

Sept. 4, 1928.

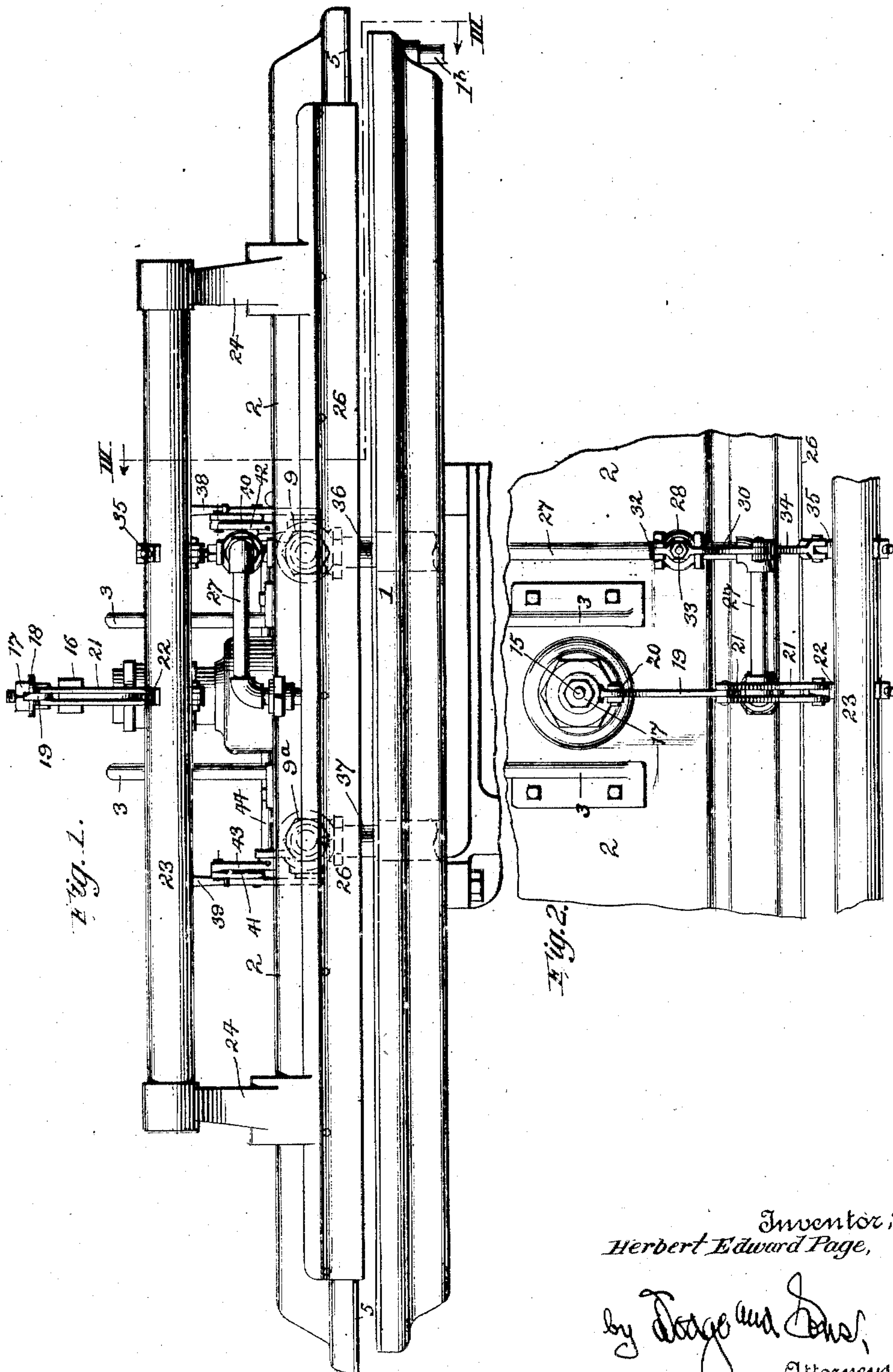
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GARMENT PRESSING MACHINE

Filed June 4, 1923

2 Sheets-Sheet 1



Inventor:  
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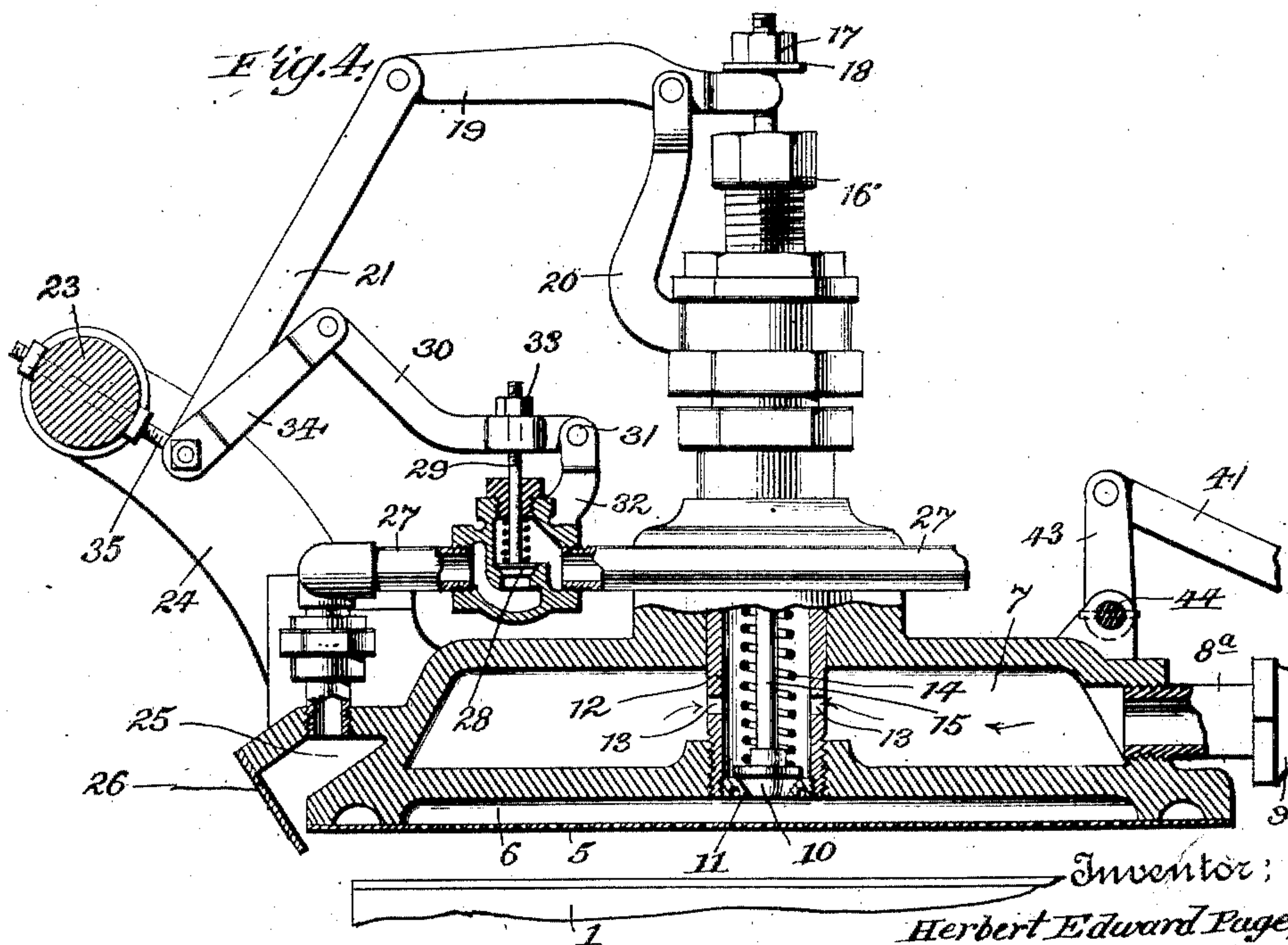
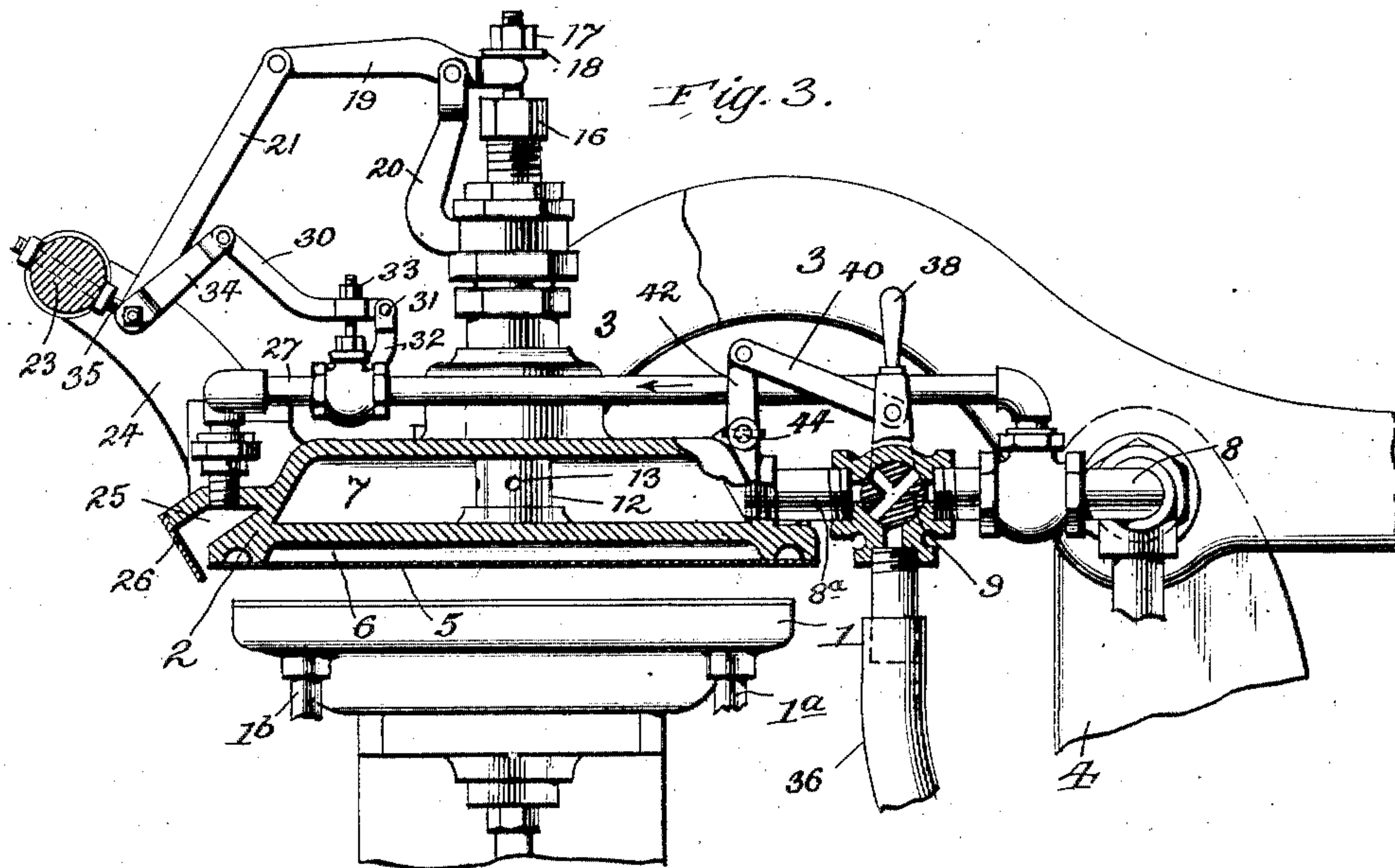
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## UNITED STATES PATENT OFFICE.

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HOFFMAN MACHINERY CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF  
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## GARMENT-PRESSING MACHINE.

Application filed June 4, 1923. Serial No. 643,443.

This invention pertains to garment pressing machines, and more particularly to that class wherein steam is employed in certain of the operations upon the garment.

5 The main object of the invention is to provide a structure wherein the garment may be subjected to various operations or treatments whereby a perfectly shaped article, free of gloss or shine, and likewise free of any spotting due to the improper action of the steam, 10 or, more specifically, to the water of condensation which sometimes gets upon the garment while it is in the press.

15 With this and other objects in view and which will hereinafter appear, reference will be had to the annexed drawings, wherein,—

Fig. 1 is a front elevation of so much of a pressing machine, or more specifically, the co- 20 operating pressing elements thereof, as is necessary to an understanding of the invention;

Fig. 2 is a top plan view of the central portion of the upper pressing element or head;

25 Fig. 3 a vertical sectional elevation of the structure taken on the line III—III of Fig. 1; and

Fig. 4 a similar view, on an enlarged scale, taken on an irregular line, to more clearly illustrate the valves.

30 The press may be of any approved type, having cooperating pressing elements, and in the instant case, is shown as embodying a fixed buck or table 1, and a head 2, the latter being secured to one end of a press lever 3 fulcrumed upon a rigid frame 4, a portion of which is 35 shown in Fig. 3. Any suitable means, not shown, may be employed to rock the lever and cause the head to come into pressing relation with the garment laid upon the buck.

40 The buck may be heated in any suitable manner, as by steam introduced through a pipe 1<sup>a</sup>. So, too, the buck may be provided with suitable suction or vacuum producing means operating through a second pipe 1<sup>b</sup>, such means not being illustrated as it is well 45 known in the art.

50 The head 2 is provided with a foraminous pressing face which, in the present case, is produced by a perforated plate 5 forming the outer wall of what may be termed a spraying chamber 6. The head is hollow, producing a

chamber 7 which, under certain operations of the machine, will be filled with steam flowing thereto through a pipe 8 connected with a suitable supply (not shown). A three-way 55 valve 9 controls the flow of steam and also water, as will hereinafter appear through a pipe 8<sup>a</sup>, to chamber 7. Passage of steam from chamber 7 to chamber 6 is controlled by a 60 valve 10, Fig. 4, the seat 11 whereof is secured in the lower end of a tubular member 12 which passes through the head and has its lower end secured in the lower wall of chamber 7. Mem- 65 ber 12 is provided with a plurality of openings 13 and suitable means, as a spring 14, is employed to normally hold valve 10 to its seat. The stem 15 of valve 10 passes upwardly 70 through a stuffing gland 16 and at its upper end is provided with a nut 17 and a washer 18. The bifurcated end of a lever 19 fulcrumed upon a bracket 20 takes under the washer, the opposite end of the lever being 75 pivotally connected to a link 21 which, in turn, is likewise connected to the end of a bolt 22. Said bolt is secured in a handle bar 23 mounted for rotation within fixed brackets 75 or arms 24 extending outwardly from the forward portion of the head. From this it will be seen that upon a clockwise rotation being imparted to the handle, valve 10 will 80 be raised from its seat and steam permitted to pass from chamber 7 to the spray chamber 6 and outwardly through the foraminous presser plate 5. This, of course, assumes that 85 valve 9 is open, for under certain conditions and in carrying out certain operations, as will hereinafter appear, valve 9 will be closed.

The head at its forward edge is provided with a third chamber designated by 25, and which may be termed a spray chamber as its 90 function is to project a spray of steam over the exposed surface of the garment, under certain conditions, which at such time is resting on the buck. This chamber may be formed in any approved manner, and in the present instance is shown as having its for- 95 ward face produced by a plate 26 which extends inwardly toward its lower edge, such edge extending to a point or plane below the lower face of the pressing face or plate 5. Thus there is produced an elongated slot or 100



slit from which steam may be ejected inwardly beneath the pressing plate and over and in contact with the exposed face of the garment or material then resting upon the buck. To  
 5 supply steam to said chamber a pipe 27 extends from pipe 8 to the chamber and a self-closing valve 28 is included in said pipe 27. The stem 29 of said valve extends upwardly  
 10 through a lever 30 fulcrumed at 31 to a bracket 32, a nut 33 being secured to the stem above the lever, so that, as the lever is elevated, the valve will be lifted from its seat. To effect such movement of the lever, a link 34 is pivotally connected to the lever and to a bolt 35  
 15 passing through the handle 23. Rotation of the handle counter-clockwise will open the valve 28, valve 10 at such time remaining closed owing to the fact that the inner end of lever 19 swings downwardly away from  
 20 washer 18. It is conceivable, of course, that the operative connections between the handle 23 and the valves, may be omitted, and the valves manipulated through separate handles or levers, as for instance, the levers 19 and  
 25 30 respectively.

In order to cool the head, or in other words, to have a head which is cold, which is essential in carrying out certain operations, as will presently appear, means is provided for  
 30 cooling the head of the press and, broadly stated, it may be said to be means whereby a cooling medium may be directly introduced into the chamber 7. Opening into the valve casing or shell of the valve 9 is a pipe 36  
 35 which is connected with a source of cold water supply or a suitable refrigerant liquid or gas, said supply being normally cut off from entrance into the chamber when the three-way valve 9 is in the position shown in Fig. 3.  
 40 A suitable drain pipe 37, Fig. 1, is connected into the chamber through a second three-way valve 9<sup>a</sup>. The handle 38 of the valve 9 is interconnected with the handle 39 of the valve 9<sup>a</sup> through links 40 and 41, arms or levers  
 45 42 and 43 and the rocker shaft 44 to which said arms or levers are connected. Said rocker shaft is mounted in suitable bearings formed upon or secured to the head of the press. It will, of course, be understood that  
 50 the pipes 36 and 37 will be flexibly connected to the source of supply and discharge pipe in order that the head may be raised and lowered in the operation of the press. In fact, said pipes may be formed as flexible pipes in  
 55 order to do away with joints and packing.

The operation of the press may be stated as follows:

When pressing in the ordinary manner, the garment is laid upon the buck by the operator  
 60 and properly positioned with reference thereto by pressing or smoothing the same out with his hands, after which the head is lowered but not brought into pressing contact, and steam is ejected through the head directly on  
 65 to the garment. This steams the garment in

order to make it more pliable so that the operator can shape the garment by hand and bring it to the desired contouring position with reference to the buck, which, as will be understood by those skilled in the art, may  
 70 be curved or so shaped as to produce in the garment the desired contour. The head is then brought down upon the garment and locked in place. The operator then manipulates the handle 23 clockwise, again raising  
 75 the valve 10 and permitting steam to pass into the garment, which has the effect of setting the goods in the position desired. After the requisite time has passed, the press is opened and the head is elevated. This operation  
 80 of setting is in many instances all sufficient. However, there are drawbacks to this operation, the chief of which is the fact that when the garment is finally shaped into position with the head brought down and the  
 85 steam applied to set the goods, steam sometimes comes through the holes in the head and spots the cloth. This difficulty may be eliminated if after having applied steam through the head in the regular manner, to  
 90 effect a softening of the garment, and prior to the final shaping operation, steam is applied to the surface of the cloth from the spraying chamber 25. Such steaming may be  
 95 effected by rotating the handle 23 counter-clockwise, which opens the valve 28 and allows steam to pass through the pipe 27 into said spraying chamber and thence outwardly therefrom, the steam spraying across the surface of the goods. After this spraying operation,  
 100 the head is brought down and locked and the goods will be set in the desired form or position with no possible danger of being marked, as sometimes occurs where steam is applied through the foraminous head during  
 105 this final pressing or setting operation.

It is, of course, understood that the well known vacuum system may be applied to the buck to dry the garment or cloth after it has been set.  
 110

Where it is desired to operate the machine with a cold head for the purpose of removing gloss from the surface of a garment, which has been subjected to pressure to set the seams or to set a contour in the garment, steam  
 115 will be cut off from the head by operating the valve 9 to bring it to the position shown in Fig. 3. A further forward movement of the valve through the manipulation of the handle 38 or 39, as the case may be, will bring the  
 120 valve into communication with the inlet pipe 36 at the same time opening the drain valve 9<sup>a</sup>, thus admitting the cooling medium to the chamber 7. When the valves are turned to allow steam to pass into the head,  
 125 the outlet through the valve 9<sup>a</sup> leads to a return to the boiler. Thus, as is usual in presses of the type herein specified, steam constantly flows through the chamber 7 of the head when it is desired to have the head  
 130



ot. When valve 9 is brought to position to interconnect the pipe 36 with the chamber 7 to cut off the steam and to allow the cooling medium to flow into the chamber 7, the valve will be open to waste so as to effect a flow of the cooling medium through the chamber. The degree of temperature will be regulated according to working conditions and it is found preferable at the time the head is cooled to have the buck heated. A garment, upon which sheen or shine has been brought about by reason of a heavy operation in order to set a seam or to effect contouring, will be laid upon the buck and the head partially lowered, at which time steam may be ejected from the spray chamber 25 across the exposed surface of the garment. The cooled head is then fully lowered into pressing position, and it has been found that being cold it will remove the shine or gloss previously imparted. This is apparently due to the fact that the steam tends to loosen up the curled or intermeshed fibers of the fabric which have been rushed down and set during the pressing operation, under the action of the steam and heat. The cold head, while it effects the pressure, does not bring about the condition last mentioned, and in conjunction with the moisture which is present by having steam drawn across the surface of the garment by the steaming chamber 25, it is found that the garment having been subjected to pressure comes from the press with the gloss or sheen removed, a condition which will not obtain if the head is hot.

What is claimed is,—

1. In a garment pressing machine, the combination of relatively movable pressing elements; means for ejecting steam from the pressing face of one of said elements and onto the face of the goods next thereto; and means for ejecting steam laterally between said pressing elements onto said face.

2. In a garment pressing machine, the combination of relatively movable pressing elements; means for ejecting steam from the pressing face of one of said elements and onto the face of the goods next thereto; and a steam spraying chamber located at one edge of said element and adapted to spray steam inwardly between the pressing elements and onto the face of the goods just mentioned.

3. In a garment pressing machine, the combination of relatively movable pressing elements; means for ejecting steam from the pressing face of one of said elements and onto the face of the goods next thereto; a spray chamber located at one edge of said element and adapted to spray steam onto the same face of the goods; and means under the control of the operator for admitting steam through the head and from the chamber as desired.

4. In a garment pressing machine, the combination of a buck; a pressing head movable toward and from the same; means for ad-

mitting steam to the head; means for allowing steam to pass therefrom through the pressing face of the head; a chamber located along one edge of the head; means for admitting steam thereto, said chamber being open at its lower portion in line with the space between the head and the buck; and means under the control of the operator for effecting a flow of steam through the pressing face of the head and from the chamber as desired.

5. In a garment pressing machine, the combination of a buck; a head movable toward and from the same, said head having a steam chamber formed therein, and likewise having a perforated pressing face; a valve normally closing the flow of steam from the chamber to said perforated pressing face; a second chamber formed along one edge of the head, said chamber having an opening adjacent the edge of the pressing face of the head; a valve normally closing the flow of steam to said chamber; and means under the control of the operator for opening the valves as desired.

6. In a garment pressing machine, the combination of a buck; a head movable toward and from the same, said head having a chamber formed therein; a perforated pressing face carried by the head; a valve controlling the passage of fluid from the chamber to and through said pressing plate; means for admitting steam to said chamber; and means for admitting a cold fluid to said chamber.

7. In a garment pressing machine, the combination of a buck; a head movable toward and from the same, said head having a chamber formed therein; a perforated pressing face carried by the head; a valve controlling the passage of fluid from the chamber to and through said pressing plate; means for admitting steam to said chamber; means for admitting a cold fluid to said chamber; a second chamber formed along one edge of the head; means for supplying steam to said last named chamber; a valve controlling the flow of such steam; and means under the control of the operator for opening or closing said valve.

8. In a garment pressing machine, the combination of a buck; a head movable toward and from the same, said head being hollow; a perforated pressing plate carried by the head; means for admitting steam to said head; a valve normally preventing flow of steam from the chamber in the head to and through the perforated pressing plate; a second chamber formed along one edge of said head; means for admitting steam to said chamber; a valve controlling the admission of such steam; a handle journaled upon the head; and connections between said handle and said valves for operating the valves the connection being such that as the handle is rotated in one direction it will open the first named valve, and upon rotation in the opposite direction will open the last named valve.

9. In a garment pressing machine, the com-



combination of a buck; means for heating the same; a head movable toward and from the buck; means for cooling the head; and means for ejecting steam between the head and the buck.

10. In a garment pressing machine, the combination of a buck; means for heating the same; a head movable toward and from the buck; means for cooling the head; and means carried by the head for ejecting steam between the head and buck.

In testimony whereof I have signed my name to this specification.

HERBERT EDWARD PAGE.