

March 4, 1952

E. C. MAURER

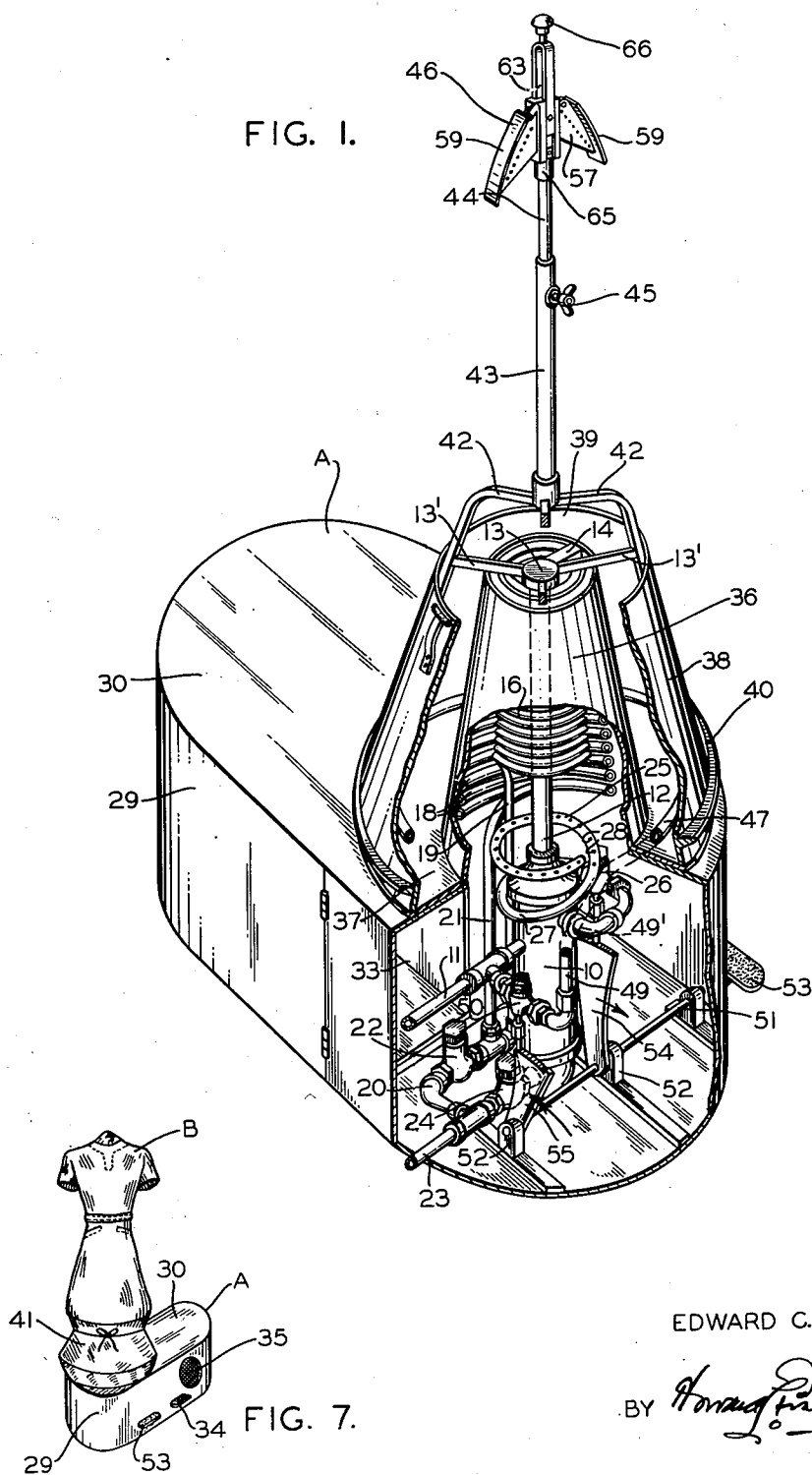
2,587,745

SELECTIVELY OPERATED GARMENT FINISHER

Filed Dec. 18, 1946

4 Sheets-Sheet 1

FIG. 1.



INVENTOR
EDWARD C. MAURER

BY *Howard F. Fisher*

ATTORNEY

March 4, 1952

E. C. MAURER

2,587,745

SELECTIVELY OPERATED GARMENT FINISHER

Filed Dec. 18, 1946

4 Sheets-Sheet 2

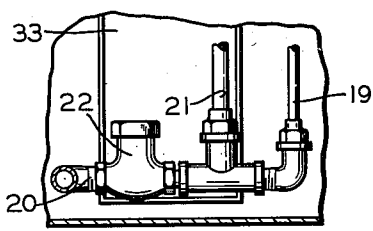


FIG. 3.

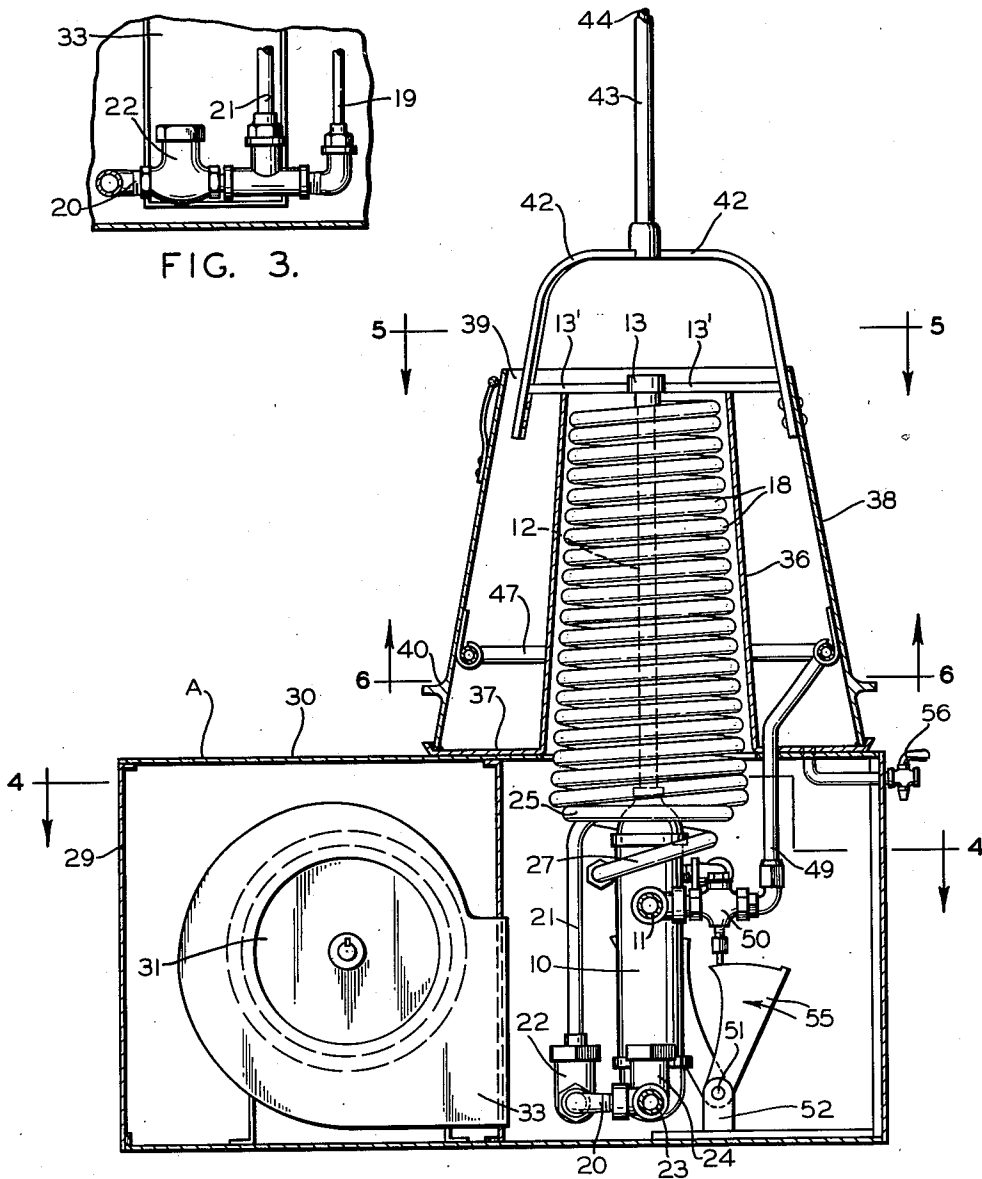


FIG. 2.

INVENTOR
EDWARD C. MAURER

BY *Howard P. Greiner*
ATTORNEY

March 4, 1952

E. C. MAURER

2,587,745

SELECTIVELY OPERATED GARMENT FINISHER

Filed Dec. 18, 1946

4 Sheets-Sheet 3

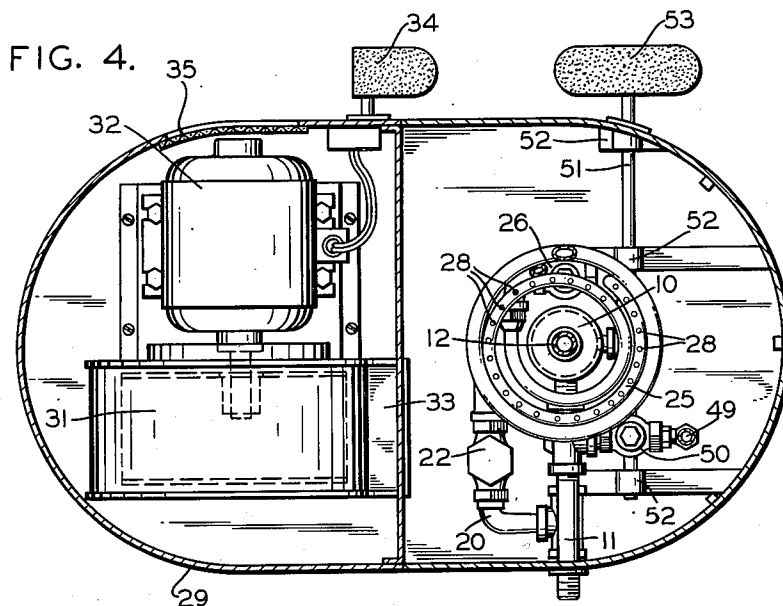
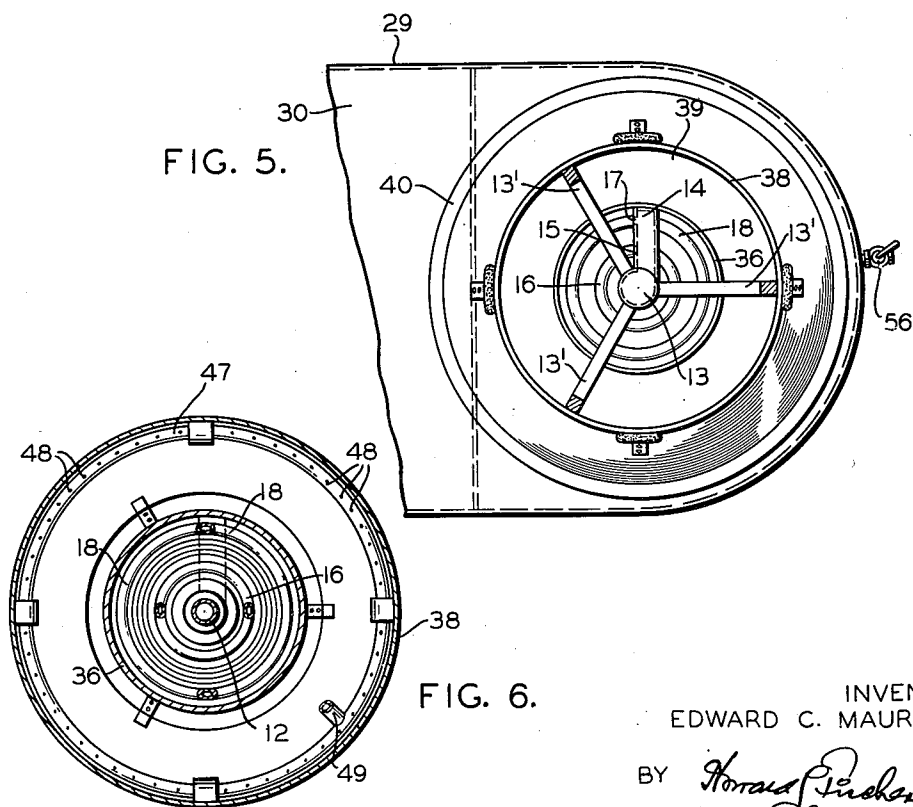


FIG. 6.

INVENTOR
EDWARD C. MAURER
BY *Horace F. Fisher*
ATTORNEY

March 4, 1952

E. C. MAURER

2,587,745

SELECTIVELY OPERATED GARMENT FINISHER

Filed Dec. 18, 1946

4 Sheets-Sheet 4

FIG. 8.

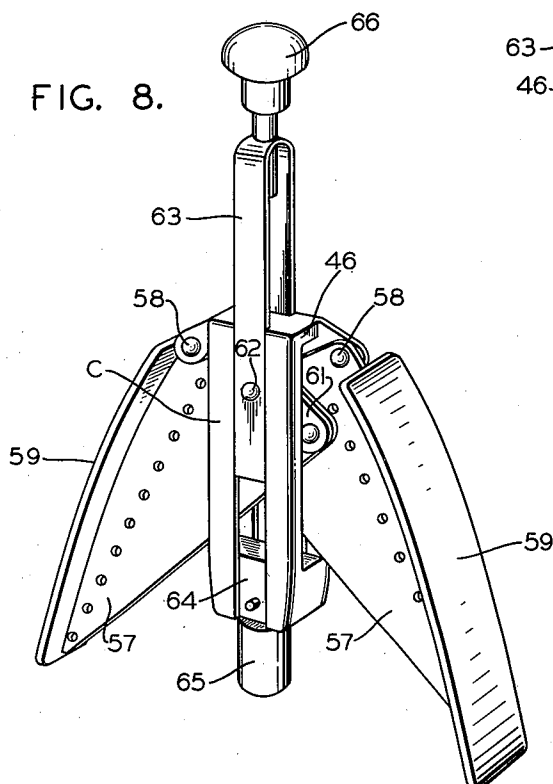
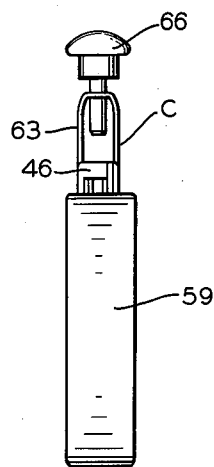
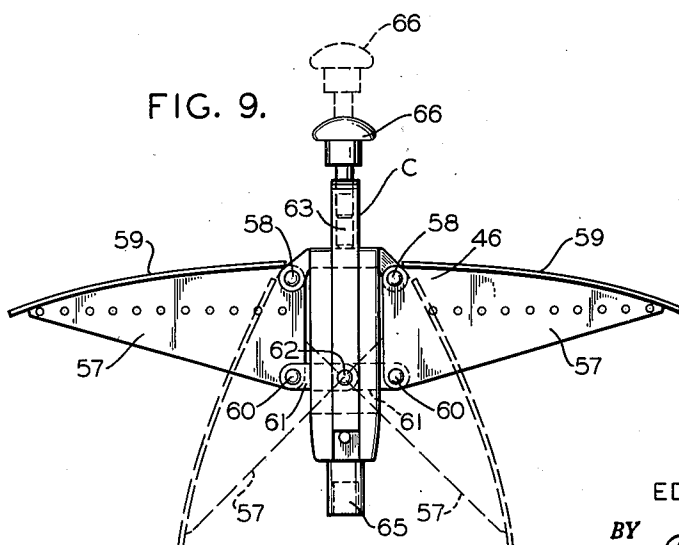


FIG. 10.

FIG. 9.



INVENTOR.
EDWARD C. MAURER

BY

Thomas F. Fisher

ATTORNEY

UNITED STATES PATENT OFFICE

2,587,745

SELECTIVELY OPERATED GARMENT
FINISHER

Edward C. Maurer, St. Paul, Minn.

Application December 18, 1946, Serial No. 716,986

6 Claims. (Cl. 223—70)

1

2

This invention relates to a garment finisher wherein the unit is entirely enclosed and streamlined to provide an adjustable garment support on which the garment to be finished is draped. The different garments require different treatments to finish them in removing the wrinkles after they have been dry cleaned or when it is desired to refinish the garment which removes the wrinkles and places the garment in finished pressed form. Heretofore, garment finishers have been made where steam and air have been employed to finish the garment; however, in these old forms of garment finishers either the steam processing was too wet or too dry and therefore it was not possible to finish garments of a different character on one machine.

A primary feature of my invention is to provide a single unitary machine to supply super-heated dry steam or wet steam or a combination of super-heated dry steam and wet steam which is directed to the garment supported on the finisher in a manner to soften the garment, remove the wrinkles and dry and finish the garment so as to leave it virtually as new.

It is an important feature to provide a garment finisher capable of finishing virtually any kind of a garment irrespective as to the material of the same and thus provide a universal finishing unit for garments which dry cleaners, laundries, and tailors may use to renew the original shape and finish of the garment in an extremely short period of time.

My garment finisher is provided with an adjustable garment support projecting upwardly from the same.

It is also a feature to provide a collapsible garment shoulder support which may be collapsed in placing the garment in position to be finished or in removing the same from the finisher. This collapsible shoulder support for the garment is easily operated and saves time of the operator in placing the garment on the finisher, or removing the garment from the same.

A further object of my invention resides in providing a base in which is enclosed in one compartment an air blower and an electric motor for driving the same. The base portion is divided to receive the air blower and electric motor in one side of the compartment and in the other side of the base I position the bottom portion of my steam coil units. A steam separator chamber forms a part of the steam coil units and is supported in the base. The base also acts as an enclosure to enclose all of the steam pipes and connection valves and operating parts and

thus streamlines the unit in a finished manner with rounded ends making it easy for the operator to work around the unit.

A feature resides in providing a pair of steam coils which consists of inner and outer coils and which may have a conical formation to reduce the size of the same at the top of the coils. I provide a sleeve guard shield over the steam coils to confine them within the axial passageway, which passageway also provides means for directing air from the blower up to the garment supported above the steam unit.

It is a further feature to provide an outer frustro conical jacket spaced from the inner sleeve, closed at the bottom and opened at the top and in the base of which I provide a steam ring having a series of holes in the bottom of the ring out of which saturated steam may be directed.

It is a feature to direct the saturated steam toward the closed bottom of the outer jacket so as to provide an annular chamber in which water may collect from condensing wet steam and which may act to cause the saturated steam to pick up moisture from this chamber and carry it gently up to the garment supported above the jacket. It is important that the saturated steam be directed gently against the garment to avoid undue stretching of the same and yet permit it to be thoroughly moistened which softens the garment so that the wrinkles will disappear from the same whereupon hot air or superheated dry steam may be directed to the garment to finish it.

I provide foot control means for the operator which may be oscillated to direct either superheated steam coming from a steam coil positioned directly below the steam heater coils or to direct wet or saturated steam to the garment or by the same foot operating pedal to mix superheated steam with saturated steam as they rise out of the top of the sleeve and jacket of the unit and thus permit a combination of wet and dry steam to be directed to the garment supported directly above the finishing unit.

It is desirable to provide a cloth form supported by the hanger of the garment finisher over which the garment is draped and which cloth form may be tied in at the bottom or at the waistline if desired in the finishing of certain garments.

These features with other details and objects will be more fully and clearly hereinafter defined. In the drawings forming part of the specification:

3

Figure 1 is a perspective view of my garment finisher, a portion of which is broken away.

Figure 2 is a vertical central section through my garment finisher, the upper portion of the garment support being broken away.

Figure 3 is a detailed view of the exhaust steam pipes and check valve.

Figure 4 is a section taken on the line 4—4 of Figure 2, located in the direction of the arrows.

Figure 5 is a detail plan view taken on the line 5—5 of Figure 2 in the direction of the arrows.

Figure 6 is a section on the line 6—6 of Figure 2 in the direction of the arrows.

Figure 7 is a perspective view of my garment finisher showing the manner in which it is used to finish the garment and illustrating the drawcord for restricting the cloth form to conform with the shape of the garment.

Figure 8 is an enlarged perspective view of the collapsible shoulder garment support in collapsed form.

Figure 9 is a side elevation of my collapsible shoulder garment support in extended position to support a garment.

Figure 10 is a side edge view of my collapsible garment support shown in collapsed form as illustrated in Figure 8.

My garment finisher A is formed with a steam separator chamber 10 at the base into which steam is fed through the pipe 11. The steam separator chamber is a large central member positioned in the base of the unit and is adapted to separate the steam from the condensation and to cause the steam to rise upwardly in the chamber 10.

Projecting from the top of the chamber 10, I provide a steam feed pipe 12 which connects to the manifold 13 at the top thereof. Manifold 13 is held in position by the arms 13'. The manifold 13 has a steam lead 14 which connects at 15 with the top of the inner coil 16. Manifold 13 connects at 17 with the top of the outer coil 18.

The coils 16 and 18 extend upright and may be formed conical with the coil 16 extending within and spaced from the coil 18.

Steam is exhausted from the bottom of the inner coil 16 through the pipe 19 into the exhaust pipe 20. Steam is drawn from the bottom of the outer coil 18 through the exhaust pipe 21 which also connects with the exhaust pipe 20. A check valve 22 is positioned in the exhaust pipe 20.

The bottom of the steam separator chamber 10 is provided with an exhaust pipe 23 into which the pipe 20 is connected and I also provide a check valve 24 in the exhaust pipe 23 adjacent the lower end of the separator chamber 10.

Beneath the coils 16 and 18 is positioned a steam outlet ring 25 which is connected with the steam chamber 10 through the regulating valve 26 and the pipe 27. The operation of the valve 26 will be hereinafter defined. Steam outlet holes 28 are formed in the top surface of the steam outlet ring 25. This permits steam to be directed against the steam superheated coils 16 and 18, and thus steam escaping from the ring 25 will be superheated and thoroughly dried before it passes out from the top of the coils to the garment.

The unit A is provided with a base portion 29 in the form of a steel jacket or housing which is curved on its ends to streamline the same and which is formed with a flat top por-

4

tion 30. The base 29 is divided centrally to provide a compartment for an air blower 31 and an electric motor 32 for operating the blower. The blower 31 and electric motor 32 are positioned in one compartment in the base 29. An air outlet passageway 33 is formed on the blower and motor compartment which allows air to be blown into the compartment which supports the steam separator chamber 10 and out of the top of which the coils 16 and 18 project. Thus the electric motor may be operated by the foot pedal 34 to cause the blower 31 to blow air over the steam chamber 10 and up through the coils 16 and 18. I provide an air intake opening 35 for the blower 31.

To confine the air and steam closely about the coils 16 and 18, I provide a conical open-ended sleeve 36 which extends comparatively close to the outer surface of the coil 18 and which is formed with an annular base channel portion 37 which rests upon and is supported by the top 30 of the base casing member 29. The annular base channel 37 forms a water supporting means extending about the lower end of the sleeve 36.

I provide a frusto conical jacket 38, the bottom edge of which rests in the channel 37 so that the channel closes the bottom of the jacket 38. The jacket 38 is open at the top to provide an annular steam outlet 39 adjacent to the opening at the top of the sleeve 36 and projecting a short distance above the top of the sleeve 36. Spaced from the bottom of the lower edge of the jacket 38, I provide an annular ring member 40 which projects from the wall of the jacket and forms a shoulder over which the cloth form 41 may be secured so that the lower end of the form may be connected about the jacket 38.

Projecting from the top of the jacket 38, I provide a spider support 42 which supports the standard 43 and which in turn adjustably supports the standard rod 44 by means of the thumb screw 45 to properly position the garment hanger on support 46. The garment hanger or support may be preferably in the form illustrated in Figures 8, 9 and 10 wherein the same is collapsible so that the garment may be easily positioned on the finisher or removed therefrom. The detail form of the collapsible garment hanger or shoulder support will be hereinafter more clearly defined.

Located within the bottom portion of the jacket 38 is a steam supply ring 47 which allows wet steam to issue downwardly from holes 48 located in the underside of ring 47. As the steam issues downwardly from the ring 47 it strikes the bottom of the channel 37 and then rises upwardly between the jacket 38 and sleeve 36 to the form 41. The steam is directed downwardly from ring 47 so that there will not be a strong blast of steam upwardly through the form 41. The steam supply ring 47 receives steam from the pipe 49 through the steam control valve 50 which connects with the steam inlet pipe 11. The pipe 49 is broken away at the portion 49' to expose the valve 26 and pipe 27.

Steam is discharged from the ring 47 and some of it will condense in the water channel 37 thus providing a means to further saturate escaping steam out of the ring 47 and cause this saturated steam to rise gently to the garment B supported over the form 41.

Within the base 29, I provide an operating shaft 51 supported by the bearings 52. This

5

shaft extends outside of the casing 29 on one side and is connected to the foot treadle 53. The treadle 53 is adapted to be operated by the person operating the garment finisher A. Upon the shaft 51, I fix a cam member 54 which is adapted to operate the valve 26 to direct steam to the ring 25 out of the holes 28. The shaft 51 also supports the cam 55 which is adapted to operate the valve 50 which directs steam to the ring 47.

When the operator of the machine A presses on the treadle 53 with his heel, he moves the cam 54 in the direction of the arrow in Figure 1, opening the valve 26 and directs steam out of the ring 25, which steam rises over the superheated coils 16 and 18 and is directed to the garment B. When the operator presses on the treadle 53 with his toe, he moves the cam 54 in the opposite direction of the arrow and simultaneously moves the cam 55 in the direction of the arrow in Figure 1, to open the valve 50 and direct steam to the steam supply ring 47. If, however, the operator moves the treadle 53 into a neutral position both valves 26 and 50 are closed. The neutral position is at a central point on each of the cams 54 and 55. If the operator of the machine A desires to obtain a combination of superheated dry steam from the ring 25 and saturated steam from the supply pipe 27, then he operates the foot treadle 53 back and forth getting the desired mixture of steam directed to the garment B. Thus it will be apparent that with my machine A, I provide a combination such as has not been possible heretofore to direct either dry superheated steam to the garment B or dry hot air to the garment by operating the blower 31, or the operator may virtually instantly direct wet steam from the ring 47 to the garment B. Thus I provide a combination machine as a garment finisher wherein the machine may be operated to take care of a wide range of garments made of various materials from delicate lingerie to heavy woolen garments, even those of the overcoat type, all of which may be finished on my machine A in a very short period. Heretofore this was impossible because old forms of machines were not equipped to give this combination. Furthermore, it is important that the operator use the correct character of steam for the particular garment being finished and in any case the garment may be finally dried in its finished form by the operation of the blower to extend hot dry air to the garment.

Leading from the water channel 37, I provide a water drain 56 so that the operator may drain off any surplus water from the channel 37.

My collapsible garment support 48 is supported on the top of the rod 44. This support is formed with a pair of collapsible blades 57 which are pivotally supported at 58. The blades 57 are provided with frame shoulder blades 59 along the top edge of the same against which the garment B or the form 41 is supported at the shoulders.

The blades 57 are pivotally connected at the bottom inner ends at 60 to links 61. The links 61 are pivotally connected centrally at 62 to the operating member 63 which slides up and down in the channel 64. The channel 64 is mounted on a coupling 65 which may be threadedly secured to the rod 44 so as to support the collapsible garment hanger C on top of the rod 44. An operating knob 66 is provided on top of the slidable member 63 so that the operator may engage the same and pull up on it to collapse the hanger C,

6

or to press down on the same to open the hanger in the position illustrated in Figure 9.

The collapsible garment support C provides a means of supporting the garments to my garment finisher A in a very convenient manner, this permits the garments to be removed without catching on the support because the arms or blades 57 are lowered and collapsed into close proximity to the standard 44 as illustrated in Figure 8 when the garment is being removed.

The advantage of my garment finisher will be very apparent because it is adapted to completely finish practically any fabric without shrinking or stretching the same, and owing to the fact that I have provided a means of directing steam of different character to the garment, the operator can finish a garment in a much shorter time than was possible on old form garment finishers which were confined to one process of finishing the garment.

I claim:

1. A garment finisher including a sheet metal base, an electric motor and air blower positioned within said base, a jacket mounted on said base having a closed bottom, a steam supply ring positioned in the lower portion of said jacket having outlets formed in the lower surface thereof adapted to direct steam downwardly to said closed bottom, a sleeve positioned within said jacket and spaced therefrom, superheater steam coils positioned within said sleeve, means for supplying steam to said coils, a steam outlet ring positioned below said coils, means connecting said wet steam ring and said steam outlet ring with the steam supply means and means for selectively directing dry steam or wet steam or hot air from said blower to a garment supported above said jacket to finish the same.

2. A garment finisher comprising an electric motor, a blower adapted to be operated by said motor, a sheet metal base for enclosing said motor and blower, a steam supply compartment formed in said base, a jacket mounted on said base above said steam supply compartment, a supply steam ring positioned in the lower portion of said jacket, a sleeve mounted within and spaced from said jacket, an annular water channel for condensing steam formed between the lower edges of said jacket and said sleeve, steam heater coils positioned within said sleeve, a steam outlet ring for feeding steam over said coils to heat and dry the steam passing over the same, valve means for selectively directing steam to and over said steam heater coils in said sleeve or wet steam from said supply steam ring in the base of said jacket and means for selectively operating said air blower to direct hot air from the top of said steam coils, whereby a garment positioned above said jacket may be finished by softening the same with wet steam and drying the garment with hot air from said coils or heated steam may be directed to the garment before drying it with the hot air from said blower.

3. A garment finisher including an air blower, an electric motor for operating said blower, a case for enclosing said motor and blower, a compartment for steam coils formed in said casing, a pair of vertically positioned steam coils, one within the other, a steam outlet ring for feeding steam over said coils to dry and superheat the same, a sheet metal sleeve surrounding said steam coils, a jacket spaced from said sleeve and surrounding the same, a closed bottom formed in said jacket adapted to provide an annular water channel in the bottom of said jacket for condensing the

7

steam, a steam supply ring positioned above said water channel, a shaft rotatably mounted on the base of said compartment, steam supply lines for feeding steam to said steam outlet ring and said steam supply ring, steam valves in said steam supply lines, cam members secured to said shaft and adapted to open and close said steam valves, foot operating means for actuating said cam members to feed wet steam out of said jacket or heated dry steam issuing from said coils out of said sleeve, means for supporting a garment above said jacket and sleeve, and foot operated means for controlling the operation of said electric motor and blower to direct hot dry air to the garment supported on said finisher.

4. A garment finisher including means for supporting the garment in a manner so that it may be inflated, steam heating coils, a metal sleeve surrounding said coils to confine the heat from said coils, a jacket surrounding said sleeve and spaced therefrom, a closed annular water channel in the bottom of said jacket, a steam ring for supplying wet saturated steam into said jacket, a steam ring for supplying steam at the bottom of said coils to super-heat the steam by said coils as it rises over the same, a collapsible garment support positioned above said jacket and said sleeve to support and finish a garment by removing the wrinkles therefrom, means for supplying hot dry air to the garment being finished, a shaft rotatably mounted on the base of the finisher, steam supply pipes for feeding steam to said steam rings, steam valves positioned in said steam supply pipes, cam members secured to said shaft and adapted to open and close said steam valves, and foot operated means for rotating said shaft.

5. A garment finisher including a base portion, an electric motor and air blower mounted in said base, steam heating coils issuing upwardly from one end of said base, a metal sleeve surrounding said coils to confine the same supported by said base, a jacket for wet steam spaced from and surrounding said sleeve, a steam supply ring secured within said jacket, an annular water channel formed in the base of said jacket below said steam supply ring, a garment supporting

8

standard supported by the top of said jacket, a collapsible garment support adjustably positioned on the top of said standard and means for selectively feeding dry steam from the top of said sleeve or wet steam from the top of said jacket or hot dry air from said blower to the garment supported by said standard, the nature of the steam directed to the garment being controlled by said selective means and determined by the operator in accordance with the material from which the garment is made.

6. A garment finisher including a base compartment, a jacket mounted on said compartment, a sleeve mounted within and spaced apart from said jacket, an annular water channel formed between the lower edges of said sleeve and jacket, a steam supply ring mounted on the lower inner surface of said jacket, steam heating coils mounted within said sleeve, a steam outlet ring positioned below said steam heating coils, means for supplying steam to said steam heating coils, a garment support mounted above said jacket and said sleeve, steam supply lines connected to said steam supply ring and said steam outlet ring, steam valves positioned in said steam supply lines, a pair of shafts rotatably mounted in the bottom of said base compartment, cam members mounted on said shafts adapted to open and close said valves, and foot operated lever means for rotating said shaft.

EDWARD C. MAURER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
176,172	Egleston	Apr. 18, 1876
1,111,147	Fodge	Sept. 22, 1914
1,243,175	Hlubcek	Oct. 16, 1917
2,213,288	Pungor	Sept. 3, 1940
2,214,923	Glover	Sept. 17, 1940
2,273,119	Lichterman	Feb. 17, 1942
2,317,924	Lendle	Apr. 27, 1943
2,410,485	Du Nah	Nov. 5, 1946
2,412,172	Pettit	Dec. 3, 1946