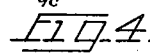
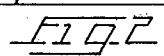


1,469,006

GARMENT PRESSING MACHINE

3 Sheets-Sheet 1



Attorney

Sept. 25, 1923.

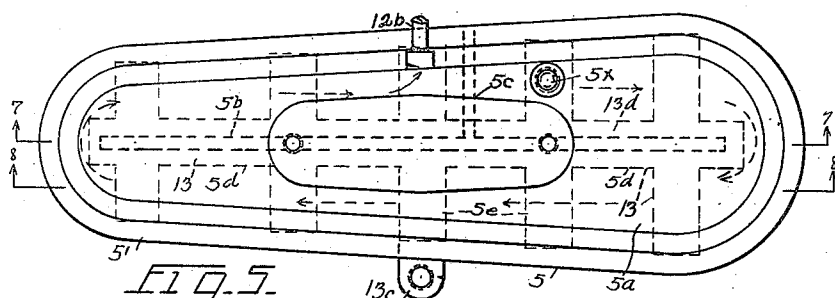
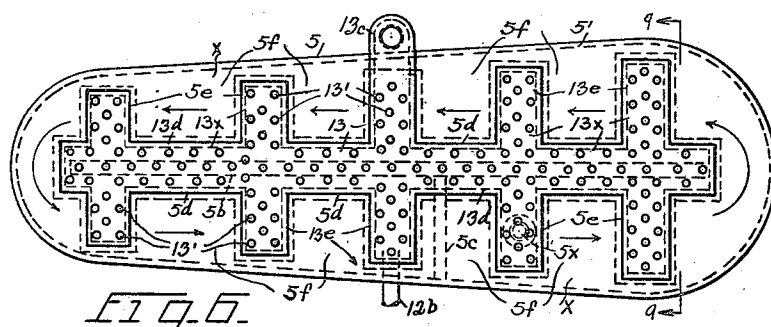
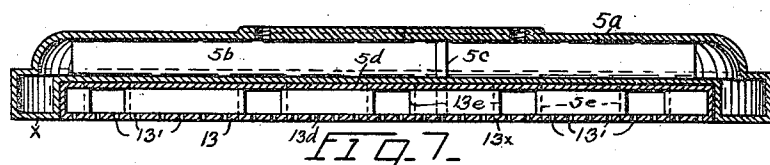
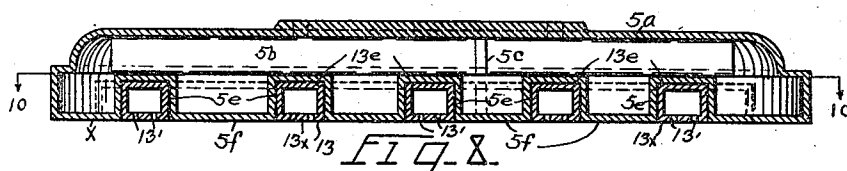
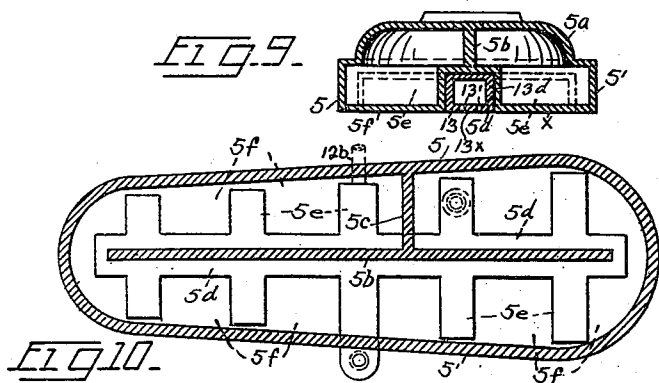
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C. H. LEWIS

GARMENT PRESSING MACHINE

Filed April 17, 1922

3 Sheets-Sheet 2



Inventor

Charles H. Lewis.

By Harry DeWallace

Attorney

Patented Sept. 25, 1923.

1,469,006

UNITED STATES PATENT OFFICE.

CHARLES H. LEWIS, OF SYRACUSE, NEW YORK.

GARMENT-PRESSING MACHINE.

Application filed April 17, 1922. Serial No. 553,831.

To all whom it may concern:

Be it known that I, CHARLES H. LEWIS, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Garment-Pressing Machines, of which the following is a specification.

This invention relates to improvements in garment or cloth pressing machines, and has for its object to provide novel construction, arrangement and operation of the stationary press block which support the garments, and also of the presser head which moves towards and from the press block. A further object is to provide both the press block and the head in two distinct parts, each consisting of a main hollow imperforate body through which steam circulates constantly for maintaining the head and block at high temperatures, and a perforate part arranged to be intermittently supplied with steam, which may be independently admitted to both or to either of said members at the will of the operator, by means of separate valves; the presser head as well as the press block being so constructed and arranged that there is no communication for the intermingling of the steam between the imperforate and the perforate parts. A further object is to provide means for spraying the garments with steam derived from the presser head, whether the latter is in contact with the presser block or released therefrom, and whether or not the power which effects the pressure is on or off. And a further object is to provide fluid pressure actuated means for moving the presser head towards and away from the press block, at different speeds.

I attain these objects by the means set forth in the detailed description which follows, and as illustrated by the accompanying drawings, in which—

Figure 1 is an end elevation of the complete machine. Fig. 2 is a vertical longitudinal section, taken substantially on line 2—2 of Fig. 1. Fig. 3 is an enlarged central vertical section, taken on line 3—3 of Fig. 1; showing the construction and arrangement of the steam valves carried by the presser head. Fig. 4 is an enlarged central horizontal section through the fluid pressure cylinder which operates the presser head. Fig. 5 is an enlarged top plan view; showing the imperforate and the perforate parts which com-

prise the presser head. Fig. 6 is a bottom face view of the presser head. Fig. 7 is a central vertical longitudinal section, taken on line 7—7 of Fig. 5. Fig. 8 is a similar section, taken on line 8—8 of Fig. 5. Fig. 9 is a vertical cross-section taken on line 9—9 of Fig. 6. Fig. 10 is a horizontal section taken on line 10—10 of Fig. 7. Fig. 11 is an enlarged top plan view of the press block. Fig. 12 is an enlarged bottom face view of the same. Fig. 13 is a vertical longitudinal section taken on line 13—13' of Fig. 11.

In the drawings, 2 represents the upright frame, which supports all of the working and other parts, having feet 2', and a table 2^a. From this table rises an I-shaped column 2^b, which supports the stationary press-block or garment support, hereinafter referred to as the buck 3. At the rear, the frame rises in a column 2^c, which is perforated at 2^d, to receive a hollow shaft 4. The presser head 5 is rigidly mounted on the forward end of a rocking beam 4', which in turn is preferably rigid on the shaft 4. The beam 4' which projects some distance beyond the upright 2^c is rocked vertically on the bearing 2^d, for raising and lowering the presser head 5 (see full and dotted lines in Fig. 1), by means of a toggle comprising links 6 and 6', which are pivotally connected at their meeting ends by a pin 6^a, and their opposite ends are respectively pivoted to the beam 4' and to a perforated lug 2^e of the frame. The toggle is actuated (see full and dotted lines in Fig. 1) by a rod 7', which is driven by a double piston 7, the latter being reciprocatably disposed in a cylinder 7^a, and may be actuated by steam, or any other fluid-pressure. The steam may be derived from any suitable source, and may be supplied by a pipe 8, to a cross 8', from which pipes 8^a—8^b carry the steam in opposite directions to valves 9 and 9', the said valves being so positioned that when rocked in opposite directions, they alternately feed the steam into and exhaust it from, the opposite ends of the cylinder 7^a, for reciprocating the pistons 7, as shown by the full and dotted lines in Fig. 4. The valves 9—9' are provided with operating levers 9^a—9^b, which are connected by a common rod or link 9^c, and are therefore movable simultaneously, by means of a hand-lever 9^d, and a connecting rod 9^e, which may be manipulated by the operator. The fluid-pressure

actuating means just described, takes the place of the pedal heretofore employed for actuating presser heads of the class. The full and dotted lines in Fig. 1 show the manner of operating the valves 9—9'.

The stationary press buck 3 is generally made of metal, and may be hollow or solid, but in the preferred form it is hollow, as best seen in Figs. 11, 12 and 13. This part, as well as the head 5, preferably tapers from end to end, and the latter extremities in both cases, are preferably round, as shown.

The buck 3 consists of an elongated hollow body portion 3', and a reduced hollow portion 3''. The interior of the buck is divided vertically for the greater part of its length, by a central partition 3^a for forming a circuitous path for the steam, and the space at one side of this partition is divided by a transverse wall 3^b. The top face 3^c is provided with a longitudinal sunken recess 3^d, and a plurality of intersecting transverse recesses 3^e, of any suitable dimensions. In the preferred form, no part of the top face 3^c, nor any of the walls of the recesses of the buck are perforated. The whole interior of the main body 3'—3'' may be charged with steam, for constantly maintaining the buck 3 at a suitable temperature. The steam for this purpose may enter and leave the buck at any convenient points, but in the present showing, the steam is preferably admitted through a port *a*, which is located near the center of the base 3'', and to which is connected one end of a pipe *b*, the opposite end of said pipe connecting with a T *c* carried by the pipe 8. The pipe *b*, for convenience, is disposed in one of the channel sides of the column 2^b. After the steam has completed its circuit around the partition 3^a, as shown by the arrows in Figs. 11 and 12, it passes out through a port *d*, and is carried away by a pipe *e*, which may be disposed in the same channel of the column 2^b. It is sometimes desirable to apply steam to the under side of garments during the pressing operations, and in order to afford this facility, in a novel and simple manner, I provide an entirely separate part, consisting of an elongated hollow body 3^x, and a plurality of integral laterally extending hollow arms 3^y, all of which preferably conform in size and shape to the intersecting recesses 3^d—3^e. This separate part, hereinafter referred to as the spider 3^x, is so disposed in the recesses 3^d—3^e, that its top face is in the same plane as the corresponding portion of the part 3', and this top face of the spider alone is perforated, as shown at *p*. The steam for the spider 3^x is supplied by a pipe 10, which draws the steam through a T-*f*, from the pipe *b*, and carries it to any suitable valve, as 11, which may

be manipulated by the operator. From the valve 11 the steam is carried upwardly, by an extension of the pipe 10, which preferably discharges into one of the arms 3^y of the spider 3^x (see Figs. 1, 11, 12 and 13). The valve 11 (except that it is inverted) is substantially the same in construction and operation, as that shown in Fig. 3, which will be described later on. The full lines in Fig. 2 represent the valve in the closed position. To charge the spider 3^x with steam, the operator depresses the handle 11', as from the full line to the dotted line position, shown in Fig. 2.

The presser head 5 conforms generally to the shape of the buck 3, and comprises a hollow body 5', having a substantially flat imperforate bottom surface *x* and an elongated hollow dome top 5^a, the latter portion being divided by a vertical longitudinal partition 5^b that extends centrally the greater part of its length; and also by a transverse partition 5^c which extends from one side to the partition 5^b. The bottom face *x* of the part 5' is provided with a central longitudinal recess 5^d and a plurality of transverse recesses 5^e which intersect the recess 5^d, as shown by the full and dotted lines in Figs. 5, 6, 7, 8, 9 and 10. By this construction and arrangement of the main part 5' of the presser head, the steam space in said part comprises the whole of the dome 5^a and also a number of spaces 5^f in the lower portion 5', which lie between and at the ends of the several recesses 5^d—5^e. In the present case, the part 5' of the presser head is intended to be constantly charged with flowing steam for the purpose of maintaining a steady temperature in the head, and to accomplish this, a steam pipe 12 connects with the cross 8' and conducts the steam to a T 12', which is supported by one end of the shaft 4. From the T 12' the steam is carried to the dome 5^a by a pipe 12^a that connects with a port 5^x, which is located near the transverse wall 5^c, and thence circulates throughout the dome and the spaces 5^f, in the direction indicated by the arrows in Figs. 5 and 6. The steam is finally discharged through a pipe 12^b, the latter extending rearwardly from the head 5 (see Figs. 1 and 5).

The steam for softening, cleaning and curing the garments is obtained from a hollow metal spider or part 13, which is similar to the part 3^x, and is made to conform to, and is inserted in the recesses 5^d and 5^e, as best seen in Figs. 6, 7, 8 and 9. The spider 13 is so disposed in the recessed bottom of the head that its bottom or exposed surface 13^x lies in the same plane as the bottom face *x* of the part 5', as shown in Figs. 7, 8 and 9, and this exposed surface of the spider alone is perforated, as shown at 13' in Figs. 6, 7, 8 and 9, for the escape of the steam to the

top surface of the garments before, during, or after the pressing intervals. The steam for the spider 13 is delivered through a pipe 13^a, which connects by means of a T 13^b with the pipe 12^a. The pipe 13^a connects with a control valve 14, from which a continuation of the said pipe conducts the steam into an arm 13^c of the spider, which projects beyond the front edge of the head. The spider 13 may be secured in the recesses 5^d—5^e by any suitable means (not shown). The valve 14 (see Fig. 3), which is disposed in a body 14^f, and is normally held upon a seat 14^a, by a spring 14^b, is supported by a stem 14^c, which projects through the bottom of the body, and may be raised against the tension of the said spring, for allowing the steam to pass from a port 14^d to a port 14^e, by means of a hand-lever 14^f. The operator depresses the handle 14^f, (see dotted lines in Fig. 1), for opening the valve after the presser head is rocked forwardly and downwardly by the action of the pistons 7. The full lines in Figs. 1 and 2 show the operated positions of the parts, for effecting the pressing of the garments, while the dotted position of the handle 14^f, in Figs. 1 and 3, show the opening of the valve, for charging the spider 13 with steam, which escapes through the perforations 13^f for spraying the garments, while the pressure exerted by the head 5 upon the buck 3 is being maintained by the cylinder 7^a. The provision of the cylinder 7^a for operating the presser head 5 insures a constant and even pressure upon the buck 3, which is not obtainable in the older styles of pressing machines, wherein foot-levers are employed for operating the presser heads, and wherein the weight of the operator determines the degree of pressure upon the buck. The cylinder 7^a operates as follows: Referring to Fig. 4, which corresponds to the full lines in Fig. 1, the steam obtained from the cross 8^f flows through the broken pipe 8^a and valve 9 into the left-end of the cylinder. This drives the pistons 7 towards the right and operates the toggle, as from the dotted line to the full line position, shown in Fig. 1. This rocks the beam 4^f and the head 5 downwardly upon the buck 3, for effecting the pressing of the garments or other articles. To accomplish this latter operation the operator swings the hand-lever 9^a outwardly to the full line position, shown in Fig. 1. To release and lift the presser head 5 away from the buck 3, the operator merely shifts the lever 9^a back to the dotted position, shown in Fig. 1. This partially rotates the valves 9—9^f, shuts off the steam at the left end of the cylinder 7^a, and admits steam through the valve 9^f into the right-end of the cylinder. This drives the piston 7 back towards the left and simultaneously opens a passage from the left end of the cylinder to the drain

cock 9^f (see Fig. 1) carried by the valve 9, through which the exhaust steam escapes. The leftward movement of the piston 7 operates the toggle, as from the full line to the dotted position, shown in Fig. 1, which swings the beam 4^f, and the head 5 upwardly, away from the buck, as described. By the employment of the fluid pressure cylinder 7^a, for actuating the presser head, the operator may move the handle 9^a, in a manner to effect the slow downward movement of the presser head, and at the same time open the valve 14, for spraying the top surface of the garment with steam, before the head comes in contact with the garment. So also, he may give the garment a final spraying, while the head is being elevated, after the pressing work is done, for raising the nap of the cloth, which is often desirable. The steam pipes, as well as the valve 14, carried by the head 5 all move with the head, by means which are well-known and need not be described in detail in the present case.

The provision of the two-part presser head 5 comprising the main body 5^f and the spider 13 has many advantages over the older presser heads: In the body 5^f the steam space extends from the top to the bottom α , which insures the constant and steady heating of the entire head. This heating is rendered more even and consistent by the provision of the partitions 5^b and 5^c, which cause the steam to circulate around the longitudinal partition 5^b, as shown by the arrows in Figs. 5 and 6. By this construction and arrangement there are no dead ends or pockets in which the steam may collect and lose its heat. The spider 13, which is preferably a separate part and is provided with separate steam connections, has no communication whatever with the interior of the part 5^f. The spider 13 comprises a hollow central longitudinal portion 13^d which corresponds to the recess 5^d of part 5^f, and also a number of hollow transverse arms 13^e which correspond to the recesses 5^e. The bottom wall 13^a throughout the central and lateral portions of the spider are provided with a large number of fine perforations 13^f, through which the steam for softening and curing the garments or other articles escapes.

It has been found that where the entire bottom of the presser head, as α , is perforated it is impossible to maintain the high degree of heat that is required in order to readily and properly press and cure the cloth. The reason for this is that the presser face of the head being perforated rapidly cools whenever the steam is shut off during the intervals in which the garments are being changed or adjusted, and by the time the next pressing operation is begun the temperature of the presser face is low and can only be raised by a prolonged application of

the steam which is only intended for the pressing operation. Furthermore it has been found that when the foraminated area is greater than herein shown, too much steam is applied to the garments, with the result that the garments become too moist and it requires too long a time to cure the cloth after the steam is shut off. In the present machine the heating space of the body 5' of the head extends to the whole of the imperforate bottom portions *x* and by this arrangement the said portions are constantly maintained at so high a temperature that there is no danger of any of the heat units of the steam supplied to the spider being absorbed by the adjacent portions *x*. The fact that the bottom *x* is constantly maintained at the right temperature owing to the proximity and conductive nature of the body and arms of the spider, the latter are also maintained at a relatively high temperature during the intervals when the presser steam is shut off.

Having thus described my invention, what I claim is:—

1. A clothes pressing machine, including a hollow body having a recessed pressing surface, a hollow insert for filling the body recess and supplementing the pressing surface, the pressing surface of the insert being perforate and consisting of spaced portions of different size which alternate with imperforate portions of the body pressing surface.

2. A clothes pressing machine, including a hollow body that tapers from end to end and being provided with a recessed imperforate pressing surface, a hollow insert for filling the body recess and supplementing the pressing surface of the body, the pressing surface of the insert being perforate and comprising spaced portions which increase in length from the narrowest to the broadest ends of the body, and means for issuing heated fluid through the perforate face of the insert.

3. A clothes pressing element comprising

two distinct heated parts, one of said parts being removable and hollow and having corresponding laterally extending arms, and said parts being non-communicable, one of said parts having an imperforate pressing surface, the other part including said arms having a complementary perforate pressing surface, the said pressing surfaces being disposed in a common plane.

4. A clothes pressing machine comprising two distinct parts tapering from end to end, one of said parts being removable, and said parts being non-communicable, both of said parts being heated throughout and having pressing surfaces arranged in a common plane, the pressing surface of one part being imperforate, the pressing surface of the other part consisting of spaced perforate portions of different length, and independent sources of heat for the perforate and the imperforate pressing surfaces.

5. A clothes pressing machine comprising a hollow buck and a relatively movable hollow head, both heated throughout and tapering from end to end, and the pressing faces thereof being imperforate and formed with registrable recesses that increase in length from the narrowest to the broadest ends thereof, and perforate inserts for the recesses having pressing faces substantially flush with the aforesaid pressing faces, and independent sources of heat for the buck and for the head.

6. A clothes pressing machine, including a hollow press-buck, and a relatively movable press-head, the pressing faces thereof being recessed, and hollow inserts fitted into the recesses of the buck and head and having perforate pressing faces supplementing the aforesaid pressing faces, means for independently supplying steam to the inserts of the buck and head, and fluid pressure means for moving the head towards and from the buck at different speeds.

In testimony whereof I affix my signature.
CHARLES H. LEWIS.