

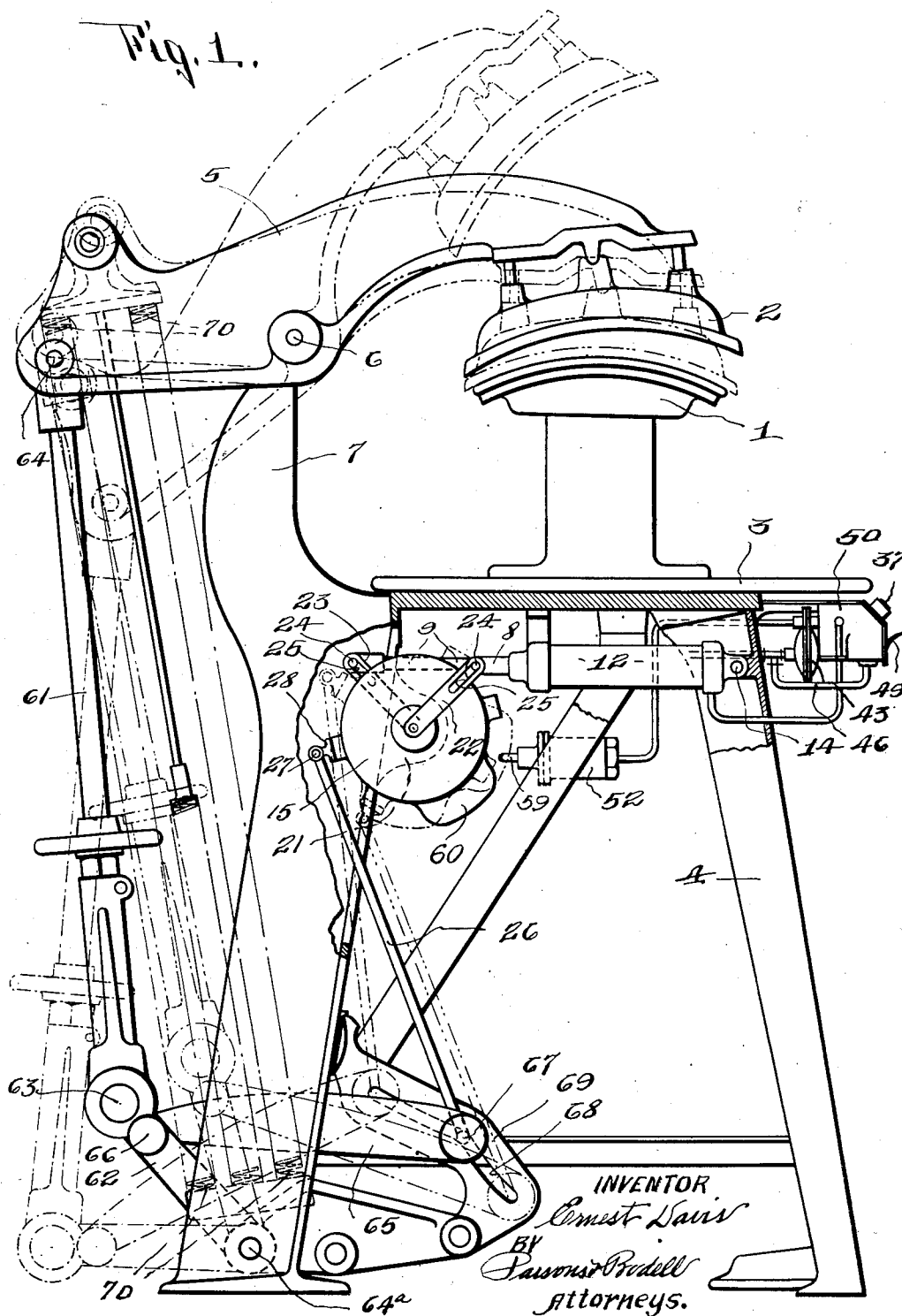
June 25, 1935.

E. DAVIS

2,006,068

GARMENT OR IRONING PRESS

Original Filed April 6, 1928 3 Sheets-Sheet 1



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GARMENT OR IRONING PRESS

Original Filed April 6, 1928 3 Sheets-Sheet 2

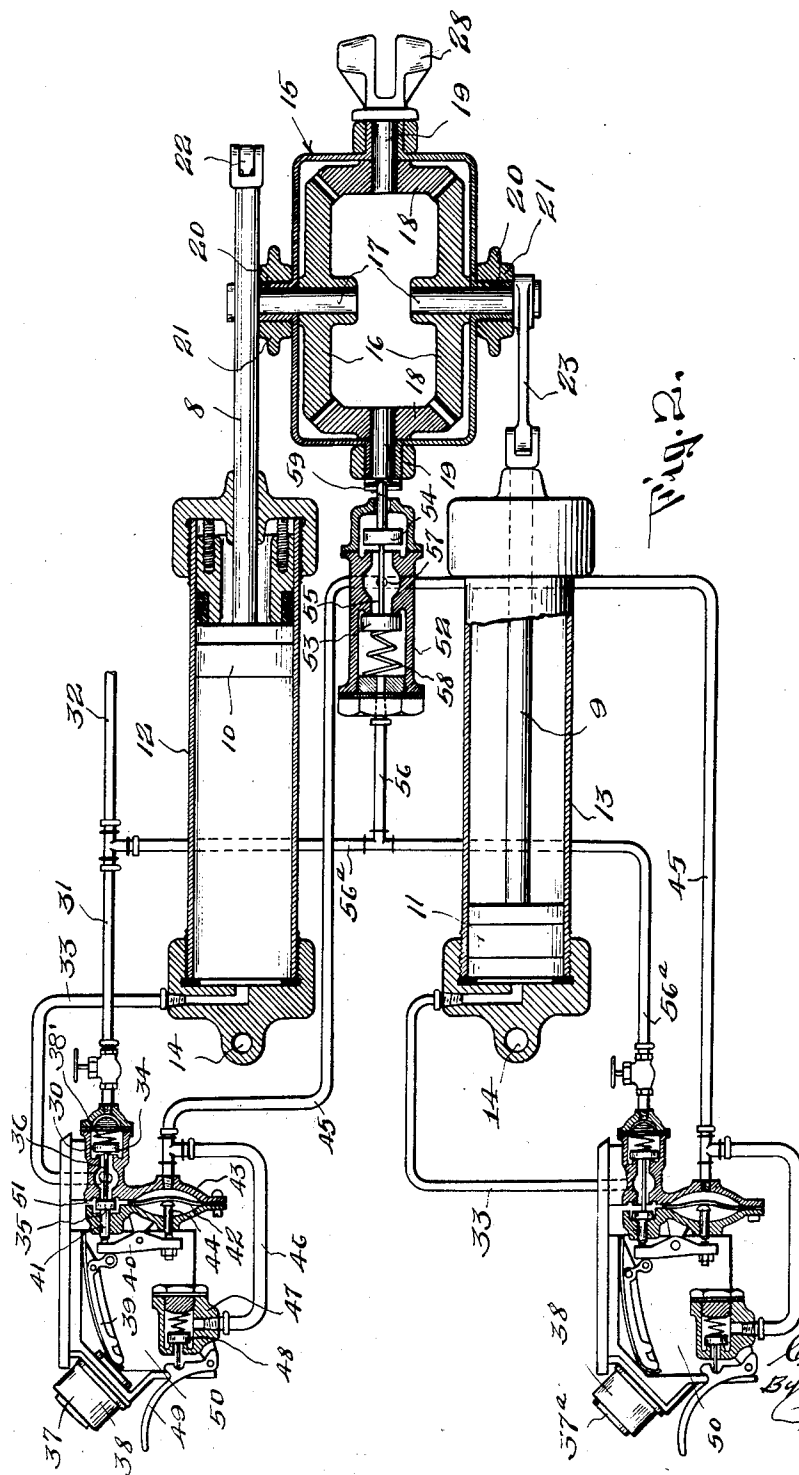


Fig. 2.

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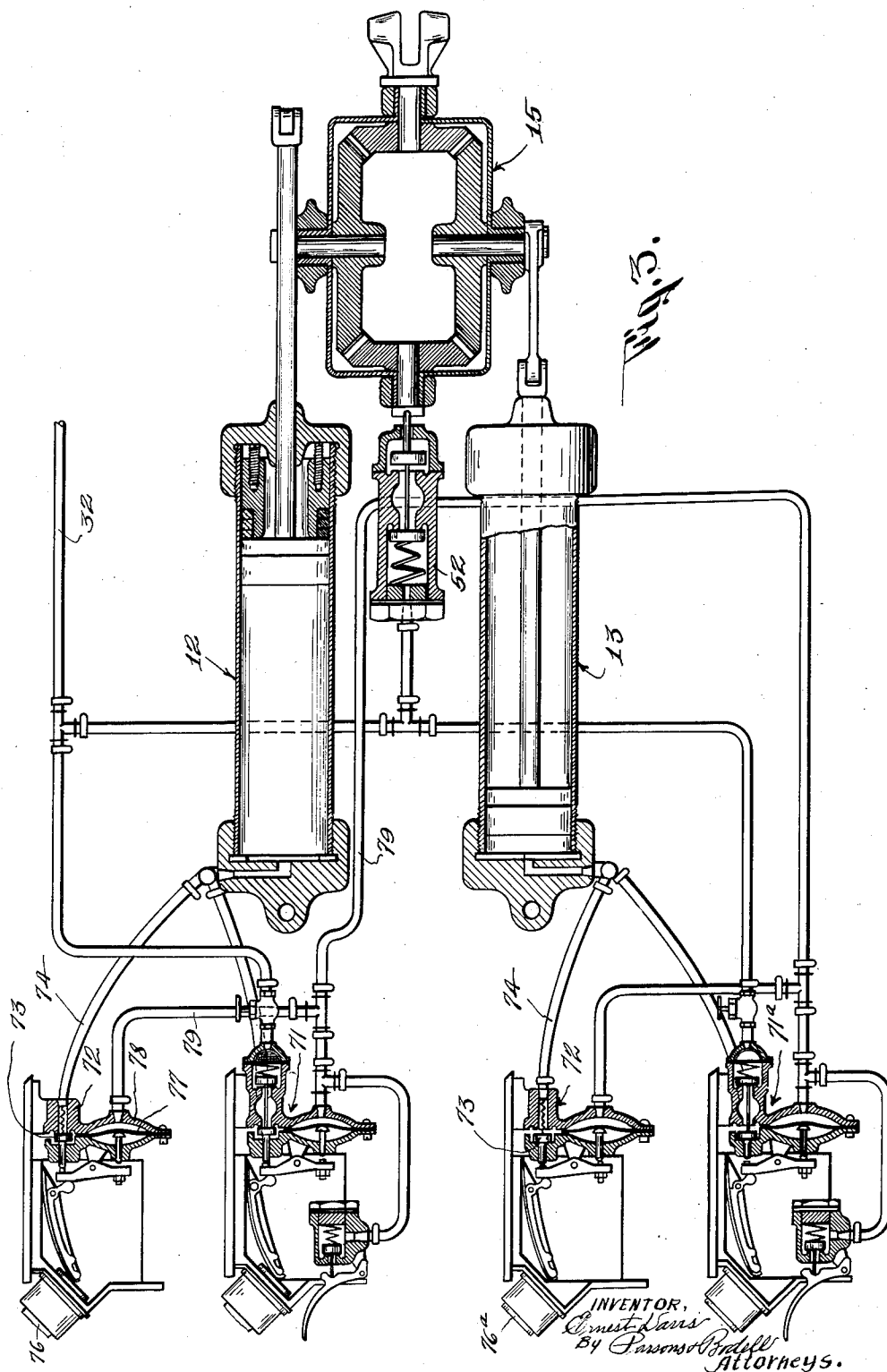
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GARMINT OR IRONING PRESS

Original Filed April 6, 1928 3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE

2,006,068

GARMENT OR IRONING PRESS

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32 Claims. (Cl. 68—9)

This invention relates to pressing machines as garment and laundry pressing machines, or any machine having an opening and closing movement where a two hand control is desirable in order that the machine may not be closed unless both hands of the operator are occupied with the two hand control during the closing of the machine.

An object of the invention is a particularly simple and efficient actuating mechanism and control therefor of new and novel design whereby both hands of the operator are required to actuate the control and effect the closing of the machine.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a side elevation, partly in section, of a pressing machine embodying my invention.

Figure 2 is a sectional view of the actuating mechanism, the manual controls therefor, and the equalizing mechanism.

Figure 3 is a view similar to Figure 2 of my invention applied to a machine where two operators are required.

As here shown my invention is applied to a conventional garment, laundry or ironing press comprising co-operating pressing jaws or elements, one of which is movable toward and from the other. The pressing elements respectively are a buck 1 and a head 2 movable toward and from the buck, the buck being mounted on a table or frame 3 supported on legs 4. The head 2 is shown as carried by a yoke lever 5 pivoted between its ends at 6 to a standard 7 rising from the frame.

The actuating means for the movable element or head 2 comprises a pair of actuators, equalizing means between the actuators, motion transmitting means between the equalizing means and the movable element, and operator-operated means for controlling the actuation of each actuator.

In the illustrated embodiment of my invention these actuators reciprocate and are the rods 8, 9 carrying the pistons 10 and 11 which are movable in cylinders 12 and 13. These cylinders are mounted to oscillate and are here shown to be mounted in horizontal position beneath the table 3 and as pivoted at 14 to the frame in order to have an oscillating movement.

The equalizing means between the motor or the piston rods 8, 9 may be of any construction which requires full movement of both rods to close the press head 2. The equalizing means here shown is a differential or compensating gearing comprising an outer movable casing or body 15, which is a part common to both actuators, side gears 16 mounted on shafts or spindles 17 which are supported in the casing and compensating pinions 18 which are rotatable on spindles 19 carried by the casing and mesh with the side gears. The casing 15 has external hubs 20 in which the spindles 17 are mounted and the hubs are mounted in suitable brackets 21 on the frame 4. The spindles 17 have crank arms 22, 23 thereon to which the piston rods 8, 9 are connected by means of pins 24 movable in lengthwise slots 25 in the arms 22, 23. The motion of the casing or body 15 is transmitted to the press head 2 through a driven member as a rod 26 pivoted at 27 to a bracket 28 on the body or casing. The link 26 is connected to the press head or the yoke lever 7 by any suitable motion transmitting mechanism but such mechanism per se does not form part of this invention.

Owing to the equalizing means between the actuators or piston rods 8, 9, the full movement of both piston rods is required to close the press and if the motive fluid as air is permitted to enter one cylinder without entering the other, the head will only partly close. The head can only be wholly closed upon full movement of both pistons.

Each cylinder 12 or other motor means is provided with its own manual individual thereto for controlling the actuation of the piston or the other actuator. Usually the motive fluid used with cylinders and pistons is compressed air and is the preferred motive fluid for the motor means shown and described herein.

The means for controlling the flow of compressed air to each of the cylinders 12 and 13 is the same and each comprises a valve casing 30 connected to a branch 31 of a feed conduit 32 and connected by a pipe 33 to the companion cylinder 12 or 13. The valve casing 30 has a combined intake and exhaust valve therein normally arranged so that the intake valve 34 is closed and the exhaust valve 35 open. Actuation of the operator-operated or manual means opens the intake valve and closes the exhaust valve so that air enters the companion cylinder and actuates the piston therein.

The combined intake and exhaust valve here shown is of the sliding type including an intake valve 34 and an exhaust valve 35, these being

connected together by a stem 36 so that they act as a unit. These valves are operated by any suitable manual means as push buttons 37 or 37^a which are located in a suitable guide 38 and co-act with a motion transmitting lever 39 which acts on another lever 40, the purpose of which will be hereinafter described. The lever 40 co-acts with the stem 41 of the exhaust valve 35. Obviously upon depression of the push button 37, air will enter from the feed line 32 and branch 31 into the valve casing 30 and pass around the exhaust valve 34 into the pipe 33 and then to the cylinder 12 to actuate the piston 10 therein.

The valves are held in their operated positions after the press is closed by pressure operated means as a diaphragm 42 located in the diaphragm chamber 43, the diaphragm coacting with a sliding stem 44 acting on the lever 40. The pressure side of the two diaphragm chambers 43 is connected together by a pipe 45 and the pipe 45 is connected in the air system by mechanism to be described hereinafter.

To open the press, the air is exhausted from the diaphragm chamber 43 through a pipe 46 connected to an exhaust valve casing 47 having a normally closed exhaust valve 48 therein, which is opened by a manual or lever 49. When either release lever 49 is operated so that the air is free to exhaust from the diaphragm chambers 43, the intake valve 34 will be again closed and the exhaust valve 35 opened by the spring 38'. Air is then free to exhaust from the cylinders through the pipe 33, valve casing 34 and out through the exhaust passage 51. Because both diaphragm chambers 43 are shown connected to one pipe 45, the operation of the release lever 49 associated either with the valve mechanism operated by the push button 37 or that operated by the push button 37^a will effect the opening of the press.

Each control mechanism is located in a suitable housing 50 mounted in any desired location on the frame of the machine.

The valve mechanism for controlling the flow of fluid to the other cylinder 13 is similar to that just described, and additional description of this duplicate valve is thought to be unnecessary. The push button of the latter valve mechanism corresponding to the push button 37 is for the purpose of description designated 37^a.

The means for holding the valves controlled by the push buttons 37 and 37^a in their operated positions comprises a valve mechanism which controls the flow of air to the diaphragm chambers 43, this valve mechanism being operated by the equalizing means or some part movable therewith. This valve mechanism comprises a valve casing 52 having a normally closed intake valve 53 and a normally open exhaust valve 54 therein, these valves being connected by a stem 55 so that they act as a unit. The valve casing 52 is connected by a pipe 56 to branch pipe 56^a connected in the feed line 32, this branch also being connected to the valve casing of the valve mechanism controlled by the push button 37^a. The conduit 45 is also connected to the valve casing 52 at 57. A spring 58 normally holds the intake valve 53 closed and the exhaust valve 54 open.

The exhaust valve 48 is formed with a stem 59 coacting with the cam 60 on the casing 15 of the differential mechanism, this cam being so located as to shift the stem 59 when the press head is down on the work on the buck 2 or so close thereto that the operator can not insert his hands between the pressing elements.

Upon the depression of either push button 37

or 37^a, but one piston will be actuated and the casing 15 will only be partly actuated due to the rotation of but one side gear 16 and the rotating of the equalizing pinions 18 about their own axes.

When push buttons 37 and 37^a are depressed simultaneously, the casing and the gearing will rotate as a unit with no planetary action and hence the full throw of both pistons will be transmitted to the head 2. Also, if the buttons 37, 37^a are depressed consecutively, full movement of the casing of the equalizer will take place in two steps.

In any manner of operation both buttons must be depressed simultaneously or consecutively and held depressed until the press is closed.

The motion transmitting means or mechanism between the link 26 and the lever 5 comprises a toggle consisting of links 61, 62 pivoted together at 63. The link 61 is pivoted at 64 to the rear arm of the yoke lever 5 and link 62 is pivoted at 64^a to the frame. A pull link 65 pivoted at 66 to one of the links of the toggle is pivoted at 67 to the lower end of the link 26, the link 65 having a follower movable along a cam slot 68 formed in bracket 69 on the frame. It will be noted that the two motors 12 and 13 are connected to the same point in the motion transmitting mechanism, namely, at the pivot 67. It is because the two motors are so connected that either motor may be actuated to partially close the press and the other motor will then apply pressure between the pressing jaws 1 and 2.

The cam slot is so shaped that during the downward movement of the link 26 such downward movement is transmitted or translated into a horizontal movement of the link 65 and a closing movement of the toggle through the link 65 connected therewith. The press is closed against the action of returning springs 70.

It will be observed that the cam slot 68 is formed of two angularly disposed portions so that half or approximately half of the movement of the bracket 28 on the casing 15 is translated into a relatively large part of the movement of the lever 5 or head 2. This extent of movement of the head is illustrated in Figure 1 by the movement from full open position of the head shown in dot and dash lines to the position shown in full lines. Half of the movement of the bracket 28 corresponds with the movement of either one of the pistons in case only one of the buttons 37 or 37^a is depressed. The other piston will then move the bracket 28 the remainder of the full movement of the bracket and the cam follower will move through the other and more vertical portion of the cam slot 68. This part of the cam slot is positioned so that the relatively large movement of the bracket 28 will be translated into a relatively small or pressure movement of the head 2 as shown by the movement from full line position in Figure 1 to the dot and dash line position of the head 2 in contact with the buck 1. This motion transmitting mechanism per se forms no part of this invention and any mechanism which translates the movement of the bracket 28 or the pistons 10, 11 into a closing and pressure movement of the head is contemplated.

The actuating mechanism described is particularly advantageous in that the motion of a pair or plurality of pistons is equalized and in that the equalizing mechanism provides a two hand control without any interconnection between the manuals or the valves or other parts of the two hand control.

In Figure 3, a four hand control is shown, that

is a control which requires two operators and that each operator utilize both hands at the same time to effect the closing of the press although all four controls need not necessarily be depressed at the same time.

In the form shown in Figure 3, 71 and 71^a designate valve mechanism similar to that operated by the push buttons 37 and 37^a, and with each of these valve mechanisms 71 and 71^a is an additional exhaust valve mechanism including a casing 72 having a normally open exhaust valve 73 therein. The casing 72 is connected by a pipe 74 to the companion cylinder or the intake and exhaust pipe 33 of the form shown in Figure 2.

The exhaust valve 73 is operated by a push button 76 or 76^a and motion transmitting mechanism comprising levers similar to the levers 39, 40. The exhaust valve 73 is held in its operated position by pressure operated means or diaphragm 77 located in the diaphragm chamber 78 which is connected by a pipe 79 corresponding to conduit 45.

Unless both push buttons 76 and 76^a are depressed and held depressed when the buttons 37, 37^a respectively are depressed, until the machine closes, air will either exhaust out through the pipe 74 in casing 72 and hence not pass to the cylinder, or if the exhaust valve 73 is held closed but the intake valve is not open, then no air will pass to the cylinder for the reason that the intake valve is closed. Thus both push buttons 37 or 37^a and 76^a of each pair must be depressed and held depressed to permit air to pass to the companion cylinders to actuate the piston therein. The press can not be completely closed unless both operators hold both pairs of push buttons depressed in order that air may enter both cylinders.

What I claim is:

1. A pressing machine comprising co-operating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising a pair of actuators, equalizing means between the actuators, and motion transmitting means between the equalizing means and the movable element.

2. A pressing machine comprising co-operating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising a pair of actuators, equalizing means between the actuators, motion transmitting means between the equalizing means and the movable element, and operator operated means for controlling the operation of each actuator.

3. In a pressing machine, the combination of co-operating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising a pair of reciprocating actuators, equalizing means between the actuators, connections between the equalizing means and the movable element, and operator-operated means for controlling the actuation of the actuators independently of each other.

4. An actuating mechanism for pressing machines comprising a pair of cylinders, pistons movable in the cylinders, equalizing means connecting the piston rods, motion transmitting connections connected to the equalizing means to be actuated thereby, and manual means for controlling the flow of motive fluid to each cylinder, the manual means for one cylinder being independent of the manual means for the other cylinder.

5. A pressing machine comprising co-operating

pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising a pair of actuators, equalizing means between the actuators, motion transmitting connections between the equalizing means and the movable element, manually operable means for controlling the actuation of each actuator, and means controlled by the movement of the equalizing means for holding the manual means in their operated position.

6. A pressing machine comprising co-operating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising a pair of cylinders, pistons movable in the cylinders, equalizing means between the piston rods and connections between the equalizing means and the movable pressing element, a feed line for the motive fluid, a combined intake and exhaust valve casing located in the feed line, one for each cylinder, and valves in each casing being normally arranged with the intake open and the exhaust open, and manual means for operating the valves in each casing independently of those in the other casing, pressure operated means for holding the valves in their operated position, a valve for controlling the pressure operated means, said valve being connected in the feed line and arranged to be operated by the equalizing means, and means for releasing the pressure in the pressure operated means to effect the opening of the press.

7. An actuating mechanism for pressing machines comprising a driven member, a pair of actuators, motion transmitting means between the actuators and the driven member to transfer and equalize the movement of the actuators to the driven member, and operator-operated means individual to the actuators for controlling the actuation of each.

8. A pressing machine comprising cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising a pair of operator controlled actuators, a driven member connected to said element, and motion transmitting connections between the actuators and the driven member including a part common to both whereby the movement of both actuators is required to fully actuate the driven member to effect complete closing of the press.

9. A pressing machine comprising cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising a pair of operator controlled actuators, a driven member connected to said element, and motion transmitting connections between the actuators and the driven member including a part connected to each of said actuators to transmit the combined movement of the actuators to the driven member to fully close the press and to effectively transmit the movement of each actuator when one actuator only is operated.

10. A pressing machine comprising cooperating pressing elements having relative opening and closing movements, driven and actuator members, the former being connected to the movable element, one of said members comprising a plural number of like parts and the other being single, and an equalizing means between said single and plural number of parts.

11. A pressing machine comprising cooperating pressing elements having relative movement, one toward and from the other, a single driven member connected to the movable element, a plurality

of actuators and compensating motion transmitting means between the actuators and the single driven member.

12. A pressing machine comprising cooperating pressing elements having relative movement, one toward and from the other, a single driven member connected to the movable element, a plurality of actuators, compensating motion transmitting means between the actuators and the single driven member, and operator-operated means individual to each actuator for controlling the operation thereof.

13. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means for actuating the movable element comprising a pair of cylinders and pistons in the cylinders, each cylinder and piston having relative movement with respect to each other, mechanism for transferring said relative movement to the movable pressing element, the relative movement of one cylinder and its piston being of such extent as to partly close the press, and the combined relative movement of both pistons and cylinders being required to fully close the press, independently operated valve means individual to each cylinder for controlling the flow of motive fluid to the cylinder, and means operated by said mechanism for locking the valves in their operated position when the movable element comes in closed position.

14. In a pressing machine, cooperating pressing elements one of which is movable toward and from the other, means for actuating the movable element comprising a pair of cylinders and pistons in the cylinders, each cylinder and piston having movement, one relatively to the other, mechanism for transferring said relative movement to the movable pressing element, the relative movement of one cylinder and its piston being of such extent as to partly close the press, and the combined relative movement of both pistons and cylinders being required to fully close the press, independently operated valve means individual to each cylinder for controlling the flow of motive fluid to the cylinder, and means for locking the press closed, said means being operated by said mechanism when the press moves into fully closed position.

15. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means actuating the movable element comprising a pair of motors of the same size, each motor having a cylinder and a piston in the cylinder, each cylinder and its piston having relative movement with respect to each other, mechanism transferring said relative movement to the movable pressing element, means included in said mechanism translating the relative movement of either cylinder and its piston into a movement of the pressing element of such extent as to substantially close the press and the combined relative movement of both pistons and cylinders being required to fully close the press and apply pressure between the pressing elements, and independently operated valve means individual to each cylinder for controlling the flow of motive fluid to the cylinder.

16. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means actuating the movable element comprising a pair of motors of the same size, each motor having a cylinder and a piston in the cylinder, each cylinder and its piston having relative movement with respect to each other, mechanism transferring said relative movement

to the movable pressing element, means included in said mechanism translating the relative movement of either cylinder and its piston into a movement of the pressing element of such extent as to substantially close the press and the combined relative movement of both pistons and cylinders being required to fully close the press and apply pressure between the pressing elements, independently operated valve means individual to each cylinder for controlling the flow of motive fluid to the cylinder, and means locking the press closed, said means being operated by said mechanism when the press moves into fully closed position.

17. In a pressing machine, cooperating pressing elements, one of which is movable toward and from the other, means actuating the movable element comprising a pair of motors of the same size, each motor including a cylinder and a piston in the cylinder, each cylinder and its piston having relative movement with respect to each other, mechanism transferring said relative movement to the movable pressing element, means included in said mechanism translating the relative movement of either cylinder and its piston into a movement of the movable pressing element of such extent as to substantially close the press and the combined relative movement of both pistons and cylinders being required to fully close the press and to apply pressure between the pressing elements, independently operated valve means individual to each cylinder for controlling the flow of motive fluid to the cylinder, and means operated by said mechanism when the press moves into closed position and locking the valves in operated position.

18. A pressing machine comprising cooperating pressing elements, one of which is movable toward and from the other, means actuating the movable element including a pair of motors each having a cylinder and piston, the piston and cylinder of each motor having relative movement therebetween, the cylinder and piston of each motor having an equal extent of relative movement, mechanism transferring said relative movement to the movable pressing element, said mechanism transferring the relative movement of either cylinder and its piston so as to substantially close the press and the combined relative movement of both pistons and cylinders being required to fully close the press and to apply pressure between the pressing elements, and independently operated valve means individual to each cylinder for controlling the flow of motive fluid to the cylinder.

19. A pressing machine comprising cooperating pressing elements, one of which is movable toward and from the other, means actuating the movable element including a pair of motors each having a cylinder and piston, the piston and cylinder of each motor having relative movement therebetween, the cylinder and piston of each motor having an equal extent of relative movement, mechanism transferring said relative movement to the movable pressing element, said mechanism transferring the relative movement of either cylinder and its piston so as to substantially close the press and the combined relative movement of both pistons and cylinders being required to fully close the press and to apply pressure between the pressing elements, independently operated valve means individual to each cylinder for controlling the flow of motive fluid to the cylinder, and means for locking the press closed, said means being operated by said mechanism

nism when the press moves into fully closed position.

20. A pressing machine comprising cooperating pressing elements, one of which is movable toward and from the other, means actuating the movable element including a pair of motors each having a cylinder and piston, the piston and cylinder of each motor having relative movement therebetween, the cylinder and piston of each motor having an equal extent of relative movement, mechanism transferring said relative movement to the movable pressing element, said mechanism transferring the relative movement of either cylinder and its piston so as to substantially close the press and the combined relative movement of both pistons and cylinders being required to fully close the press and to apply pressure between the pressing elements, independently operated valve means individual to each cylinder for controlling the flow of motive fluid to the cylinder, and means operated by said mechanism when the press moves into fully closed position and locking the valves in operated position.

21. A garment or ironing press comprising co-acting press jaws one of which is movable with respect to the other jaw, motor means operatively connected to the movable press jaw to operate the press including two fluid pressure motors, means operatively connecting the motors to the movable press jaw whereby the operation of either motor alone is insufficient to close the press and produce jaw compression but the operation of both is sufficient therefor, a fluid pressure supply line, a control valve connected to each motor and directly to the fluid pressure supply line, and the two control valves being spaced apart to compel an operator to use both hands in order to admit pressure to both motors.

22. A garment or ironing press comprising, co-operating pressing jaws one of which is movable toward and from the other, a pair of motors, each motor having a cylinder and a piston in each cylinder, each cylinder and its piston having relative movement with respect to each other, motion transmitting mechanism connected with the movable pressing jaw, a connection between the pair of motors and with the motion transmitting mechanism so that the relative movement between either cylinder and its piston moves the movable pressing jaw to partially closed position and the relative movement between both cylinders and their pistons moves the movable pressing jaw to closed position and applies pressure between the jaws, a valve connected with each motor and each valve being independently connected with a source of fluid supply, each valve also being operable to admit fluid to its respective motor independently of the admission of fluid to the other motor, and a manual for each valve requiring operation of both manuals to close the press, said manuals being spaced from each other.

23. A garment or ironing press comprising, co-operating pressing jaws one of which is movable toward and from the other, a pair of motors, each motor having a cylinder, a piston in each cylinder, each cylinder and its piston having relative movement with respect to each other, motion transmitting mechanism connected with the movable pressing jaw, a connection between the pair of motors and with the motion transmitting mechanism so that the relative movement between either cylinder and its piston moves the movable pressing jaw to partially closed position

and the relative movement between both cylinders and their pistons moves the movable pressing jaw to closed position and applies pressure between the jaws, a valve connected with each motor and each valve being independently connected with a source of fluid supply, each valve also being operable to admit fluid to its respective motor independently of the admission of fluid to the other motor, spaced manuals, each manual operating one of the valves, and means holding the press in closed position.

24. A garment or ironing press comprising, co-operating pressing jaws one of which is movable toward and from the other, a pair of motors, each motor having a cylinder, a piston in each cylinder, each cylinder and its piston having relative movement with respect to each other, motion transmitting mechanism connected with the movable pressing jaw, a connection between the pair of motors and with the motion transmitting mechanism so that the relative movement between either cylinder and its piston moves the movable pressing jaw to partially closed position and the relative movement between both cylinders and their pistons moves the movable pressing jaw to closed position and applies pressure between the jaws, a valve connected with each motor and each valve being independently connected with a source of fluid supply, each valve also being operable to admit fluid to its respective motor independently of the admission of fluid to the other motor, spaced manuals, each manual operating one of the valves, and means holding the valves closed upon the press moving into closed position.

25. A garment or ironing press comprising, co-operating press jaws one of which is movable toward and from the other, motion transmitting mechanism connected with the movable press jaw; motor means connected with the motion transmitting mechanism including, a pair of motors, a connection between the motors so that operation of either motor moves the movable press jaw to partially closed position and the operation of both motors moves the movable press jaw to closed position and applies pressure between the jaws; and an operator actuated valve connected with each motor and each valve being independently connected with a source of fluid supply, each valve also being operable to admit fluid to its respective motor independently of the admission of fluid to the other motor.

26. A garment or ironing press comprising, co-operating press jaws one of which is movable toward and from the other, motion transmitting mechanism connected with the movable press jaw; motor means connected with the motion transmitting mechanism including, a pair of motors, a connection between the motors so that operation of either motor moves the movable press jaw to partially closed position and the operation of both motors moves the movable press jaw to closed position and applies pressure between the jaws; a valve connected with each motor and each valve being independently connected with a source of fluid supply, each valve also being operable to admit fluid to its respective motor independently of the admission of fluid to the other motor, and a manual for each valve, the manuals being spaced from each other to require an operator to use both hands to fully close the press.

27. A garment or ironing press comprising, co-operating press jaws one of which is movable toward and from the other, motion transmitting

mechanism connected at one end with the movable pressing jaw and movement applied at the other end translating substantially the first half thereof into a relatively long initial closing movement of the movable jaw and substantially the last half thereof into a relatively short final power movement, motor means connected at the other end of the motion transmitting mechanism including, a pair of motors connected with each other so that either motor may be operated initially to close the press to partially closed position and both motors operated to completely close the press, and an operator actuated valve connected with each motor and independently connected with a source of fluid supply, each valve also being operable to admit fluid to its respective motor independently of the admission of fluid to the other motor.

28. A garment or ironing press comprising co-operating pressing jaws one of which is movable toward and from the other, a pair of motors, each motor having a cylinder and a piston in each cylinder, each cylinder and its piston having relative movement with respect to each other, motion transmitting mechanism connected with the movable pressing jaw, a connection between the pair of motors and with the motion transmitting mechanism so that the relative movement between either cylinder and its piston initially actuates the movable pressing jaw to partially closed position and the relative movement between the other cylinder and its piston irrespective of which motor is first operated, actuates the movable pressing jaw to closed position and applies pressure between the jaws, a valve connected with each motor, and a manual for each valve requiring operation of both manuals to close the press, said manuals being spaced from each other.

29. A garment or ironing press comprising co-operating pressing jaws one of which is movable toward and from the other, a pair of motors, each motor having a cylinder, a piston in each cylinder, each cylinder and its piston having relative movement with respect to each other, motion transmitting mechanism connected with the movable pressing jaw, a connection between the pair of motors and with the motion transmitting mechanism so that the relative movement between either cylinder and its piston initially moves the movable pressing jaw to partially closed position and the relative movement between the other cylinder and its piston irrespective of which motor is first operated, moves the movable pressing jaw to closed position and applies pressure between the jaws, a valve connected with each motor, spaced manuals, each manual operating one of the valves, and means holding the press in closed position.

30. A garment or ironing press comprising co-

operating pressing jaws one of which is movable toward and from the other, a pair of motors, each motor having a cylinder, a piston in each cylinder, each cylinder and its piston having relative movement with respect to each other; motion transmitting mechanism connected with the movable pressing jaw including a toggle; a connection between the pair of motors and with the motion transmitting mechanism so that the energization of both motors closes the toggle and the relative movement between either cylinder and its piston moves the movable pressing jaw to partially closed position and the subsequent relative movement between the other cylinder and its piston irrespective of which motor is first operated, actuates the movable pressing jaw to closed position and applies pressure between the jaws, a valve connected with each motor, and spaced manuals, each manual operating one of the valves.

31. A garment or ironing press comprising, co-operating press jaws one of which is movable toward and from the other; motion transmitting mechanism connected with the movable press jaw and controlling the movement thereof; a single member connected with the motion transmitting mechanism whose movement controls the entire movement of the motion transmitting mechanism; motor means connected with the single member so that the movement of both motors is transmitted therethrough including a pair of motors, a connection between the motors and the single member so that operation of either motor initially actuates the movable press jaw to partially closed position and the operation of the other motor irrespective of which is first operated, actuates the movable press jaw to closed position and applies pressure between the jaws; and an operator actuated valve connected with each motor.

32. A garment or ironing press comprising, co-operating press jaws one of which is movable toward and from the other, motion transmitting mechanism connected at one end with the movable pressing jaw and movement applied at the other end translating substantially the first half thereof into a relatively long initial closing movement of the movable jaw and substantially the last half thereof into a relatively short final power movement, motor means connected at the other end of the motion transmitting mechanism including a pair of motors, and a connection between the motors and with the motion transmitting mechanism so that either motor may be operated initially to move the movable jaw to partially closed position and the other motor, irrespective of which motor is first operated, operates to completely close the press, and an operator actuated valve connected with each motor.

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