

E. C. GREVER.
GARMENT PRESSING MACHINE.
APPLICATION FILED FEB. 7, 1910.

979,844.

Patented Dec. 27, 1910.

3 SHEETS—SHEET 1.

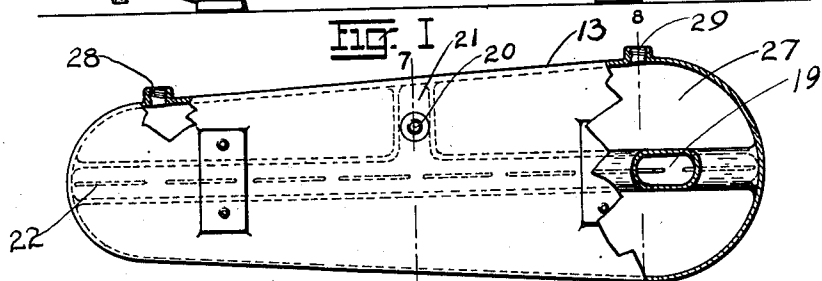
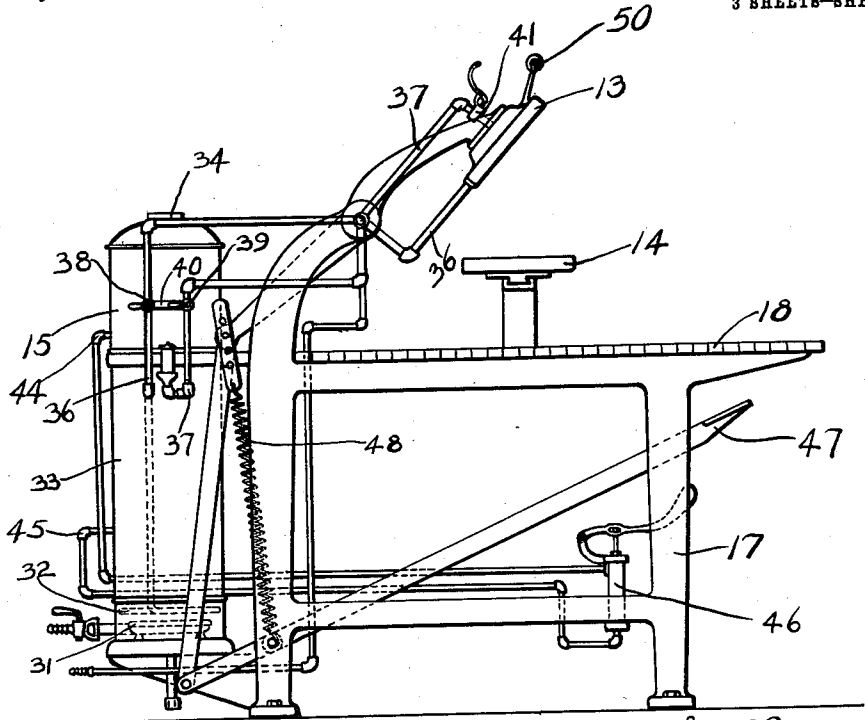


FIG. 2

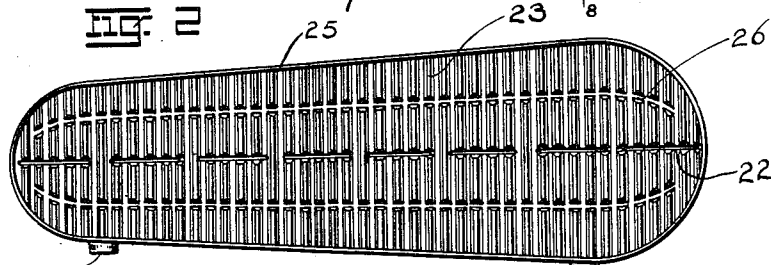


FIG. 3

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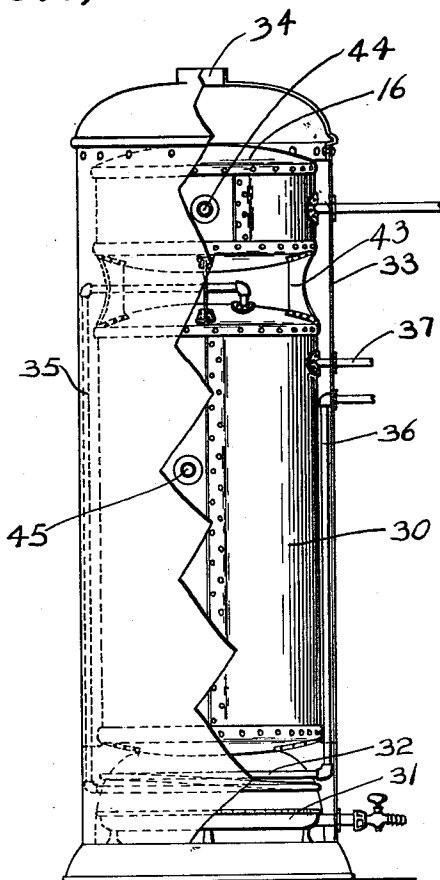


FIG. 4

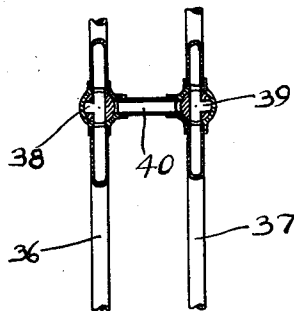


FIG. 5

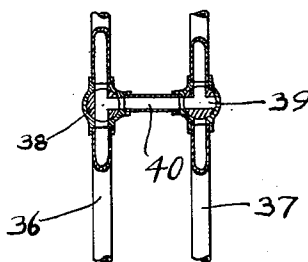


FIG. 6

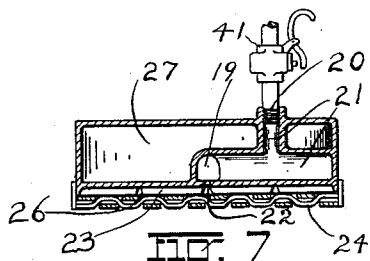


FIG. 7

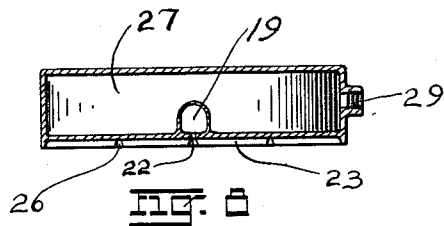


FIG. 8

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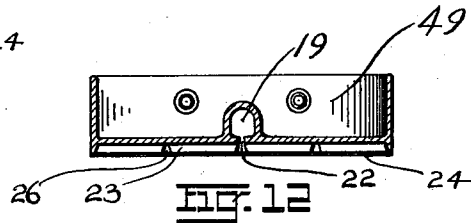
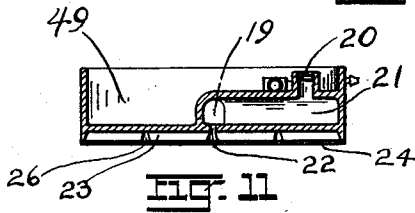
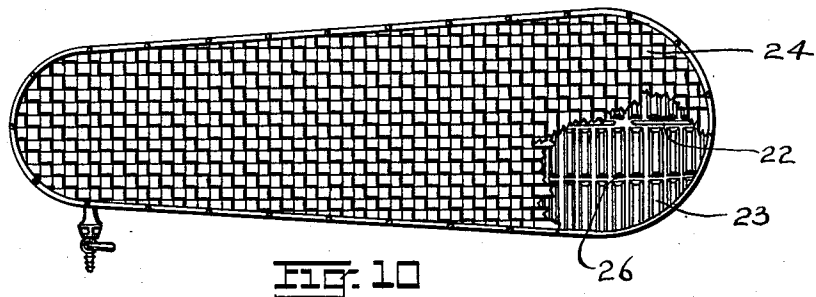
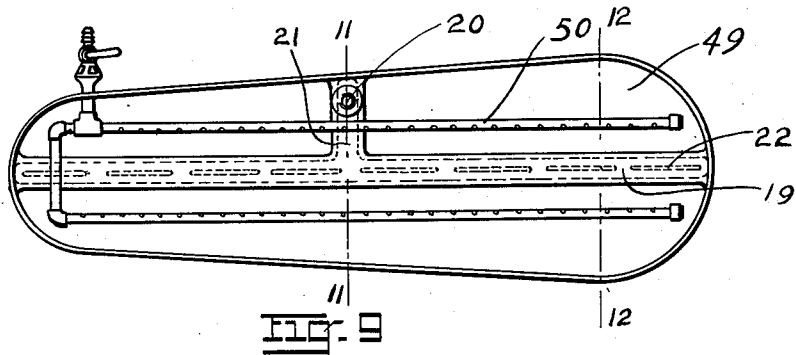
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UNITED STATES PATENT OFFICE.

EDWARD C. GREVER, OF CINCINNATI, OHIO.

GARMENT-PRESSING MACHINE.

979,844.

Specification of Letters Patent.

Patented Dec. 27, 1910.

Application filed February 7, 1910. Serial No. 542,400.

To all whom it may concern:

Be it known that I, EDWARD C. GREVER, a citizen of the United States of America, and resident of Cincinnati, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Garment-Pressing Machines, of which the following is a specification.

My invention relates to garment pressing machines, and particularly to the type of machine in which the garment is simultaneously moistened and pressed.

An object of this invention is to produce a pressing machine in which means are employed for supplying either live or super-heated steam to the garment, during the pressing operation.

A further object is to produce a boiler provided with improved means for generating live and super-heated steam, and for supplying the steam so generated to the pressing head of the pressing machine. I employ the term "live steam" in contradistinction to "super-heated steam," and mean by it wet or saturated steam, which has not been super-heated.

A further object is to produce a pressure head for pressing machines, in which improved means are employed for distributing the steam or heating fluid over the pressing surface of the head.

These and other objects I attain in a machine embodying the features herein described and illustrated.

In the drawings accompanying this application and forming a part thereof, Figure 1 is a side elevation of an embodiment of my invention and discloses a pressing machine in connection with an improved boiler. Fig. 2 is a plan view, a portion being broken away, and shown in section, of a pressing head embodying my invention. Fig. 3 is a plan view, showing the underside of the pressing head shown in Fig. 2. The diffusing screen and cloth covering for the screen are removed in Fig. 3. Fig. 4 is an elevation of an improved boiler, which forms a detail of my invention. A portion of the boiler casing is shown broken away for convenience of illustration. Figs. 5 and 6 are sectional views of a portion of piping, which forms a detail of my invention. Fig. 7 is a section along the line 7-7 of Fig. 2, but with the steam pipe and admission valve shown in place. Fig. 8 is a section along the line 8-8 of Fig. 2. Fig. 9 is a plan view of

a modified construction of a pressing head, and forms an embodiment of my invention. Fig. 10 is an inverted plan view of the head shown in Fig. 9. Fig. 11 is a section along the line 11-11 of Fig. 9 and Fig. 12 is a section along the line 12-12 of Fig. 9.

In the drawings, I have illustrated a pressing machine, which consists of a pressing head 13, a cooperating pressing block 14, a steam generating apparatus 15, for delivering both live and super-heated steam to the pressing head, and a feed water heater 16 utilizing the excess of heat delivered to the boiler.

The pressing head 13 and the block 14 are mounted on a frame 17, the block 14 being secured to a work table 18. The pressing head 13 is of the usual form and is provided with a steam delivery passage 19, extending centrally the entire length of the head and communicating with an admission port 20, through a branch passage 21. Delivery apertures or slots 22 are formed in the head 13, along the passage 19, and are adapted to deliver steam to the pressing surface of the head. A series of transversely extending ridges 23 are formed on the head, for the purpose of aiding in distributing the steam over the pressing surface. The diffusing screen 24 is secured to the pressure head and is located on the ridges 23 above the channels 25, which extend laterally on each side of the passage 19 and communicate with the series of slots 22. The ridges 23 are slotted at 26 on each side of the slots 22, to form additional means of communication between adjacent channels. With this arrangement, a thorough distribution of the steam is obtained over the entire surface of the screen 24, the screen being provided with passages, which deliver the steam to the garment during the operation of pressing.

A heating chamber 27 is provided within the head 13, adjacent to the ridges 23 and around the passage 19. This chamber is adapted to be supplied with super-heated steam through the inlet port 28. A port 29 also communicates with the chamber 27 and is adapted to deliver the water of condensation from the chamber.

The steam generating apparatus 15, as illustrated in Fig. 4, consists of a cylindrical tank or generating chamber 30, a gas burner 31 located below the tank, super-heating coils 32 located between the burner and the tank, and a casing 33 which incloses the

burner, the tank, the super-heating coils and the feed water heater 16. The casing is provided at its top with a vent port 34 for the fumes, which may be connected with a vent pipe. The gas burner is of any suitable construction and may receive gas from any suitable source. The super-heating coils 32 communicate with the upper end of the tank 30, through piping 35, and deliver super-heated steam through piping 36. The piping 36 connects with the port 28 of the heating chamber 27 in the pressing head. Suitable connections and joints are, of course, provided to permit the pressing head to be moved from its operative to its inoperative position.

Wet or saturated steam is delivered to the port 20 of the pressing head, through piping 37, which communicates with the generating chamber 30. A three-way valve 38 is provided in the pipe 36 and the casing of this valve communicates with the casing of the three-way valve 39, located in the piping 37, through a short pipe 40. The valves 38 and 39 are so arranged that the supply of live steam to the passage 19 on the pressing head may be cut off, and super-heated steam delivered thereto.

In Fig. 5 I have illustrated the position of the valves in delivering live steam, through the piping 37, to the passage 19, and super-heated steam through the piping 36 to the heating chamber 27.

In Fig. 6 I have illustrated the position of the valves in delivering super-heated steam to both the passage 19 and the chamber 27. The valve 39 is turned to close direct communication with the tank 30, and to put the passage 19 into connection with the piping 36, through the short pipe 40. The valve 38 is turned so that the steam delivered from the super-heater is divided into two streams, one of which continues through the piping 36, and the other of which is delivered through the pipe 40 and a portion of the piping 37 to the passage 19. The piping 37, like the piping 36, is provided with suitable connections, which permit the pressing head to be moved to and from the operative and inoperative positions. A whistle valve, or any other suitable type of valve, 41 is provided in the piping 37, convenient to the hand of the operator, and is adapted to shut off the supply of steam, through the passage 19, to the diffusing screen 24, when the pressing head is in the inoperative position.

The feed water heater 16 is supported by the tank 30, within the casing 33, and is elevated above the tank by means of brackets 43. This construction permits the tank to be subjected on all sides to the heat and hot fumes within the casing 33. The feed water is delivered to the tank 30 through piping which communicates with a port 44, provided in the heater, and a port 45, provided

in the tank 30. The temperature of the feed water at the time of delivery to the tank is practically that of the water in the tank. An injector pump 46 is located on the frame 17 of the pressing machine, and is adapted to force water from any suitable source into the boiler heater.

The operation of the apparatus is as follows: When it is desired to deliver saturated steam to the cloth to be pressed, the valves 38 and 39 are turned, as shown in Fig. 5. This delivers super-heated steam to the heating chamber 27, for the purpose of heating the pressing head and maintaining the temperature of the steam delivered through the slots 22 to the diffusing screen, and through the screen to the cloth to be pressed. After the garment or cloth is in place on the pressing block 14, the operator moves the pressing head 13 to position, by means of a handle 50 and then holds the head in position by means of a foot lever 47, while the valve 41 is opened, to deliver steam to the garment. When pressure is removed from the lever 47, the head is raised to the inoperative position, by means of a coiled spring 48, the flow of steam through the pipe 37 being shut off when the valve 41 is released. If, for the purpose of renovating, it is desired to deliver super-heated steam to the cloth or garment to be pressed, the valves 38 and 39 are turned to the position shown in Fig. 6, and super-heated steam is delivered both to the heating chamber 27 and the pressing surface of the pressing head. The remainder of the operation of pressing is similar to that described above.

In Figs. 9, 10, 11 and 12, I have shown a modified form of pressing head. The heating chamber 27, to which super-heated steam is delivered, is replaced in the modification by a chamber 49, in which a gas burner 50 is located. The gas burner is of the Bunsen type and consists of two long perforated pipes, which extend along the length of the pressing head and are located on each side of the steam delivery chamber 19. The perforations in the pipes are so arranged that the flames will be projected on to the walls of the chamber 49, adjacent to the ridges 23 and around the passage 19. With this arrangement, the temperature of the steam delivered by the passage 19 is maintained and the pressing head is heated. The chamber 49 may be inclosed by a strip of sheet iron secured to the pressing head, or in any other suitable manner.

What I claim is:

1. In a pressing machine, a pressing head provided with a fluid delivery passage, and a series of slots communicating with said passage, ridges formed integrally with said head and located on each side of said slots, a diffusing screen secured to said head and cooperating with said ridges to form trans-

versely extending steam delivery channels, and a heating chamber provided in said head located adjacent to said ridges and around said fluid delivery passage.

- 5 2. In combination in a garment pressing machine, a pressing head, a fluid delivery passage provided in said head, a heating chamber, a boiler for delivering saturated steam to said fluid delivery passage and

super-heated steam to said heating chamber, 10 and valves for shutting off the supply of saturated steam to said delivery passage and for delivering the super-heated steam thereto.

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