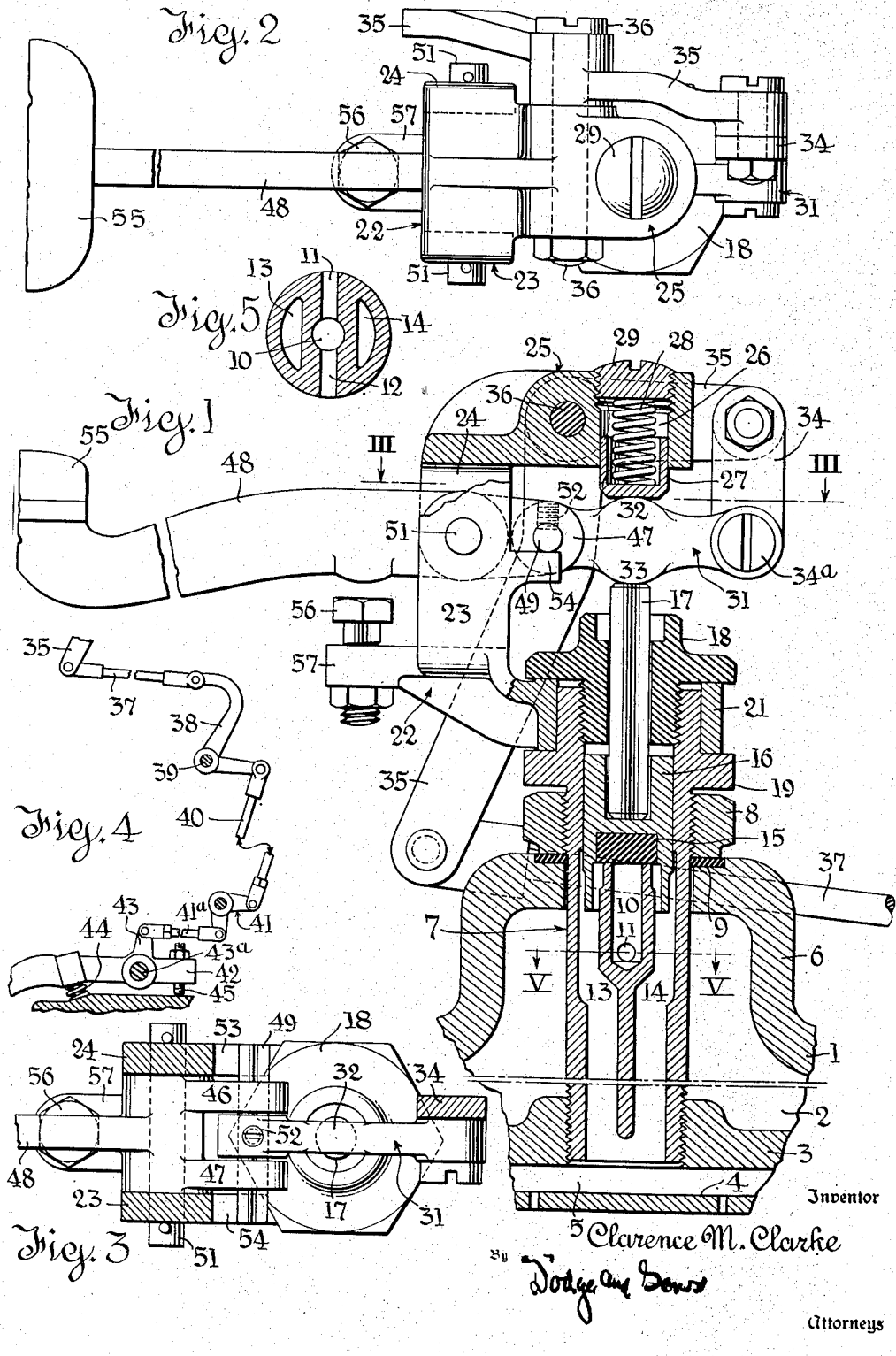
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GARMENT PRESSING MACHINE

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GARMENT PRESSING MACHINE

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This invention pertains to garment pressing machines, and more particularly to machines of that type wherein provision is made for spraying steam from the head or upper pressing element. More specifically, the invention relates to an improved valve actuating mechanism for controlling the flow of steam from the pressing face of the movable pressing element or head.

The main object of the present structure is to provide a simple and efficient means by which the valve can be caused to open either through hand or foot manipulation. The structure makes for ease of operation which, of course, is particularly advantageous during hand actuation, and likewise ensures quick opening and closing of the valve, whereby the volume of steam as well as the time interval of projection thereof is wholly under the control of the operator.

The mechanism is illustrated in the annexed drawing, wherein:

Figure 1 is a vertical sectional view, partly in elevation, of a head steaming valve and the controlling or operating means of the present invention, the connection therefrom to the foot lever being broken away;

Fig. 2, a top plan view;

Fig. 3, a horizontal sectional view on the line III—III of Fig. 1;

Fig. 4, a fragmentary view showing the operative connections extending from the foot lever to the valve; and

Fig. 5, a transverse sectional view taken on the line V—V of Fig. 1.

The valve proper is of the type wherein the closure disc is unseated by steam pressure when permitted so to do and, as shown in Fig. 1, is the same as that set forth and claimed in U. S. Letters Patent No. 1,942,987 to Sutton, to which reference is had.

In the drawing, 1 denotes a portion of the head of a garment press having a heating and pressure chamber 2 formed therein. The lower wall of the chamber 2 is denoted by 3 and spaced therefrom is a perforate wall 4 through the perforations of which steam is designed to be ejected. The wall 4 and the lower face of the wall 3 form what is commonly known as the spray chamber, here denoted by 5.

A steam dome 6 extends upwardly from the head and the chamber therein is in free communication with the heating and pressure chamber 2 into which live steam under pressure is introduced, as is usual. The valve body, denoted generally by 7, is exteriorly threaded at its lower end and screwed into the wall 3, and is in open communication with the chamber 5 at all times. A nut 8 and a sealing gasket 9, the latter resting on the upper outer face of the steam dome, secure the valve body in steam-tight relation with the dome, as in the Sutton patent aforesaid.

As will be best seen upon reference to Figs. 1 and 5, the valve body is provided with a central chamber 10 in its lower portion, into which extend ports or passages 11 and 12 that are in direct communication with the steam space within the dome. The upper end of the wall in which the chamber 10 is produced is fashioned into a valve seat, as in the patent above mentioned. Longitudinally extending passages 13 and 14 extend from a point adjacent the valve seat downwardly through the body of the valve proper and terminate in the open lower end of the body, as in Fig. 1.

Normally, the valve is closed by a disc 15 mounted in the lower end of a plunger-like element 16 which is free to reciprocate within the valve body. The upper end of the plunger is provided with a socket into which freely extends a valve stem 17 which, in turn, extends upwardly through a stem guide 18 screwed into the upper end of the valve body. Stem 17 is free to move upwardly to valve open position when freed from restraint of certain mechanism about to be described.

As stated at the outset, it is desirable to operate the valve stem releasing mechanism, as it may be termed, either through hand operation or "finger-tip" control, or through the operation of a lever pivoted upon the lower portion of the machine and designed to be actuated by the operator's foot, so that the steam pressure may raise the valve from its seat and permit steam to flow through the structure. The "finger-tip" control mechanism for opening the valve is directly associated with and carried by the valve body proper, and the arrangement is such that the operator may cause the valve to open without removing his hand from the ordinary handle present upon the head of a garment pressing machine and employed to raise and lower the same.

The valve body 7 is formed with a shouldered portion 19 which may be employed as a medium to screw the valve body in place as well as to form a seat or abutment for the lower face of an eye 21 formed upon the lower portion of a bracket denoted generally by 22. The eye 21 is held in place between the members 18 and 19 when the member 18 is screwed down to position, as clearly shown in Fig. 1. The bracket-like member 22 is provided with an upstanding portion formed by two separate walls or elements 23 and 24,

spaced apart, as best shown in Fig. 3, said walls merging at their upper ends and terminating in a laterally extending overhanging bracket denoted generally by 25.

The extending portion 25 of the bracket has a vertically disposed spring pocket 26 formed therein in alignment with the stem 17. A cup-shaped plunger 27 is mounted in the lower portion of said pocket and a spring 28 seated in said cup and bearing at its upper end against an adjusting screw 29, acts to force the cup 27 downwardly and into contact with a floating lever interposed between the cup and the upper end of the valve stem 17. The lever is denoted generally by 31 and those portions thereof which are in contact with the cup and the stem are rounded and are denoted, respectively, by 32 and 33. This rounding of the parts affords ease of movement or operation of the elements with reference to each other.

At its outer end the lever 31 is pivotally connected to the lower end of a link 34, as at 34a, the upper end of which is pivotally connected to the upper outer end of a bell crank lever 35 fulcrumed upon a bolt 36 which extends through the body of the bracket-like member 25. The bell crank lever at its lower end is connected to a link 37 which, in turn (see Fig. 4), is connected at its opposite end to a second bell crank lever 38 pivoted at 39 to a fixed portion of the machine. The opposite end of said lever 38 is connected by a draw link 40 to a bell crank lever 41 mounted on a pivot secured to a fixed portion of the machine frame. The depending arm of said bell crank is connected by a link 41a to an upstanding arm 43 formed upon a foot lever 42. Said lever is fulcrumed at 43a and forward of the fulcrum there is a compression spring 44 which tends to rock the lever clockwise. The connections are such that the spring normally holds the lever 31 in the position shown in Fig. 1 with the valve closed. An adjustable stop 45 carried by the foot lever prevents the spring from causing over-travel of the parts.

Lever 31, at what might be termed its inner end, extends between two fingers 46 and 47 formed by bifurcating the inner end of a valve release lever 48. A pin 49 extends through said lever 31 and the outer ends of the fingers 46 and 47 (see Fig. 3), and forms the pivotal connection between said lever 31 and the lever 48. Lever 48 is fulcrumed upon a pin 51 which extends through and is secured in place with reference to the upstanding walls 23 and 24 of the bracket-like member 22.

A set screw 52 (see more particularly Figs. 1 and 3) is mounted in the lever 31 and bears directly against or extends into a seat formed in the through pin 49. Extending inwardly from each of the vertical portions of the walls 23 and 24 is a lug, denoted by 53 and 54, respectively, which underlie the outer ends of the pin 49 and under certain operating conditions provide a fulcrum for the lever 31 or, in other words, when said lever is operated so that its outer end is raised through the actuation of the foot lever 42. When this foot lever is operated, the link 34 is elevated with the consequence that the lever 31 is rocked about the pin 49 as a fulcrum, the rounded portion 32 of the lever 31 forcing the spring pressed cup upwardly against the spring and permitting the steam under pressure to lift the valve from its seat, so that steam may flow from the pressure chamber to the spray chamber of the head. The moment the foot lever is released by the operator, the spring 44 will restore the parts to the position shown in Figs. 1 and 4, and the valve will be closed by the spring 28 acting through the lever 31 and the valve stem 17.

When it is desired to open the valve through the depression of the lever 48, the operator without any necessity of removing his hands from the ordinary handle mounted upon the pressing head for raising and lowering the same, may by merely exerting a slight downward pressure by his finger upon a pad 55 secured to the outer end of the lever 48, rock said lever about its pivotal point 51, thereby carrying the fingers 46 and 47 and the pin 49 upwardly together with the adjacent end of the lever 31 which latter at such time fulcrums about the pivotal connection between its outer end and the lower end of the depending link 34. This carries the surface 33 upwardly and permits the valve stem 17 to be moved upwardly and the disc 15 to be unseated by the steam pressure passing into the chamber 10.

Release of the head steam valve through the depression of the "finger-tip" control lever 48 is dependent upon the presence of the spring 44 under the foot lever 43. The spring acts to hold the connected parts in place so that the outer end of the lever 31 where it connects, as at 34a, with the link 34 will act as a fulcrum when the valve is hand operated. It will be appreciated that the valve might be released by the simultaneous operation of the hand and foot means, in which case the lever 31 is raised at both ends simultaneously, permitting the steam pressure to open the valve.

To control the volume of steam delivered by the head valve, a stop screw 56 is mounted in a finger 57 extending outwardly from the bracket 22. The stop screw underlies the lever and by proper adjustment limits the movement of the lever 48 and the floating lever 31, which latter limits the degree of upward movement of the member 17 and, consequently, the degree of opening of the valve.

As above indicated, the lever 31 is of the floating or two-way operating type, one end functioning at one time as the fulcrum point, and the other end at another time and through another operation functioning as the second fulcrum point.

It is thought that it will be appreciated from the foregoing description that the invention is simple in its nature, and in practice it has been found to be susceptible of easy operation. The "finger-tip" control of the lever 48 is of marked advantage and, as a matter of fact, an operator once he becomes accustomed to the "finger-tip" release will ignore the foot lever entirely unless, perchance, the press head is thrown up to open position and he desires to hold the garment or piece of goods against the spray face of the head while utilizing both hands to steam the goods, at which time, he will use the foot lever 42 to effect the steaming operation.

What is claimed is:

1. In a garment pressing machine, the combination of a head having a steam chamber; a spray chamber; a valve closing communication between said chambers; a spring tending normally to seat the valve; a floating lever interposed between said spring and the valve; a fulcrum for each end of said lever; and means acting independently with reference to each end of the lever for elevating said ends and thereby selectively rocking the lever about one or the

other fulcrum whereby the spring will be compressed permitting the valve to open.

2. A structure as set forth in claim 1, wherein one end of the floating lever is associated with a hand lever for rocking the same, said hand lever extending toward the forward edge of the head within easy reach of the operator.

3. A structure as set forth in claim 1, wherein one end of the floating lever is interconnected with and is designed to be rocked by a foot actuated lever.

4. A structure as set forth in claim 1, wherein the floating lever may be rocked selectively by hand or by foot.

5. In a garment pressing machine, the combination of a pressing head embodying a steam spray chamber; a valve for controlling the ejection of steam therefrom, said valve being subject to steam pressure in its opening movement; a valve stem extending from the valve and movable thereby during valve opening movement; a floating lever overlying the upper end of the stem and normally in contact therewith; a fulcrum for each end of said lever; a compression spring located above the lever and bearing thereon at a point opposite the stem; a hand operated lever for positively raising one end of the floating lever, thereby compressing the spring and permitting the valve to open under the pressure of the steam; and foot actuated connections for raising the opposite end of the lever to compress the spring and to permit the valve to open under the pressure of the steam.

6. In a garment pressing machine, the combination of a pressing head embodying a steam chamber and a spray chamber, there being a passage for steam extending from one chamber to the other, said passage terminating at one end in a seat; a valve disc for closing said passage, said disc being subject to steam pressure acting to unseat the disc; a rod associated with the disc and movable therewith in valve opening position; a floating lever overlying the outer end of the rod and extending laterally to each side thereof; a link pivotally connected to one end of the lever, said pivotal connected forming a fulcrum for said end; means under the control of the operator for raising said fulcrum; a hand lever pivotally connected to the other end of the floating lever, said hand lever being pivoted to a fixed portion of the valve structure; a fulcrum associated with the end of the floating lever to which the hand lever is pivoted; and spring means acting upon and through the floating lever and rod to hold the valve disc upon its seat.

7. In a garment press, the combination of a pressing head embodying a steam chamber and a spray chamber; a valve body mounted in and upon said head, said body having a passage formed therein connecting said chambers and terminating at one end in a valve seat; a bracket-like member secured to the outer portion of the valve body, said bracket being provided with a lateral extension at its upper end and with a pair of rigid lugs extending in the same direction as said extension and spaced apart; a valve disc; a rod associated with said disc and movable therewith when the disc is raised from its seat by steam pressure; a floating lever overlying the upper end of the rod; a hand lever pivoted to the bracket member, the inner end of said hand lever being likewise pivotally connected to one end of the floating lever, there being extensions of the pivotal connection which overlie the lugs aforesaid; a link pivotally connected to the opposite end of the floating lever; a foot lever; connections between said foot lever and the link whereby the link may be raised upon depression of the foot lever to rock the floating lever about the fulcrum aforesaid; and a spring pressed plunger mounted in the laterally extending extension, said plunger acting upon the upper portion of the floating lever in line with the rod, whereby the floating lever is held in its neutral position with the valve disc closed upon its seat.

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