June 23, 1936. L. M. KAHN 2,045,148

MULTIPLE LAUNDRY PRESS

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Fig. 8.

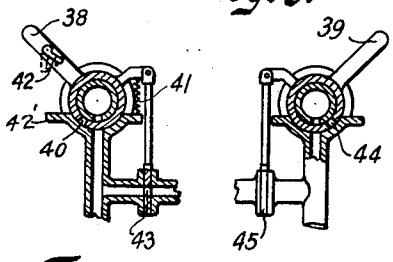


Fig. 7.

Fig. 1.

Fig. 6.

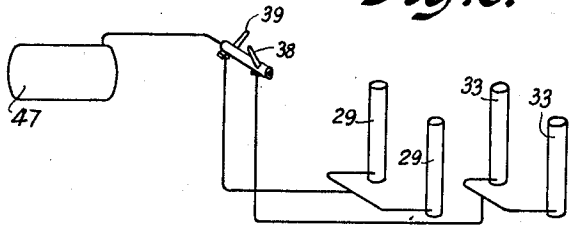
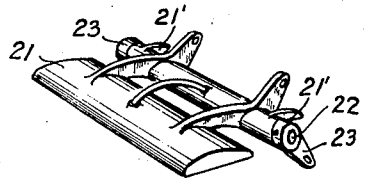


Fig. 5.



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Fig. 2.

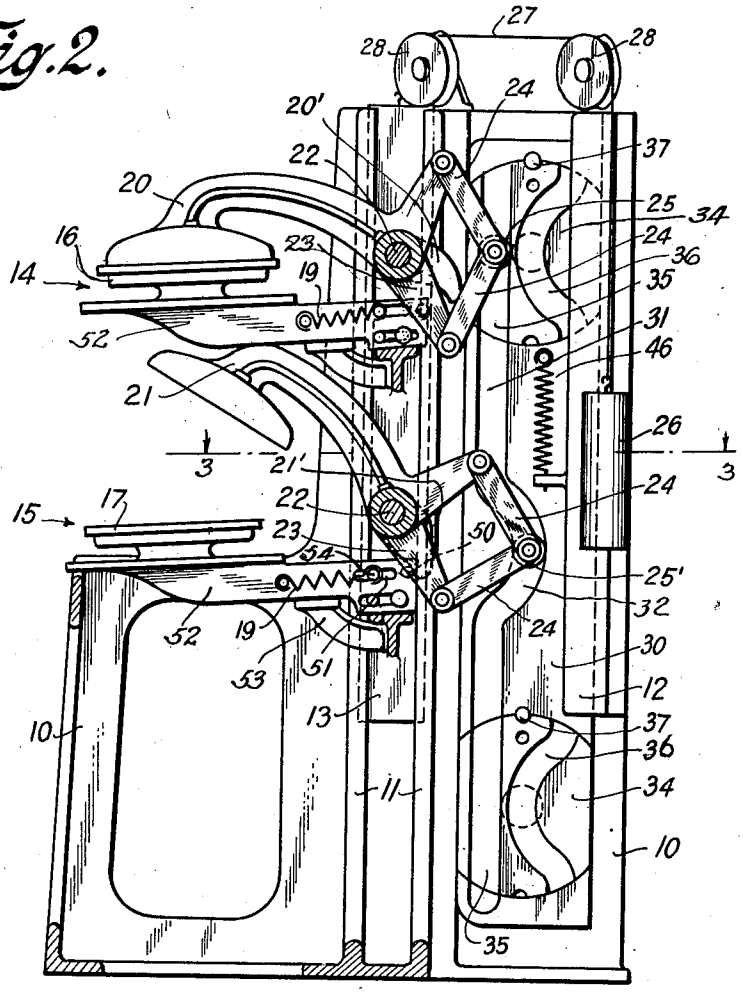
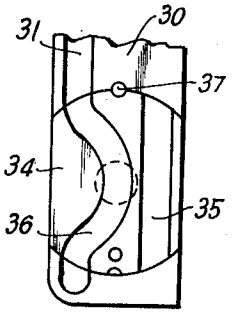


Fig. 4.



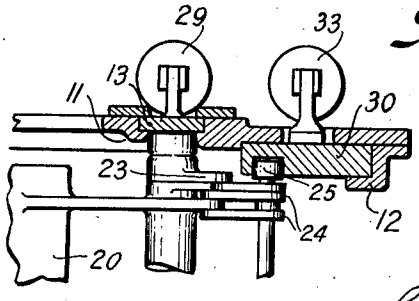


Fig. 3.

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2,045,148

UNITED STATES PATENT OFFICE

2,045,148

MULTIPLE LAUNDRY PRESS

Leo M. Kahn, New York, N. Y.

Application November 11, 1931, Serial No. 574,351

21 Claims. (Cl. 68—9)

This invention relates to laundry presses and more particularly to multiple unit presses.

Among the objects of the invention are:—

To provide a multiple unit press which will occupy a floor space approximately equal to that of a single press.

To provide a multiple unit press in which the units are successively brought into operative position relative to the operator to minimize movement on the part of the operator.

To provide for the operation of any of the units continuously should breakdown occur to other units or should the nature of the work so require.

To provide for maintaining more than one of the units with their buck and head separated or compressed as desired.

These and other objects are attained in a construction described in this specification and illustrated in the drawings forming a part thereof, in which

Fig. 1 is a side elevation of the machine having a pair of presses, with the upper unit in operative relation to the operator.

Fig. 2 is a sectional elevation showing the lower unit in operative position relative to the operator.

Fig. 3 is a sectional plan of a fragment of the machine taken on line 3—3 in Fig. 2.

Fig. 4 is an elevation of a portion of an auxiliary cam showing the manner of adjustment.

Fig. 5 is a perspective view of a head member.

Fig. 6 is a diagrammatic representation of the control mechanism.

Fig. 7 shows a detailed representation of the control.

Fig. 8 shows a representation of another control.

In the preferred construction illustrated in the drawings, a frame 10 has vertical guideways 11 and 12 on each of two sides thereof. In the guideways 11 are slide frames 13 adapted to move vertically therein and to which are attached the presses 14 and 15 in vertical spaced relation to each other. The respective buck members 16 and 17 are preferably slidably mounted on the frames 13 to permit horizontal displacement against the action of springs 19. The respective head frame members 20 and 21 are pivotally mounted on the fixed shafts 22 supported by the slide frames 13. At each end of each shaft 22 is keyed a member 23, and a pair of links 24 pivotally connects the free extremity of each member 20 and 23 to a roller 25 and of each member 21 and 23 to roller 25'.

The slide frames 13 with the presses supported thereby are counterweighted by means of the slightly lighter counterweight 26 suspended by cable 27 over pulleys 28. Each head member 20 and 21 has projections 20' and 21' respectively which are adapted to force the buck members 16 and 17 respectively forwardly, i. e., to the left as shown in Figs. 1 and 2 when the head is separated from the buck. A compressed air operated piston in cylinder 29 is connected to each of the slide frames 13 so that upon admission of air into the cylinders 29, the presses 14 and 15 are caused to move up and upon outlet of said air out of the cylinders 29, the frames 13 with their presses are caused to move downward by gravity.

In each of the guideways 12 is slidably mounted the cam member 30 having a runway 31 of preferably vertically disposed straight contour a portion of which forms the indentation 32. Rollers 25 and 25' are adapted to move in the runway 31. The cam members 30 are adapted to be moved vertically by air motors 33 adapted to operate similarly to motors 29 for the presses. An auxiliary adjustable cam portion 34 comprises preferably a circular member rotatably mounted on cam member 30 and having a straight runway portion 35 and an indented portion 36. Each is adapted to form a continuation of runway 31 and is retained in that position by a pin 37.

The control levers 38 and 39 are disposed preferably at the front of the machine so as to be readily accessible to the operator for manual operation. Lever 38 is adapted to operate the compressed air intake valve 40 from tank 41 to cylinders 33 only while the operator depresses same against the action of a spring 41, a latch 42 being also provided to engage projection on lip 42' to hold lever 38 after the operator's hand had been removed from the lever. When lever 38 is in the released position, the intake valve 40 is adapted to be closed and the outlet valve 43 to be opened. Lever 39 actuates the intake valve 44 for cylinders 29 when it is depressed to open valve 44 and simultaneously closes the outlet valve 45 for said cylinders 29. When lever 39 is raised in accordance with Fig. 8, valve 44 is closed and valve 45 is opened.

The operation of the machine is accordingly as follows:

With the presses disposed as shown in Fig. 1, the operator lays the garment on buck 16 which is in its forward position at a convenient elevation for the operator. The operator then de-

presses lever 38 which causes valve 40 to open and valve 43 to close, so that the compressed air stored in tank 47 is admitted into cylinders 33 and forces their pistons and consequently the cam members 30 connected thereto upward. Roller 25 which at the time is in the indented portion 32 is thereby forced leftward. The motion is transmitted through links 24 against the head frame 20 to cause its movement toward its buck 16 until the two are in compressed relation. It is noted that the buck 16 had been forced to recede by the action of spring 19 held under tension by the stud 54 fastened to support 13 as the head starts its downward movement in view of the release of pressure by the projection 20' against lug 50 on buck arm 52, allowing a small movement of the buck 16 equal to the length of slot 51 in buck arm 52. The arm is supported by and slides on bracket 53.

The operator continues to hold the lever 38 depressed and with the other hand depresses lever 39, which causes valve 44 to open and valve 45 to close and thereby forcing the pistons in cylinders 29 up. The slide frames 13 are thus moved up and press 14 is moved out of the way and press 15 into the operative elevation previously occupied by press 14.

As soon as the presses have started moving, the operator releases the levers 38 and 39. Lever 39 remains in the position set while lever 38 is caused to move up by the action of spring 41, so that the valve 40 is closed and valve 43 is opened. Aided by gravity, springs 46 force the cam members back into their former position, so that when roller 25' of press 15 reaches the operative elevation, it is forced into the indentation 32. The head frame 21 is thus raised to separate head from buck and projection 21' forces buck 17 outwardly so that the operator may conveniently remove the pressed article and lay another article thereon.

When the operation on press 15 is completed, the operator depresses lever 38 to close the press before any vertical movement of the closed press members is started and then raises lever 39 to move the presses down again. Upward movement of lever 39 causes valve 44 to close and valve 45 to open and the slide members with the presses 14 and 15 move down gradually as the air in cylinders 29 is gradually emitted. Whereupon the cycle is completed and the operation continued. The inclusion of motors 33 is for the purpose of closing the press while in the stationary position in order to clamp the work before the vertical movement commences. If attempt be made to move the buck with the article laid upon it with the head raised, the article might be moved out of position. The danger of disturbance, however, is no longer present after the article has been clamped between the head and the buck and if this clamping be maintained during the movement. In certain types of work it may prove desirable momentarily to separate the press members to permit the release of steam and inspect the work after the first contact with the garment, but this feature will not be required in all machines or in all uses of the machine. Moreover, if one of the two bucks only is to be used, the corresponding head may be operated by the motors 33 without using the motors 29. The provision of the motors 33 also provides additional functions, as for example, the adjustments of the cam positions to permit the varied operations of the machines as herein described.

Should the operation of only one press be desired, lever 39 need not be actuated, but latch 42 is released instead and when lever 38 is depressed the latch becomes engaged so that the press is retained in compressed position until the operator releases the latch 42.

Occasions often warrant that both presses remain open, as would be advisable when shut off for the night. Each auxiliary member cam portion 34 may then be rotated so that its indentation 36 aligns with runway 31. This can be done only after the retaining pin 37 had been removed, being replaced after the adjustment.

In case one press is to be used at a time and in order to prevent the padding from being damaged by continuous contact of the heated head each upper auxiliary cam member 34 may be preferably adjusted so that press 14 stays open while press 15 is operable.

It will thus be seen that a structure has been fully disclosed that meets the requirements of practical use and whereby the various objects of the invention are attained. Of course, many changes in construction and arrangement of parts can be made without departing from the spirit of the invention. It is therefore intended that all matter contained in the description and drawings shall be interpreted as illustrative and not in a limiting sense except as hereinafter claimed.

Accordingly, what is claimed and desired to secure by Letters Patent, is:

1. In a device of the class described, in combination, a frame, a plurality of vertically aligned presses thereon, each having a buck and a cooperating head, and means for moving said presses successively to predetermined elevations relative to said frame.

2. In a device of the class described, in combination, a frame, a plurality of vertically aligned presses thereon each having a buck and a cooperating head and means for moving each of said bucks successively into and out of loading position.

3. In a device of the class described, in combination, a frame, a plurality of vertically aligned presses thereon each having a buck and a head, means for moving said presses in a vertical direction into and out of a predetermined elevation convenient for loading and means on said frame for controlling actuation of said moving means and said bucks and heads.

4. In a device of the class described, in combination, a frame, a plurality of vertically aligned presses thereon, each having a buck and head member, means for moving said presses in a vertical direction, control means therefor and means for actuating said buck and head members upon actuation of said control means.

5. In a device of the class described, in combination, a frame, a plurality of vertically aligned presses thereon each having a buck and a head, means for reciprocating said presses in a vertical direction, and means for automatically separating the buck and head of each of said presses when said press is moved into predetermined loading position.

6. The combination of a plurality of presses each having a buck and a head, means for successively moving said head and buck vertically to place each of said presses into predetermined operative relation to an operator of the same, and means for moving each press from said predetermined position and for compressing said buck and head before being moved.

7. The combination of a pair of vertically

aligned presses each having a buck and a head and means for reciprocating said presses in a vertical direction for alternately disposing same into and out of predetermined loading elevation.

8. The combination of a pair of vertically aligned presses each having a buck and a head, means for placing said presses in succession at an elevation convenient for loading and means for automatically separating said buck and head when in said loading elevation.

9. The combination of a pair of vertically aligned presses each having a buck and a head, means for placing said presses in succession at an elevation convenient for loading and further means for compressing said buck and head before removal of same from said elevation.

10. The combination of a pair of vertically aligned presses each having a buck and a head, means for placing said presses in succession at an elevation convenient for loading, means for separating and compressing the buck and head of either of said presses independently of the other and adjustable means for controlling said operation of said presses and their movement.

11. In a device of the class described, in combination, a frame, a plurality of vertically aligned presses thereon each having a buck and a head, means for placing said presses in succession at an elevation convenient for loading and further means for separating and compresing said buck and head.

12. In a device of the class described, in combination, a frame, a plurality of vertically aligned presses slidably mounted thereon, each of said presses provided with buck and head members, means for moving said presses in a vertical direction within said frame, control means therefor and means actuated by said control means for separating and compressing said buck and head members.

13. In a device of the class described, in combination, a frame, a pair of vertically aligned presses slidably mounted thereon, each of said presses provided with buck and head members, means for reciprocating said presses into and out of garment laying position, control means therefor and means actuated by said control means for separating and compressing said buck and head members when same are at said garment laying position.

14. The combination of a pair of vertically aligned presses, each having a buck and a cooperating head, means for alternately placing said presses at a predetermined elevation convenient for loading, means for automatically separating said buck and head when in said loading elevation and further means for compressing said buck and head before removal of same from said elevation.

15. In a device of the class described, in combination, a frame, a plurality of vertically aligned presses thereon, each having a buck and a cooperating head, means for successively placing said presses at an elevation convenient for an operator of the same, and means controlled by said placing means for separating and applying said respective bucks and heads.

16. In a device of the character described, in combination, a frame, a plurality of sets of pressing elements mounted thereon one above the other each having a buck and a head member, means for moving each of said sets from a garment laying position to another position and means situated in said garment laying position for separating the pressing elements of the set disposed in said garment laying position and means for holding the pressing elements of said set in pressing contact during all positions intermediate said positions.

17. In a device of the character described, in combination, a frame, a pair of bucks carried by said frame one above the other, a head pivoted to said frame above each of said bucks, common means for moving said heads arranged to close one of said heads before opening the other, and means for opening and closing one of said heads consecutively without thereby operating the other head.

18. In a device of the character described, in combination, a frame, a pair of buck members carried by said frame one above the other, a head member carried by said frame above each of said buck members, means for moving each of said buck and head members vertically simultaneously between an upper and a lower position including means for opening one of said head members from the companion buck member when one of said positions is reached and separate means for opening and closing the other of said head members with respect to its buck member without changing the vertical position of said pair of members.

19. An ironing machine comprising a plurality of padded bucks one placed above the other and a heated head for each of said bucks, and adapted to contact same, means on said frame for moving said bucks and heads vertically and separate means for controlling said heads for contacting their respective bucks and further control means for moving said bucks vertically from one position to another position one of which positions is always in a convenient loading position.

20. A device of the class described comprising, in combination, a frame, a plurality of vertically aligned pairs of bucks and cooperating heads movably mounted in said frame, means for moving said bucks and cooperating heads vertically in said frame into and out of a loading position, and further means for effecting opening and closing movement of said heads relative to said bucks when in or out of loading position.

21. A laundry press comprising, in combination, a machine frame, a buck carried by said frame in position to be attended by an operator, a second buck also carried by said frame and spaced materially above the first buck, heads movably supported from said frame and movable each into position to cooperate with one of said bucks and means for moving any selected head with its cooperating buck to a single loading position.

LEO M. KAHN.