

Nov. 10, 1942.

E. W. PICKETT, JR., ET AL

2,301,227

GARMENT SPOTTING MACHINE

Filed May 14, 1941

3 Sheets-Sheet 1

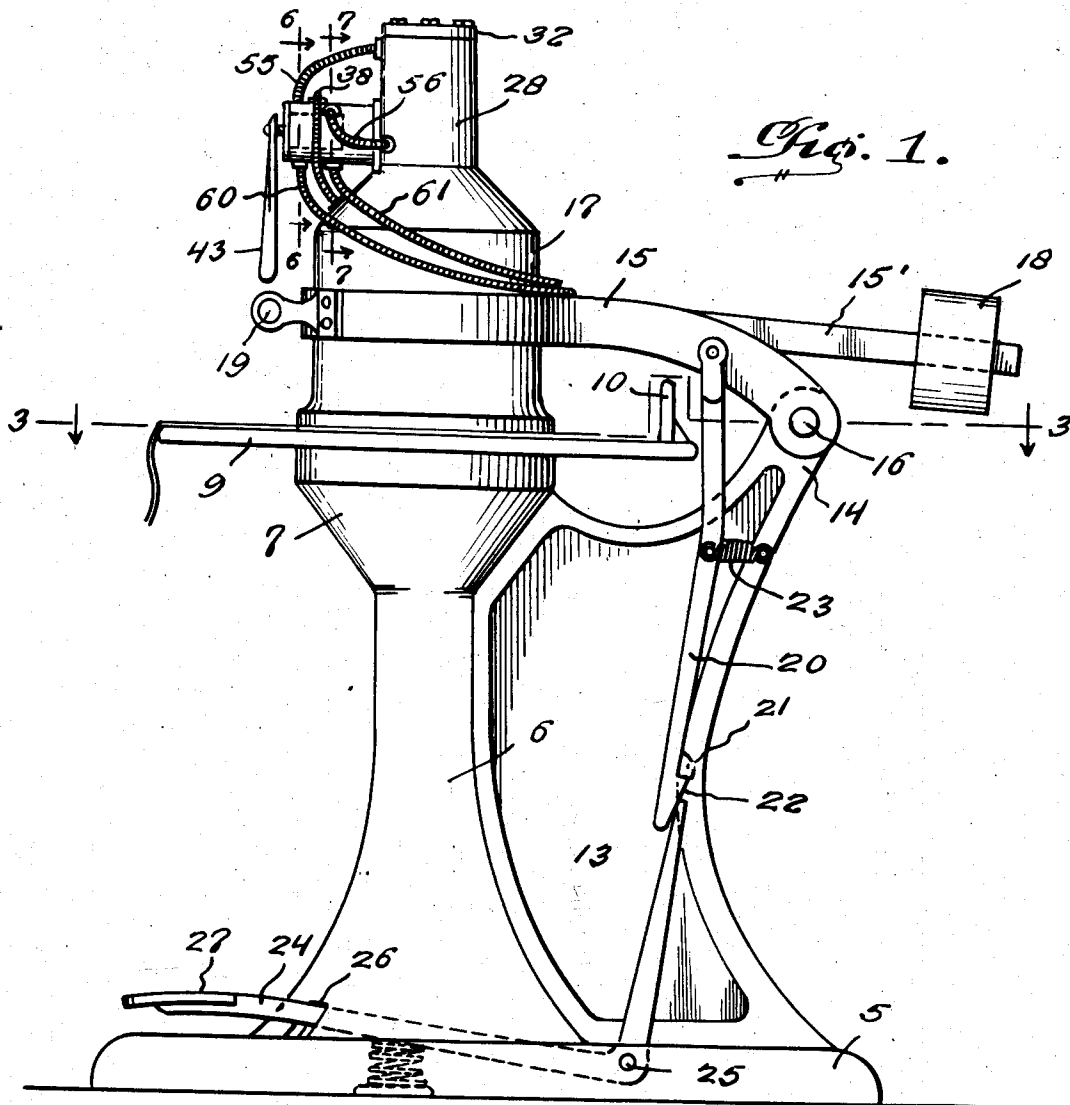


Fig. 1.

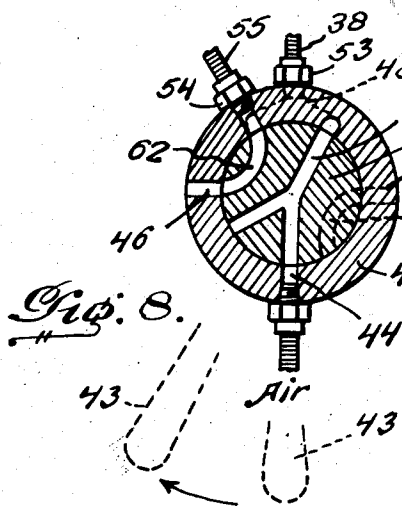


Fig. 8.

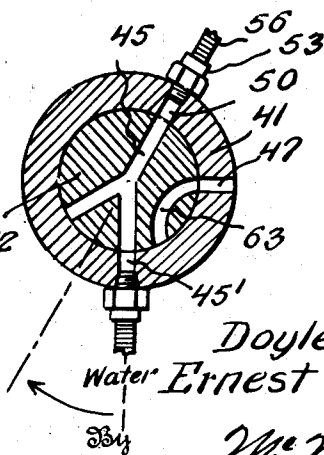


Fig. 9.

Inventors

Doyle E. McMullen,
Ernest W. Pickett, Jr.,

McMorrow & Bellman

Attorneys

Nov. 10, 1942.

E. W. PICKETT, JR., ET AL.

2,301,227

GARMENT SPOTTING MACHINE

Filed May 14, 1941

3 Sheets-Sheet 2

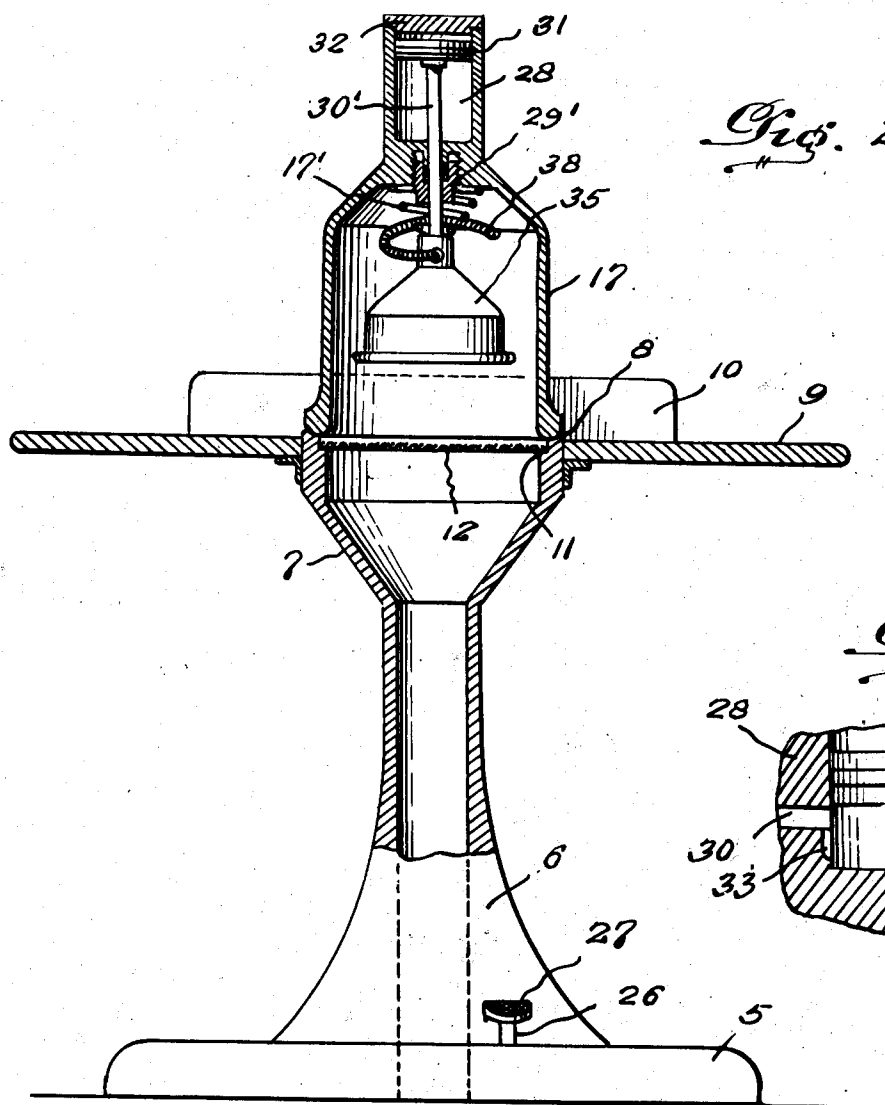


Fig. 2.

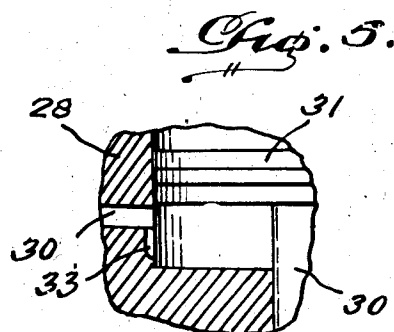


Fig. 5.

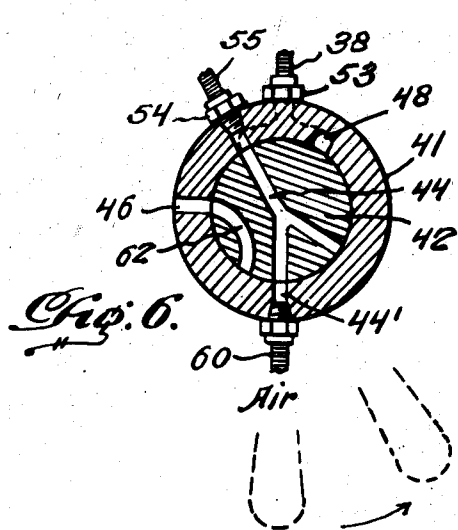


Fig. 6.

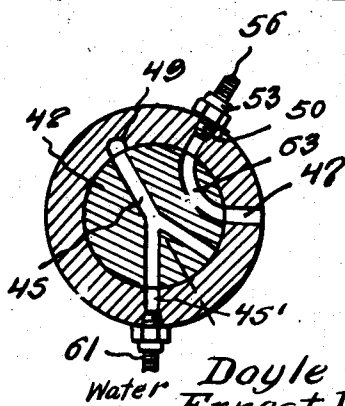


Fig. 7.

Inventors
Doyle E. McMullen,
Ernest W. Pickett, Jr.,

384

McMullen & Bowman
Attorneys

Nov. 10, 1942.

E. W. PICKETT, JR., ET AL

2,301,227

GARMENT SPOTTING MACHINE

Filed May 14, 1941

3 Sheets-Sheet 3

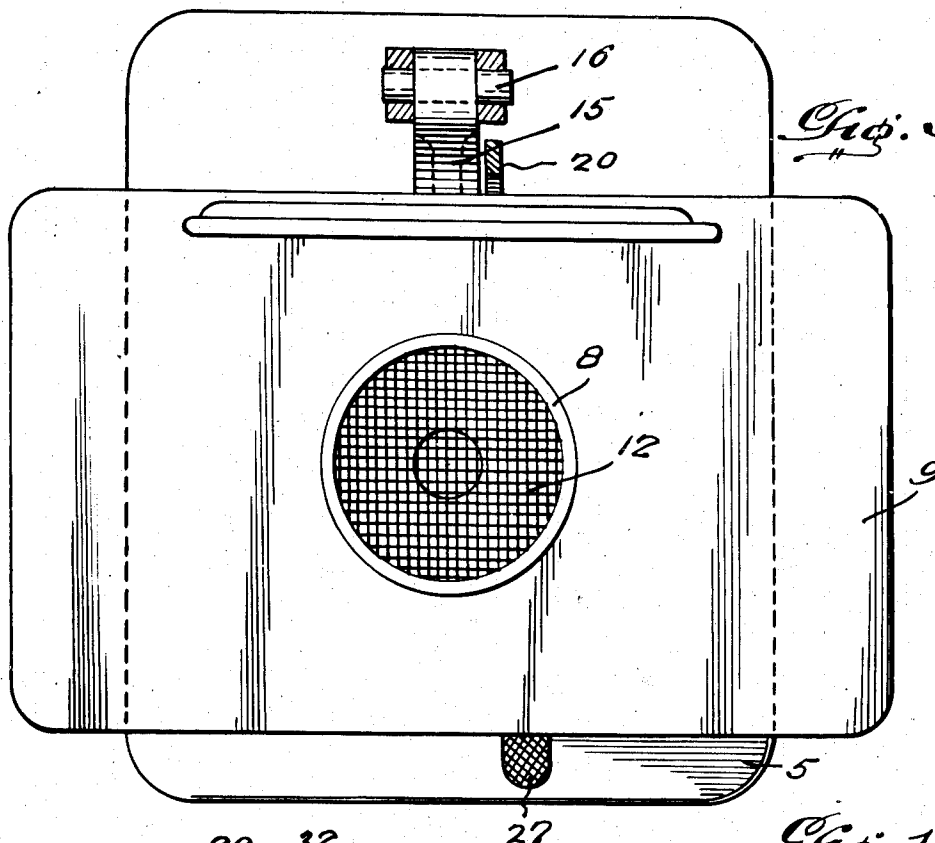


Fig. 3.

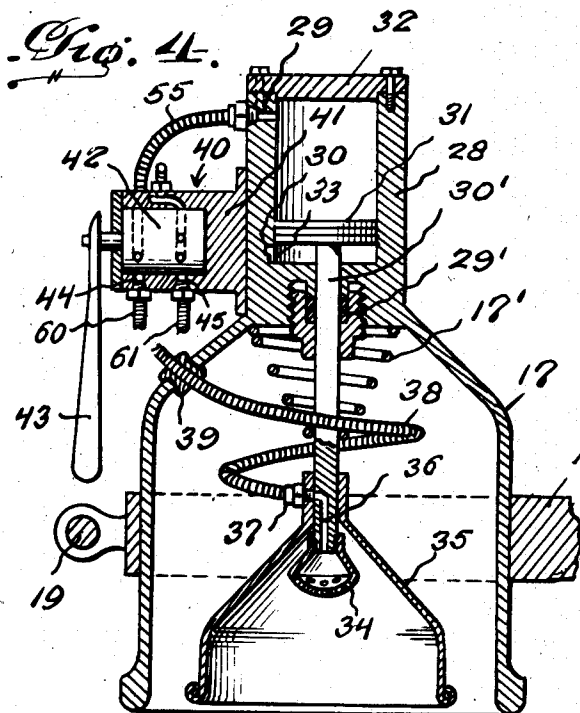


Fig. 4.

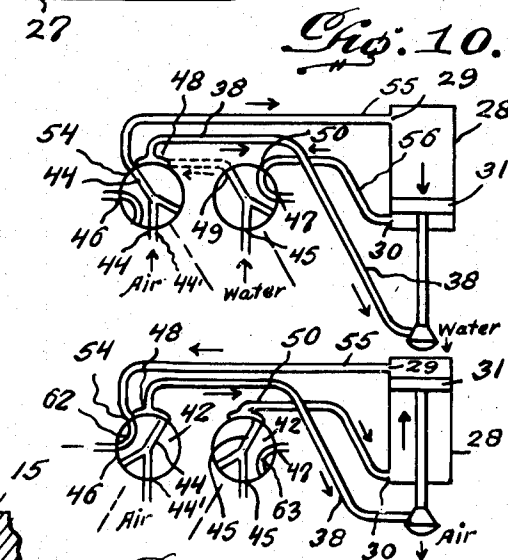


Fig. 10.

Fig. 11.

Inventors
Doyle E. McMullen,
Ernest W. Pickett, Jr.,
By *McMullen and Pickett*
Attorneys

UNITED STATES PATENT OFFICE

2,301,227

GARMENT SPOTTING MACHINE

Ernest W. Pickett, Jr., Liberty, and Doyle E. McMullen, Houston, Tex.

Application May 14, 1941, Serial No. 393,472

4 Claims. (Cl. 68—20)

This invention relates to a garment spotting machine for cleaning and pressing establishments and laundries, and has for the primary object the provision of an efficient and inexpensive device of the above stated character for rapidly and safely removing perspiration and perspiration marks from fabrics of garments after the latter have been dry cleaned to eliminate the practice of washing the entire garment or treating by hand that portion of the garment subject to perspiration with water and a chamois, also may be successfully employed for removing chemicals used in laundering garments to remove rust, grease and other kinds of spots.

Another object of this invention is the provision of a device of the character specified which will be compact, durable and economical to manufacture and will permit a person not necessarily skilled in the art to efficiently and rapidly spot garments as above stated without the danger of injury to the fabrics of the garments through the use of water and air under pressure and independently controlled so that the water may be passed through the garments within a selected area thereof and then blow the water therefrom, eliminating any possibility of water marks appearing in the fabrics of the garments after the operation has been completed.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

For a complete understanding of our invention, reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a side elevation illustrating a garment spotting machine constructed in accordance with our invention.

Figure 2 is a vertical sectional view illustrating the machine.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary vertical sectional view illustrating the means of treating a selected area of a garment with water and air under pressure.

Figure 5 is a fragmentary vertical sectional view illustrating a portion of a cylinder and its exhaust port and showing a part of a piston therein.

Figure 6 is a sectional view taken on the line 6—6 of Figure 1 showing a control valve.

Figure 7 is a sectional view taken on the line 7—7 of Figure 1 showing another or second control valve.

Figure 8 illustrates the control valve positioned for admitting air under pressure to the garment and for exhausting air from the cylinder of the machine.

Figure 9 is a detail sectional view illustrating the other control valve positioned to admit water to the bottom of the cylinder.

Figure 10 is a diagrammatical view illustrating the connections between the valve and the cylinder and the spray head or nozzle.

Figure 11 is a view similar to Figure 10 showing the valve positioned to admit water to the bottom of the cylinder and to exhaust air from the upper end of the cylinder and to admit air under pressure to the spray head or nozzle.

Referring in detail to the drawings, the numeral 5 indicates a base and rising vertically therefrom is a hollow standard 6 terminating into a substantially conical shaped basin 7, the upper edge of which forms a rest 8 for a portion of a garment, the remaining portion of the garment may be supported by a table 9 carried by the basin 7, as clearly shown in Figures 1 and 2. The table 9 adjacent its rear edge is provided with an elongated vertically arranged guard, 10, to prevent the garments from coming in contact with the working parts of the device. The portion of the garment to be treated is located over the basin with the garment resting on the edge 8 of the basin as specified.

The basin adjacent to the edge 8 is provided with an internal shoulder to form a seat 11 for the support of a metallic foraminous disc 12 acting as a support for the fabric of the garment arranged over the basin.

The standard 6 being hollow provides a drain for the basin and the lower end of said standard may be connected to a sewer or the like.

A reinforcing plate 13 is integral with the standard 6, basin 7 and base 5 and is provided with an offset portion 14 acting as a fulcrum for a frame 15, the latter being pivoted on the portion 14, as shown at 16. The frame 15 is of such a construction as to have mounted therein an inverted hood 17, the lower edge of which is coactive with the edge 8 of the basin in clamping the garment onto the basin with a portion of the fabric of the garment overlying the foraminous disc 12.

The frame 15 has a curvature thereto which allows said frame to swing freely over the guard on the table and also integral with the frame is

a rearwardly extending balance arm 15' having adjustable thereon a counterbalance weight 18, the purpose of which is to facilitate the raising and lowering of the frame and the hood carried thereby. A suitable handle 19 is provided on the front portion of the frame to permit the operator to raise and lower the hood 17 with respect to the basin 7. The raising and lowering of the hood by the operator is assisted by the counterbalance weight 18.

A latch arm 20 is pivotally connected to the frame 15 and is coactive with a keeper 21 formed on the reinforcing plate 13 in releasably securing the hood 17 in engagement with the basin 7. The latch arm 20 is equipped with a beveled face 22 to facilitate the latch arm riding over the keeper 21 so that the latter may engage with the shouldered portion of the latch arm.

A coil spring 23 is connected to the latch arm 20 to retain the latter in riding engagement with the keeper 21.

A spring influenced foot lever 24 is pivotally mounted on the base, as shown at 25, and is of substantially L shape. The standard 6 is provided with a slot 26 to allow the treadle portion, indicated by the character 27, to operate exteriorly of the standard and directly over the base 5. The L-shaped foot lever has riding contact with the beveled face 22 of the latch arm so that by depressing the treadle portion the latch arm may be disengaged from the keeper 21 to free the frame for pivotal movement in an upward direction. When the frame 15 is swung downwardly to bring the hood 17 in operating relation to the basin 7, the latch arm moves into engagement with the keeper 21 and releasably secures the hood 17 in the specified position.

Integral with the upper portion of the hood 17 is a cylinder 28 provided with intake and exhaust ports 29 and 30. A suitable passageway is provided between the hood 17 and the lower end of the cylinder 28 and is provided with a stuffing gland 29' to slidably receive a stem 30' of a piston 31 slidable in said cylinder. The upper end of the cylinder is provided with a removable head 32. A groove 33 is provided in the wall of the cylinder 28 between the exhaust port 30 and the bottom wall of the cylinder for the purpose of permitting fluid to by-pass to the exhaust port as the piston moves past the exhaust port or in substantial alignment therewith. This will allow any fluid trapped in the lower portion of the cylinder by the downward movement of the piston with respect to the exhaust port to gradually escape therefrom, consequently providing a fluid cushion for the piston as it nears the limit of its downward stroke.

The stuffing gland 29' prevents fluid leakage between the cylinder and the hood 17. The lower end of the stem 30' of the piston 31 has detachably connected thereto a spray nozzle or head 34 located within a substantially inverted funnel shaped member 35. The lower end of the stem 30' has a passage 36 opening into the spray nozzle or head 34 and also connects with a port in the substantially funnel shaped member 35 to which a fitting 37 is adapted. The fitting 37 detachably connects to the passage 36 a flexible pipe 38 which passes from the hood 17 by way of an opening and has an air tight connection therewith by a suitable packing 39.

A cushioning spring 17' engages with the top wall of the hood 17 and surrounds the stem 30' of the piston, the spring 17' being of the coiled conical type so as to frictionally engage with the

stem 30'. The purpose of the spring 17' is to cushion the upward movement of the piston 31 in the cylinder 28.

A manually actuated control valve mechanism 40 is suitably mounted on the cylinder 28 and includes a housing 41 chambered to rotatably receive a plug type valve element 42 provided with an operating handle 43. The valve element 42 is provided with Y-shaped passages 44 and 45 rendering the valve mechanism 40 of a double two-way valve arrangement. The housing 41 is provided with intake ports 44' and 45'. Also the housing 41 is provided with exhaust ports 46 and 47 and is further provided with outlet ports 48, 49, and 50. The outlet port 48 is of elongated formation and has connected thereto a flexible pipe 38 by a fitting 53. The housing 41 has an outlet port 54 to which is connected a pipe 55 by one of the fittings 53. A pipe 56 is connected to the outlet port 50 by a fitting 53. The pipes 38, 55 and 56 are preferably flexible. The pipe 55 connects with the intake port 29 of the cylinder while the pipe 56 connects with the exhaust port 30 of said cylinder. The inlet port 44 is connected to an air pressure supply (not shown) by a pipe 60, while the inlet port 45 is connected to a water pressure supply by a pipe 61. The port 48 connects with the outlet port 49 as distinctly shown in Figure 10.

The valve element 42 is provided with arcuately curved passages 62 and 63.

The valve element 42 has a cutoff position and two on positions or operative positions. The valve element 42 may be moved into any of the stated positions by actuating the handle 43. When the valve element is in one of its on positions the passage 44 thereof connects the ports 44 and 54 and the passage 45 connects the passages 45 and 49, also connects the curved passage 63 with the ports 47 and 50. The valve element when in this position will allow air under pressure from the source to flow into the upper end of the cylinder 28 and act on the piston 31 to drive the same downwardly bringing the substantially funnel shaped member 35 in close proximity to the portion of the garment overlying the foraminous disc 12 and gripped by the hood 17 and the basin 7 and at the same time water under pressure from the water source will flow to the spray nozzle or head 34 and from the latter through the fabric of the garment positioned over the foraminous disc. The water under pressure passing through the fabric of the garment will remove perspiration therefrom or perspiration marks or stains. At this position of the valve element 42 the lower end of the cylinder is open to the exhaust port 47 so that any fluid in the lower portion of the cylinder may escape.

The valve element 42 when moved into its other operative position connects the passage 44 with the port 48 and the port 44' also the passage 45 will be positioned to connect the port 45' with the port 50. The valve element 42 when in the latter-named operative position will then permit air from the air supply source to flow to the spray nozzle or head and water from the water supply to the bottom of the cylinder for forcing the piston 31 upwardly. The air under pressure escaping from the nozzle or head will completely fill the hood 17 and pass through the fabric of the garment overlying the foraminous disc and drive the water from the fabric so that when the fabric dries it will be free from water marks or stains. At the time that the water enters the lower portion of the cylinder the passage 62 con-

nects with the exhaust port 46 and the port 54 to allow air in the upper portion of the cylinder to escape.

When the valve element 42 is in an off position the passages 44 and 45 thereof do not communicate with any of the ports of the housing, 41.

In operation, the operator elevates the hood 17 and then arranges the selected portion of the garment over the foraminous disc 12. The hood 17 is then lowered to grip the garment or press a portion of the fabric of the garment against the edges of the basin. The valve mechanism is then operated so that air under pressure will force the piston downwardly bringing the spray nozzle or head 34 closer to the fabric to be treated and at the same time admit water under pressure to the spray nozzle for action on the selected area of the fabric so as to cleanse the latter of perspiration or perspiration stains.

After this operation has been carried out for a selected length of time, the valve mechanism is operated to admit fluid to the lower portion of the cylinder to force the piston 31 upwardly and at the same time admit air pressure to the nozzle for driving from the fabric the water used in washing said fabric so that when the fabric dries it will be free of water marks or stains. This same operation is carried out for washing from the fabric chemicals or the like used in removing rust, grease or similar spots.

Thus it will be seen that a very efficient machine has been provided for water spotting selected areas of a garment and which may be successfully operated by persons not necessarily skilled in the art of spotting garments.

The type of work above specified may be rapidly and safely carried out without danger of damage to the fabric of the garment and eliminates the present practice of hand washing of the garment or the washing of the entire garment as frequently done.

While we have shown and described the preferred embodiment of our invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of the invention as claimed.

Having thus described the invention, what we claim is:

1. In a garment spotting machine, a basin for supporting a selected area of a garment to be treated by water under pressure for washing said area of the garment and for treating said area of the garment with air pressure to remove water therefrom, a combined support and drain for the basin, a foraminous member carried by the basin for the support of said area of the garment while under treatment, a frame pivoted on said support, a hood carried by said frame and coacting with the basin in gripping the garment, a latch mechanism for securing the hood in gripping position, a manually operated means for freeing the latch mechanism, a cylinder on said hood, a piston operating in said cylinder and including a stem extending into the hood, a nozzle connected to the stem within the hood, and means for connecting the cylinder at one end to an air pressure source and for connecting the air pressure source to the nozzle and to connect the lower end of the cylinder to a water supply and simultaneously connect said nozzle to the air supply.

2. In a garment spotting machine, a basin for supporting a selected area of a garment to be treated by water under pressure for washing said

area of the garment and for treating said area of the garment with air pressure to remove water therefrom, a combined support and drain for the basin, a foraminous member carried by the basin for the support of said area of the garment while under treatment, a frame pivoted on said support, a hood carried by said frame and coacting with the basin in gripping the garment, a latch mechanism for securing the hood in gripping position, a manually operated means for freeing the latch mechanism, a cylinder on said hood, a piston operating in said cylinder and including a stem extending into the hood, a nozzle connected to the stem within the hood, and a manually actuated valve mechanism for connecting one end of the cylinder to an air supply and simultaneously connecting the nozzle to a water supply and for connecting the other end of the cylinder to the water supply and simultaneously connecting the nozzle to the air supply.

3. In a garment spotting machine, a basin for supporting a selected area of a garment to be treated by water under pressure for washing said area of the garment and for treating said area of the garment with air pressure to remove water therefrom, a combined support and drain for the basin, a foraminous member carried by the basin for the support of said area of the garment while under treatment, a frame pivoted on said support, a hood carried by said frame and coacting with the basin in gripping the garment, a latch mechanism for securing the hood in gripping position, a manually operated means for freeing the latch mechanism, a cylinder on said hood, a piston operating in said cylinder and including a stem extending into the hood, a nozzle connected to the stem within the hood, and a manually actuated valve mechanism for connecting one end of the cylinder to an air supply and simultaneously connecting the nozzle to a water supply and for connecting the other end of the cylinder to the water supply and simultaneously connecting the nozzle to the air supply, and a cushioning spring for the cushioning of the movement of the piston in one direction.

4. In a garment spotting machine, a basin for the support of a selected area of a garment, a combined support and drain for said basin, a foraminous element carried by said basin to be engaged by said area of the garment while under treatment, a frame pivoted on said support, a hood carried by said frame and coacting with the basin in gripping the garment, a table mounted on the exterior of the basin for the support of the garment, a cylinder on said hood, a piston operating in said cylinder and including a stem extending into said hood, a nozzle connected to the stem, cushioning means for the piston movement in one direction, means for connecting one end of the cylinder to an air pressure supply and the other end to a water supply and for connecting the nozzle to said water and air supplies and including a manually actuated valve mechanism whereby air pressure may be admitted to the cylinder to act on the piston and simultaneously admit water to the nozzle or to admit water to the other end of the cylinder for action on the piston and simultaneously admit air to said nozzle, and a substantially funnel-shaped member having the nozzle arranged therein and carried by the stem of the piston.

ERNEST W. PICKETT, JR.
DOYLE E. McMULLEN.