July 12, 1927. 1,635,616

W. F. HAACKE

PRESSING MACHINE

Filed Oct. 13, 1925 2 Sheets-Sheet 1

Fig. 1.

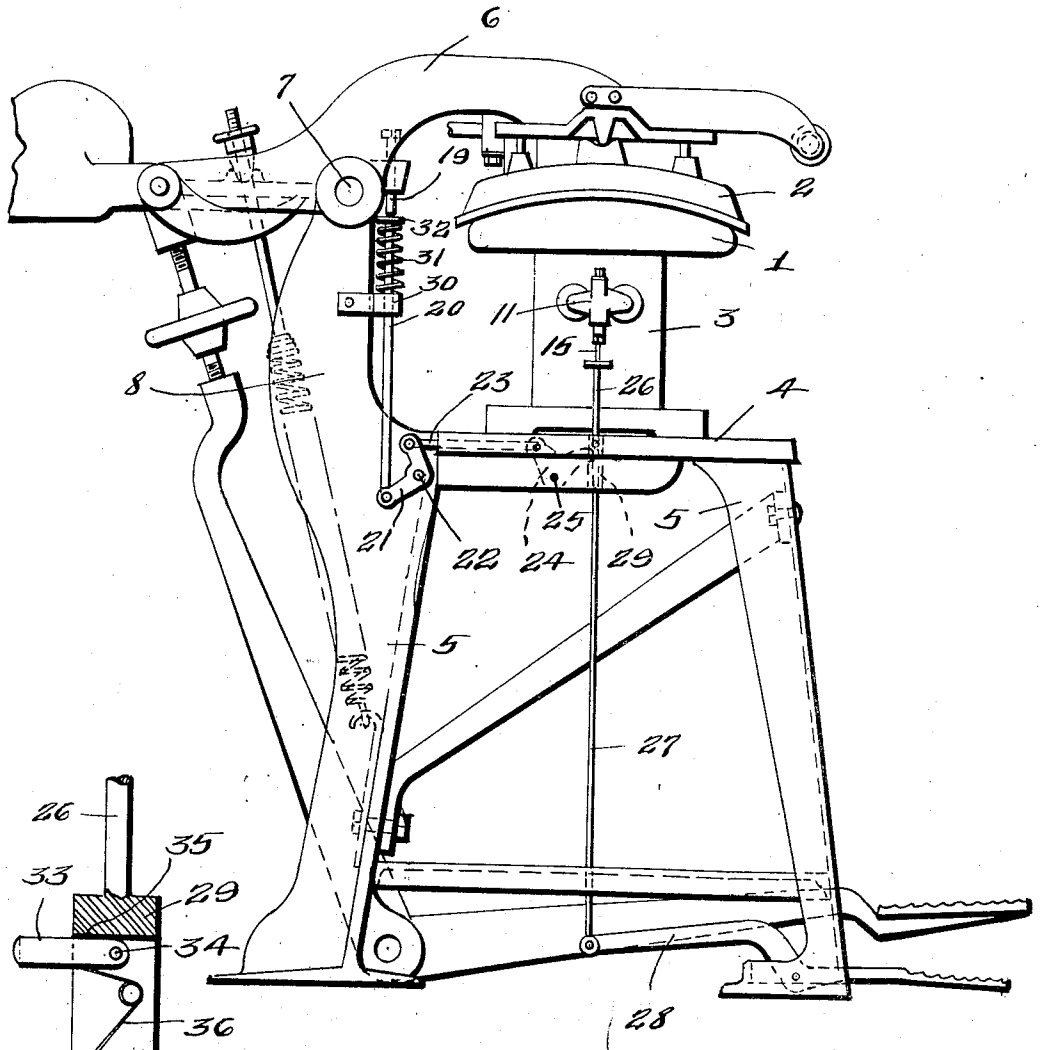


Fig. 2.

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Fig. 5.

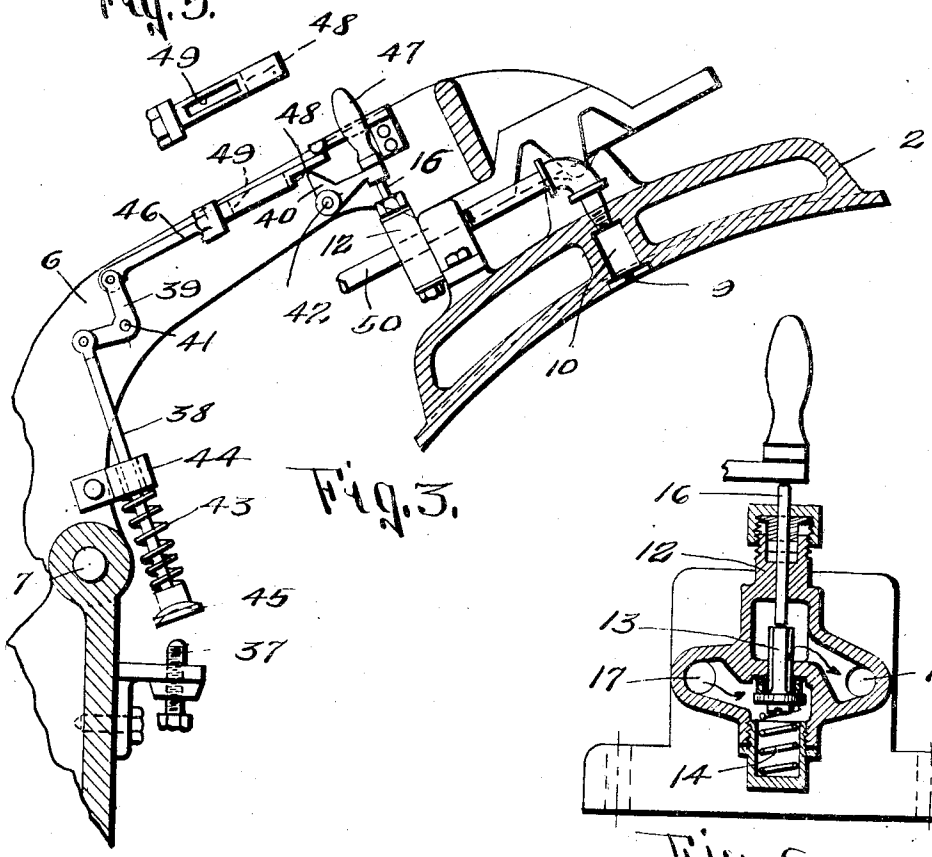


Fig. 3.

Fig. 6.

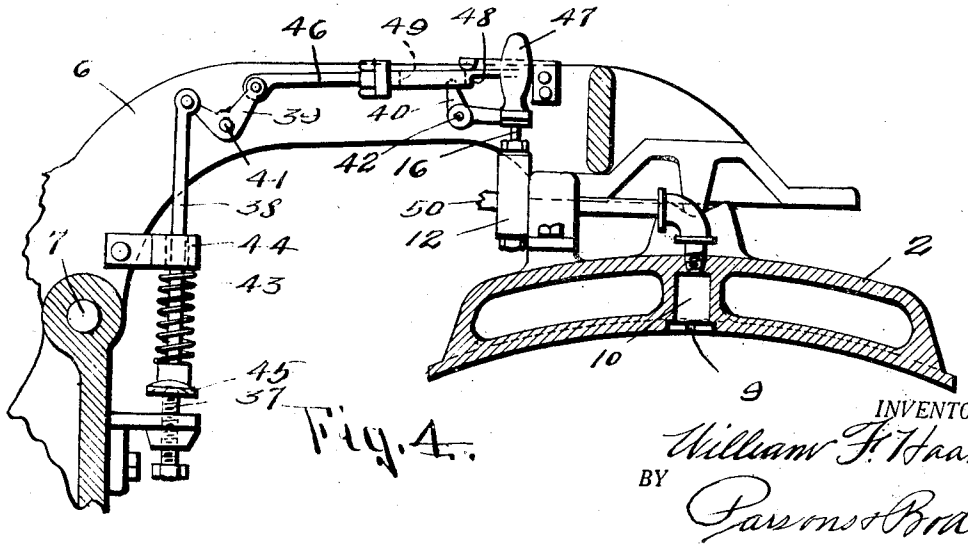


Fig. 4.

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Patented July 12, 1927. 1,635,616

UNITED STATES PATENT OFFICE.

WILLIAM F. HAACKE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PROSPERITY COMPANY INC., OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

PRESSING MACHINE.

Application filed October 13, 1925. Serial No. 62,249.

This invention relates to pressing machines as garment and laundry pressing machines and particularly to that class of machines in which the garment, cloth or other article being pressed is steamed or dampened preliminary to pressing and it has for its object a means for automatically steaming the garment during the closing movement of the press.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a side elevation of a machine embodying one form of my invention.

Figure 2 is a detail view of parts seen in Fig. 1.

Figures 3 and 4 are respectively enlarged fragmentary views of a press head and support therefor to which my invention is applied.

Figure 5 is a detail view of a portion of the ratchet device shown in Figure 3.

Figure 6 is an enlarged sectional view through the valves of the steaming mechanism and contiguous parts.

The pressing machine to which my invention is particularly adaptable comprises as will be understood by those skilled in the art, cooperating pressing elements, having relative movement, one toward and from the other, and one of these elements having a perforated face or what is called a foraminous pressing plate through which a medium under pressure as steam is projected to dampen the garment or in any other way act on the garment.

In the machines heretofore made, the projecting of steam through the perforations is effected at the will of the operator by operating a hand lever or a pedal to open the valve which controls the steam.

These pressing elements are usually referred to as a buck or lower stationary pressing element and an upper movable element or press head.

In some types of machines, the buck is formed with perforations through which the steam is projected and in other types the head is formed with such perforations. The head is carried by a movable carrier which is usually a lever or yoke.

1 designates the lower pressing element or buck 1, and 2 the upper pressing element or movable head, the buck 1 being carried by a goose neck 3 mounted upon the top plate 4 of a frame 5, and the head 2 being carried by a yoke or lever 6 pivoted between its ends at 7 to an upright 8 rising from the frame. Both the head 1 and 2 are usually formed hollow as shown in Figs. 3 and 4, and one or the other is formed with perforations through its pressing or ironing face.

In Figures 3 and 4, the perforations 9 are shown as formed in the head and as communicating with a passage 10 common to all of said perforations. The perforations may however be formed in a similar manner in the buck 1.

Steam is supplied to the perforations or the passage 10 through a conduit system which is connected to a suitable source of supply as a boiler not shown.

The construction of the pressing machine and the steam system forms no part of this invention. This invention lies solely in opening the valve automatically during the closing of the press.

11 designates the valve casing in Fig. 1, in which the steam is projected through the buck 1, and 12 designates the valve casing, in Figs. 3 and 4, in which the steam is projected through the face of the head 2. The valves in each case are of practically the same construction.

In Fig. 6 the valve shown in Figs. 3 and 4 is illustrated but the valve contained in the casing 11, Fig. 1, is practically the same as that in the valve casing 12 of Figs. 3 and 4. This valve comprises a head 13 held on its seat or in closed position by a spring 14, the valve being moved off of its seat by pressure applied to the stem 15, Fig. 1 of the valve or 16, Figs. 3, 4 and 5.

17 and 18 are the inlet and outlets of the valve casings 11 or 12, and when the valve is opened, the steam passes from the inlet 17 through the corrugated stud of the valve head 13 to the other side of the valve and out through the outlet 18, thence to the perforations 9 of the pressing element.

The valve is opened automatically during the closing of the press by mechanism, a portion of which is carried by the yoke 6 and another portion independently of the yoke 2 by the frame 5 or standard 8 thereof. When the steam is projected through the lower

buck as shown in Fig. 1, the portion carried by the yoke is a normally stationary adjustable shoulder 19 as a set screw and the portion carried by the frame 5 consists of motion transmitting mechanism. This motion transmitting mechanism comprises a push rod 20 carried by the standard and arranged in the path of the shoulder or set screw 19, a bell crank lever 21 pivoted at 22 to the frame, one arm thereof being connected to the push rod 20 and the other arm to one end of a link 23, the other end of which is connected to one arm of a bell crank lever 24 pivoted at 25 between its ends to the frame, the other arm of this bell crank lever 24 coacting with a valve opening member 26 which pushes against the valve stem 15. This valve opening member 26 is also operator operated in order that the steam may be projected at any time through the garment or independently of any movement of the head 1, and, as here illustrated, it is connected by a link 27 to a pedal 28, the link 27 having a bifurcated portion or yoke portion 29 therein with which the arm of the bell crank 24 coacts. The push rod 20 is guided in a suitable bracket 30 and a returning spring 31 is interposed between the bracket and the head 32 on the upper end of the rod 20. Obviously, as the head is pulled down, the set screw or shoulder 19 will engage the head 32 of the push rod 20 and depress the push rod against the action of the spring 31, and hence actuate the bell crank lever 21, link 23, bell crank lever 24, valve opener 26 and valve stem 15.

Preferably, the valve opens before the head 2 is completely closed and closes before the head is completely closed, and this action is brought about by a ratcheting device between the bell crank 24 and the valve opener 20. This ratcheting device in Fig. 2, is shown as a pin or shoulder 33 pivoted at 34 in the yoke 29 and is normally held from pivotal movement upwardly by shouldering against the flat surface at 35 of the yoke, the pin being held against this flat surface by a spring 36. The arm of the bell crank lever 24 engages the underside of this pin 33 and hence during the closing of the press, this bell crank lever 24 pushes up on the pin 33 thus opening the valve in the case 11 before the press is closed and before the press is completely closed, the bell crank lever ratchets past or off the end of the pin 33 permitting the valve to be closed by its spring before the head is completely closed.

During the opening movement of the press, the bell crank lever 24 in moving in a retrograde direction, ratchets downwardly past the pin 33 by moving the pin 33 on its pivot 34 against the spring 36. The intermediate point at which the valve is open is determined by the set screw 19.

In Figs. 3 and 4, the shoulder or set screw which corresponds to the set screw 19 is designated 37. The push rod 38 and the bell crank levers 39 and 40 which correspond to the bell crank levers 21 and 24 of Fig. 1 are pivoted to the yoke 6 at 41 and 42 respectively.

43 designates the returning spring corresponding to the spring 31. 44 is the guide and 45 the head at the end of the push rod 38 which coacts with the set screw 37.

46 designates the link connecting the bell crank levers. The bell crank lever 40 is the valve opening member and coacts or pushes against the upper end of the valve stem 15 and is also provided with a handle 47 by means of which the valve may be opened manually.

In the construction shown in Figs. 3 and 4, the ratchet device is provided in the link 46 between the bell cranks 39 and 40 and as here shown the link 46 is formed with a shoulder 48 for coacting with one arm of the bell crank lever 40 and is also formed with a slot 49 in the rear of the shoulder 48, the end of the link in front of the shoulder 48 riding on the end of the coacting arm of the bell crank lever 40. The valve casing 12 is located in a suitable steam conduit 50 movable with the head 2 which conduit supplies steam to the perforations 9 and chamber 10 of the head 2.

In operation, during the closing of the press head, the head 45 at the end of the push rod 38 engages the set screw 37 actuating the bell crank lever 39 and pushing the link 46 forwardly so that the shoulder 48 thereon engages the coacting arm of the bell crank or valve opener 40, thus opening the valve and holding it open until the link 46 passes forwardly far enough to permit the coacting arm of the bell crank 40 to ratchet over the shoulder or rather to permit the shoulder 48 to ratchet over the coacting arm of the bell crank 40 so that such arm passes into the slot 49 and permits the spring 14 to close the valve. This occurs before the press head is fully closed so that the valve is closed when the press is closed and further so that the steaming operation takes place just prior to the complete closing of the press.

During the opening of the head 2 and during rearward movement of the link 46, the coacting arm of the bell crank lever 40 ratchets back into a position in front of the shoulder 48 and in so doing, the end thereof which coacts with the valve stem 17 moves away from the valve.

In either exemplification of my invention, the steaming operation takes place automatically before the press is completely closed and stops before the head is completely closed and further the valve is not opened during the opening of the press. Furthermore, the operator can steam the garment

in the usual way by manually or pedally opening the valve.

What I claim is:

1. In a pressing machine, a frame, cooperating pressing elements comprising a buck, a head movable toward and from the buck, a lever pivoted to the frame and carrying the head, one of the pressing elements being formed with perforations through its pressing face, a conduit for supplying a medium under pressure to said perforations, a normally closed, spring pressed valve in the conduit, and means for opening the valve including a part carried by the lever and a part carried by the frame, the former being movable into engagement with the latter as the head coacts with the buck.

2. In a pressing machine, a frame, cooperating pressing elements comprising a buck, a head movable toward and from the buck, a lever pivoted to the frame and carrying the head, one of the pressing elements being formed with perforations through its pressing face, a conduit for supplying a medium under pressure to said perforations, a normally closed, spring pressed valve in the conduit, means for opening the valve comprising an actuator carried by the lever, and motion transmitting part carried by the frame and connected to the valve, the motion transmitting part being normally spaced apart from the actuator and arranged to be engaged thereby as the head coacts with the buck.

3. In a pressing machine a frame, cooperating pressing elements comprising a buck, a head movable toward and from the buck, a lever pivoted to the frame and carrying the head, one of the pressing elements being formed with perforations through its pressing face, a conduit for supplying a medium under pressure to said perforations, a normally closed, spring pressed valve in the conduit, and means for opening the valve comprising an actuator part and a spring pressed motion transmitting part connected to the valve, one of said parts being carried by the lever and the other by the frame.

4. In a pressing machine a frame, cooperating pressing elements comprising a buck, a head movable toward and from the buck, a lever pivoted to the frame and carrying the head, one of the pressing elements being formed with perforations through its pressing face, a conduit for supplying a medium under pressure to said perforations, a normally closed, spring pressed valve in the conduit, means for automatically opening the valve comprising an actuator carried by the lever, and motion transmitting part carried by the frame and connected to the valve, the motion transmitting part being normally spaced apart from the actuator and arranged to be engaged thereby as the head coacts with the buck, and an operating member connected to the valve to actuate it independently of the automatic means.

5. In a pressing machine a frame, cooperating pressing elements comprising a buck, a head movable toward and from the buck, a lever pivoted to the frame and carrying the head, one of the pressing elements being formed with perforations through its pressing face, a conduit for supplying the medium under pressure to said perforations, a normally closed, spring pressed valve in the conduit, and means for opening the valve comprising an actuator part and a spring pressed motion transmitting part connected to the valve, one of said parts being carried by the lever and the other by the frame, and an operating member connected to the motion transmitting means to open the valve independently of said automatic means.

In testimony whereof, I have hereunto signed my name, at Chicago, in the county of Cook, and in the State of Illinois, this 9th day of September, 1925.

WILLIAM F. HAACKE.