Aug. 29, 1961 N. C. JACKSON 2,998,171

BAG CONTROL FOR GARMENT FINISHING MACHINES

Original Filed Dec. 17, 1954 2 Sheets-Sheet 1

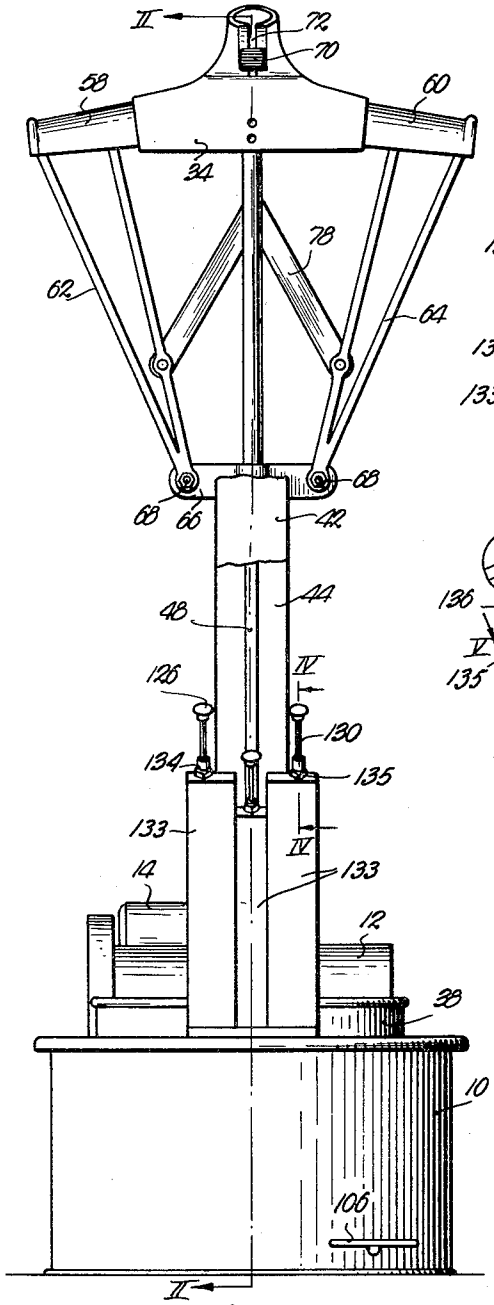


Fig. 1.

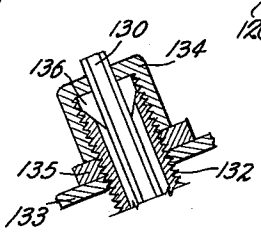


Fig. 6.

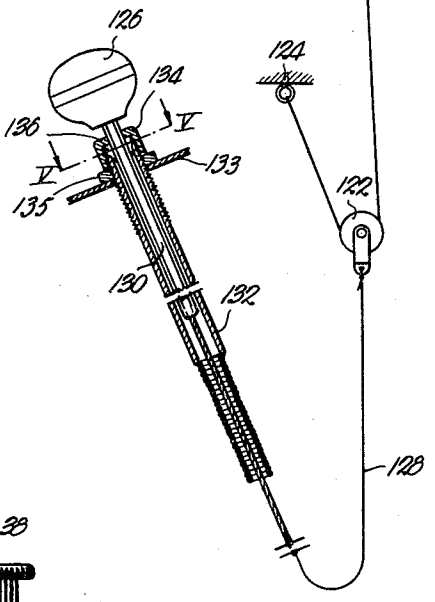


Fig. 4.

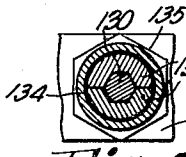


Fig. 5.

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BAG CONTROL FOR GARMENT FINISHING MACHINES

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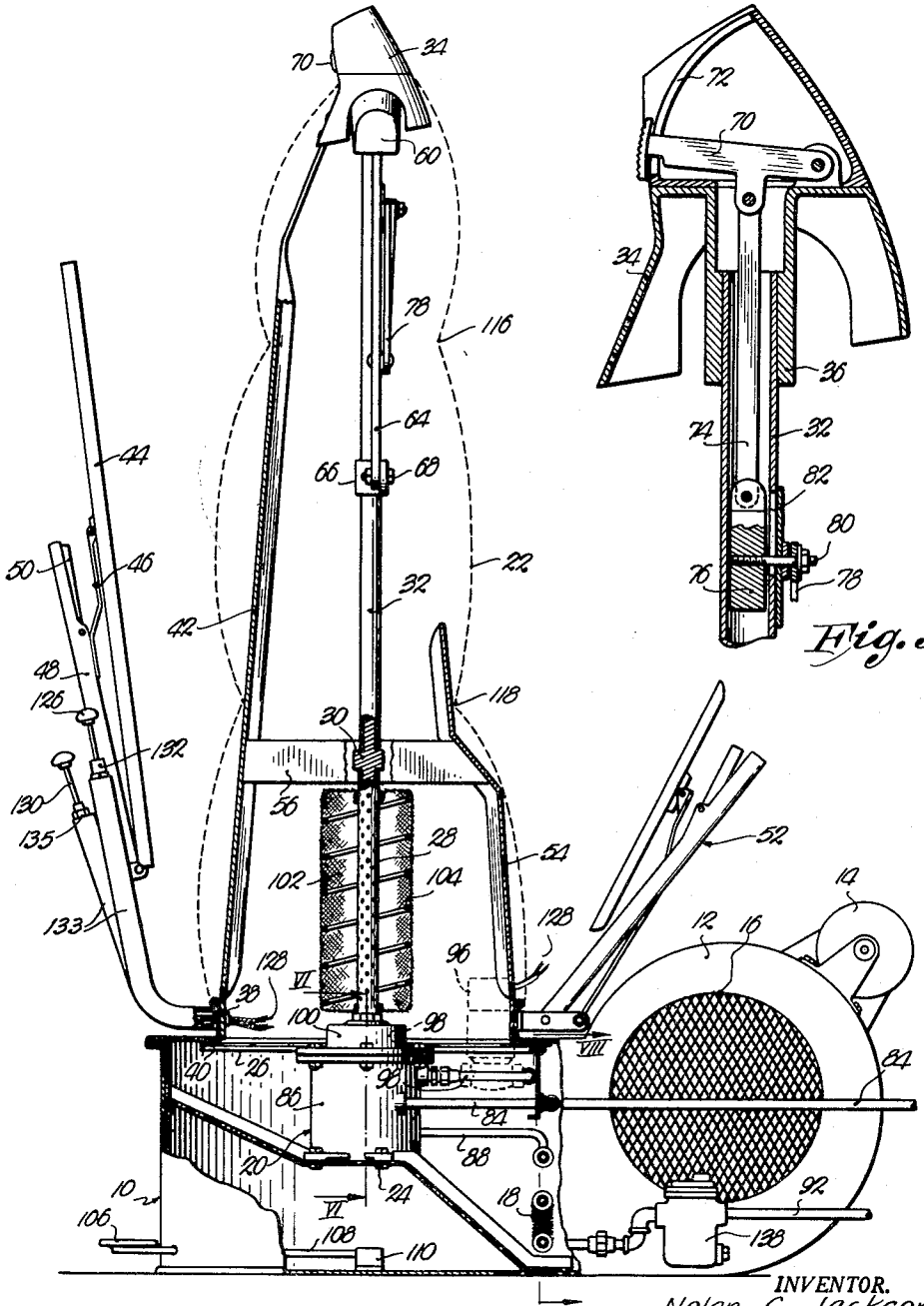


Fig. 2.

Fig. 3.

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2,998,171
BAG CONTROL FOR GARMENT FINISHING MACHINES

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Original application Dec. 17, 1954, Ser. No. 476,000, now Patent No. 2,805,009, dated Sept. 3, 1957. Divided and this application Dec. 3, 1956, Ser. No. 625,736

2 Claims. (Cl. 223—67)

This invention relates to garment finishing machines and particularly to that class of such equipment which employs a flexible bag of permeable material over which the garment is draped during the finishing operation and adapted to receive fluid such as steam and/or air which permeates the garment.

More particularly, the invention relates to a garment finishing machine of the aforementioned character that employs novel structure for controlling the size of the bag in at least one direction whereby to predetermine the extent of ballooning thereof under influence of the fluid pressure to the end that the bag more accurately conforms to the shape and contour of the garment placed thereon.

It is the most important object of the present invention to provide control structure for the size determining means just above mentioned which may be locked in preselected positions so that the controlled size of the bag is maintained throughout the steaming and air drying finishing operation.

Another important object of the instant invention is to utilize drawstring means in the nature of that set forth by my U.S. Letters Patent No. 2,736,471, dated February 28, 1956, but including means for holding the drawstring means in bag-restricting positions in accordance with the selection made by the operator.

A further object of the present invention is to provide a bag control for garment finishing machines that employs a unique wedging means between a reciprocable rod and a tube within which the rod is mounted as a quickly releasable, yet positively acting lock for holding the rod in a selected position with respect to the tube.

This is a division of my copending application Serial No. 476,000, filed December 17, 1954, now Patent No. 2,805,009, dated September 3, 1957, and entitled "Steam-Air Garment Finisher."

In the accompanying drawings:

FIGURE 1 is a front perspective view of a bag control for garment finishing machines made pursuant to the present invention, showing the same with the garment-receiving bag entirely removed.

FIG. 2 is a vertical, cross-sectional view taken on line II—II of FIG. 1 illustrating the said bag by dash lines.

FIG. 3 is an enlarged, fragmentary, vertical, cross-sectional view showing the upper portion of the machine.

FIG. 4 is an enlarged, cross-sectional view taken on line VI—VI of FIG. 1 and illustrating schematically drawstring take-up means for the bag.

FIG. 5 is a cross-sectional view taken on line V—V of FIG. 4; and

FIG. 6 is a fragmentary detailed cross-sectional view identical with a portion of FIG. 4 but on an enlarged scale showing particularly the releasable cap and wedge unit.

In the form of my invention illustrated by the drawings, base **10** is hollow as seen in FIG. 2, and a blower **12**, operated by an electric motor **14**, communicates therewith at the rear of the base **10** for directing air from intake **16** across a heating coil **18**, thence across a steam receiver **20** and ultimately through a garment (not shown) to be finished when draped over a permeable bag **22**.

Receiver **20** is mounted rigidly on a shelf **24** within the base **10**, extends upwardly through an opening **26** in the top of the base **10** and terminates in an upright, tubular, perforated manifold **28** within the bag **22**. Manifold **28** communicates with the receiver **20** and has a plug **30** closing the upper end thereof and operating also to rotatably support a tubular upright **32** having a neck-piece **34** on its uppermost end. A tubular stem **36** forming a part of the neckpiece **34** receives the upper end of upright **32** as shown in FIG. 3, bag **22** having an opening in its upper end for receiving the neckpiece **34**.

An annulus **38**, rotatable within the opening **26**, is surrounded by a resilient gasket **40**, and when the lowermost open end of the bag **22** is placed around the annulus **38**, it is preferably attached to the annulus **38** through use of a drawstring or other fastening means, not shown.

Annulus **38** is connected with the neckpiece **34** by means of a backing member **42** for a clamping plate **44** that is likewise mounted on the annulus **38** for rotation therewith. Plate **44** is swingable on a leaf spring **46**, the latter of which is in turn secured to a lever **48** swingable toward and away from the backing member **42** and releasably held in place through mechanism not fully shown but including a latch **50**.

A similar clamping assembly broadly designated by the numeral **52**, is mounted on the annulus **38** for cooperation with a backing plate **54** that joins with the annulus **38**. Cross means **56** interconnecting the backing members **42** and **54** may join with the upright **32** for rotation therewith.

Shoulder supporting means likewise mounted on the upright **32** for rotation therewith, includes a pair of shoulder elements **58** and **60** secured rigidly to the uppermost ends of corresponding V-shaped arms **62** and **64**. A cross bar **66** attached to the upright **32** swingably receives the apex ends of the arms **62** and **64** through use of pivots **68**.

Shoulder members **58** and **60** are moved toward and away from each other on each side respectively of the stem **36** beneath neckpiece **34** upon manual swinging of a lever **70** riding the slot **72** of neckpiece **34**.

A lever **74**, reciprocable within the tubular upright **32**, pivotally interconnects the lever **70** and a follower **76**. Links **78** for the arms **62** and **64** pivotally connect the latter with a pin **80** extending from the follower **76** through a slot **82** in the upright **32**.

Steam emanating from a suitable source, not shown, flows through a supply pipe **84** into an outer chamber or vessel **86** of the receiver **20** and thence through the coil **18** by way of conduit **88**, extending into chamber **86**. Steam from coil **18** passes through a return line **92** having a trap **138** therein.

Upon opening of a solenoid valve **96** within a conduit **98** and preferably disposed exteriorly of the bag **22** and the base **10**, steam flows from the outer chamber **86** of the receiver **20** into an inner chamber or vessel **100** and thence into the manifold **28** that connects with the inner chamber **100**.

Steam emanating from the perforations of the manifold **28** must pass through a permeable bag **102**, enclosing a spring **104** coiled about, and spaced from, the manifold **28**.

Electric motor **14** and solenoid **96** are controlled by a foot pedal **106** on the outermost end of a shaft **108** that extends through the base **10**. A block **110** on the inner end of shaft **108** closes a switch (not shown) for motor **14** when the pedal **106** is turned in one direction and closes a second switch (not shown) for solenoid **96** when the pedal **106** is swung in the opposite direction.

When fluid is directed into the bag **22** under pressure, the latter would normally balloon fully except for control means shown in FIG. 4. At selected points on the bag **22**, such as at **116** and **118**, there is provided a drawstring **120** looped around a pulley **122** and secured to a suitable rigid connection **124**. The connection **124** should constitute a rotary part of the machine such as the upright **32**, the backing members **42** and **54** or the cross means **56**.

Drawstring **120** is manipulated by pulling outwardly on a knob **126** to in turn pull on a flexible cable **128** connected to the pulley **122**. A polygonal rod **130** reciprocable within tube **132** is interposed between cable **128** and knob **126**, and is releasably held against inward movement by tightening a cap **134** on the tube **132** against a split wedge **136** that is thus forced into the upper end of tube **132** and against the rod **130**. A plurality of such assemblies, i.e., one for each drawstring **120** repectively, is provided on the annulus **38** for rotation therewith.

As is clear in FIG. 4, the wedge **136** is frustoconical and the cylindrical tube **132** is counterbored at its upper end to complementally receive wedge **136**. FIG. 4 shows also that rod **130** extends through cap **134** and wedge **136**, the latter being complemental to rod **130**. Each tube **132** is screw-threaded through the upper end of a hollow extension **133** rigid to annulus **32**, and is adjustably held in place by a lock nut **135**.

The operation may be summarized as follows:

When a garment is placed on the bag **22** it may be clamped in place through use of the clamping means that includes plate **44**, together with the clamp **52**, and if such garment is in the nature of a coat or shirt normally open at the front, the holding effect of the relatively long plate **44** assures passage of the steam or air through the entire bag **22**. The nature of the garment will, of course, dictate the positions of the knobs **126** and when the latter are pulled outwardly and locked through use of cap **134**, various points as at **116** and **118** along the bag **22**, will be restricted in diameter and not be permitted to balloon outwardly when steam or air are admitted under pressure into the bag **22**.

The unit may be rotated on the vertical axes of the upright **32** and the manifold **28**, while the garment is draped over the bag **22**, and the position of the shoulder pieces **58** and **60** is likewise determined by the nature of the garment; they may be moved toward or away from the stem **36** merely by manipulating the lever **70** that extends through the slot **72** of neckpiece **34**.

When it is desired to direct air under pressure into the bag **22** for passage through the garment, the operator need merely manipulate the pedal **106** in one direction to actuate the motor **14**. When the pedal **106** is turned in the opposite direction, steam will be permitted to flow through the conduit **98**, past solenoid valve **96** and into the inner chamber **100**.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

1. In a garment finisher, a bag provided with a support; a drawstring attached to the bag intermediate the ends thereof for taking up the fullness thereof by varying the extent of ballooning of the bag when fluid pressure is directed thereinto; a tube; means attaching the tube to the support exteriorly of the bag; a rod reciprocable in the tube; flexible means connecting one end of said rod with the drawstring for imparting a pull on the latter as the rod is pulled outwardly from within the tube; a spilt wedge adapted to be forced into the outermost end of the tube against the rod for holding the latter in any one of a number of selected positions relative to the tube; and a releasable cap on said one end of the tube engageable with said wedge for holding the latter wedged between the tube and the rod, the cap being provided with an opening slidably receiving the rod, there being a hollow extension rigid to said support and extending upwardly and outwardly therefrom, the tube being housed within the extension and attached thereto.

2. The invention of claim 1, said extension having an uppermost and outermost end, said tube extending through said end and being provided with means of attachment thereto, said cap being disposed exteriorly of the extension adjacent said end of the latter.

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