

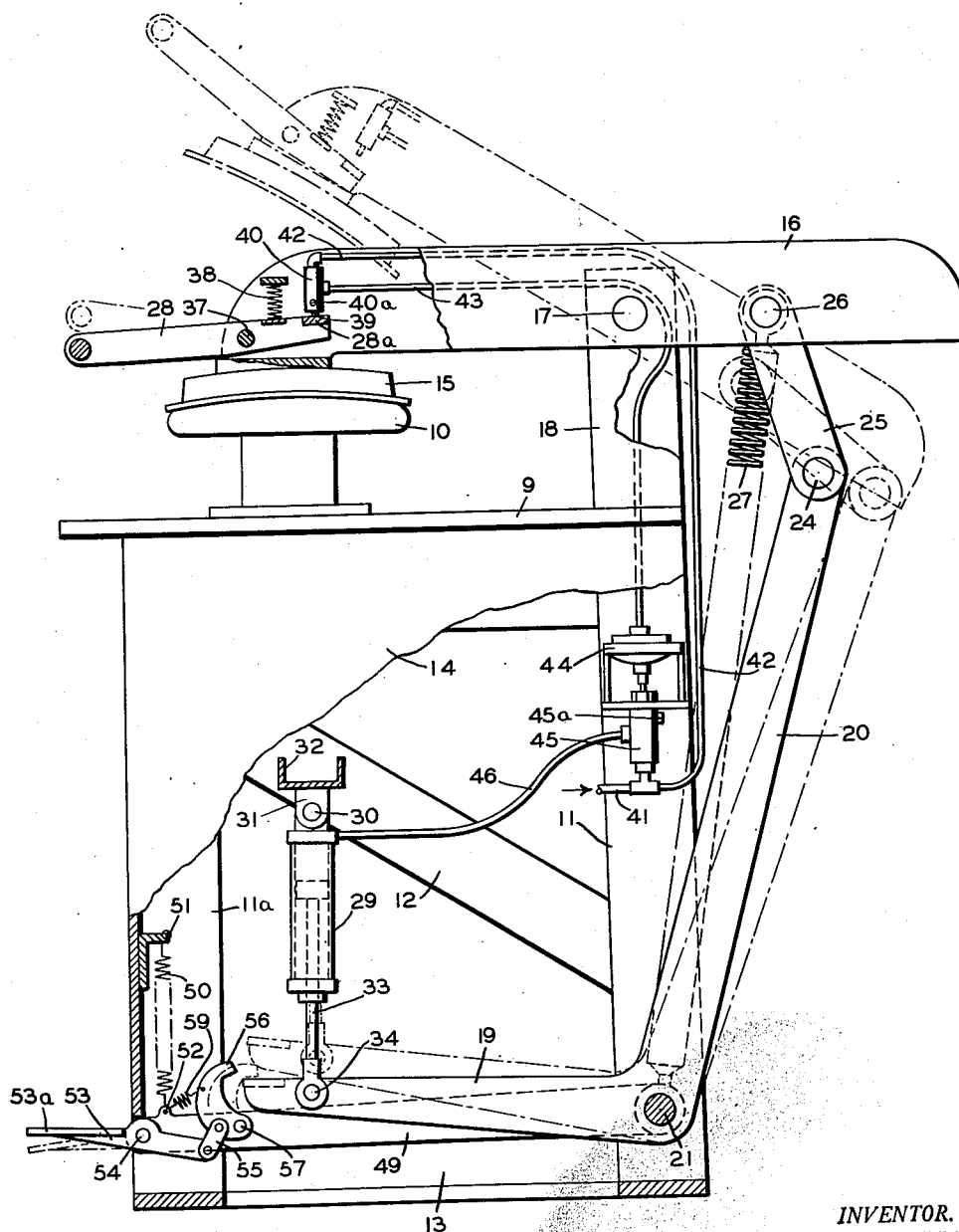
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GARMENT PRESS

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GARMENT PRESS

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The invention relates to novel and improved operating means for a garment press for finishing dry-cleaned garments such as suits and the like.

Presses of this general type have heretofore been disclosed wherein a movable press head is brought into operating contact with a stationary buck either with a light pressure controlled by means of a manually manipulatable handle or lever, or with a heavy pressure by means of a foot treadle.

An object of the present invention is to provide mechanism of the general character just described, but wherein the operating and controlling elements have been improved, and rendered more efficient than those previously known in the art.

A further object of the invention is to provide mechanism of the type defined in the last preceding paragraph, and wherein the operator-operatable controlling elements are more easily manipulated and less bulky and obtrusive than those previously known.

A further object of the invention is to provide a novel and improved leverage arrangement for foot treadle operation whereby to facilitate such operation with less muscular effort than heretofore possible.

Other objects and advantages will be apparent from a study of the accompanying drawing which shows one example of a garment press embodying my invention, the drawing being a side elevational view with parts broken away or in section to show normally concealed operating parts. In the drawing certain conventional elements, such as steam supply and control parts, have not been shown, since not essential to an understanding of the invention.

The press comprises a fixed buck or bed 10 carried on frame legs 11, 11a braced by cross members 12 and 13, the lower frame part, below the table top 9, being surrounded by a housing 14. The movable head 15 is carried on the front end of a head lever 16 which, at an intermediate point is pivoted at 17 on a post 18. The head lever is operated by means of a bell crank having arms 19 and 20, the crank being freely swingable on a cross shaft 21 which extends transversely between the rear legs 11 of the frame. The upwardly extending arm 20 is pivotally connected at 24 to a link 25, which in turn is pivoted to head lever 16 at 26. The head lever is biased towards the head-open broken line position by a spring 27 extending between pivot points 21 and 26.

The press head 15 could be manually lowered

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to light operating contact with the buck 10, although the usual mode of obtaining initial contact is by means of a lever or handle 28, movement of which handle, through intermediate valve devices to be later described, admits fluid pressure to a fluid motor cylinder 29. This motor is pivotally carried at 30 on a bracket 31, which is fixed to a channel 32 extending transversely of the frame. Admission of fluid power to the upper end of motor 29 moves connecting rod 33 downwardly, and since rod 33 is pivotally attached at 34 to arm 19 the said arm swings counterclockwise and applies a relatively light pressure of the head 15 against the buck.

The fluid power apparatus, and the fluid flow control system, is arranged as follows.

Handle 28 is pivotally mounted at 37 on head lever 16, and the end of the handle remote from the operator is normally biased in the direction indicated by dot-dash lines by a spring 38 so that in idle position an abutment lug 28a on the handle is out of operating contact with the tip of a plunger 39 of a combination valve 40. This valve 40 is normally closed, but when the plunger 39 is moved upwardly it permits flow of fluid power, such as compressed air, from a pressure source (not shown) through pipes 41 and 42, valve 40, and pipe 43 to a diaphragm servomotor 44, which in turn acts as a relay to open master valve 45 so as to admit fluid power through pipe 41, valve 45, and pipe 46 to the pressure head of motor 29. The tandem valve arrangement amounts to a relay system. The small valve 40 is operated by a very light touch, and its operation by handle 28 does not tire the operator. In addition, the air exhausted from cylinder 29 does not have to travel all the way back to and through valve 40, but only to valve 45 where it exhausts at 45a. The exhaust from diaphragm 44 travels rearwardly through pipe 43, and leaves valve 40 at 40a.

In some prior presses of this general type, the part corresponding to the present lever arm 19 extended forwardly and projected out through the front of the machine. It was provided with a foot treadle portion which the operator could operate by stepping thereon, but such construction had a number of disadvantages including the fact that it necessarily had a wide arc of swing in moving between idle and operating positions, and, being disposed in the zone of operator movement, it continually obstructed such movement.

I have devised a novel and improved structure which permits arm 19 to execute its wide arc of swing within the housing, there being addi-

tional operating means outside the housing and effective upon said arm 19, said operating means not having a wide arc of swing, and being positioned near the floor where it does not materially obstruct the operator's movement. This means will now be described.

A main operating lever 49 is swingably freely mounted on shaft 21, and is upwardly biased by a spring 50 suspended between a bracket 51 on the frame, and an eye 52 on the lever 49. An auxiliary treadle lever 53 is pivoted at 54 on main lever 49, and its end remote from the treadle part 53a has a pivoted link 55 which is operatively connected to finger member or hook 56, the hook being pivoted at 57 on main operating lever 49.

In operation, the operator, by means of the handle 28 as heretofore described, causes the bell crank lever arm 19 to be moved downwardly from the broken line position to the full line position, which represents a relatively light pressing engagement of the head 15 with the buck 13. If heavier pressure is desired the operator now steps on treadle 53a which swings hook 56 from the full line to the broken line position where it comes into engagement with the operating tip end of lever arm 19 and exerts a degree of further downward pressure on arm 19 proportionate to the force applied by the operator. By reason of the positioning of the treadle lever 53, and the operating arrangement of the link 55 and the hook 56, the treadle portion 53a swings through only a small arc while exerting a very heavy pressure downward on arm 19. As soon as the operator's foot is withdrawn from treadle portion 53a, the light spring 59 withdraws the hook 56 and releases arm 19 of the bell crank, whereupon spring 27 returns the head lever 16, the link 25, and the bell crank 19, 20 to the broken line position. The treadle lever 53, the main lever 49, and the hook 56 are returned to the full line position by springs 50 and 59.

Operation of the head, in the "patting" operation familiar to those skilled in the art, became tiresome with prior constructions, especially since the operator had to stand clear of the protruding foot pedal. In the present construction a very light touch on handle 28 is effective to give adequate pressure for light pressing operations, without tiring the operator. The treadle in the present construction remains always at a low point while the operator is "patting" the work by means of the handle 28.

What I claim is:

1. A press for finishing garments comprising a fixed pressing member and a movable pressing member, the movable member being adapted to be moved into and out of operating engagement with the fixed member, a first lever operatively connected to said movable member whereby to apply said movable member to said fixed member with a relatively light pressure, a second lever pivotally mounted adjacent said first lever, foot-operable means pivotally mounted on said second lever and having a pivoted part engageable with said first lever whereby, upon operation of said foot operable means, increased pressure is applied to said first lever.

2. A press for finishing garments comprising a buck for supporting the garment, a head mounted for movement to and from the buck, a first lever operatively connected to said head whereby to apply said head with relatively light pressure to said buck, a second lever pivotally mounted adjacent said first lever, a treadle pivotally

mounted on said second lever and having a swingable part engageable with said first lever whereby upon operation of said treadle to apply an increased pressure to said buck, a fluid power motor having a movable part engaging said first lever, a fluid power control valve, and a manually operable head moving member having a part engageable with said valve whereby to admit fluid power to said motor when said head is disposed to move towards said buck.

3. In a garment-finishing press wherein a movable member is movable into and out of pressing engagement with a fixed member, operating means for causing such movement comprising a first lever, linkage means connected to said first lever and to said movable member whereby movement of said first lever causes movement of said movable member, power means for moving said first lever to produce relatively light pressing engagement between said members, a second lever pivotally mounted adjacent said first lever, a third lever pivotally carried on said second lever, said third lever having an actuating part engageable with said first lever when said third lever is moved, said third lever having a pedal portion whereby, when pressure is applied to said pedal portion said actuating part engages said first lever to cause relatively heavy pressing engagement between said members.

4. A press for finishing a garment comprising a buck for supporting the garment, a head mounted for movement to and from the buck, operating means for causing such movement comprising a first lever, linkage means connected to said first lever and to said head whereby movement of said first lever causes movement of said head so as to apply said head with relatively light pressure to said buck, a second lever pivotally mounted adjacent said first lever, a treadle pivotally mounted on said second lever, a swingable actuator pivotally mounted on said second lever, a link pivotally connected to said treadle and said actuator whereby operation of said treadle causes swinging movement of said actuator, said first lever when in light pressure position being in the path of swing of said actuator whereby when said treadle is operated said actuator engages said first lever and applies increased pressure thereto.

5. A press for finishing garments comprising a frame, a fixed buck carried on said frame and adapted to support a garment to be pressed, a head-supporting arm pivotally swingable on the frame, a pressing head carried on one end of said arm whereby, upon swinging movement of said arm, said head is moved to and from pressing engagement with said buck, a fluid power motor carried on said frame, a first lever pivotally mounted on said frame, mechanical connecting means between an end of said lever and said arm, said fluid motor having an operating part connected to the other end of said first lever whereby, upon admission of fluid power to said motor, said first lever causes relatively light pressing engagement between said head and said buck, a second lever pivotally mounted on said frame adjacent said first lever, a foot operated treadle lever pivotally carried on said second lever, an actuator pivotally carried on said second lever, linkage means connecting said treadle lever and said actuator whereby, when said treadle is operated, said actuator is caused to swing, said first lever, when operated by said fluid motor as aforesaid, lying in the path of swing of said actuator whereby to be engaged thereby when the treadle is

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operated, such engagement producing increased operating pressure on said first lever and hence on said head responsive to and proportional to foot pressure on said treadle.

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