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3,477,621

METHOD AND APPARATUS FOR SHAPING AND FINISHING A GARMENT

Filed March 16, 1967

4 Sheets-Sheet 1

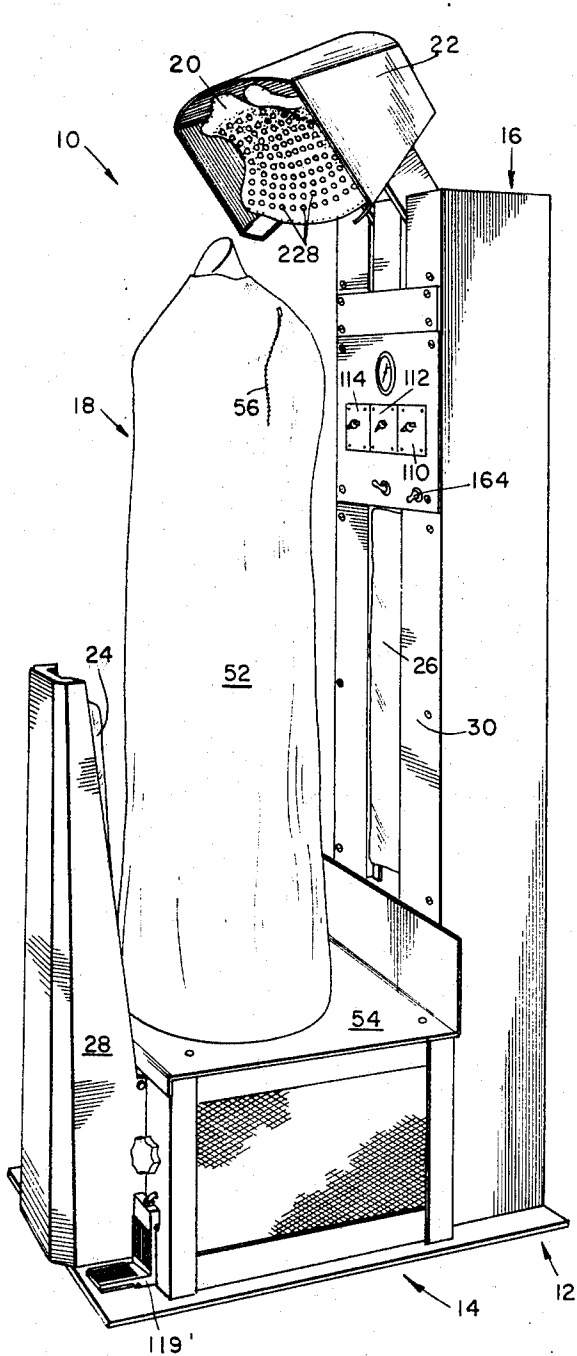


Fig. 1

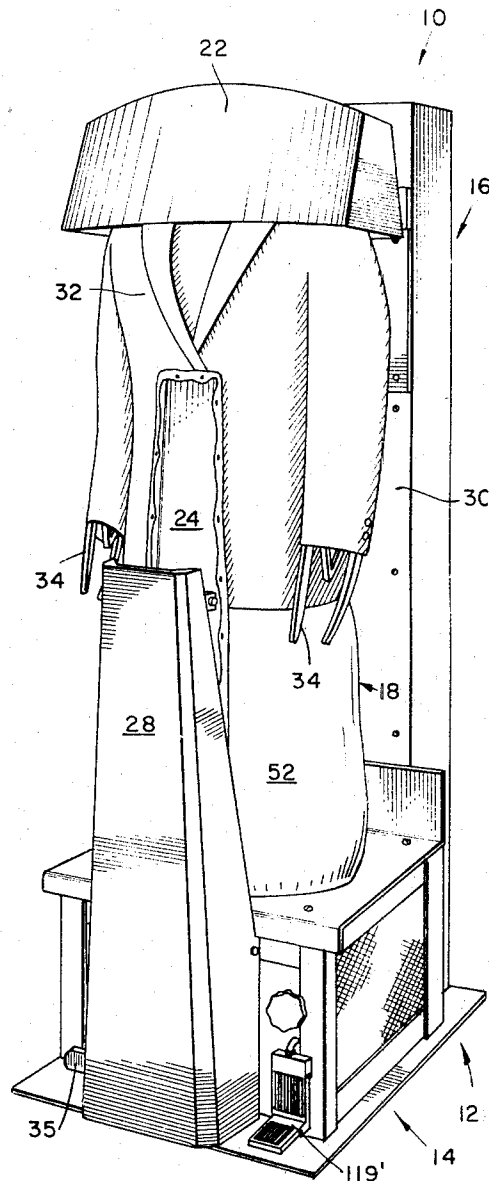


Fig. 2

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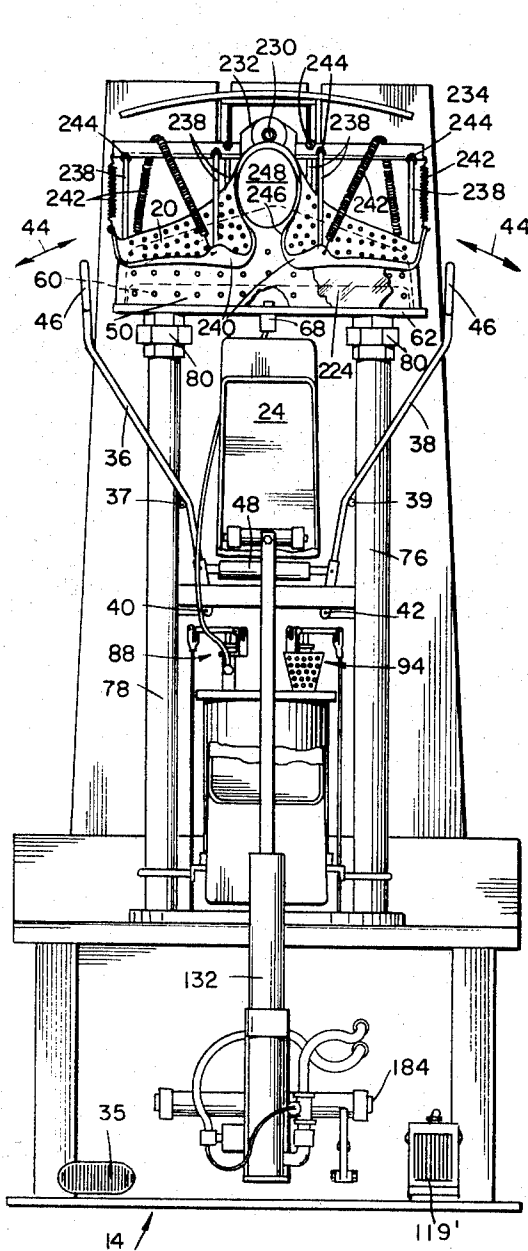


Fig. 3

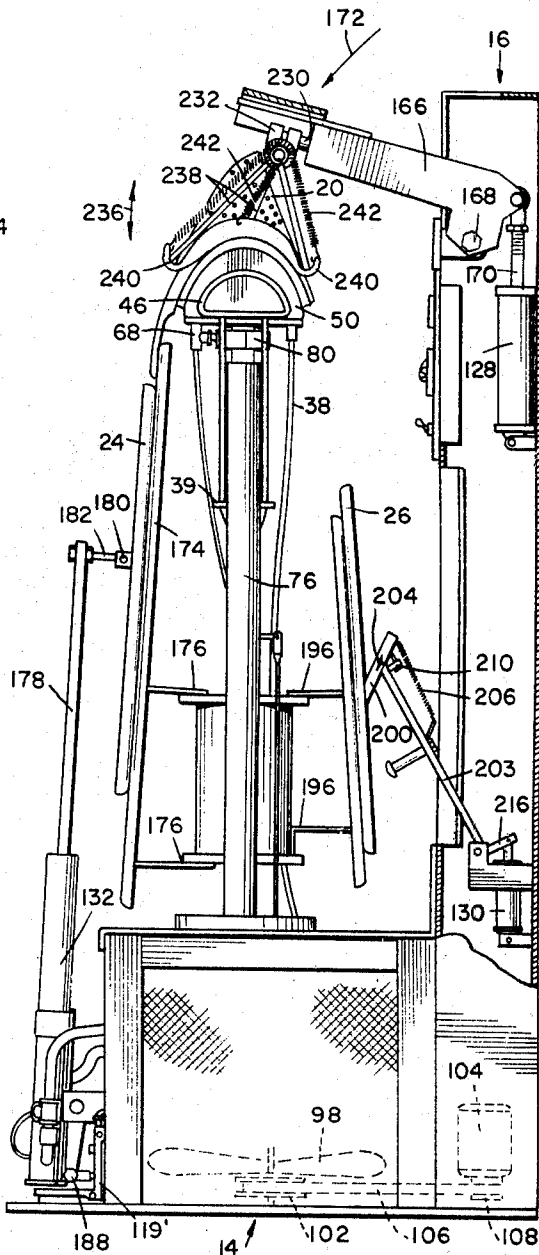


Fig. 4

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Fig. 5

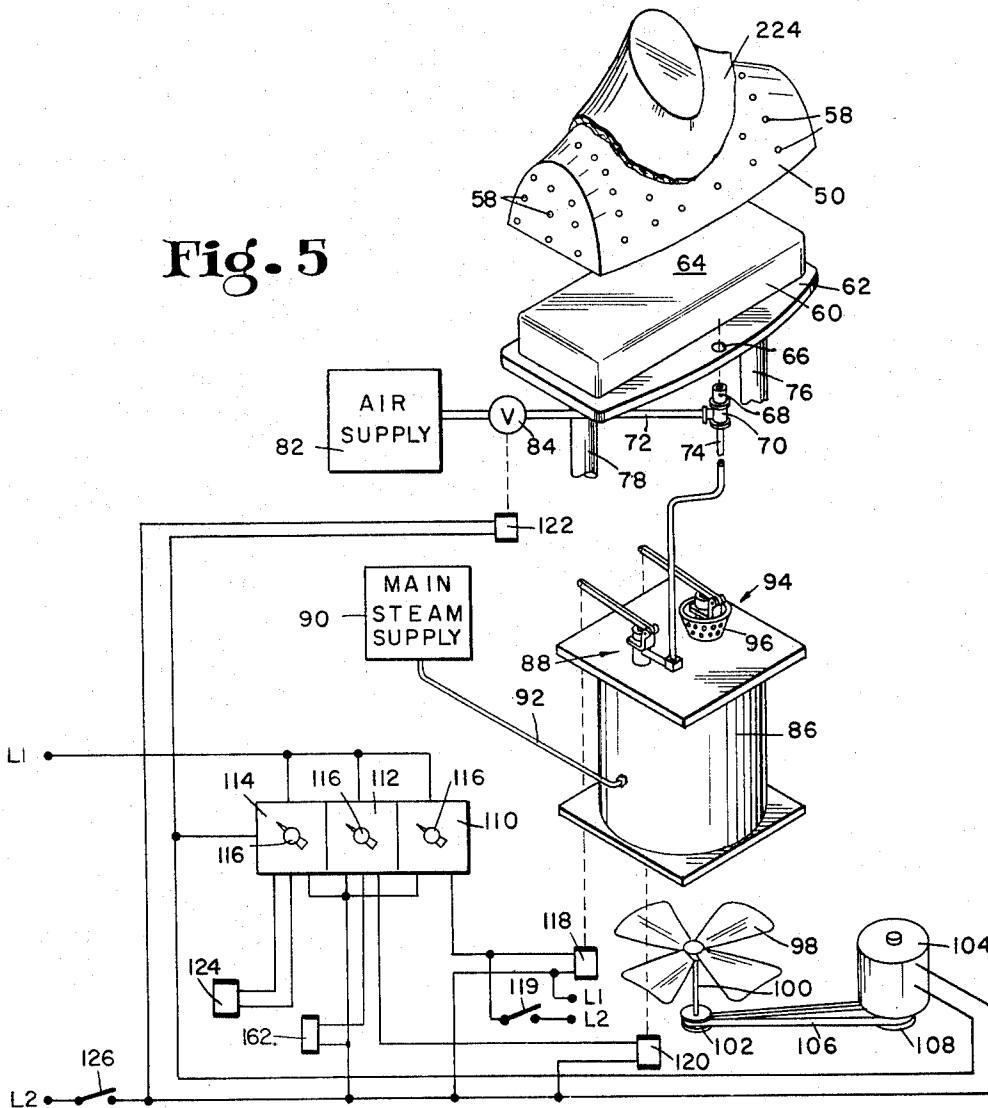
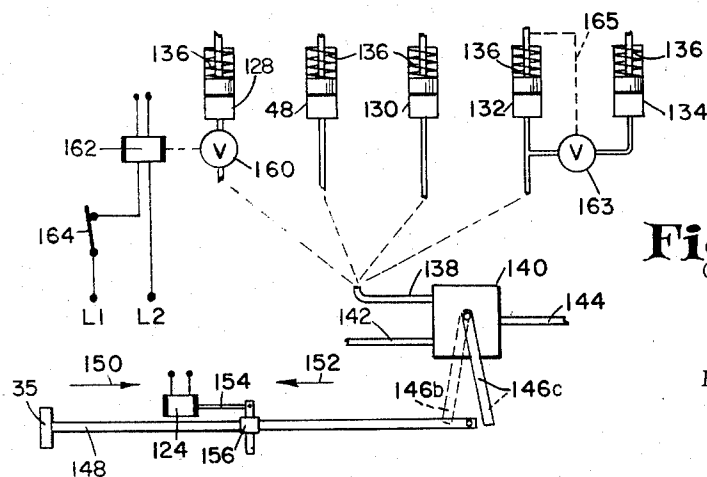


Fig. 6



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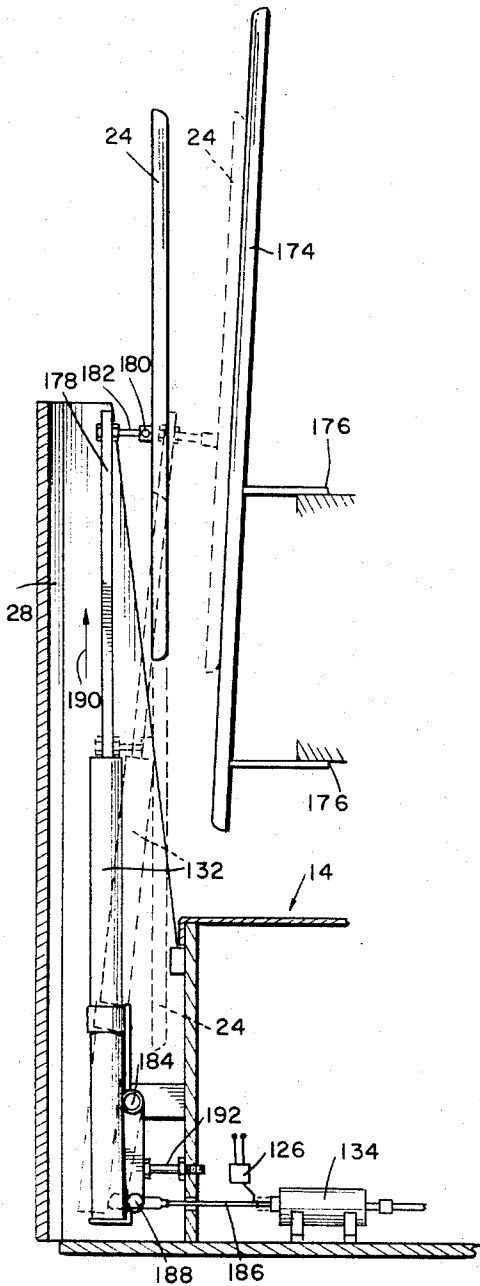


Fig. 7

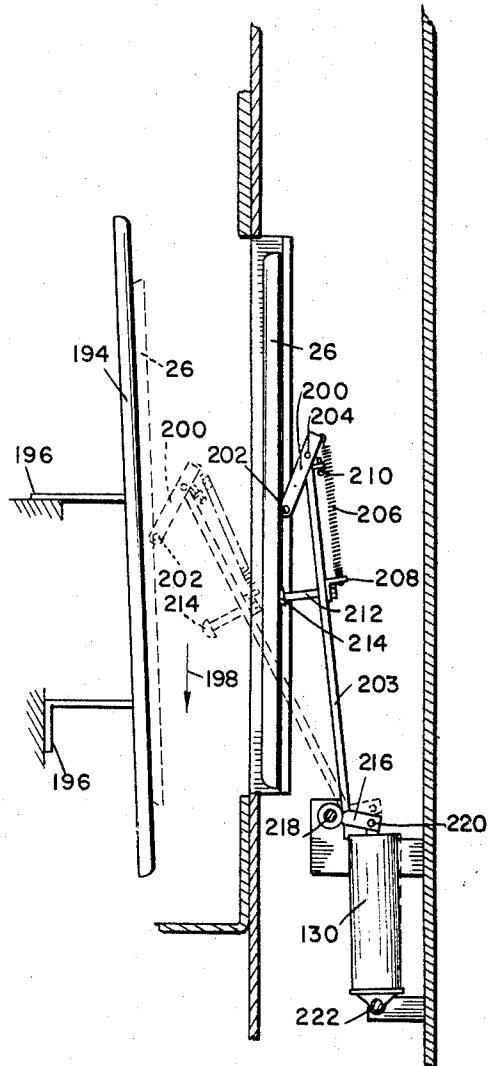


Fig. 8

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## METHOD AND APPARATUS FOR SHAPING AND FINISHING A GARMENT

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21 Claims

### ABSTRACT OF THE DISCLOSURE

A method and apparatus for simultaneously shaping and finishing a garment while it is mounted on a single form comprising a buck for shaping the garment in the neck and shoulder region and a fluid-pervious bag for supporting the garment in draped relation from the buck. The buck, which has an outer surface defining neck and shoulder portions corresponding to those of the human body, is provided with an inner chamber and a plurality of passageways communicating between the chamber and the outside surface. Means are provided for supplying hot, wet vapor and then dry vapor to the buck chamber, thereby heating and dampening and then drying the shoulder and neck region of the garment. Separate means are provided for supplying hot, wet vapor and then dry vapor to the bag, thereby heating and dampening and then drying the body of the garment. A flexible, perforated pressing plate is provided which is contoured to apply pressure to selected areas of a garment supported on the buck for shaping the neck and shoulder portion of the garment.

### BACKGROUND OF THE INVENTION

#### Field of the invention

The present invention relates generally to shaping and finishing garments, and more particularly to an improved method and apparatus for shaping a garment, such as a coat, on a single form and then heating and dampening the garment by supplying hot, wet vapor to the form and out through the garment and then supplying dry vapor to the form and out through the garment, thereby finishing the garment.

#### Description of the prior art

It is well known that a garment may be shaped and finished or pressed by the application of steam to the material while it is held between a pair of mating pressing plates. It is also well known that a garment may be shaped and finished by supporting the garment on a fluid-pervious bag which is inflated with steam and then dry air. Prior art apparatus have been constructed to utilize these two well-known theories for finishing coat-like garments on a single form comprising both a rigid shaper for supporting the neck and shoulder region of the garment and a bag for supporting the body of the garment in draped relation to the shaper. These prior art apparatus have generally included a pressing plate arranged to fit down over the shaper and means for providing steam through the pressing plate to the neck and shoulder region of the garment supported on the shaper. Such apparatus have been found to have several disadvantages. One of these disadvantages is that the steam is directed down into the neck and shoulder region of the garment and the nap of the material is held down by the pressing plate. Thus, in many cases, the garment is given an unwanted shine in the neck and shoulder region while the body of the garment is given the desired dull finish. Often, this shine requires extra "touch-up" operations which are inefficient, time-consuming and expensive. Another disadvantage is that the pressing plate, which carries the means for supplying steam and dry air, cannot be placed

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down over the collar portions of some coats, such as women's coats having large collars and possibly even fur collars, when they are supported on the shaper. Still another disadvantage of such prior art apparatus is that several manual operations are required to engage the various means for holding a garment on the form. This means that the operator cannot efficiently shape and hold the garment on the form. A further disadvantage of such prior art apparatus is that finishing cycles up to 30 seconds in duration are required to finish an ordinary man's suit coat and this time is in addition to the time required to manually shape the suit coat on the form.

### SUMMARY OF THE INVENTION

The method and apparatus of the present invention provide fully automated shaping and finishing of coat-like garments while obtaining a high quality finish. All the operator of the apparatus has to do is place the garment on the form, taking care to center the garment on the form to remove any wrinkles from the neck and shoulder region, then kick one pedal sequentially and automatically to actuate the various means for holding the garment on the form as well as the means for supplying hot, wet vapor and dry vapor to the garment. Both of the operator's hands are free at all times for unobstructed placing of the garment on the form.

The apparatus of the present invention includes several fluid-actuated means for extending and retracting the front and rear garment clamping plates, the plates being retracted out of the way when they are not needed, extending and retracting shoulder expanders, which expanders are automatically adjusted for every garment, and lowering and raising the pressing plate which engages the neck and shoulder portion of the garment. The several fluid-actuated means are all sequentially operated by a single actuation of the above-mentioned pedal.

The form of the present invention comprises a buck having an outside surface defining the shape and contour of the neck and shoulder region of a human, the buck being provided with a chamber and a plurality of passageways communicating between the chamber and the outside surface. Thus, when either hot, wet vapor or dry vapor, under pressure, is supplied to the chamber, the vapor is forced out through the neck and shoulder region of the garment supported on the buck. A fluid-pervious bag is suspended from the buck to support the body of the garment in draped relation to the buck.

The pressing plate embodied in the present invention is a thin flexible, perforated plate contoured and arranged to fit down over a garment placed on the buck and to apply pressure to selected areas of the garment. The pressing plate of the present invention does not direct either hot, wet vapor or dry vapor into the garment.

The apparatus of the present invention is so arranged that the pressing plate may be selectively deactivated merely by operating one switch. Thus, a coat having a large or fur collar can be finished on the apparatus.

The apparatus and method of the present invention will permit an unskilled operator to shape and finish a coat-like garment, such as a man's suit coat, in, for instance, fifteen seconds, and without touch-up. It is important to note that an experienced wool presser is not required because the sequence of operation is automatically provided and the required time for each step of the operation may be set in the apparatus by a supervisor.

It is an object of the present invention, therefore, to provide a method and apparatus for automatically shaping and finishing a coat-like garment while it is supported on a single form.

Another object of the present invention is to provide such an apparatus wherein the form includes a buck having an outer surface defining neck and shoulder portions

corresponding to the human body, the buck having an inner chamber and a plurality of passageways communicating with the chamber and the outside surface, and wherein the apparatus includes means for supplying hot, wet vapor and then dry vapor to the buck chamber, thereby heating and dampening and then drying the neck and shoulder region of the garment supported on the buck.

Still another object of the present invention is to provide such an apparatus including a flexible, perforated pressing plate which is arranged to fit down over the buck and the garment supported thereon, the pressing plate having substantially the same shape as the buck.

Still a further object of the present invention is to provide such an apparatus including several fluid-actuated means for holding and shaping the garment on the form, all of the fluid-actuated means being sequentially and automatically operated by a single manual actuating means such as a foot pedal.

Further objects and advantages of the present invention will become apparent by reference to the following description and the accompanying drawings, and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the apparatus of the present invention showing the pressing plate, front clamping plate and back clamping plate disengaged from the form, the form including the buck which has an outer surface defining the neck and shoulder portions of the human body and the fluid-pervious, inflatable bag suspended from the buck;

FIG. 2 is a perspective view of the apparatus showing the pressing plate and front and back clamping plates holding a man's suit coat on the form, the sleeves of the coat being stretched by conventional sleeve stretchers;

FIG. 3 is a front view of the apparatus with the bag and pressing plate cover removed and showing the pressing plate engaged with the buck, shoulder expanders expanded and front clamping plate engaged with its mating stationary plate;

FIG. 4 is a side view taken from the right-hand side of FIG. 3;

FIG. 5 is an exploded perspective, somewhat diagrammatic view showing means for supplying hot, wet vapor and dry vapor to the buck and bag and the necessary controls for automatically and sequentially supplying the hot, wet vapor and dry vapor;

FIG. 6 is a somewhat diagrammatic view showing the several fluid-actuated cylinders required to engage the pressing plate, shoulder expanders, and front and back clamping plates and the means for supplying fluid to the cylinders;

FIG. 7 is a fragmentary side view showing the front clamping plate and its actuating means; and

FIG. 8 is a fragmentary side view showing the back clamping plate and its actuating means.

#### DESCRIPTION OF PREFERRED EMBODIMENTS

The apparatus of the present invention, indicated generally by the reference number 10, is shown in FIGS. 1 and 2 as it will be used in a drycleaning establishment. Referring to FIGS. 1 and 2, it will be seen that the apparatus 10 comprises a frame 12, which includes a base portion 14 and an upright back portion 16, and a form 18, all indicated generally by their respective reference numbers. A pressing plate 20, which is received in a cover 22, is mounted at the upper portion of the upright 16 for movement toward and away from the form 18, the pressing plate 20 being shown disengaged from the form 18 in FIG. 1 and engaged with the form 18 in FIG. 2. Specific details of a preferred pressing plate 20 will be described further along in this description.

The apparatus 10 also comprises a front clamping plate member 24 and a back clamping plate member 26, both of which are utilized to hold a garment on the form 18. In its retracted position, shown in FIG. 1, the clamping plate member 24 is received in a front cover 28 mounted on the front of the base portion 14 and is, therefore, down out of the way so as not to interfere with the placing of a garment on the form 18. In its retracted position, also shown in FIG. 1, the back clamping plate member 26 is flush with the front surface 30 of the upright 16.

With the apparatus 10 in the condition shown in FIG. 1, a garment, such as the man's coat 32 shown in FIG. 2, may be placed over the form 18. Usually, the operator will take pains to shape the neck and shoulder region of the coat 32 on the form 18 and will insert sleeve stretchers, such as the stretchers 34 shown in FIG. 2, into the sleeves of the coat. The stretchers 34 are conventionally used and are not a part of this invention. With the coat properly positioned on the form 18, the operator has merely to push the foot pedal 35 to engage the pressing plate 20 and the front and back clamping plates 24 and 26 with the coat 32, as shown in FIG. 2, and to begin the shaping and finishing process which will be clearly described further along in this specification.

Preferably, a pair of shoulder expanders 36 and 38 (FIGS. 3 and 4) are disposed inside the bag 52. The shoulder expanders 36 and 38, which are pivotally mounted at their lower ends as indicated at 40 and 42, respectively, are movable laterally inwardly and outwardly as indicated by the arrows 44. Each of the shoulder expanders 36 and 38 carries at its upper end support means for engaging the inside of the shoulder of the coat 32. As seen in FIG. 4, the support means 46 is merely a semi-circularly shaped rod carried by each of the shoulder expanders 36 and 38.

An air cylinder 48 is connected between the shoulder expanders 36 and 38, as shown in FIG. 3, and is arranged to move the expanders outwardly when air is supplied to the cylinder. The cylinder 48 is provided with spring means, not shown in FIG. 3, for returning the shoulder expanders 36 and 38 inwardly when air pressure is removed from the cylinder. It is important to note that only slight pressures are required to urge the shoulder expanders 36 and 38 outwardly against the shoulder of the coat 32. By properly regulating the air pressure, the shoulder expanders 36 and 38 can be automatically adjusted to each garment placed on the form 18. The outward movement of the expanders 36 and 38 is limited by the stops 37 and 39, respectively.

The form 18 comprises a buck 50, shown clearly in FIGS. 3, 4 and 5, and an inflatable, fluid-pervious bag 52, shown in FIGS. 1 and 2. The buck 50 has an outer surface defining neck and shoulder portions corresponding to those of a human body. The bag 52, which is suspended from the buck 50, is arranged to support a garment in draped relation to the buck 50. Thus, the form 18 substantially corresponds to the trunk of a human body. The bag 52 is sealed around its lower end to the upper plate 54 of the base portion 14. The bag 52 may further be provided with zippered-openings 56, only one of which is shown in FIG. 1, at the upper side portions thereof. In some cases, it may be necessary to partially open the openings 56 so that steam and air supplied to the bag 52 may enter the sleeves of the coat 32.

In the preferred embodiment of the present invention, the buck 50 is a hollow metallic casting having the required shape and a plurality of passageways 58 communicating with the outer surface and the inner surface of the buck. As clearly seen in FIG. 5, the buck 50 casting is mounted on a steam chest 60 having an outer flange 62 upon which the buck 50 sits. It can be seen, therefore, that when the buck 50 is mounted on the steam chest 60, the hollow in the buck 50 and the upper wall 64 of the steam chest 60 define a chamber, the chamber being represented by dashed lines in FIG. 3.

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The flange 62 of the steam chest 60 is provided with a hole 66 in which a fitting 68 is secured. A T-section 70 is connected to the fitting 68 and an air line 72 and a steam line 74 is connected to the T-section. Thus, from the above description, it can be seen that both air and steam can be supplied to the chamber inside the buck 50. Obviously, air and steam in the chamber can escape through the passageways 58. The steam chest 60 provides a means for heating the buck 50 as well as supporting the buck 50. Specifically, a pair of steam pipes 76 and 78 are connected to the steam chest 60, the pipe 76 being connected to a steam supply and the pipe 78 being connected to the steam return system, not shown. As viewed in FIGS. 3 and 4, it can be seen that the pipes 76 and 78 also function as supports for the steam chest 60 and buck 50.

Conventional fittings 80 for connecting the pipes 76 and 78 to the steam chest 60 are shown in FIGS. 3 and 4.

Referring again to FIG. 5, it will be seen that the air line 72 is connected to an air supply 82 through a solenoid-operated valve 84 and that the steam line 74 is connected to a steam condenser 86 through a solenoid-operated valve, indicated generally by the reference number 88. The condenser 86 is connected to the main steam supply 90 by the steam line 92. Another solenoid-operated valve, indicated generally by the reference number 94, is connected to the condenser 86 and arranged to bleed steam into the bag 52. The valve 94 is surrounded by a perforated, cone-shaped cup 96 which serves to diffuse steam out into the bag 52.

A fan 98 is arranged in the base portion 14 of the apparatus 10 to force air up into the bag 52. The fan 98 is mounted on a shaft 100 for rotation therewith, the shaft being driven by a V-pulley 102. The V-pulley 102 is drivingly connected to an electric motor 104 by an edge-active belt 106 which is trained about the V-pulley 102 and a resiliently expandible V-pulley 108 which is mounted on the motor 104 output shaft for rotation therewith. Thus, the speed of the fan 98 may be varied by adjustably positioning the motor 104 toward and away from the V-pulley 102. The variable speed drive coupling the motor 104 to the fan 98 is well known and need not be discussed further in this description.

The apparatus 10 includes three timers, 110, 112 and 114, for controlling the various steps of the process for shaping and finishing a garment on the form 18. In the illustrated form of the apparatus 10, the timers 110, 112 and 114 are of the type having an electric motor which drives one or more cams which operate electrical switches; however, it will be readily understood that other conventional timers, such as solid state timers, may be employed. It is only necessary to note that each of the timers 110, 112 and 114 is provided with a selector knob 116 for selecting a particular time interval, after which each timer will either open or close its switches.

Each of the timers 110, 112 and 114 is connected to one side of the line indicated by L1. The timer 110 is connected to the solenoid 118 which operates the valve 88 and the timer 112 is connected to the solenoid 120 which operates the valve 94 and to solenoid 162 which operates valve 160. The timer 114 is operatively connected to the solenoid 122 which operates the valve 84, the motor 104 which drives the fan 98 and a solenoid 124, the function of which will be discussed in conjunction with FIG. 6. All three of the timers 110, 112 and 114 are connected to the other side of the line, indicated by L2, through a microswitch 126. Thus, the timers 110, 112 and 114 can only be energized and de-energized depending on whether the microswitch 126 is open or closed. The function of each timer and its part in controlling the shaping and finishing of garments will be discussed further along in this description.

There is a switch 119 for coupling the solenoid 118 directly across L1 and L2, thereby opening the valve 88 to supply steam to the chamber in the buck 50. The switch

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119 is a pedal-operated switch and the pedal is indicated by the reference number 119' in FIGS. 1 and 2.

Referring now to FIG. 6, it will be seen that there are five air cylinders utilized in the apparatus 10. One of the air cylinders, which has already been discussed, is the air cylinder 48 utilized to operate the shoulder expanders 36 and 38. The air cylinder 128 is utilized to engage the pressing plate 20, the air cylinder 130 is utilized to engage the back clamping plate 26 and the air cylinders 132 and 134 are utilized to engage the front clamping plate 24. Each of the air cylinders 48, 128, 130, 132 and 134 is provided with a spring 136 which returns its piston to its normal position when the air is removed from the cylinder. Such air cylinders are well known and need not be discussed, in detail, in this description. As shown in FIG. 6, the output line 138 of a two-way valve 140 is connected to the input line of the air cylinders 48 and 128 through 134. The two-way valve 140, which is also connected to an input line 142 and an exhaust line 144, is operated by a lever 146. When the lever 146 is pivoted to the right, as indicated by the solid lines at 146a, air can move through the valve 140 from the input line 142 to the output line 138 and then to each of the cylinders 48, 128, 130, 132 and 134. When the lever 146 is moved to the left, as indicated by the dashed lines 146b, air can move out of the cylinders 48, 128, 130, 132 and 134 back through the output line 138 and out through the exhaust line 144. Two-way valves, such as the valve 140, are well known and need not be discussed further in this description.

A horizontal rod 148, upon which the pedal 35 is mounted, is connected to the lever 146 so that, when the rod 148 is moved in the direction of the arrow 150, the lever 146 is moved to the right and, when the rod 148 is moved in the direction of the arrow 152, the lever 146 is moved to the left. In the illustrative arrangement of FIG. 6, the rod 148 is moved in the direction of the arrow 150 when the operator of the apparatus 10 kicks the pedal 35 and is moved in the direction of the arrow 152 when the solenoid 124 is energized by the timer 114. The plunger 154 of the solenoid 124 is connected to a bracket 156 which is rigidly mounted on the rod 146. Thus, the rod 148 is moved in the direction of the arrow 150 by the operator to supply air to the cylinders 48, 128, 130, 132 and 134 and, when the shaping and finishing cycles are over, the solenoid 124 is energized to pull the rod 148 in the direction of the arrow 152 to remove air from the cylinders.

A solenoid-operated valve 160 is provided in the line between the cylinder 128 and the output line 138. The valve 160, which is operated to its closed position by the solenoid 162 when the switch 164 is closed, is effective to prevent operation of the cylinder 128 and thereby to prevent lowering of the pressing plate 20. Thus, when the operator of the apparatus 10 has to finish a coat having a large or fur collar, he may close the switch 164, which is preferably placed on the front of the upright 16 as shown in FIG. 1, to deactivate the cylinder 128. Valve 160 is also closed by solenoid 162 when timer 112 times out thus to remove air pressure from cylinder 128 so as to disengage pressing head 20. Valve 160 is of the by-pass type which permits cylinder 128 to exhaust therethrough.

There is a valve 163 connected in the line which supplies air to the cylinder 134. The valve 163 is mechanically operated by a linkage, indicated by the reference number 165, when the plunger of the cylinder 132 is in its fully extended position. The relationship between the cylinders 132 and 134 will be discussed in more detail in conjunction with FIG. 7.

Referring now to FIG. 4, it will be seen that the cylinder 128 is arranged to operate a lever arm 166 which is pivoted about the bolt 168. Thus, when the plunger 170 of the cylinder 128 is extended, the lever arm 166 is pivoted in the direction of the arrow 172. When the air is removed from the cylinder 128 and its spring 136 acts to retract the plunger 170, the lever arm 166 will be

pivoted in a direction opposite to the arrow 172. The pressing plate 20 is carried by the lever arm 166 at its forward end and, therefore, operation of the lever arm 166 as described above engages and disengages the pressing plate 20 with the form 18.

Referring now to FIGS. 4 and 7, the means whereby the front clamping plate 24 is engaged with the form 18 will be discussed. A stationary clamping plate 174, the front surface of which faces the front of the form 18, is rigidly mounted inside the bag 52 by means indicated at 176. The front clamping plate 24 is engageable with the front surface of the stationary clamping plate 174. In a preferred form of the apparatus 10, both the front clamping plate 24 and the stationary clamping plate 174 are fabricated from perforated sheet metal and are covered with a porous padding which permits vapors emanating from inside the bag 52 to move out through the plates. Of course, the padding, which is conventionally used, is desirable in that the front of the garment is resiliently engaged between the plates 24 and 174.

The front clamping plate 24 is pivotally connected to the upper end of the plunger 178 of the air cylinder 132. Specifically, the clamping plate 24 is pivotally connected as indicated at 180 to a rod 182 which is securely fastened to the upper end of the plunger 178. The air cylinder 132 is pivotally mounted about the axis indicated by the reference number 184 to be movable as indicated by the dashed-line drawing of the air cylinder 132, plunger 178 and front clamping plate 24. The air cylinder 134, which is rigidly mounted in the base portion 14, has its plunger 186 pivotally connected to the lower end of the air cylinder 132 as indicated at 188. Thus, actuation of the air cylinder 134 pivots the clamping plate 24 inwardly to engage the stationary clamping plate 174. As discussed in conjunction with FIG. 6, the air cylinder 134 is actuated through the valve 163 which is opened when the plunger 178 of the air cylinder 132 is fully extended. That is, when the plunger 178 is moved in the direction of the arrow 190 and is fully extended, the linkage 165 is moved to open the valve 163 to permit air to enter the cylinder 134. Of course, when the air is removed from the cylinder 134, the spring 136 retracts the plunger 186 which, in turn, pivots the cylinder 132 back to its substantially vertical position which is maintained by an adjustable stop 192 carried by the front wall of the base portion 14.

Referring now to FIGS. 4 and 8, the means whereby the back clamping plate 26 is engaged with the form 18 will be discussed. A second stationary clamping plate 194, the engaging surface of which faces the rear of the form 18, is rigidly mounted inside the bag 52 as indicated at 196. In operation of the apparatus 10, the clamping plate 26 is moved inwardly against the clamping plate 194 and, when the two clamping plates are engaged, the clamping plate 26 is moved downwardly slightly in the direction of the arrow 198 to put tension on the back of a garment which is supported on the form 18. As is conventional, the back clamping plate 26 and the clamping plate 194 are fabricated from perforated sheet material and are both covered with resilient padding.

The back clamping plate 26 is pivotally connected to the lower end of a linkage 200 as indicated at 202. The linkage 200 is pivotally connected to the upper end of a lever 203 as indicated at 204, the pivot point 204 being intermediate the ends of the linkage 200. The linkage 200 is resiliently urged back over the pivot point 204 by a tension spring 206 which is connected between the upper end of the linkage 200 and a bracket 208 which is rigidly mounted on the lever 203. A stop 210 is carried by the lever arm 203 and is arranged to limit the pivotal movement of the linkage 200. Another stop 212, which has a resilient end 214 for engaging the back of the clamping plate 26, is carried by the lever 203 and arranged to hold the clamping plate 26 in its substantially vertical position shown in FIG. 8. The lever 203, which

has an arm 216 extending outwardly from the lower end, is pivoted as indicated at 218. The arm 216 is pivotally connected to the plunger of the cylinder 130 as indicated at 220 and the cylinder 130 is pivotally mounted as indicated at 222. The pivotal mounting of the cylinder 130 is required to provide for the lateral as well as axial movement of its plunger.

From the above description, it can be seen that when the cylinder 130 is actuated, the lever arm 203 is pivoted toward its position represented by dashed lines in FIG. 8. Since the linkage 200 is urged back over its pivot point 204 by the spring 206, the lower end of the clamping plate 26 initially engages the clamping plate 194. As the lever 203 continues to move to the left, as viewed in FIG. 8, the upper portion of the clamping plate 26 is pivoted against the plate 194 and, as the lever 203 is pivoted further, the clamping plate 26 is moved in the direction of the arrow 198. This last movement of the clamping plate 26 in the direction of the arrow 198, which movement is caused by the movement of the pivot point 204 in an arc about the pivot point 218 to shove the pivot point 202 downwardly, is just sufficient to place a slight tension on the back of the garment supported on the form 18.

Preferably, the buck 50 is covered by a resilient, porous, padding material 224, shown fragmentarily in FIGS. 3 and 5. The padding 224 is porous so that the vapors emanating from the passageways 58 can enter the garment supported on the buck 50.

The preferred pressing plate 20 is shown clearly in FIGS. 1, 3 and 4. The pressing plate 20 is essentially a thin, flexible, form having somewhat the same shape as the buck 50, but specifically contoured to apply pressure to selected areas of a garment on the buck, as will be described. The pressing plate 20 is provided with a plurality of apertures or perforations 228 which permit vapors emanating from the garment which is supported on the form 18 to move through the plate 20. It is important to note that neither steam nor air is supplied to the garment through the pressing plate 20.

In a specific embodiment of the invention, the pressing plate 20 has a greater radius than the buck 50 and is contoured to apply pressure contact around the back of the collar down to the point where the collar joins the lapels, thereby forming the desired crease in the collar. The pressure applied by such a pressing plate 20 is generally concentrated at the back of the collar and to a generally increasing area below the collar and down to the back edge of the pressing plate where the pressure decreases and, finally, tapers off, thereby smoothing the back of the coat below the collar. In such a specific embodiment, the pressing plate 20 does not apply pressure to the top and front of the shoulders or lapels. It is to be noted that certain portions of the pressing plate may be in contact with the garment without actually applying pressure.

The pressing plate 20 is mounted at the forward end of the lever arm 166. Specifically, a shaft 230 is rigidly mounted on the lever arm 166 to extend in the direction of the lever arm, as seen in FIG. 4. A bracket 232 is mounted on the shaft 230, the bracket 232 being adjustable about the shaft 230 and axially on the shaft 230. The bracket 232 carries a shaft-like member 234 which extends laterally above the pressing plate 20, as shown in FIG. 3. The member 234 is adjustably movable in the bracket 232 so that the pressing plate can be pivoted in the direction of the arrow 236. A plurality of spaced-apart downwardly extending rods 238 are carried by the member 234. In FIGS. 3 and 4, it will be seen that the lower ends of the rods 238 are engaged with an upturned flange 240 extending about the perimeter of the pressing plate 20. The pressing plate 20 is held upwardly against the lower ends of the rods 238 by a plurality of springs 242. Means 244 are provided for adjusting the length of each of the rods 238. Thus, not only can the pressing



plate 20 be adjusted about the axis of the shaft 230, along the axis of the shaft 230 and about the axis of the shaft-like member 234, the pressing plate 20 can also be adjusted to apply pressure where desired, merely by lengthening or shortening the rods 238. Of course, it is intended that the pressing plate 20 will be adjusted initially when the apparatus 10 is set up in a drycleaning establishment and will not be changed unless the apparatus 10 is being overhauled or modified. In the preferred embodiment, plate 20 is contoured to apply pressure so as to crease the collar of the garment, but does not apply pressure on the shoulders or lapels.

In FIG. 3, it will be seen that the pressing plate 20 is provided with a cut-out 246 for receiving the neck portion 248 of the buck 50.

The method of the present invention, which includes steps for shaping and finishing a garment, such as the coat 32, using the apparatus 10, will now be discussed, reference being made to FIGS. 1 through 8 of the drawings.

With the apparatus 10 in the condition shown in FIG. 1, the operator will drape the coat 32 over the form 18, taking pains to center the coat on the buck 50 and to smooth the lapels and neck and shoulder regions of the coat. Preferably, the stretchers 34 are inserted in the sleeves of the coat 32. In some cases, it may be desirable to inject steam from the buck 50 into the neck and shoulder region of the coat 32, thereby making the coat 32 easier to shape on the buck 50. If such is the case, the operator has merely to close the switch 119 by pressing the pedal 119' which energizes the solenoid 118 to open the valve 88. In most cases, the valve 88 need only be opened momentarily to supply enough steam for such softening of the coat 32. After the coat 32 is properly placed on the form 18, the operator need only to push on the pedal 35. As discussed previously, pushing on the pedal 35 will cause air to be supplied to the air cylinders 48 and 128 through 134, thereby operating the front and rear clamping plates 24 and 26, the pressing plate 20 and the shoulder expanders 36 and 38. The microswitch 126 is so positioned that, when the plunger 186 of the cylinder 134 is fully extended, as shown in FIG. 7, the microswitch will connect the timers 110, 112 and 114 across the power supply lines L1 and L2. At that time, both of the timers 110 and 112 will start operating simultaneously to energize the solenoids 118 and 120 for predetermined times, the solenoid 118 being operated for the length of time set in the timer 110 and the solenoid 120 being operated for the length of time set in the timer 112. For instance, the timer 110 may be set to operate the solenoid 118 to open the valve 88 thereby to inject steam into the chamber of the buck 50 for a period of three seconds, while the timer 112 may be set to operate the solenoid 120 to open the valve 94 thereby to inject steam into the bag 52 for a period of five seconds. When timer 112 times out, it closes contacts which energize solenoid 162 thereby to close valve 160 to remove air pressure from cylinder 128, thereby disengaging pressing plate 20 from the garment.

After the timers 110 and 112 have timed out and the solenoids 118 and 120 are de-energized, the timer 114 is started to energize the motor 104 thereby to operate fan 98 to supply dry air to the bag 52, and to energize the solenoid 122 which opens the valve 94 thereby to inject dry air into the chamber of the buck 50. After, for instance, ten seconds, the timer 114 times out, the motor 104 and solenoid 122 are deenergized and the solenoid 124 is energized to move the rod 148 in the direction of the arrow 152. Thus, when the timer 114 times out, the dry air being supplied to the chamber in the buck 50 and the bag 52 is stopped and the front and back clamping plates 24 and 26 and the shoulder expanders 36 and 38 are all disengaged. When the plunger 186 of the air cylinder 134 retracts, the microswitch 126 is opened to reset the system for another cycle.

In summary, the method just described comprises the steps of placing a garment on the form 18; supplying hot, wet vapor to the neck and shoulder region of the garment while, at the same time, supplying hot, wet vapor to the body portion of the garment and pressing selected areas of the neck and shoulder region; terminating the supply of hot, wet vapor and the pressing; and then supplying dry vapor to the neck and shoulder region of the garment while at the same time supplying dry vapor to the body portion of the garment.

The dry vapor, which is supplied to the body portion of the garment through the bag 52, is provided by the fan 98. Of course, the bag 52 is thereby inflated to remove wrinkles from the garment while it is being dried.

The apparatus and method of the invention may be modified to exert a vacuum on the buck 50, rather than to apply dry air under pressure as above-described, during the final drying portion of the cycle. Thus, 82 may be a vacuum source with line 72 and fitting 68 being somewhat larger in order to accommodate vacuum rather than air pressure; for example, line 72 and fitting 68 may be one-quarter inch in the case of the application of dry air to the buck chamber, and five-eighths inch in the case of the use of a vacuum. Thus, dry air is caused to flow outwardly through apertures 58 in buck 50 when air under pressure is employed, and inwardly through apertures 58 when vacuum is employed.

What is claimed is:

1. An apparatus for shaping and finishing a garment comprising a form for supporting said garment, said form comprising a rigid buck for supporting the neck and shoulder region of said garment, said buck having a chamber formed therein and a plurality of passageways communicating with said chamber and the outside surface of said buck, a fluid pervious, inflatable bag hanging downwardly from said buck to support the body of said garment in draped relation to said buck, means for supplying hot, wet vapor, under pressure, to said chamber in said buck for a predetermined time, thereby dampening and heating said neck and shoulder region of said garment, means for supplying hot, wet vapor, under pressure, to the interior of said bag for a predetermined time, thereby dampening and heating said body of said garment, means for causing dry vapor to flow through said passageways for a predetermined time, thereby drying said neck and shoulder region, means for supplying dry vapor, under pressure, to the interior of said bag for a predetermined time, thereby inflating said bag and drying said body of said garment, a flexible pressing plate arranged to fit down over said buck, said pressing plate being formed to apply pressure to selected areas of said neck and shoulder region of said garment, said pressing plate being fabricated from flexible sheet material, a member having a plurality of downwardly extending, spaced-apart rods arranged to engage preselected areas of said pressing plate thereby to form the same, means for supporting said member for movement toward and away from said buck, and a plurality of springs for urging said pressing plate upwardly against said rods.

2. An apparatus for shaping and finishing a garment comprising a form for supporting said garment, said form comprising a rigid buck for supporting the neck and shoulder region of said garment, said buck having a chamber formed therein and a plurality of passageways communicating with said chamber and the outside surface of said buck, a fluid-pervious, inflatable bag hanging downwardly from said buck to support the body of said garment in draped relation to said buck, means for supplying hot, wet vapor, under pressure, to said chamber in said buck for a predetermined time, thereby dampening and heating said neck and shoulder region of said garment, means for supplying hot, wet vapor, under pressure, to the interior of said bag for a predetermined time, thereby dampening and heating said body of said garment, means for causing dry vapor to flow through said

passageways for a predetermined time, thereby drying said neck and shoulder region, means for applying dry vapor, under pressure, to the interior of said bag for a predetermined time, thereby inflating said bag and drying said body of said garment, a pair of stationary plate members disposed inside said bag, one of said stationary plate members facing the back side of said bag and the other of said stationary plate members facing the front side of said bag, a first movable plate member arranged to cooperate with said one stationary plate member to hold the front of said garment, said first movable plate member being disposed outside said bag, fluid-actuated means for engaging said first movable plate member with said one stationary plate member, a second movable plate member arranged to cooperate with said other stationary plate member to hold the back of said garment and place the back of said garment in slight tension, thereby removing wrinkles from said garment, said second movable plate member being disposed outside said bag, and means for supporting said second movable plate member for movement inwardly toward said other stationary plate member and, when said second plate member is engaged with said other stationary plate member, downwardly relative to said other stationary plate member, said supporting means comprising a lever pivoted at its lower end for movement toward and away from said other plate member, a link having its upper end pivotally connected to the upper end of said lower and its lower end pivotally connected to said second movable plate member at a point intermediate its ends, means for resiliently urging said second movable plate member back over its pivot connection to said link, and fluid-actuated means for pivoting said lever toward said other stationary plate member.

3. An apparatus for shaping and finishing a garment comprising a form for supporting said garment, said form comprising a rigid buck for supporting the neck and shoulder region of said garment, said buck having an outer surface defining neck and shoulder portions corresponding to those of the human body, said buck further having a chamber formed therein and a plurality of passageways communicating with said chamber and said outside surface of said buck, means including a first conduit communicating with said chamber for supplying hot, wet vapor, under pressure, to said chamber for a first predetermined time, thereby dampening and heating said neck and shoulder region of said garment, means including a second conduit communicating with said chamber for causing dry vapor to flow through said passageways for a second predetermined time, thereby drying said neck and shoulder region, and a steam chest, said buck being formed of metal, said buck being mounted on said steam chest and at least partially surrounding said steam chest in heat-transferring relationship, and means including a third conduit communicating with said steam chest for continuously admitting steam thereto whereby said buck is maintained at a predetermined temperature by said steam chest.

4. An apparatus for shaping and finishing a garment comprising a form for supporting said garment, said form comprising a rigid buck for supporting the neck and shoulder region of said garment, said buck having an outer surface defining neck and shoulder portions corresponding to those of the human body, said buck further having a chamber formed therein and a plurality of passageway communicating with said chamber and said outside surface of said buck, means for supplying hot, wet vapor, under pressure, to said chamber for a first predetermined time, thereby dampening and heating said neck and shoulder region of said garment, means for causing dry vapor to flow through said passageways for a second predetermined time, thereby drying said neck and shoulder region, a fluid-pervious inflatable bag hanging downwardly from said buck, said bag being arranged to support the body portion of said garment in draped relation to said buck,

means for supplying hot, wet vapor, under pressure, to said bag for a third predetermined time, thereby heating and dampening the body portion of said garment, means for applying dry vapor, under pressure, to said bag for a fourth predetermined time, thereby inflating said bag to remove wrinkles from said garment and thereby drying the body portion of said garment, a pair of stationary clamping plates disposed inside said bag, one of said stationary clamping plates facing the front of said bag and the other of said stationary clamping plates facing the rear of said bag, a movable, front clamping plate for holding the front of said garment against said one stationary clamping plate, a movable, back clamping plate for holding the back of said garment against said other stationary clamping plate, a flexible pressing plate arranged to fit down over said buck, said pressing plate being formed to apply pressure on selected areas of the neck and shoulder region of said garment, said pressing plate being provided with a plurality of apertures through which vapors emanating from said neck and shoulder region may escape, first actuating means for engaging said pressing plate with said areas, second actuating means for engaging said front clamping plate with said one stationary clamping plate, third actuating means for engaging said back clamping plate with said other stationary clamping plate, timer means controlling said means for supplying hot, wet vapor to said buck chamber, said means for supplying hot, wet vapor, to said bag, said means for causing dry vapor to flow through said passageways and said means for supplying dry vapor to said bag, said other timer means including means for deactuating said first actuating means after said first predetermined time thereby to disengage said pressing plate and for deactuating said second and third actuating means after said fourth predetermined time thereby to disengage said front and back clamping plates, and means for energizing said timer means when said front and back clamping plates and said pressing plate are engaged.

5. An apparatus as in claim 4 further comprising a pair of shoulder expanders disposed inside said bag, fourth actuating means for engaging said shoulder expanders with the shoulder portions of said garment, and manually-actuated control means for actuating said first, second, third and fourth actuating means, and wherein said first, second, third and fourth actuating means are fluid-actuated cylinders, said control means including valve means for admitting fluid to and permitting fluid to leave said fluid-actuated cylinders, wherein said means for supplying hot, wet vapor to said buck chamber comprises a steam source connected to said chamber and a first solenoid-operated valve for controlling the flow of steam to said chamber, wherein said means for supplying hot, wet vapor to said bag comprises a steam condenser disposed in said bag and a second solenoid-operated valve connected thereto, wherein said means for causing dry vapor to flow through said passageways comprises a dry air supply connected to said chamber and a third solenoid-operated valve for controlling the flow of air thereto, and wherein said means for supplying dry vapor to said bag comprises a blower having its output connected to an opening in said bag.

6. An apparatus for shaping and finishing a garment comprising a form for supporting said garment, said form comprising a rigid buck for supporting the neck and shoulder region of said garment, said buck having a chamber formed therein and a plurality of passageways communicating with said chamber and the outer surface of said buck, a steam chest for supporting and maintaining the temperature of said buck, a pair of upstanding pipes for supporting said steam chest, said pipes being in communication with said steam chest, a steam source and a steam return, one of said pipes being connected to said steam source and the other of said pipes being connected to said steam return, a fluid pervious, inflatable bag hanging downwardly from said buck to support the body of said garment in draped relation to said buck, said fluid pervious

ous bag having an opening therein, a blower arranged to blow dry air through said opening into said bag, a steam condenser disposed in said bag intermediate the upper and lower ends thereof, means for connecting said condenser to said steam source, a steam line connected between said condenser and said buck chamber, a first solenoid-operated valve connected in said steam line to control the injection of steam into said buck chamber, a first timer controlling said first solenoid-operated valve, a second solenoid-operated valve connected to said condenser and arranged to bleed steam into said bag, a second timer controlling said second solenoid-operated valve, a pressurized dry air supply, an air line connecting said dry air supply to said buck chamber, a third solenoid-operated valve connected in said air line and arranged to control the injection of dry air into said buck chamber, a third timer controlling said third solenoid-operated valve and said blower, an electrical power source, second switch means connecting said first, second and third timers to said power source, said first, second and third timers being interconnected so that said first and second timers operate said first and second solenoid-operated valves for first and second predetermined times, respectively, and, after said second time which includes said first time, said third timer operates said third solenoid-operated valve and said blower for a third predetermined time, a solenoid-operated link, said third timer being arranged to energize said solenoid-operated link after expiration of said third time, a flexible pressing plate arranged to fit down over said buck, said pressing plate being formed to apply pressure against selected areas of the neck and shoulder region of a garment supported on said buck, said pressing plate being fabricated from flexible sheet material which is perforated to permit vapors emanating from said neck and shoulder region to escape, a lever arm pivotally movable toward and away from said buck, means connecting said pressing plate to said lever arm, a first air cylinder for operating said lever arm thereby engaging said pressing plate with said areas, a pair of stationary plate members disposed inside said bag, one of said stationary plate members facing the back side of said bag and the other of said stationary plate members facing the front side of said bag, a first movable plate member arranged to cooperate with said one stationary plate member to hold the front of said garment, said first movable plate member being disposed outside said bag, second and third air cylinders for moving said first movable plate member upwardly and inwardly, respectively, to engage said one stationary plate member, said second air cylinder being pivotally mounted at its lower end for movement toward and away from said bag, said first movable plate member being pivotally connected to the upper end of the plunger of said second air cylinder, the plunger of said third air cylinder being pivotally connected to said second air cylinder, said third air cylinder being arranged to pivot said second air cylinder toward said bag when air is supplied to said third air cylinder, a link-operated valve connected to said third air cylinder and arranged to control the admission of air thereto, a first link connected between said plunger of said second air cylinder and said link-operated valve, said first link being arranged to open said link-operated valve when said plunger of said second air cylinder is at a predetermined height, a second movable plate member arranged to cooperate with said other stationary plate member to hold the back of said garment and place the back of said garment in slight tension, thereby removing wrinkles from said garment, said second movable plate member being disposed outside and directly behind said bag, means for supporting said second movable plate member for movement inwardly toward said other stationary plate member and, when said second movable plate member is engaged with said other stationary plate member, downwardly relative to said other stationary plate member, said supporting means comprising a lever pivoted at its lower end for movement toward and away from said other stationary

plate member, a second link having its upper end pivotally connected to the upper end of said lever and its lower end pivotally connected to said second movable plate member at a point intermediate its ends, a spring for resiliently urging said second movable plate member back over its pivot connection to said second link, and a fourth air cylinder for pivoting said lever toward said other stationary plate member, said fourth air cylinder having its plunger pivotally connected to said lever, a two-way valve having an input port, output port and exhaust port, said two-way valve including a valve mechanism having a first position in which air is permitted to move from said input port to said output port and a second position in which air is permitted to move from said output port to said exhaust port, manually-actuated means coupled to said valve mechanism for moving the same to said first position thereof, said solenoid-operated link being connected to said valve mechanism and effective to move the same to said second position thereof after expiration of said third time, the output port of said two-way valve being connected to the input ports of said second, third and fourth air cylinders, a fourth solenoid-operated valve connecting said two-way valve outlet port to the input port of said first air cylinder, said second timer energizing said fourth solenoid-operated valve after said second predetermined time thereby to operate said first air cylinder to move said pressing plate away from said buck, the input port of said two-way valve being connected to said air supply, a pair of upwardly extending arms disposed in said bag, each of said arms being supported at its lower end for pivotal movement laterally inwardly and outwardly relative to said buck, each of said arms being provided, at its upper end, with support means for engaging the inside shoulder portion of said garment, one of said arms being disposed on one side of said buck and the other of said arms being disposed on the opposite side of said buck, a fifth air cylinder for moving said arms outwardly, thereby supporting the shoulder portions of said garment, the input port of said fifth air cylinder being connected to said output port of said two-way valve, said second switch means being positioned for actuation when the plunger of said third air cylinder is fully extended, thereby starting said first and second timers, and for deactuation when said plunger of said third air cylinder is fully retracted, thereby resetting said first, second and third timers for a new cycle and thereby de-energizing said solenoid-operated link.

7. The method of shaping and finishing a garment on an apparatus comprising a buck for shaping the garment in the neck and shoulder region, said buck having a chamber formed therein and a plurality of passageways communicating with the chamber and the outside surface of said buck, a fluid-pervious bag for shaping the body of the garment, said bag hanging downwardly from said buck, a stationary plate member within said bag and adjacent the inner surface thereof, a movable plate member disposed outside of said bag, and power means for moving said plate member between an inactive position and an active position in cooperative relationship with said stationary plate member with a portion of said bag interposed therebetween thereby to hold a part of said garment, said method comprising said steps of first automatically actuating said power means to move said movable plate member into its active position; second, automatically in a predetermined sequence and for predetermined times supplying hot, wet vapor, under pressure, to said chamber, supplying hot, wet vapor, under pressure, to the interior of the said bag, causing the flow of dry vapor through said passageways and supplying dry vapor, under pressure, to the interior of said bag; and finally upon completion of all of said times automatically deactuating said power means to move said plate member to its inactive position.

8. The method of claim 7 wherein said apparatus further comprises a pair of shoulder expanders disposed inside of said bag, and second power means for moving said shoulder expanders between an inactive position and an

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active position in engagement with the respective shoulder portions of said garment with respective portions of said bag interposed therebetween; said first step including automatically actuating said second power means to move said shoulder expanders to their active positions; said final step including automatically deactuating said second power means to move said shoulder expanders to their inactive positions.

9. The method of claim 7 wherein said apparatus further comprises a flexible pressing plate, and second power means for moving said pressing plate between an inactive position and an active position in cooperative relationship with said buck thereby to apply pressure on selected neck and shoulder regions of said garment; and comprising the further steps of automatically actuating said second power means thereby to move said pressing plate to its active position for a predetermined time, and automatically deactuating said second power means at the conclusion of said last-named time.

10. The method of claim 9 wherein said second power means is automatically actuated no earlier than said automatic actuation of said first-named power means, and said second power means is automatically deactuated prior to said steps of causing the flow of dry vapor through said passageways and supplying dry vapor to the interior of said bag.

11. The method of claim 7 wherein said apparatus further comprises a pair of shoulder expanders disposed inside of said bag, second power means for moving said shoulder expanders between an inactive position and an active position in engagement with the respective shoulder portions of said garment with respective portions of said bag interposed therebetween, a flexible pressing plate, and third power means for moving said pressing plate from an inactive position to an active position in cooperative relationship with said buck thereby to apply pressure on the selected neck and shoulder regions of said garment; said first step including automatically actuating said second power means to move said shoulder expanders to their active positions; said final step including automatically deactuating said second power means to move said shoulder expanders to their inactive positions; and comprising the further steps of actuating said third power means no earlier than said actuation of said first-named and second power means for a predetermined time to move said pressing plate to its active position, and automatically deactuating said third power means at the conclusion of said last-named time to move said pressing plate to its inactive position, said third power means being deactuated prior to said steps of causing the flow of dry vapor through said passageways and supplying dry vapor to the interior of said bag.

12. The method of shaping and finishing a garment on apparatus comprising a buck for shaping the garment in the neck and shoulder region, a bag for shaping the body of the garment, said bag hanging downwardly from said buck, a stationary plate member within said bag and adjacent the inner surface thereof, a movable plate member disposed outside of said bag, first power means for moving said plate member between an inactive position and an active position in cooperative relationship with said stationary plate member with a portion of said bag interposed therebetween thereby to hold a part of said garment; a pair of shoulder expanders disposed inside of said bag, second power means for moving said shoulder expanders between an inactive position and an active position in engagement with the respective shoulder portions of said garment with respective portions of said bag interposed therebetween, a flexible pressing plate, and third power means for moving said pressing plate between an inactive position and an active position in cooperative relationship with said buck thereby to apply pressure in selected neck and shoulder regions of said garment; said method comprising the steps of first, automatically actuating said first and second power means to move said mov-

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able plate member and said shoulder expanders to their active positions; second, automatically actuating said third power means no earlier than actuation of said first and second power means to move said pressing plate to its active position for a predetermined time, automatically deactuating said third power means at the conclusion of said predetermined time to move said pressing plate to its inactive position; and finally automatically deactuating said first and second power means to move said movable plate member and shoulder expanders to their inactive positions.

13. The method of claim 12 wherein said first power means first moves said movable plate member generally vertically from a lower retracted inactive position to a second upper protracted position, and then moves said movable plate member laterally from said upper protracted position to said active position.

14. Apparatus for shaping and finishing a garment comprising a buck for shaping the garment in the neck and shoulder regions thereof, said buck having a chamber formed therein and a plurality of passageways communicating with the chamber and the outside surface of the buck, a fluid-pervious bag for shaping the body in the garment, said bag hanging downwardly from said buck, a stationary plate member within said bag and adjacent the inner surface thereof, a movable plate member disposed outside of said bag, power actuator means for moving said plate member between an inactive position and an active position in cooperative relationship with said stationary plate member with a portion of said bag being interposed therebetween thereby to hold a part of said garment, means including a first selectively actuable valve for supplying hot, wet vapor, under pressure, to said chamber, means including a second selectively actuable valve for supplying hot, wet vapor, under pressure, to the interior of said bag, means including a third selectively actuable valve for causing dry vapor to flow through said passageway, means including blower means for supplying dry vapor, under pressure, to the interior of said bag, and automatic programming control means including means for automatically, initially, actuating said power means to move said movable plate member to its active position, means for automatically actuating all of said valves and blower means in a predetermined sequence and for predetermined times following said initial actuation of said power means, and means for automatically deactuating said power means following conclusion of all of said times thereby to move said movable plate member to its inactive position.

15. The apparatus of claim 14 further comprising a flexible pressing plate, and second power actuator means for moving said pressing plate between an inactive position and an active position in cooperative relationship with said buck, said control means including means for automatically actuating said second power means to its active position, and means for automatically deactuating said second power means after a predetermined time to move said pressing plate to its inactive position.

16. The apparatus of claim 14 further comprising a pair of shoulder expanders disposed of said bag, and second power actuator means for moving said shoulder expanders between an inactive position and an active position in engagement with respective shoulder portions of said garment with respective portions of said bag being interposed therebetween, said control means including means for actuating said second power means simultaneously with actuation of said first-named power means thereby to move said shoulder expanders to said active positions thereof, and means for deactuating said second power means simultaneously with deactuation of said first-named power means thereby to move said shoulder expanders to said inactive positions.

17. The apparatus of claim 14 further comprising a pair of shoulder expanders disposed inside of said bag, second power actuator means for moving said shoulder

expanders between an inactive position and an active position in engagement with respective shoulder portions of said garment with respective portions of said bag interposed therebetween, a flexible pressing plate, and third power actuator means for moving said pressing plate between an inactive position and an active position in cooperative relationship with said buck, said control means including means for automatically deactuating said second power means to move said shoulder expanders to said active positions thereof simultaneously with movement of said movable plate member to said active position thereof, said control means including means for automatically actuating said third power means no earlier than actuation of said first-named said power means to move said pressing plate to its active position, said control means including means for deactuating said second power means after a predetermined time, said control means including means for deactuating said second power means to move said shoulder expanders to their inactive positions simultaneously with movement of said movable plate member to said inactive position thereof.

18. The apparatus of claim 14 wherein said first power actuator means include means for moving said movable plate member generally vertically from a lower, retracted inactive position to an upper protracted position, and means for moving said movable plate member generally laterally from said upper protracted position to said active position.

19. Apparatus for shaping and finishing a garment comprising a buck for supporting the neck and shoulder regions of said garment, an inflatable bag hanging downwardly from said buck to support the body of said garment in direct relation to said buck, a stationary plate member within said bag and adjacent the inner surface thereof, a movable plate member disposed outside of said bag, and power actuator means operatively connected to said movable plate member and including means for moving said movable plate member from a lower, retracted, inactive position generally vertically to an upper, protracted position, and means for moving said movable plate member generally laterally from said upper, protracted position to an active position in cooperative engagement with said stationary plate member with a portion of said bag interposed therebetween.

20. Apparatus for shaping and finishing a garment comprising a rigid buck for supporting the neck and shoulder regions of said garment, said buck having an outer surface defining neck and shoulder portions corresponding to those of a human body, said buck having a chamber formed therein and a plurality of passageways communicating with said chamber and the outside surface of said buck, means for selectively supplying, hot, wet vapor, under pressure, to said chamber for outward flow through said passages thereby to dampen and heat said neck and

shoulder regions of said garment, means forming a steam chest, and means for continuously supplying steam to said steam chest, said buck being formed of metal, said buck being connected to said steam chest in heat-transferring relationship and said steam chest having a portion extending into said chamber whereby said buck is maintained at a predetermined temperature by said steam chest.

21. Apparatus for shaping and finishing a garment comprising a rigid buck for supporting the neck and shoulder regions of said garment, an inflatable bag hanging downwardly from said buck to support the body of said garment in draped relation to said buck, a stationary plate member within said bag and adjacent the inner surface thereof, a movable plate member disposed outside of said bag, first power actuator means operatively connected to said movable plate member for moving the same between an inactive position and an active position in cooperative relationship with said stationary plate member with a portion of said bag interposed therebetween thereby to hold a part of said garment, a pair of shoulder expanders disposed inside of said bag, second power actuator means operatively connected to said shoulder expanders for moving the same between an inactive position and an active position in engagement with respective shoulder portions of said garment with respective portions of said bag interposed therebetween, a flexible pressing plate, third power actuator means operatively connected to said pressing plate for moving the same between an inactive position and an active position in cooperative relationship with said buck; and automatic programming control means including means for simultaneously actuating said first and second power means to move said movable plate member and shoulder expanders to their active positions, means for actuating said third power means to move said pressing plate to its active position, means for deactuating said third power means after a predetermined time to move said pressing plate to its inactive position, and means for simultaneously deactuating said first and second power means following conclusion of said predetermined time simultaneously to move said movable plate member and shoulder expanders to their inactive positions.

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