the steam and air stations. Welded or otherwise rigidly fastened on opposite sides of arm 22a and above the air and steam stations are circular frames 23. These frames have cross members 24 running diametrically of the frames 90° apart. Slidably mounted on cross members 24 are slides 25 and pivoted at the center of the frames at 26 are cross arms 27. The nuts which hold cross arms 27 in place have handle extensions or locking arms 26a which facilitate assembly and removal of the cross arms from their pivots and hold the bands or strips at any adjusted diameter. Links 28 connect the ends of cross arms 27 with slides 25 so the slides have a jointed connection with the pivot point 26. Handles 29 are rigidly connected to the cross arms and serve to manually rotate the cross arms upon pivots 26 whereby slide members 25 are moved along the tubular portions of the frame upon which they are mounted. Attached to the slides is a perforated strip of corrosion resisting metal made up of a plurality of arcuate sections 30. The sections of this expandable strip overlap each other and are held together by clips 31 attached to the ends of one section with the overlapping adjoining section threaded therethrough. Slides 25 and frame portion 25a to which the perforated strips are attached are shown in Fig. 3.

To mount a garment above one of the stations prior to finishing, if a dress, coat, jacket or sweater, it is swung by the shoulders from hanger 18. Handle 29 of the holding device is released by locking arm 26a and rotated counterclockwise which, through the action of the cross arms 27 and links 28, draw the slides inwardly along the cross members of the frame decreasing the diameter of the holding strip. The diameter of the strip is reduced until the lower hem of the garment can be placed outside the strip. Handle 29 is then rotated clockwise until the sectional strip 30 is expanded against the hem of the garment holding it firmly in place. In this position the lock nut handle is screwed down or frictionally locked by means of handle 26a and the finishing of the dress over either the steam or air station is then ready to proceed. Since the garment holding frames, holding strips and expanding mechanism for the strips are identical for both stations the description of the operation of one mechanism will suffice.

Having thus described my invention, I claim:

1. An expandable holding device for the lower extremity of garments processed in a garment finishing machine comprising a frame having cross members, slides on the cross members, an expandable substantially circular holding strip comprising a plurality of overlapping arcuate sections, each section attached to a different one of said slides, manually operable means pivoted to the frame and attached to the slides for simultaneously moving the slides along the cross members to increase and decrease the diameter of the holding strip.

2. A device as in claim 1 in which the overlapping sections are perforated.

3. An expandable holding device for the lower extremity of garments to be processed in a garment finishing machine, comprising a frame having cross members, slides on the cross members, an expandable substantially circular holding strip attached to the slides, a secondary cross member pivoted centrally of the frame, links between the ends of the secondary cross member and the slides and a handle extension affixed to the secondary cross member for manually rotating the cross member to increase and decrease the diameter of the holding strip.

4. An expandable holding device for the lower extremity of garments to be processed in a garment finishing machine, comprising a frame having cross members, slides on the cross members, an expandable substantially circular holding strip attached to the slides, a secondary cross member pivoted centrally of the frame, links between the ends of the secondary cross member and the slides and a handle extension affixed to the secondary cross member for manually rotating the cross member to increase and decrease the diameter of the holding strip, and locking means for fixing the secondary cross member and holding strip in any selected position.

5. An expandable holding device for the lower extremity of garments to be processed in a garment finishing machine comprising a frame having cross members, slides on the cross members, an expandable substantially circular holding strip attached to the slides, a toggle joint for each slide, each toggle joint connected at one end to the frame and at the other end to its associated slide, and means connected to the toggle joints for operating them simultaneously to move their respective slides along the cross members thereby to increase and decrease the diameter of the holding strips.

6. An expandable holding device for the lower extremity of garments to be processed in a garment finishing machine, comprising a frame having cross members, slides on the cross members, an expandable substantially circular holding strip attached to the slides, a toggle joint for each slide, each toggle joint connected at one end to the frame and at the other end to its associated slide, means connected to the toggle joints for operating them simultaneously to move their respective slides along the cross members thereby to increase and decrease the diameter of the holding strip, and means for locking all of said toggle joints in a selected position.

7. In a garment drier, an expandable hoop-like member comprising a plurality of arcuate strips overlapped at their ends, mechanism operable to move said strips relative to one another to expand the hoop-like member into gripping relationship with the lower hem of a garment arranged externally of said member, and a source of forced air current directed through the

hoop-like member into the interior of the garment.

8. In a garment drier, an expandable hoop-like member comprising a plurality of arcuate strips overlapped at their ends, mechanism operable to move said strips relative to one another to expand the hoop-like member into gripping relationship with the lower hem of a garment arranged externally of said member, means for locking said member in expanded position, and a source of forced air current directed through the hoop-like member into the interior of the garment.

9. In a garment drier, an expandable hoop-like member comprising a plurality of arcuate strips overlapped at their ends, mechanism operable to move said strips relative to one another to expand the hoop-like member into gripping relationship with the lower hem of a garment arranged externally of said member, a source of forced air current directed through the hoop-like member into the interior of the garment, and perforations in said strip for permitting air to flow therethrough to dry the hem of the garment.

WILLIAM C. GLOVER, JR.

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