Feb. 21, 1956 W. C. GLOVER, JR 2,735,595

GARMENT FINISHING MACHINE

Filed June 16, 1952 2 Sheets-Sheet 1

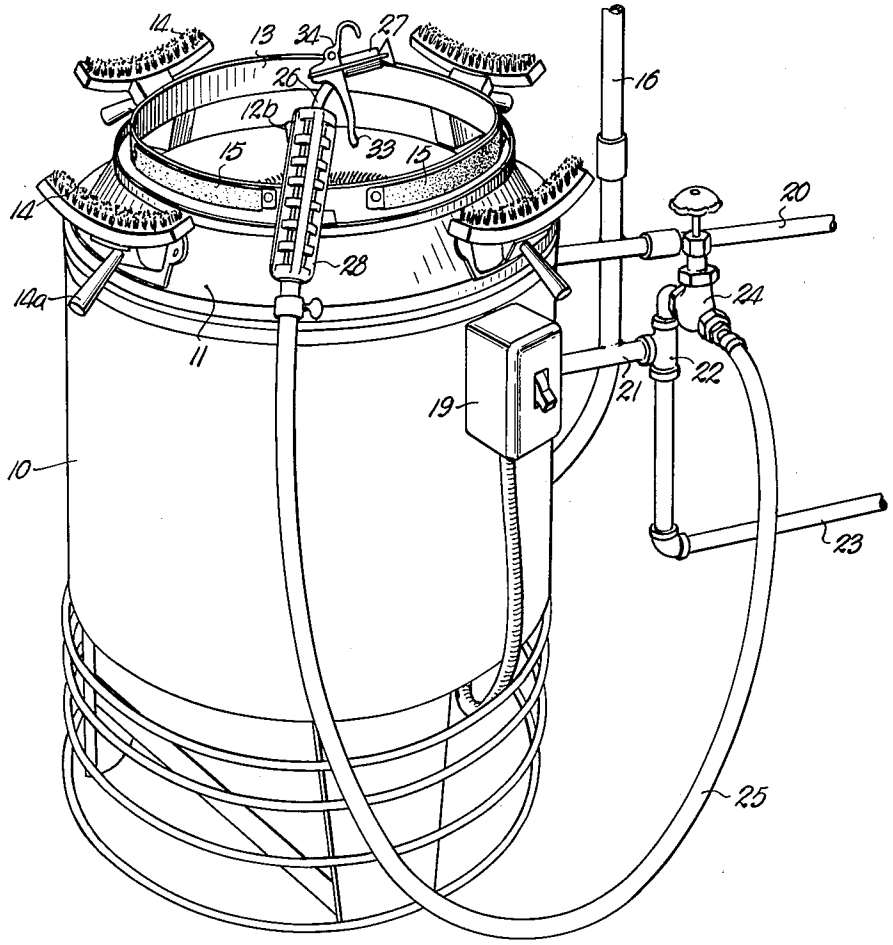


Fig. 1.

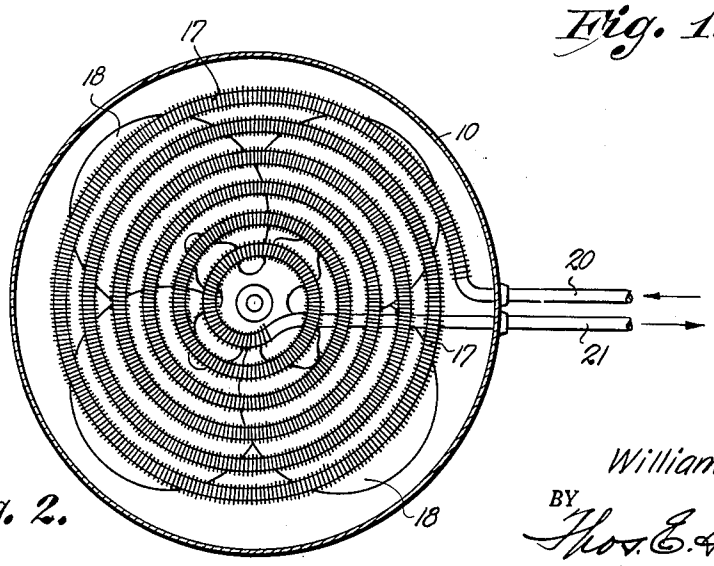


Fig. 2.

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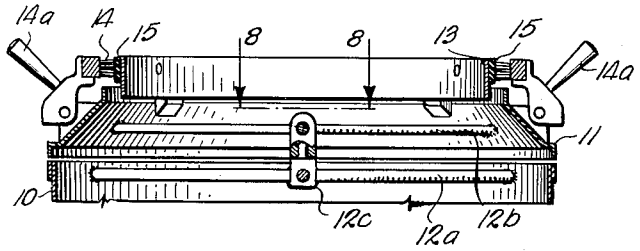


Fig. 3.

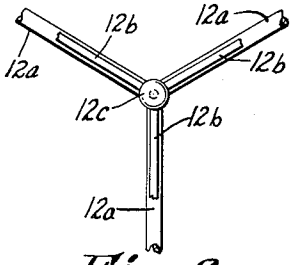


Fig. 8.

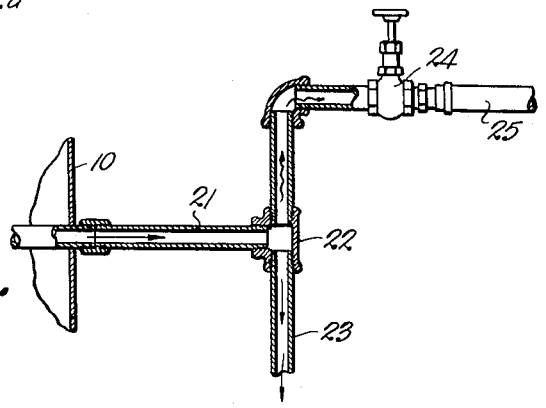


Fig. 4.

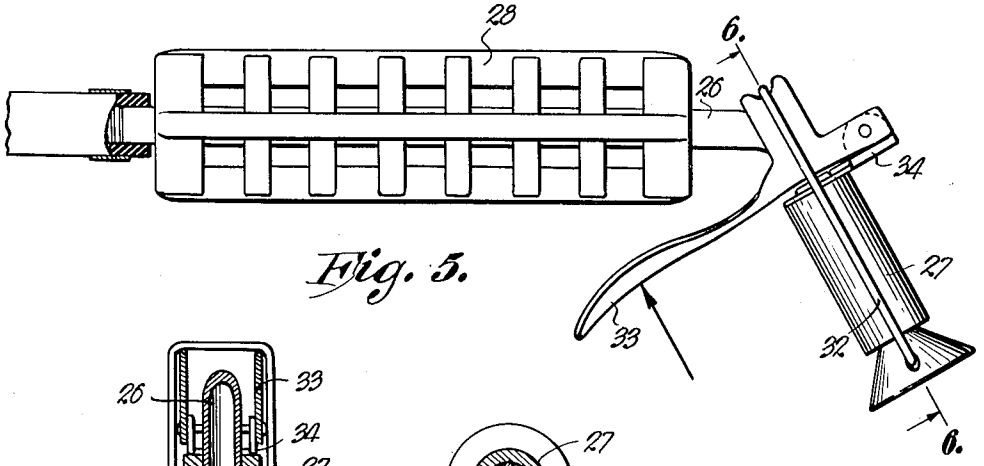


Fig. 5.

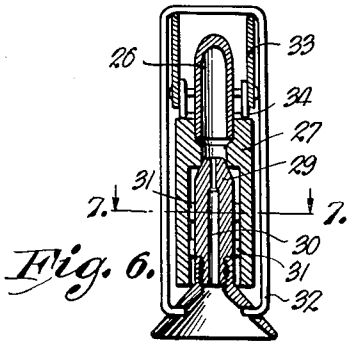


Fig. 6.

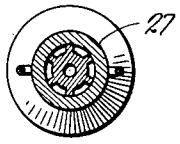


Fig. 7.

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GARMENT FINISHING MACHINE

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Application June 16, 1952, Serial No. 293,779

5 Claims. (Cl. 223—70)

This invention relates to machines for processing and finishing garments and refers more particularly to machines for processing and finishing garments in which the processing and finishing is accomplished with steam and heated air.

A garment being finished on this type of machine is supported from a hanger above a heated air blast which balloons out the garment forcing drying air through the fabric to remove solvent odors and wrinkles, raise the nap of the fabric and return shape to the garment after it has been run through the cleaning operation.

It is desirable at this time to have available a suitable spotting gun for treating and feathering spots and stains. This gun should be able to produce both concentrated and diffuse jets of steam. Also, if the air heating medium is steam, it is useful and economical to unite the steam lines for the air heating and spotting apparatus thus simplifying the steam fittings in the vicinity of the machine. This combination creates the problem of where and how to tap the incoming or outgoing steam lines so that the steam applied to the garments with the spotting gun will not be so excessively heated as to damage the garments or so wet as to excessively dampen and soil them. Still another problem is to provide clamping means for the hem of the garment which permit the hot air blast to reach and dry the hem while the hem is being firmly held; otherwise, the hem will remain unfinished and will later have to be hand-processed.

Therefore, an object of this invention is to provide a garment finishing machine with clamping means for the hem of the garment which permits heated air to reach and dry the hem.

Another object is to provide a garment finishing machine with a steam-heated source of hot air and a spotting gun connected to the steam discharge line from the steam-heated source.

A further object is to provide a garment finishing machine with a spotting gun which will produce both concentrated and diffuse jets of steam.

Other and further objects of this invention will appear from the following description.

In the accompanying drawings, which form a part of the instant specification and are to be read in conjunction therewith, there is shown an embodiment of the invention, and in the various views like reference numerals are used to indicate like parts.

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

Fig. 2 is a horizontal sectional view showing the steam coil and fan assembly used for heating the drying air,

Fig. 3 is a vertical sectional view of the top of the machine illustrating the hem-holding brushes,

Fig. 4 is a cross-sectional view of the outlet pipe of the steam-heating coil,

Fig. 5 is an enlarged side view of the steam spotting gun shown in Fig. 1,

Fig. 6 is a view taken along the lines 6—6 of Fig. 5 in the direction of the arrows,

Fig. 7 is a cross-sectional view taken along the line 7—7 of Fig. 6 in the direction of the arrows, and

Fig. 8 is a fragmentary sectional elevation taken along the line 8—8 of Fig. 3 in the direction of the arrows.

In the drawings, **10** refers to the chassis of a garment finishing machine. A tapered open-top cowling **11** is rotatably mounted in the top of the chassis **10** in a manner best understood from Figs. 3 and 8. As will be seen from these figures, the upper end of chassis **10** has an internal spider comprising radial arms **12***a*; the cowling **11** has a similar spider comprising the arms **12***b* radiating from a hub which is pivoted on the lower spider at **12***c*. A ring **13** is fixedly mounted within the open top of the cowling and spaced inwardly from the cowling rim in such manner that part of its surface protrudes above the top. A plurality of clamping brushes **14** with handles **14***a* are mounted on the outside of cowling **11** and a plurality of brush buffers **15** are attached to the outside of ring **13**. The brushes **14** and buffers **15** are correspondingly spaced in circumferential arrangement on the cowling and ring respectively. The brushes are pivoted at their cowling mountings to frictionally engage and disengage the buffers and are preferably arcuate in shape to conform with the surface of the buffers. In Fig. 1 is shown the lower part of a rod support **16** from which the garments are suspended.

Within the chassis **10** is a steam-heated source of hot air shown in Fig. 2 as a steam coil **17** with a fan **18** below the coil to circulate air thereover. An electrical switch control for the fan is shown at **19**. The coil has an inlet pipe **20** and an outlet pipe **21**. A vertical T-fitting **22** is connected to outlet pipe **21** shortly after the pipe leaves the chassis. A discharge pipe **23** is connected to the lower end of the T and a spotting gun assembly is connected to the upper end through valve **24** and hose **25**.

The spotting gun assembly has an open-ended steam tube **26** with a diffusion chamber extension **27**. Surrounding the rearward portion of the tube and fixed thereto is an insulating handle **28**. A piston valve **29** with an axial duct **30** is slidable in the diffusion chamber and is adapted to seat at the rearward end thereof. The piston is tapered at its rearward seating end and is funnel-shaped at its forward discharge end. There are spacing members **31** on the periphery of the piston forming an annular space between the piston and diffusion chamber walls. A trigger lever attachment for actuating the piston has a yoke **32** connected to the funnel end of the piston and encircling the back of trigger **33**, said trigger pivoted on a flanged plate **34** mounted on the rear of the diffusion chamber.

In operation, the garment is attached to the top of rod support **16** and the hem is gripped circumferentially upon the ring **13** between the brushes **14** and buffers **15**. Then fan **18** is turned on which circulates air past steam coil **17** through which steam is circulating. This heated air blast balloons the garment providing a drying action which removes solvent odors and wrinkles, raises the nap of the fabric and returns shape to the garment. Due to the inset position of ring **13** within the throat of the cowling and the open-bristle construction of the gripping brushes, the drying air circulates through the hem of the garment and affords a complete finishing to the hem as well as to the body of the garment.

The garment is then inspected for spots or stains by rotating cowling **11** on the spider. If necessary, the operator will use the steam gun to remove and feather out any spots present. A single supply of steam to the steam coil and to the spotting gun with the resultant reduction and simplification of the steam fittings in the vicinity of the chassis is achieved by the insertion of T-fitting **22** on the outlet pipe **21**. The live steam discharged from the steam coil is tapped from the top of the fitting by

valve 24 for use in the spotting gun. Any condensation from the coil is removed through discharge pipe 23 which is connected to the lower end of the fitting thus avoiding any wetting or soiling of the garments in the use of the spotting gun.

When valve 24 is open, steam flows through hose 25 to the spotting gun assembly. If trigger 33 is in its full retracted position, piston 29 is seated at the rearward end of the diffusion chamber 27. The steam then flows through steam tube 26 and directly into the axial duct 30 of the piston 29, thus producing a concentrated jet of steam which issues from the funneled end of the piston. When trigger 33 is unretracted, the force of the steam passing through tube 26 acts on the rear of the piston and unseats it moving it forward in the diffusion chamber. This permits steam to pass through the annular space between the piston and the diffusion chamber walls issuing at the forward end of the diffusion chamber. Thus, when trigger 33 is in its unretracted position, steam will issue both from the duct 30 of the piston and from the diffusion chamber outside of the piston, producing a diffused jet of steam. It should be noted that valve 24 is used to start or stop the flow of steam while the actuation of the trigger 33 merely produces a concentrated or diffused jet of steam.

When the finishing and spotting operations are completed, valve 24 is closed and the fan 18 is shut off. The brushes 14 may then be backed off from the buffers 15 by actuating handles 14*a* and the hem of the garment disengaged from the ring.

A garment finishing machine has thus been provided with clamping members for the hem of the garment which permits the heated air blast from the finishing machine to reach and dry the hem.

A garment finishing machine has also been provided with a steam-heated source of hot air and spotting gun connected to the steam discharge line from the steam-heated source.

In addition, a garment finishing machine has been provided with a spotting gun which will produce both concentrated and diffused jets of steam.

From the foregoing, it will be seen that this invention is one well adapted to attain all of the ends and objects hereinabove set forth together with other advantages which are obvious and which are inherent to the structure.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of the claims.

As many possible embodiments may be made of the invention without departing from the scope thereof, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. A holding device for the lower extremity of a garment processed in a garment finishing machine comprising an open-top cowling rotatably mounted on said machine, a ring fixedly mounted within the cowling, a plurality of clamping brushes mounted on the outside of the cowling and a plurality of brush buffers attached to the outside of the ring and cooperating with the brushes to hold the lower hem of the garment.

2. A holding device for the lower extremity of a garment processed in a garment finishing machine comprising an open-top cowling rotatably mounted on said machine, a spider for supporting the cowling on the machine, a ring fixedly mounted within the cowling and inset with respect to the cowling rim, a plurality of clamping brushes on the outside of the cowling and a plurality of brush buffers on the outer face of the ring attached in opposition to the brushes and cooperating with the brushes to hold the lower hem of the garment.

3. A holding device as in claim 1 wherein the brushes and buffers are in spaced circumferential arrangement on the cowling and ring respectively.

4. A holding device as in claim 1 wherein the brushes are pivoted on the cowling to frictionally engage and disengage the buffers.

5. A holding device as in claim 1 wherein the brushes are arcuate in shape to conform with the arcuate surface of the buffers.

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