T. D. PALMER.

CLOTHES PRESSING MACHINE.

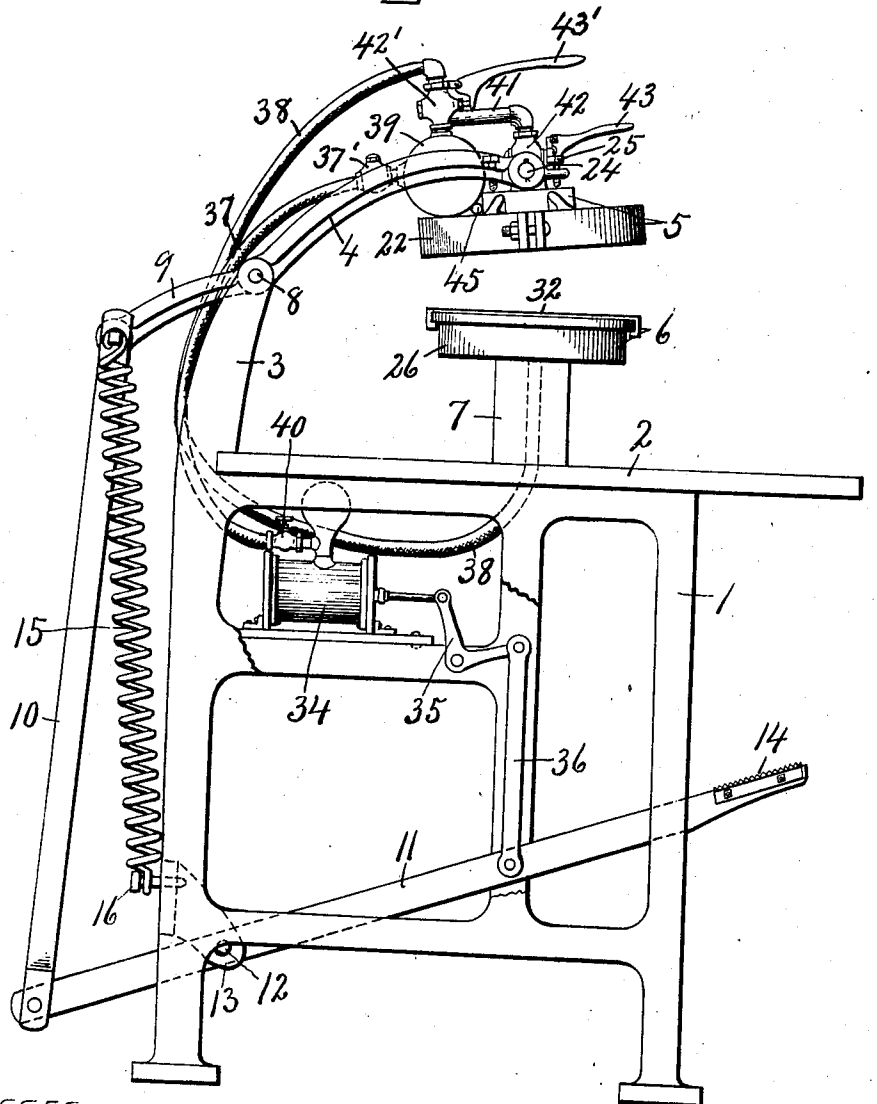
APPLICATION FILED APR. 12, 1910.

1,177,571.

Patented Mar. 28, 1916.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES.

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2 SHEETS—SHEET 2.

Fig. 2.

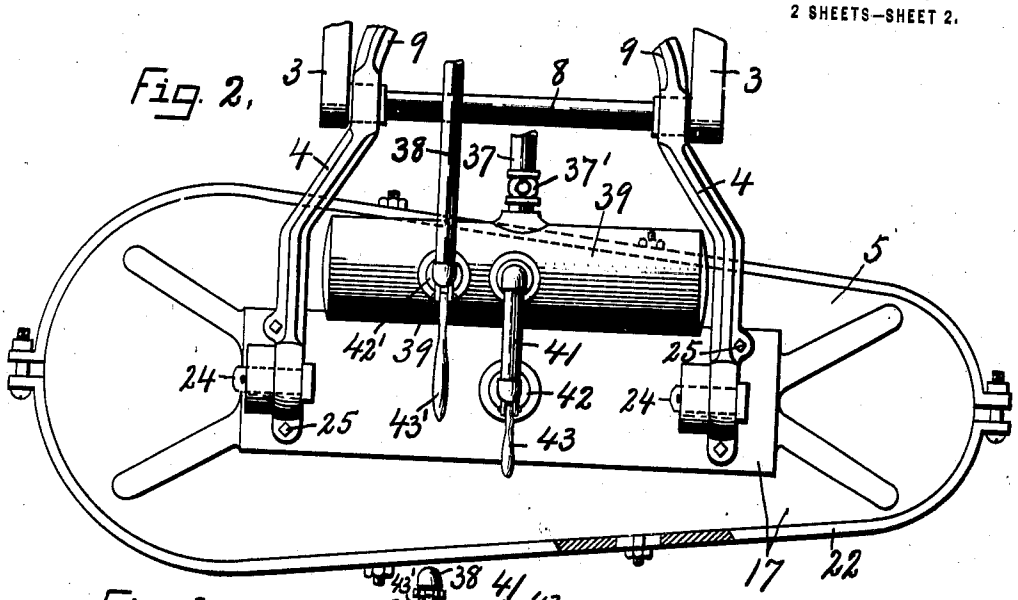


Fig. 3.

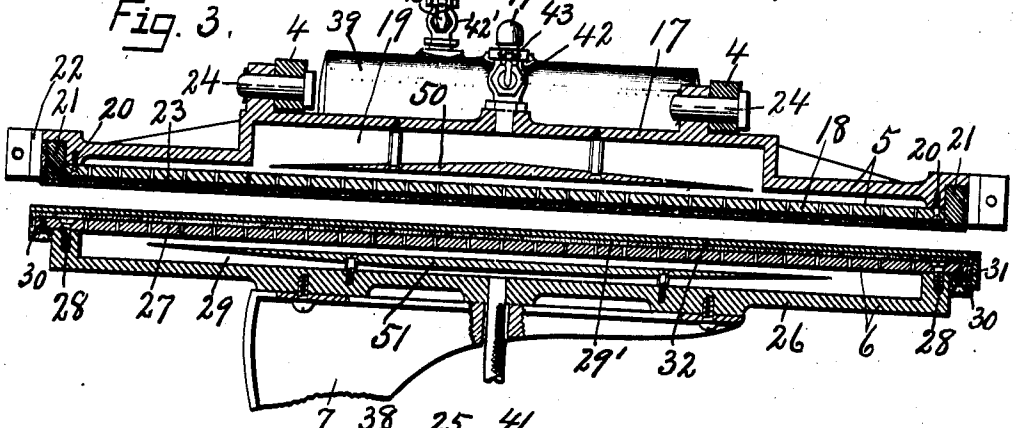
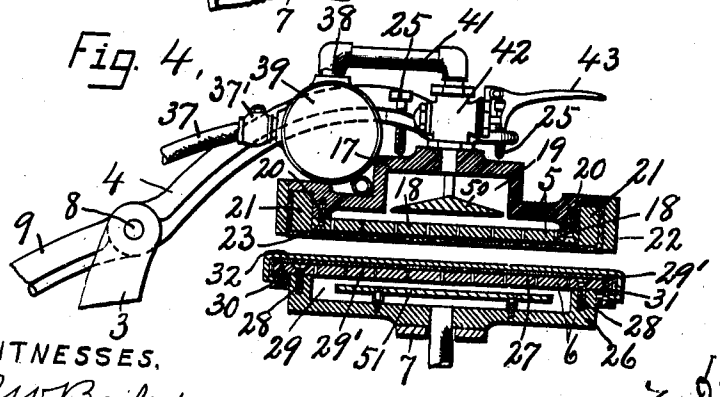


Fig. 4.



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UNITED STATES PATENT OFFICE.

THEODORE D. PALMER, OF SYRACUSE, NEW YORK, ASSIGNOR TO T. D. PALMER COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION.

CLOTHES-PRESSING MACHINE.

1,177,571. Specification of Letters Patent. Patented Mar. 28, 1916.

Application filed April 12, 1910. Serial No, 555,028.

To all whom it may concern:

Be it known that I, THEODORE D. PALMER, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Clothes-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 machines for pressing plain cloth and garments such as coats, vests, trousers, skirts, under-wear and the like by direct mechanical or air pressure or by both mechanical and air pressure, and, although it is particularly adapted for pressing cotton-goods, silks and the lighter fabrics, it may be used for pressing woolen-goods and similar heavy fabrics.

The object is to enable such fabrics to be quickly and easily pressed by means of compressed air or other comparatively dry fluid as distinguished from steam, so that the effect will be substantially the same as that produced by the usual ironing, except that the injurious results common to the use of sad-irons and similar instruments which are moved across the surface of the cloth or garment are avoided thus permitting the machine to be used for pressing the finest fabrics without liability of injuring such fabrics.

Another object is to provide means for confining the air or other dry fluid under pressure during the pressing operation.

A further object is to utilize the means for operating the movable pressure head for maintaining a supply of compressed air or other comparatively dry fluid.

A still further object is to provide means for applying this dry compressed fluid to either the top or bottom surface of the garment or to both surfaces simultaneously if necessary.

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

In the drawings: Figure 1 is a side elevation of a cloth press embodying the various features of my invention. Fig. 2 is an enlarged top plan of the upper movable head and adjacent portion of the frame to which it is hinged. Fig. 3 is an enlarged longitudinal sectional view through the lower and upper pressing elements. Fig. 4 is a transverse sectional view of the same.

This machine comprises a main supporting frame —1— having a suitable table top —2— and upwardly extending arms —3— at the rear side thereof and upon which is pivotally mounted a swinging frame —4— carrying a movable presser head —5—. This presser head is movable toward and from an underlying buck or supporting head —6— which is detachably mounted upon a bracket —7— rising from the table top —2— and forming a part of the main supporting frame —1—.

The oscillatory frame —4— carrying the pressing head —5— is pivoted or fulcrumed intermediate its ends at —8—, its rearwardly projecting arm —9—, being connected by a link —10— to the rear end of a forwardly projecting pedal lever —11— which is fulcrumed a short distance in front of its rear end at —12— upon a bracket —13—, the latter forming a part of the main supporting frame —1—. This pedal lever —11— is disposed some distance below the table top —2— and is provided at its front end with a pedal —14— within convenient reaching distance of the front of the machine.

A spring —15— connects the rear arm —9— of the swinging frame —4— to a suitable anchorage —16— on the lower rear portion of the main supporting frame —1— and is tensioned so as to normally elevate the presser head —5— and front end of the foot lever —11—.

The press head —5— and underlying garment support —6— are of substantially the same size and general form in top plan and are elongated laterally and taper from one end toward the other end, as more clearly shown in Fig. 2, so as to embrace a considerable area of cloth or large portion of a garment in order to complete the pressing of such garment in as few operations as possible.

The press head —5— is composed of an upper metal section —17— and a perforated plate —18— forming with the upper section an interior chamber —19— which is substantially coextensive with the perforated plate —18—, the latter constituting a press plate or bottom of the head and is

detachably secured to the upper section —17— by suitable fastening means, as screws —20—.

A yielding air confining band or packing —21— of rubber or other resilient material is secured by suitable fastening means, as marginal clamping sections —22—, to the marginal edges of the head —5— around the chamber —19—, and preferably surrounding the marginal edges of the perforated plate —18— with its lower edges projecting a slight distance below the lower face of the perforated plate, so that when the head is depressed in the action of pressing the cloth or garment, the lower edges of the band or packing —21— will contact with the garment or with the lower pressing element —6— and prevent the escape of compressed air which is introduced into the chamber —19— and caused to pass through the perforated plate —18— against the underlying cloth or garment for the purpose of pressing the same, as will be hereinafter more fully described.

In order that the air passing through the perforated plate —18— may be more evenly distributed, the lower face of said plate is covered by a fabric —23— which is also held in place by the clamping bands —22—. This head —5— is pivotally supported near its horizontal center upon the journal bearings —24— on the front ends of the swinging frame —4—, so as to allow a slight forward and rearward rocking movement, thus permitting the head to adjust itself to the plane of the work on the lower pressing element —6—, such rocking motion being limited by adjustable stops —25—.

The buck or lower pressing element —6— consists of a base section —26— and a perforated plate top section —27— both of metal secured together by suitable fastening means, as screws —28—, to form an intervening chamber —29—, the latter being practically coextensive with the perforated plate —27—. This perforated plate —27— may be covered by a fabric facing —29'— of canvas or equivalent tenacious material similar to the covering —23— of the head —5— for more evenly distributing the air over the adjacent surface of the cloth or garment under pressure, said covering —29'— being clamped to the marginal edges of the buck —6— by metal straps —30— and screws —31—.

By perforating the pressing faces of both of the pressing elements, air under pressure may be applied to both surfaces of the cloth or garment simultaneously, but in some instances I may prefer to apply the compressed air to the upper surface only of the cloth or garment, in which case the perforated plate —27— of the buck —6— may be covered by a sheet metal covering —32— extending over the entire perforated face and slidably interlocked with the overhanging marginal edges of the perforated plate —27—, so that it may be readily removed or replaced when necessary. This cover plate —32— also forms an imperforate metal presser face which may be used to give a smooth finish to the garment as distinguished from the dull finish which is imparted by the cloth facing.

Air or other dry fluid may be introduced under pressure into the chambers of the pressing element by any suitable means and for this purpose I have shown an air pump —34— of any well known construction mounted in the frame —1— below the table top —2— where it is out of the way and having its piston rod connected by a bell-crank lever —35— and link —36— to the pedal lever —11—, whereby as the lever is operated either by the foot or by the spring —15—, the piston in the pump —34— will be reciprocated.

The pump —34— is connected by a pipe —37— to an air reservoir —39— which in turn is connected to the chamber —19— of the head —5— by a pipe —41— having a normally closed valve —42— and a valve operating lever —43—, the pipe —37— having a check valve —37'— near the reservoir to prevent back flow of the air to the pump. This reservoir is also connected to the chamber —29— of the buck —6— by a flexible pipe —38— having a normally closed valve —42'— and operating lever —43'— similar to the valve —42— and lever —43— and located in close proximity thereto so that both may be operated simultaneously or separately from the same position of the operator.

In some instances it may be desirable to heat the air to increase its expansive force just before entering the chamber —19— of the upper head —5— and for this purpose I have provided a burner —45— located between the reservoir —39— and adjacent portion of the head —5— and provided with suitable apertures for directing a flame against the side of the reservoir and also against the adjacent portion of the head thereby heating the head and also heating the air passing therethrough. In order that the inflowing air into the chambers of the pressing elements may be more evenly distributed, I provide the interior of such element with baffle plates —50— and —51— extending across the air inlets and between said inlets and perforated presser plates leaving sufficient clearance around the marginal edges for the passage of air therethrough.

It will be seen from the foregoing description that the main feature of the invention consists in providing means for pressing cloth or garments by means of compressed air or similar comparatively dry

fluid which may be applied to either or both surfaces of the cloth or garment, the air being compressed by a pump which is actuated by the same means which operates one of the pressing elements.

It will be observed that when the imperforate cover —32— is removed for applying the air to the lower surface of the garment, the pressure of such air will slightly raise the central portion of the fabric covering —29—, thereby forming a convex cushion presser face, the same being also true of the fabric covering for the perforated plate of the upper head —5—, so that the garment is pressed under more or less yielding pressure when the pressing elements are brought together, the yielding packing —21— serving to confine the air within the perforated area of both plates and at the same time permitting said plates to be brought close together to apply mechanical pressure to both faces of the garment simultaneously, when desired.

In the pressing operation the pedal lever —11— is depressed against the action of the spring —15— to move the head into contact with the garment upon the upper surface of the bed —6— during which operation the piston of the pump —34— is moved in one direction to force compressed air in a reservoir —39—, the head —5— being depressed with just sufficient force to cause the packing ring —21— to contact with the upper surface of the buck or garment, whereupon the valve —42— may be opened to allow the compressed air to flow from the reservoir —39— into the chamber —19— and through the foraminous bottom thereof against the cloth or garment so as to press the latter by such compressed air, the packing strips serving to confine the air within the area of the foraminous bottom. In some instances, however, the press head may be forced down with greater pressure to mechanically press the cloth or garment. When it is desired to impart a glossy finish to one surface of the cloth or garment, the plate —32— is placed in the operative position shown in Fig. 3, across the upper surface of the perforated plate —27— of the buck, thereby forming an imperforate bed plate. On the other hand when it is desired to apply compressed air to both surfaces of the garment, the plate —32— is removed and the pressing elements brought together on the garment, whereupon both valves —42— and —42'— may be opened alternately or simultaneously to allow the compressed air to flow to both of the chambers —19— and —29— and through their respective presser plates —18— and —27— against both faces of the garment. By these means the finest fabrics may be effectively pressed without liability of injuring the same and when such air is heated it not only increases its expansive force but sterilizes the garment.

What I claim is:

1. In a garment press, two coacting non-rotatable pressing elements one of which is provided with a foraminous presser plate, means for actuating one of the pressing elements, toward and from the other element and an air pump operated by said actuating means and connected to the pressing element having a foraminous presser plate for forcing air therethrough.

2. In a clothes press, two coacting non-rotatable pressing elements one of which is provided with a chamber and a perforated press plate, a yielding confining rib surrounding the perforated portion of the press plate, means for actuating one of the pressing elements toward and from the other element and means for introducing a fluid under pressure into the chamber and through the presser plate.

3. In a clothes press, two hollow pressing elements having foraminous press plates, an air pump connected with the interiors of both pressing elements, means for raising and lowering one of the pressing elements, and additional means actuated by the last named means for operating the pump.

In witness whereof I have hereunto set my hand on this 3rd day of March, 1910.

THEODORE D. PALMER.

Witnesses:

H. E. CHASE,

A. L. HUMPHREY.