Aug. 12, 1952 LE ROY B. EDWARDS 2,606,377

METHOD AND APPARATUS FOR TREATING FABRIC GARMENTS DURING THE PRESSING OPERATION

Filed March 14, 1952 3 Sheets-Sheet 1

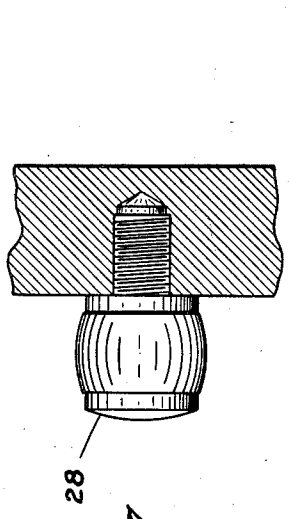


Fig. 7

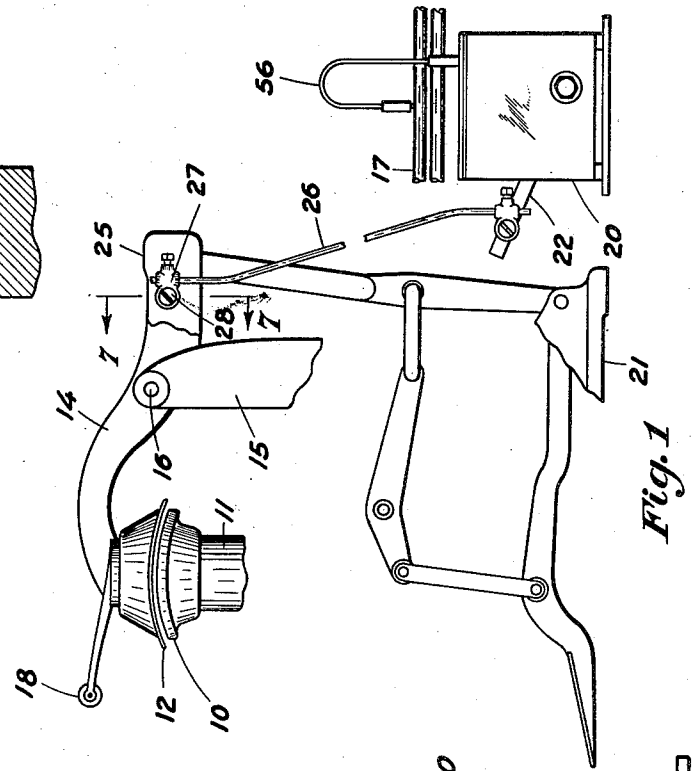


Fig. 1

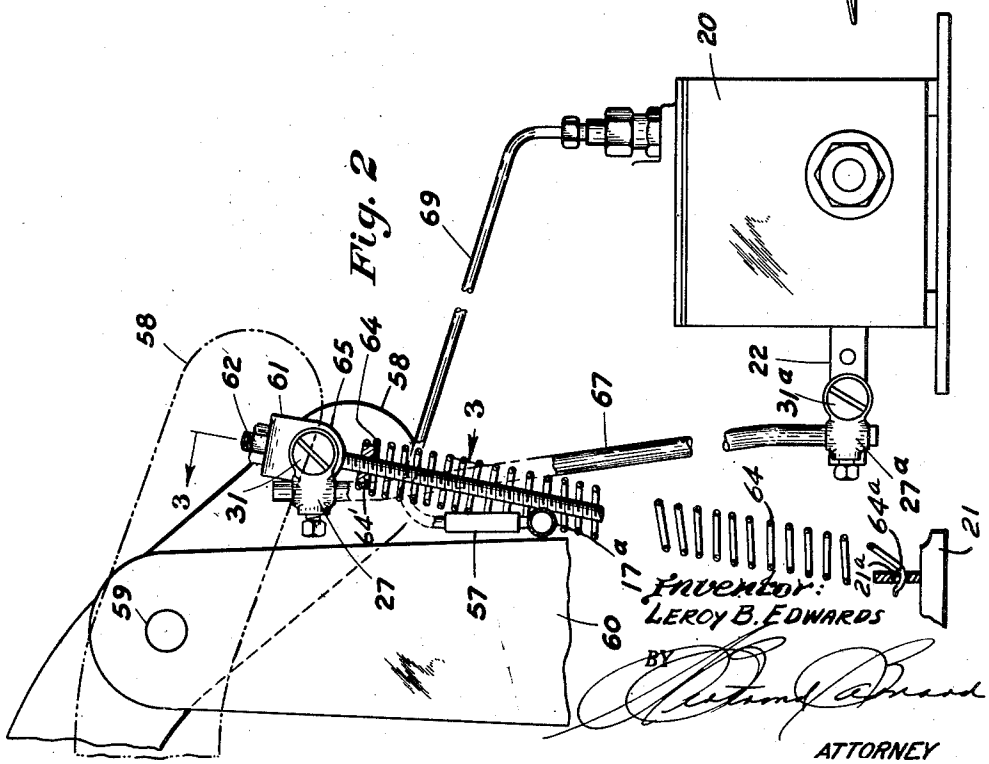


Fig. 2

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METHOD AND APPARATUS FOR TREATING FABRIC GARMENTS DURING THE PRESSING OPERATION

Filed March 14, 1952 3 Sheets-Sheet 2

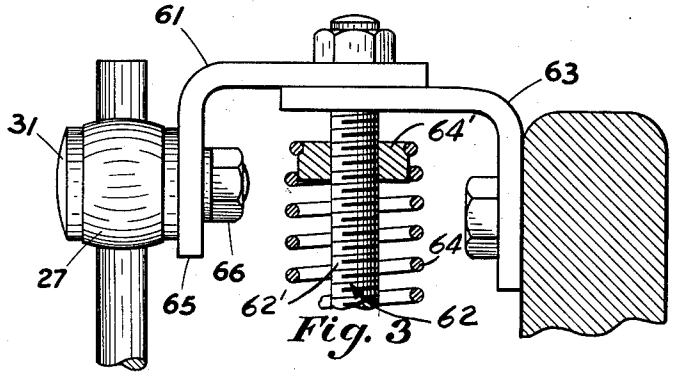


Fig. 3

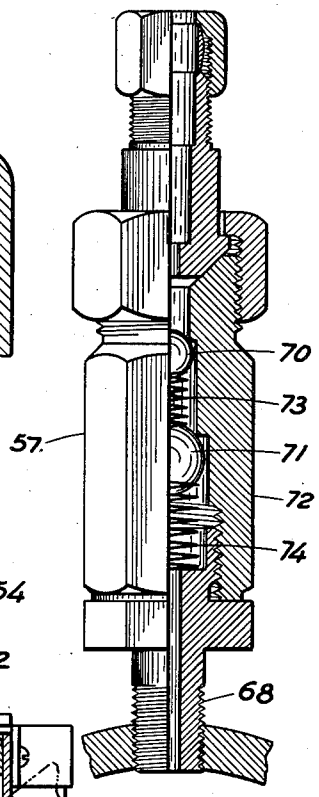


Fig. 6

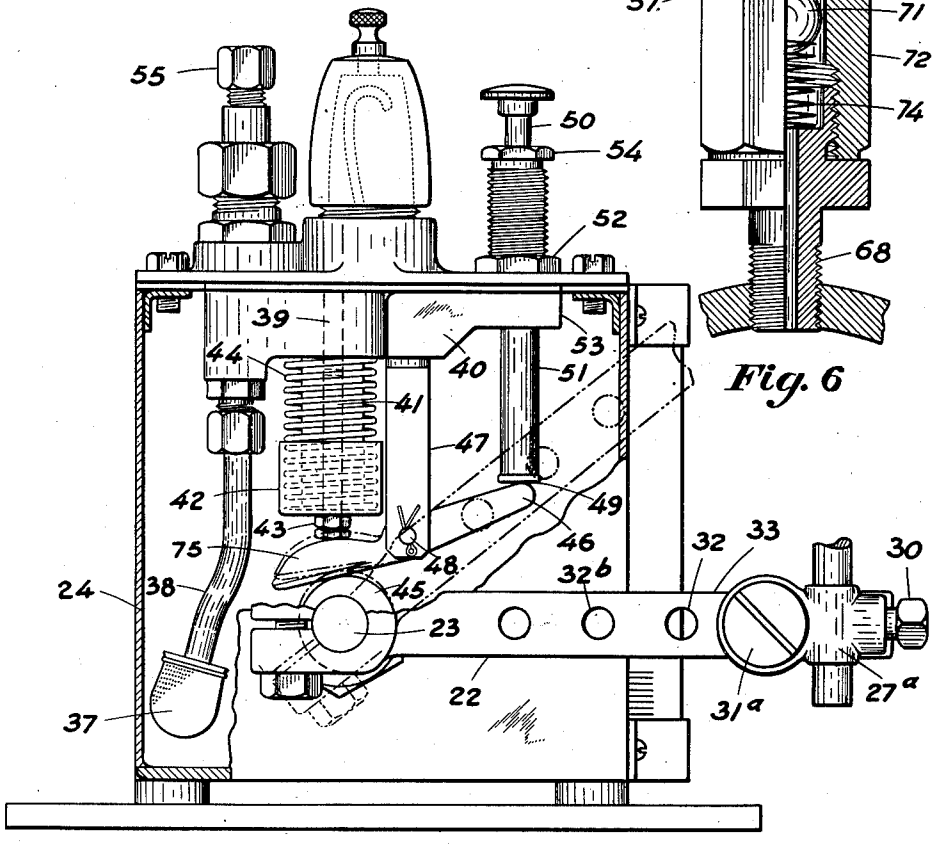


Fig. 4

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METHOD AND APPARATUS FOR TREATING FABRIC GARMENTS DURING THE PRESSING OPERATION

Filed March 14, 1952 3 Sheets-Sheet 3

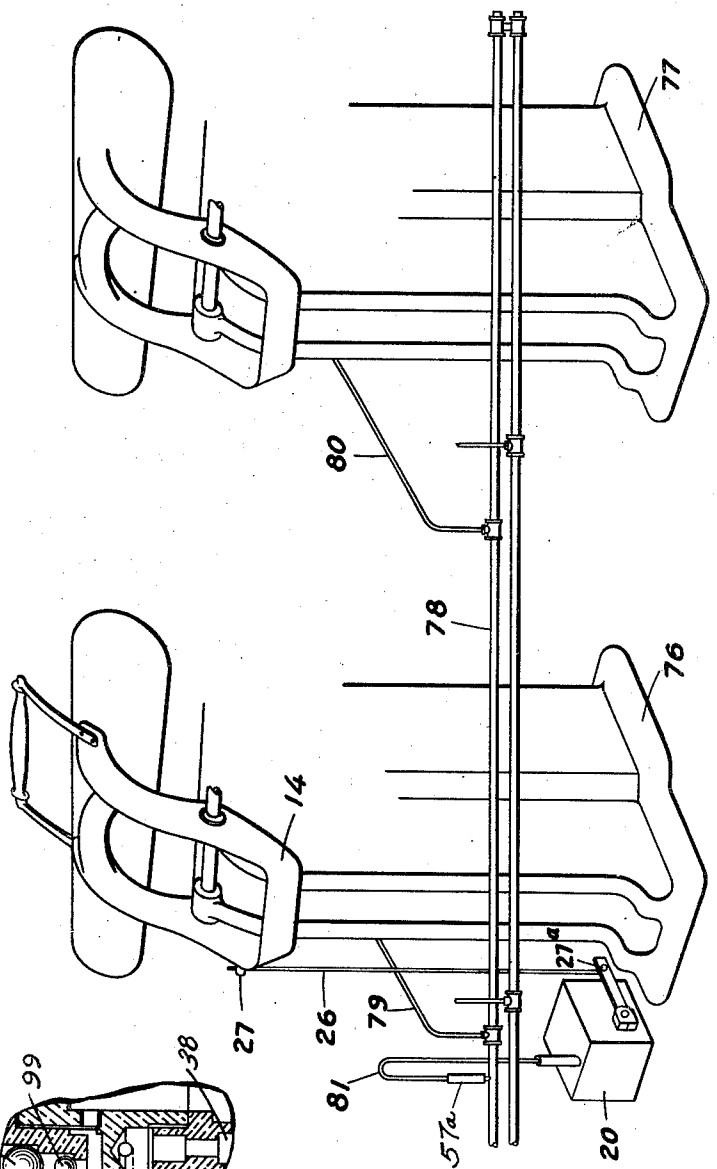


Fig. 5

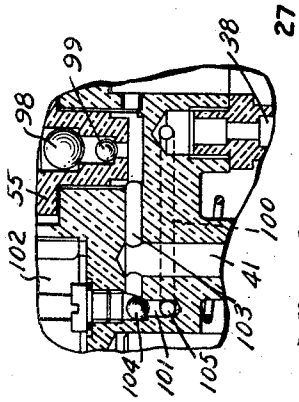


Fig. 8

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UNITED STATES PATENT OFFICE

2,606,377

METHOD AND APPARATUS FOR TREATING FABRIC GARMENTS DURING THE PRESSING OPERATION

Le Roy B. Edwards, Chicago, Ill.

Application March 14, 1952, Serial No. 276,513

14 Claims. (Cl. 38—15)

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This invention relates to a method and to apparatus for use in the treatment of fabrics to improve the finish thereof and to enhance the body and luster of the garment formed thereof while it is pressed by conventional means with steam pressing machines or the like. This application is a continuation of my copending application Ser. No. 203,408, filed on December 29, 1950, now abandoned.

The apparatus described and claimed herein is adapted to be used in conjunction with conventional type steam pressing machines wherein a garment is placed upon a fixed padded buck, against which a similarly formed head, removably supported by a pair of pivot arms is placed. Steam is injected simultaneously through both the buck and the head while the garment is pressed therebetween.

The improvement in method comprises injecting into the steam line, during the pressing operation, a liquid, which remains suspended in the form of fine particles in the steam, and passes through the pores of the fabric with the flow of steam, the suspended liquid particles being deposited on the fibers of the fabric, to improve the body and the finish of the fabric, when the pressing is completed, such for example as mineral oil or other liquid lubricant or oleaginous material.

A lever actuated plunger pump, in which the liquid is stored, is provided, adjacent the base of the pressing machine, the actuating lever of the pump being operatively connected by a link rod to the outer end of the pivot arm, which supports the head of the pressing machine. The lever is rocked through an angle when the head of the pressing machine is moved into and out of pressing relation thereby coordinating the action of the pump with the operation of the pressing machine or with the operation of a bank of pressing machines. The volume of liquid introduced by the pump into the steam line during each stroke of the plunger is adapted to be regulated by an adjustable rocker which varies the stroke of the plunger.

A pump may be positioned at the base of each pressing machine for injection of the proper amounts of liquid into the steam line or a single pump may be connected to the steam line for feeding a bank of two or more pressing machines, the regulating rocker being adjusted to provide the quantity of liquid necessary to feed all of the machines in the bank.

The object of my invention is to provide a simple method for improving the finish of a fabric

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garment during pressing operations and it is a related object to provide apparatus for accomplishing the same.

A further object is to provide apparatus which may be connected to and coordinated with the operation of the pressing machine for the injection of adjusted amounts of lubricating liquid into the steam line and it is a related object to provide means for adjusting the amount of liquid introduced so that the pressing machine may be operated in the normal manner without further modifications.

Another object is to provide a pumping apparatus of the type described, the metering of which can be readily controlled to enable a single pump to be used for one machine or for a number of machines arranged in a bank.

A further object is to provide an apparatus which may be connected with equal facility and readily adjusted to operate with the stroke of the pivot arm supporting the head of a conventional type pressing machine without substantial modification in the construction of the machine.

These and other objects and advantages of this invention will hereinafter appear and for purposes of illustration, but not of limitation, embodiments of the invention are shown in the accompanying drawings in which—

Figure 1 is a side elevational view of a pressing machine embodying features of this invention with elements broken away to illustrate the arrangement of parts;

Figure 2 is a side elevational view in greater detail of the metering assembly used in connection with a modified type of pressing machine;

Figure 3 is a rear elevational view partially in cross-section taken through the pivot arm illustrated in Figure 2 illustrating also the rear elevation of the bracket and the swivel connector joining the upper end of the link rod to the arm;

Figure 4 is a side elevational view partially in section taken through the liquid metering pump shown in Figures 1 and 2;

Figure 5 is a plan view in perspective showing the arrangement of parts in a battery of pressing machines;

Figure 6 is a sectional elevational view through the check valve shown in Figures 1 and 2;

Figure 7 is a vertical section taken through the pivoted pressing arm taken along the line 7—7 of Figure 1; and

Figure 8 is a fragmentary sectional view of the fluid actuating means shown in Figure 4.

The features of this invention are adapted to be embodied in a conventional type pressing machine which may for example comprise a fixed padded buck 10 supported on columns 11 for operative engagement with a movable head 12. The head is supported by a pivot arm 14 pivoted on pin 16 or other suitable means on a pedestal 15 formed integral with the frame of the machine.

In conventional operation, steam is injected through pipes 17 mounted at the rear of the machine base when the head is brought downwardly into pressing relation against the fixed buck. Movement of the head and the pivoted arm joined thereto is effected by the operator by the means of a handle 18 attached to the forward end of the arm to enable the operator to insert the garment on the buck for pressing between the buck and the head.

The additional apparatus provided to perform my method comprises a pump 20, shown in Figures 1 and 4, which may be mounted adjacent the base 21 of the pressing machine, an actuating lever 22, attached to a shaft 23, trunnioned in the case 24 of the pump, being operatively connected to the rear section 25 of the pressing machine arm, by means of a link rod 26, the upper end of which may be supported by a swivel connector 27 which is rotatably supported by a trunnion bolt 28, or other suitable means of attachment, threadably inserted directly into the arm of the machine, as indicated in Figures 1 and 7, or attached to the machine arm by means of a bracket, or other suitable attaching means, a set screw 30 threadably inserted in the body of the connector, retaining the link rod in the adjusted position.

The lower end of the link rod may be supported by a similar swivel connector 27*a*, the end of the trunnion bolt 31*a* of which may be inserted through one of a series of equally spaced openings 32, formed in the arm 33, of the lever 22, the openings adjusting the effective length of the lever from the shaft 23, mounted at the hub of the lever, to the center of the trunnion bolt 31*a*, thus regulating the angular movement of the lever 22, with relation to the length of the rear section 25 of the pressing arm, and controlling the operating stroke of the pump, in a manner hereinafter described.

The liquid injection means including the head 40 and central cylinder 39 for causing liquid to be displaced from the casing through the strainer 37, passage 38 and through the valve 55 into the steam line comprises a standard unit marketed by the McCord Company of Detroit, Michigan. By way of explanation, referring to Figure 8, as the plunger 41 is retracted, a suction is created which seats balls 98 and 99 in valve 55 to seal off communication with the steam line and liquid is drawn from the casing, through the strainer 37, through passage 38 and into connecting passages 100 and 101 into the sight glass 102. When the plunger 41 is raised, balls 105 and 104 seat to close off passage 100 and the positive pressure forces the liquid through passage 103 and into valve 55 wherein the balls 98 and 99 are unseated to permit passage of the liquid into the steam line.

The plunger 41 extends reciprocatingly downward through the cylinder 39, the lower portion of the plunger passing through a hollow shell 42, a pair of nuts 43, threadably attached to the lower end of the plunger, clamping the plunger against the shell. A coiled compression spring 44, the lower end of which is inserted in the interior of the shell 42, surrounds the plunger, the upper end of the spring engaging the lower surface of the head of the pump, normally to retain the plunger in the shell in the bottom position.

An eccentric 45 may be mounted on the pump shaft 23, adjacent the hub of the lever 22, the eccentric engaging the end of the lower arm of a pivoted rocker 46, pivotally supported in a column 47, depending upon the head of the pump, by means of a pin 48, the opposite end of the rocker 46 engaging a cap 49 formed at the lower end of a push rod 50 slidably supported in a tubular sleeve 51. The integral enlarged cylindrical upper portion of the tubular sleeve is threadably supported in a tubular collar 52, the upper end of which has a hexagonal head integral therewith, the collar being inserted in a boss 53 formed integral with the head of the pump.

The vertical position of the sleeve may be adjusted by means of a head 54 formed at the top of sleeve 51. The lower end of the tubular sleeve 51 engages the top of cap 49 thereby limiting the upper limit of the stroke of the push rod and therefore the upper position of the cap 49 formed at the bottom of the push rod and in that manner controlling the starting position of the pivoted rocker 46 and the plunger 41. The bottom of the plunger is pressed against one end of the rocker 46 by compression spring 44 thereby raising the opposite end of the rocker which moves the push rod 50 and the cap 49 integral therewith into the upper position, shown in Figure 4.

When the lever arm 33 of the pump control lever is moved from the lower position, shown in Figure 4, to the upper position, shown in Figure 1, by raising the rear section of the pivot arm of the pressing machine, the eccentric 45 is rotated about the center shaft thereby raising the arm of the rocker 46 and the plunger 41 within the cylinder. Such movements cause injection of a metered quantity of fluid through a tube fitting 55 attached to the head 40 of the pump, through a tube 56 connected at its opposite end by means of a check valve 57 to the branch line 17 of the pressing machine. The branch line feeds steam into both the buck and the head of the pressing machine during normal pressing operations.

In this manner, a metered quantity of fluid is injected into the steam line of the machine each time the head of the pressing machine is lowered into pressing relation against the buck which raises the rear section of the pivoted pressing machine arm 14 and the pump actuating lever 22.

Figure 2 shows a pump of the type described fitted to another type of pressing machine in which an arm 58, forming a greater angle with the pedestal of the machine, is pivotally supported by a pivot pin or bolt 59 on the pedestal 60 of the machine.

An L-shaped or other suitable bracket 61 may be mounted on a stud or bolt 62 supported on another bracket 63 attached to the rear end of the arm of the machine, as indicated in Figures 2 and 3. A coiled compression spring 64, has a threaded nut 64′ in the upper end threadedly engaging the threaded shank 62′ of the bolt 62 and a hook 64ª at the other end which connects onto an opening 21ª in a plate fixed to the base of the press frame whereby the spring may be adjustably tensioned by turning the bolt to re-

store the arm to its closed position, shown in dot-dash lines in Figure 2, when the manual pressure is released. A swivel connector 27 may be attached to the outer flange 65 of the bracket, as by means of an extension or trunnion bolt 31, which fits through an opening formed in the bracket flange. A nut 66 clamps the head of the trunnion bolt against the bracket flange, as indicated in Figures 2 and 3.

The pump 20 and the actuating lever 22 correspond substantially to that shown in Figure 1, a link rod 67 being mounted between the upper swivel connector 27 and a lower swivel connector 27*a* attached to the arm of the pump actuating lever.

The operation of the pump is substantially the same as that shown in Figure 1, the actuating lever 22 being raised from the position shown in Figure 2, to the upper position shown in dot-dash lines, Figure 4, when the rear portion of the pressing machine arm 58 is moved from the open position shown in Figure 2 to the pressing position shown by dot-dash lines, Figure 2, thereby moving the pump plunger into the cylinder and injecting a metered quantity of fluid into the branch steam line 17*a*, which feeds steam into the head and the buck simultaneously, through a double-ball check valve 57, shown in detail in Figure 6, the stem 68 at the lower end of the valve being threadedly inserted into the steam line, or into a T, or other type of fitting inserted in the steam line.

The metered quantity of liquid, from the pump, passes through the tube fitting 55, attached to the head of the pump, thence through a tube 69, which is connected by a tube fitting to the check valve 57.

In the check valve, shown in Figure 6, two balls 70 and 71, each of which is seated in a spherical segmental seat, formed in the body 72 of the valve, are utilized. A pair of coiled compression springs 73 and 74 are mounted in the body of the valve, as indicated in Figure 6, the smaller diameter spring 73 being located between the two balls, to force the upper ball 70 against its seat, the larger diameter lower spring 74 being inserted between the lower ball 71 and the stem of the valve, to press the lower ball against its seat.

The check valve restrains the steam from the steam line and prevents its passing through the valve, into the pump, when the lower ball valve is seated.

When the liquid is injected into the steam line by means of the pump, the upper ball 70 is lifted from its seat by reason of the fact that the liquid pressure becomes greater than the spring pressure. This permits liquid under pressure to pass around the upper ball check valve into the space between the upper and lower balls. The liquid under pressure then moves the lower ball off its seat and passes around the lower ball into the steam line. The stem is kept out of the valve by means of the lower ball 71 which is held against the seat by the combination of steam pressure and the compression spring 74.

The pump may be connected in such a manner as to feed a metered quantity of the liquid to an individual pressing machine, as indicated in Figures 1 and 2, or battery of two or more pressing machines may be supplied by a single pump, as indicated in Figure 5.

The quantity of fluid fed by the plunger at each stroke thereof may be manually adjusted, by adjusting the tubular sleeve 51, within the collar 52, thereby limiting the upward movement of the cap 49, and the plunger 41, and regulating the normal position of the rocker 46, by means of which the position of the plunger 41 within the cylinder at the start of the stroke is determined.

By lowering the sleeve 51, the plunger control arm 75, of the rocker, may be raised, thereby reducing the cylinder volume above the top of the plunger 41.

In this position, the eccentric 45, mounted on the pump shaft, is rotated into a higher angular position at the start of the plunger stroke, thus reducing the stroke of the plunger, and the volume of liquid injected into the steam line, per stroke. This, coupled with the reduced volume in the cylinder at the start of the stroke, reduces the volume of liquid injected per stroke.

Conversely, raising the sleeve 51 within the collar 52 raises the starting position of the push rod and the rocker 46, thereby lowering the plunger control arm 75 of the rocker, thus lowering the starting position of the plunger within the cylinder, and increasing the volume of liquid in the cylinder above the plunger.

The plunger movement is also simultaneously increased by the more effective position of the eccentric, thus increasing the volume of liquid injected, per stroke.

The volume of liquid injected per stroke may be further increased by moving the trunnion bolt 31*a*, of the connector, into one of the other holes 32*b*, in the arm of the lever, thereby reducing the length of the effective lever arm, increasing the angular movement of the eccentric for the same pressing machine arm movement, and further increasing the volume of liquid pumped per stroke.

Figure 5 shows a line of pressing machines 76 and 77, similar to the single machine shown in Figure 1. A pump 20, mounted adjacent the base of one of the machines, may be driven by the pivoted arm 14 of the machine, by means of a link rod 26, which connects the arm of the machine to the actuating lever 22 of the pump, swivel connectors 27 and 27*a*, attached to the pressing machine arm and the pump actuating lever by trunnion bolts 28 and 31*a*, respectively, supporting the opposite ends of the link rod in the same manner as those shown in Figure 1, thereby actuating the pump in substantially the same manner.

Steam is fed to the machines by means of the main steam line 78, which feeds the individual pressing machines, by means of branch lines 79 and 80, which connect the main steam line to the individual pressing machines, each of the branch lines, in turn, feeding steam to both the buck and the head of the respective machine.

The liquid is fed from the pump 20 to a double ball check valve 57*a*, inserted in the main steam line 78, which feeds the entire battery of machines, by means of a tube 81, which connects the outlet tube fitting 55, of the pump, to the tube fitting at the upper end of the check valve.

The amount of liquid injected into the steam line, per stroke of the pump, is regulated by the tubular sleeve 51, which surrounds the push rod 50, and controls the starting position of the pump rocker 46, in the manner hereinbefore described, and may be further regulated by adjusting the length of the arm 33, of the pump actuating lever 22, by moving the lower trunnion bolt 31*a* into one of the other holes formed in the arm, thus altering the angular movement of the rod,

and the eccentric attached to the pump shaft, thereby varying the stroke of the plunger and further adjusting the supply of liquid injected into the steam line at each stroke of the arm of the pressing machine. The flow of steam from each branch line 79 or 80 to the buck and head of the corresponding pressing machine is regulated by a control valve (not shown), mounted on each of the branch steam lines 79 and 80, before the point of connection between the branch steam line and the buck and head of the machine. The valve may be adjusted by the operator to regulate the flow of steam to the buck and head of each machine.

In the assembly shown, it is necessary for the pressing machine to which the pump is connected to be in operation at all times in order to feed lubricant into the main steam line. The amount of liquid under pressure fed from the pump 20 would be regulated by the operator, by adjusting the pump plunger stroke in the manner hereinbefore described, to provide the normal suspended liquid requirements of the normal quota of machines in the battery. When one machine is cut out of the battery, the flow of liquid would remain constant, and the flow of steam being reduced, the ratio of the suspended liquid in the steam would be increased slightly. Where one pressing machine is taken out of use for a sustained period, or where more than one machine is cut out, the operator would adjust the stroke of the plunger of the pump in the manner shown in Figure 4, and hereinbefore described, thereby reducing the flow of suspended liquid under pressure into the steam line, in order to maintain the liquid percentage desired with a reduced number of machines in operation, the plunger stroke being adjusted again to increase the flow of liquid to the steam line, when the machine or machines are restored to operation.

Where more machines are added to a battery, an additional pump may be provided to feed a portion of the machines, each pump being connected to a section of the main steam line, which feeds a particular part of the battery of machines, the pump actuating lever being connected to and driven by the pivoted arm of one of the machines, in the manner shown in Figure 5, and hereinbefore described. In all other respects the operation of the machines and the injection of the liquid by the pumps into the steam lines, would be substantially the same, the supply of liquid being adjusted to the steam required by the machines in the group for a unit time period, and also to some extent to the type and texture of the fabrics to be pressed.

The linkage between the pump and the arm of the press would be substantially as shown in Figure 1, where a battery of pressing machines having arms of the type shown in Figure 1 are used, and of the type shown in Figure 2, where a battery of machines having pivoted arms of the type shown in Figure 2 are used, the connection between the outlet fitting of the pump and the main steam line 78 of the machines, being substantially as shown in Figure 5, regardless of the type of control arm used in pressing the head of the machine against the buck.

Where a particularly large battery of machines is used, a larger single pump may be substituted in place of several small pumps.

Instead of connecting the control lever of one of the pumps to the pivoted arm of the pressing machine, a motor driven liquid injection pump may be substituted, the pump feeding the liquid directly into the main steam line, supplying the entire battery of machines, or multiple outlets, or a plurality of pumps may be provided, each outlet, or each pump, feeding into a branch steam line, which supplies a smaller battery of pressing machines.

The essential feature of the apparatus is to inject a uniformly measured quantity of diffusible liquid, into the main steam line of a battery of machines, into a branch steam line feeding a small group of machines, or into an individual branch line, feeding an individual machine, the quantity of liquid supplied by the pump being adjusted by adjusting the stroke and starting position of the plunger in the manner hereinbefore described.

In operation, a metered quantity of liquid from the injection pump is introduced into the steam line responsive to movement of the head of the machine into pressing relation with the buck. The amount of liquid introduced may be adjusted, as previously described, in accordance with the number of units in operation, the type of material being pressed, and the type of liquid being introduced. For example, with mineral oils, and preferably with a light fraction of colorless mineral oil, one gallon will suffice to press about 10,000 units. With other lubricants, such as polyethylene glycols and other oily materials, more or less may be required.

Upon introduction into the steam line, it appears that the forces existing, such as injection pressure, steam pressure, or velocity and turbulence of the steam, causes the liquid to be broken up into small particles which become diffused and uniformly distributed throughout the steam. Thus as the steam is applied and forced through the fabric in the normal pressing operation, particles of the liquid are carried into the fabric and deposited onto the fabric and into the pores thereof. These remain after the steam is removed to impart a certain amount of lubricity or the like to improve the appearance of the finish of the fabric and introduce new life and freshness into the garment.

It will be apparent to those skilled in the art that my present invention is not limited to the specific details described above and shown in the drawings, and that various further modifications are possible in carrying out the features of the apparatus, or the method of utilizing it, to attain the results indicated in the method of my invention, without departing from the spirit and scope of the appended claims.

I claim:

1. In the method for steaming textile materials in pressing operations, the steps of introducing into the steam a small amount of liquid lubricant which becomes diffused as fine particles in the steam, and then introducing the steam with the diffused lubricant into the textile material being pressed during the pressing operation whereby the particles of lubricant are carried into the textile for deposition onto the fibers of the fabric to improve the body and finish thereof.

2. In the method for steaming textile materials in pressing operations, the steps of introducing into the steam just prior to pressing operations a small amount of a mineral oil which becomes diffused as fine particles in the steam, and then introducing the steam with the diffused mineral oil into the textile material being pressed during the pressing operation whereby the particles of mineral oil are carried into the textile for deposi-

tion onto the fibers to improve the characteristics thereof.

3. A pressing machine including in combination a buck and a head cooperating therewith for movement into and out of pressing relation and having steam lines in connection therewith, means for introducing into the steam line a liquid which becomes suspended in the form of fine particles with the steam and passes with the steam through the pores of the fabric during pressing operations and deposit on the fibers of the steamed fabric to improve the body and finish thereof, and an operative connection between said means and the head for causing operation thereof to inject liquid into the steam line during movement of the buck and head into pressing relation.

4. A pressing machine of the type described including in combination a buck and a head mounted for cooperative movement into and out of pressing relation and having steam lines in connection therewith, means for introducing into the steam lines a liquid lubricant which becomes diffused as fine particles with the steam for passage with the steam through the fabric during pressing operations and deposits on the fibers of the steamed fabric to improve the body and finish thereof, and an operative connection between said means and the head for causing operation thereof to inject liquid lubricant into the steam line during movement of the buck and head into pressing relation.

5. A pressing machine including in combination a buck and head mounted for cooperative movement into and out of pressing relation and having steam lines in connection therewith, a pump for introducing into the steam line an oleaginous lubricant which becomes diffused as fine particles with the steam and passes with the steam into the fabric during pressing operations and deposits on the fibers to improve the body and finish thereof, means for preventing movement of steam from the steam lines into the pump, and an operative connection between the pump and the head for causing operation of the pump to inject oleaginous lubricant into the steam line during movement of the buck and head into pressing relation.

6. A pressing machine including in combination a buck and head mounted for cooperative movement into and out of pressing relation and having steam lines in connection therewith, a pump for introducing into the steam lines a mineral oil which becomes diffused in the form of fine particles with the steam and passes into the fabric during pressing operations for deposition onto the fibers of the fabric to improve the body and finish thereof, an operative connection between the pump and the buck and head for causing operation of the pump to inject mineral oil into the steam line during movement of the head into pressing relation, and means for adjusting the quantity of mineral oil injected by the pump during each operation.

7. A pressing machine including in combination a buck and a head mounted for cooperative movement into and out of pressing relation and having steam lines in connection therewith, a pump for introducing a liquid lubricant into the steam line which becomes suspended in the form of fine particles with the steam for passage with the steam into the fabric during pressing operations and deposits on the fibers of the fabric to improve the body and finish thereof, levers and arms operatively connecting the head with the pump to cause actuation of the latter during movement of the head into pressing relation to inject a small amount of lubricant into the steam line, and means for adjusting the stroke of the pump to vary the quantity of lubricant introduced during each operation into the steam line.

8. An attachment for a pressing machine having a stationary buck and a head shiftable into and out of pressing relation therewith, an arm pivotally mounted for swinging movement with the head and steam lines for supplying steam to the head and buck, comprising a pump having a supply of diffusible liquid stored therein, an outlet fitting attached to said pump, means injecting a predetermined quantity of liquid from the pump through said outlet fitting, an actuating lever pivotally attached to the pump, means connected to said actuating lever, controlling said injection means, means adjustably connecting said pump actuating lever to the pivoted arm of the machine, a check valve attached to the steam supply line, and means connecting said check valve to the outlet fitting of the pump, said pump injectiing a metered quantity of fluid through the check valve into the steam supply line when the pivoted arm is moved from the free position to the pressing position, the steam passing through the fabric garment from the buck and the head, the suspended liquid particles being deposited on the fibers of the fabric.

9. An attachment for a pressing machine having a stationary buck and a head shiftable into and out of pressing relation therewith, an arm pivotally mounted for swinging movement with the head and steam lines for supplying steam to the head and buck, comprising a pump having a supply of diffusible liquid stored therein, an outlet fitting attached to said pump, means injecting a predetermined quantity of liquid from the pump through said outlet fitting, an actuating lever pivotally attached to the pump, means connected to said actuating lever, controlling the injection means, means adjustably connecting said actuating lever to the pivoted arm of the machine, a check valve attached to the steam supply line, and means connecting said check valve to the outlet fitting of the pump, said pump injecting a metered quantity of liquid through the check valve into the steam supply line, when the pivoted arm is moved from the free position to the pressing position, the steam passing through the fabric garment from the buck and head, the suspended liquid particles being deposited on the fibers of the fabric.

10. An attachment for a pressing machine having a stationary buck and a head shiftable into and out of pressing relation therewith, an arm pivotally mounted for swinging movement with the head and steam lines for supplying steam to the head and buck, comprising a pump having a supply of diffusible liquid stored therein, an outlet fitting attached to said pump, means injecting a predetermined quantity of liquid from the pump through the outlet fitting, an actuating lever pivotally attached to the pump, said actuating lever having a plurality of openings formed along the length thereof, a swivel connector supported on the arm of the pressing machine, a bolt fitted through one of the openings in said lever, a swivel connector trunnioned on said bolt, a link rod, adjustably clamped to said swivel connectors, connecting the pump lever to the pressing machine arm, a check valve attached to the steam supply line, and means connecting said check valve to the outlet fitting of the pump, said pump injecting

a metered quantity of liquid through the check valve into the steam supply line, when the pivoted arm is moved from the free position to the pressing position, the steam passing through the fabric garment from the buck and head, the suspended liquid particles being deposited on the fibers of the fabric.

11. An attachment for a pressing machine having a stationary buck and a head shiftable into and out of pressing relation therewith, an arm pivotally mounted for swinging movement with the head and steam lines for supplying steam to the head and buck, comprising a pump, having a supply of diffusible liquid stored therein, an actuating lever pivotally attached to the pump, said actuating lever having a plurality of openings formed along the length thereof, a swivel connector rotatably supported by the outer section of the pressing machine arm, a bolt fitted through one of the openings in said actuating lever, a swivel connector trunnioned on said bolt, a link rod adjustably clamped to said swivel connectors, connecting the pump actuating lever to the pressing machine arm, an outlet fitting attached to said pump, a plunger reciprocatingly mounted on said pump, means manually adjusting the starting position and stroke of said plunger, an eccentric operatively connected to said lever, said eccentric moving the plunger into the pumping position, when the lever is angularly moved, said plunger injecting a metered quantity of liquid through the outlet fitting when the lever is angularly moved, a check valve attached to the steam supply line, and means connecting said check valve to the pump outlet fitting, said pump injecting a metered quantity of liquid through the check valve into the steam line when the pivoted arm is moved from the free position to the pressing position, the steam passing through the fabric garment from the buck and head, the suspended particles of liquid being deposited on the fibers of the fabric.

12. An attachment for a pressing machine having a stationary buck and a head shiftable into and out of pressing relation therewith, an arm pivotally mounted for swinging movement with the head and steam lines for supplying steam to the head and buck, comprising a pump having a supply of diffusible liquid stored therein, an outlet fitting attached to said pump, means injecting a predetermined quantity of liquid from the pump through said outlet fitting, an actuating lever pivotally attached to the pump, said actuating lever having a plurality of openings formed along the length thereof, a bracket attached to the outer end of the pivoted arm, a bolt attached to said bracket, a bolt fitted through one of the openings in said lever, a swivel connector trunnioned on each of said bolts, a link rod adjustably clamped to said swivel connectors, connecting the lever to the pressing machine arm, a check valve attached to the steam supply line, and tubular means connecting said check valve to the pump outlet fitting, said pump injecting a metered quantity of liquid through the check valve into the steam line, when the pivoted arm is moved from the free position to the pressing position, the steam passing through the fabric garment from the buck and head, the suspended particles of liquid being deposited on the fibers of the fabric.

13. An attachment for a plurality of pressing machines, each of said machines having a stationary buck and a head shiftable into and out of pressing relation therewith, an arm pivotally mounted for swinging movement with the head and steam lines for supplying steam to the head and buck, comprising a pump having a supply of diffusible fluid stored therein, an outlet fitting attached to said pump, means injecting a predetermined quantity of fluid from the pump, through said outlet fitting, an actuating lever pivotally attached to the pump, means connected to said actuating lever, controlling said injection means, means adjustably connecting the pump actuating lever to the pivoted arm of one of said machines, a check valve attached to the steam supply lines, tubular means connecting the check valve to the pump outlet fitting, said pump injecting a metered quantity of liquid through the check valve into the steam supply lines, when the pivoted arm, linked thereto, is moved from the free position into the pressing position, the steam, with the fluid particles suspended therein, passing through the fabric garment on each of said machines, from the corresponding head and buck, the suspended fluid particles being deposited on the fibers of the fabric.

14. An attachment for a plurality of pressing machines, each of said machines having a stationary buck and a head shiftable into and out of pressing relation therewith, an arm pivotally mounted for swinging movement with the head and main steam lines for supplying steam to the head and buck, comprising a pump having a supply of diffusible liquid stored therein, an outlet fitting attached to said pump, means injecting a predetermined quantity of liquid from the pump through the outlet fitting, an actuating lever pivotally attached to the pump, said actuating lever having a plurality of openings formed along the length thereof, a check valve attached to the main steam supply line, tubular means connecting the check valve to the pump outlet fitting, said pump injecting a metered quantity of liquid through the check valve into the main steam line, when the pivoted arm, linked thereto, is moved from the free position into the pressing position, the steam, with the liquid particles suspended therein, passing through the fabric garment on each of said machines, from the corresponding buck and head, the suspended liquid particles being deposited on the fibers of the fabric.

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