H. E. CHASE.

GARMENT PRESSING MACHINE.

APPLICATION FILED SEPT. 4, 1917.

1,304,853.

Patented May 27, 1919.

Fig. 1.

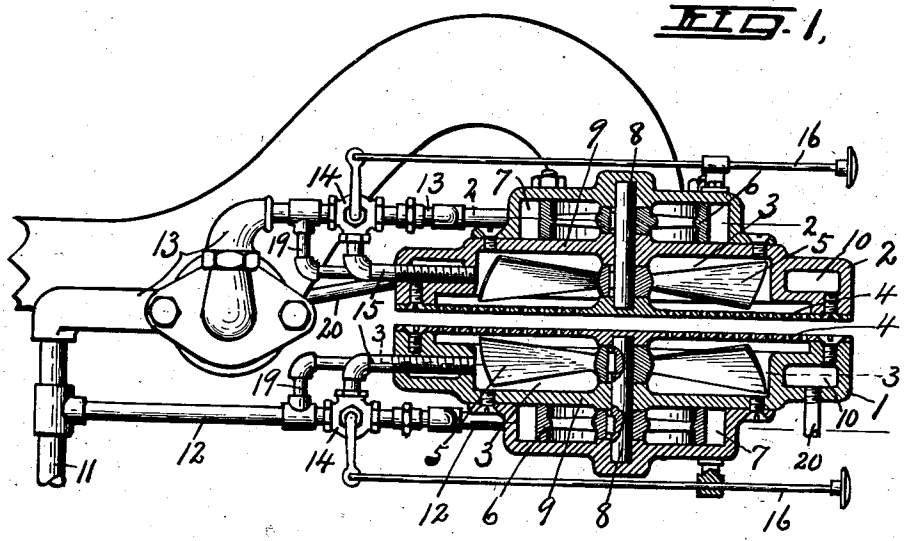


Fig. 2.

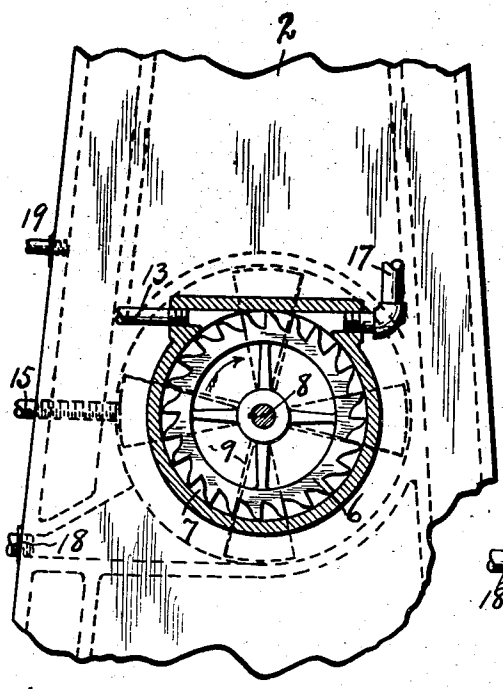
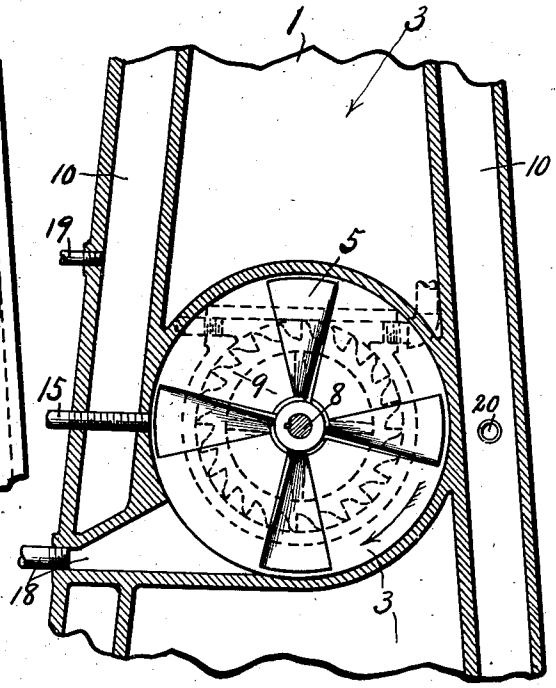


Fig. 3.



WITNESSES:

A. W. Hurst.

INVENTOR

H. E. Chase

UNITED STATES PATENT OFFICE.

HERSCHEL E. CHASE, OF SYRACUSE, NEW YORK, ASSIGNOR TO UNITED STATES HOFFMAN MACHINERY COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF DELAWARE.

GARMENT-PRESSING MACHINE.

1,304,853. Specification of Letters Patent. Patented May 27, 1919.

Application filed September 4, 1917. Serial No. 189,546.

To all whom it may concern:

Be it known that I, HERSCHEL E. CHASE, a citizen of the United States of America, and resident of Syracuse, in the county of Onondaga and State of New York, have invented new and useful Improvements in Garment-Pressing Machines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in garment pressing machines in which the garment is subjected to moisture, pressure and heat in one and the same operation, the moisture serving to soften the garment and render it more pliable and susceptible to shaping by pressure, such pressure being applied for the purpose of imparting and fixing the desired shape to the garment while the heat facilitates the drying and setting of the shape thereof.

This moisture is preferably furnished by steam admitted to the garment under pressure through a pervious plate, pad or cloth forming the pressing side of one or both of the pressing elements, said steam being in a more or less rarefied state and is admitted to the garment for an instant only or in short blasts controlled by a valve so as to prevent saturation of said garment.

Immediately following this operation and while the garment is still in the machine, the excess steam or moisture is withdrawn by a suction device and conveyed to a soil pipe or to the exterior of the building in order to avoid the presence of such steam in the room where the machine is located.

My invention refers more particularly to the suction device for withdrawing the excess steam from the garment, the object being to incorporate such device within one or both of the pressing elements without materially increasing the size or weight thereof or otherwise interfering with the operation of the machine in the usual manner.

Another object is to bring this suction device or devices as close to the garment as possible so as to increase its efficiency and reduce the power necessary to operate the same, and at the same time concealing the same within the area of its corresponding pressing element, thereby economizing in space and avoiding complications of parts.

A further object is to operate the suction device by a steam-driven motor mounted upon and preferably within the area of the corresponding pressing element so that the same steam which supplies the moisture may also be used for operating the motor.

Other objects and uses relating to specific parts of the device will be brought out in the following description.

In the drawings—

Figure 1 is a transverse vertical sectional view through the pressing elements showing a portion of the rocking support for the upper element or head, and also showing the suction devices and their operating motors.

Fig. 2 is a horizontal sectional view taken in the plane of line 2—2, Fig. 1, showing more particularly one of the motors.

Fig. 3 is a horizontal sectional view taken in the plane of line 3—3, Fig. 1 showing more particularly the suction device in the buck.

In order that my invention may be clearly understood without unnecessary illustration, I have shown portions of a buck —1— and superposed press head —2—, constituting the pressing elements, of substantially the same pressing area and each provided with a chamber —3— and pervious press plates —4— forming their adjacent sides and also the corresponding sides of the respective chambers —3— which, therefore, communicate with the garment space between said elements.

That is,—each chamber —3— is in more or less open communication with the garment space through an opening or openings in the side adjacent the opposed pressing element so that any steam which may be introduced into either chamber may be distributed over and upon the garment.

These chambers also serve to receive separate suction devices, as rotary fans —5—, journaled therein wholly within the area of their respective pressing elements and adapted to be driven by separate motors —6— of the turbine type which are located in isolated chambers or housings —7— forming parts of their respective pressing elements —1— and —2—.

Each suction device or fan —5— is connected coaxially to its operating motor —6— by a shaft —8— which is journaled in a partition —9— dividing the chambers

—3— and —7— one from the other, thereby bringing said suction fan and its motor into close relation wholly within the area of its pressing element with the suction fan close to the corresponding perforated plate —4— and, therefore, in close juxta-position to the garment, thereby increasing the efficiency of said suction device in withdrawing the moisture from the garment after the pressing operation, or in removing dust from the garment preparatory to pressing.

Each chamber —3— may, therefore, be regarded as a combined steam chamber and suction chamber, but in addition each pressing element is provided with a heating chamber —10—, preferably heated by steam to keep said elements at the proper temperature for accelerating the drying of the garment.

Suitable means is provided for supplying steam to the various chambers consisting, in this instance, of a main supply pipe —11— which may be connected to any available source of supply.

Connected to this supply pipe —11— are two branch pipes —12— and —13— leading, respectively, to the motor chambers —7— of the pressing elements —1— and —2— for supplying steam thereto to operate the corresponding motors —6—, each branch pipe being provided with a three-way valve —14— for controlling the flow of steam to said motors, one of the ways of each valve being connected by a pipe —15— to the chamber —3— of the corresponding pressing element to supply steam thereto for moistening the garment from one side or the other, or both sides, as may be desired, the other two ways of each valve serving to supply steam directly to the corresponding motors for driving the same.

Each valve is normally closed and is provided with an operating member —16— within easy reaching distance of the operator so that when moved to one position, it will allow steam to enter the corresponding chamber —3— for moistening the garment, and at the same time prevent the entrance of steam to the motor chamber, but when moved to another position will cut off the supply of steam to the chamber —3— and will admit steam to the motor chamber for operating said motor and suction device —5— driven thereby to withdraw steam from the garment.

The steam inlets —12— are preferably tangential to the corresponding motors —6— so as to impinge against the wings thereof, each motor chamber being also provided with a tangential exhaust or outlet pipe —17— which may lead to any soil or waste pipe, or to the exterior of the building if desired.

The portion of the chamber —3— in which the suction fan —5— is located is preferably circular and provided with an outlet —18— which may also lead to the soil or waste pipe, not shown.

The heating chambers —10— are connected by separate pipes —19— to the branch pipes —12— and —13—, respectively, at points between the corresponding valves —14— and main feed pipe —11— so as to constantly supply steam to said chambers even though the valves —14— may be closed, said chambers —10— being also provided with drain pipes —20— to remove any water of condensation which may accumulate therein, it being understood that these drain pipes would be provided with normally closed valves, not shown, to prevent the continuous flow of the steam therefrom.

In operation, assuming that the press head —2— is raised, the garment is first spread out upon the upper surface of the buck —1— in suitable manner for pressing, after which the press head is forced to its pressing position by any of the well-known mechanisms commonly employed for this purpose, and not necessary to herein illustrate or describe, whereupon one of the valves —14—, as may be desired, may be adjusted for an instant by its operating member —16— to admit a blast of steam into the corresponding chamber —3— from which it is distributed through the perforated plate —4— to the garment for moistening purposes the valve being closed after this introduction of steam to the garment and as soon as the garment has been subjected to the desired amount of pressure and heat by the pressing elements, the same or the other valve may be again adjusted to admit steam to the corresponding motor chamber —7— for operating the motor —6— and its suction fan —5—, and thereby withdrawing the steam and moisture from the garment, the effect of which is to instantly dry and cool the same, the excess steam and moisture being forced through the outlet —18— to the place of discharge, usually away from the machine, to the soil pipe or to the exterior of the building so as to avoid the presence of steam in the room in which the machine is located.

Either of these suction devices located in the manner described so as to act more directly upon the garment produces a maximum degree of efficiency in removing the steam and cleansing the garment from dust, while the location of the motors in close proximity to the fans enables the latter to be operated with a minimum amount of power, all of which, together with the compact arrangement of the suction device within the steam-distributing chambers of the pressing elements, is highly desirable in this class of machines.

What I claim is:

1. The combination with a garment pressing machine having means for supplying moisture to a garment between the pressing elements, of mechanical means within one of the pressing elements for removing said moisture.

2. The combination with a garment pressing machine having means for supplying steam to a garment between the pressing elements, of steam-actuated means within one of the pressing elements for removing the steam and its moisture of condensation from the garment after the first named steam-supply is shut off.

3. The combination with a garment pressing machine having one of its pressing elements provided with a steam chamber communicating with the space between said elements and means for supplying steam to said chamber for moistening the garment under pressure, of a rotary fan within said chamber for expelling the steam therefrom, and means for operating the fan.

4. The combination with a garment pressing machine having one of its pressing elements provided with a steam chamber communicating with the space between said elements and means for supplying steam to said chamber for moistening the garment under pressure, of a steam-driven rotary fan mounted in said chamber for removing the steam therefrom.

5. In a garment steaming and pressing machine of the character described, a hollow press-head having a perforated press-plate and a rotary fan within said head and adjacent the press-plate.

In witness whereof, I have hereunto set my hand this 31st day of August, 1917.

HERSCHEL E. CHASE.

In presence of—
M. VIOLA HOWLAND,
ALICE M. CANNON.