March 1, 1938. N. SLOBOTKIN 2,110,031

GARMENT PRESS

Filed June 10, 1936 2 Sheets-Sheet 1

Fig. 1.

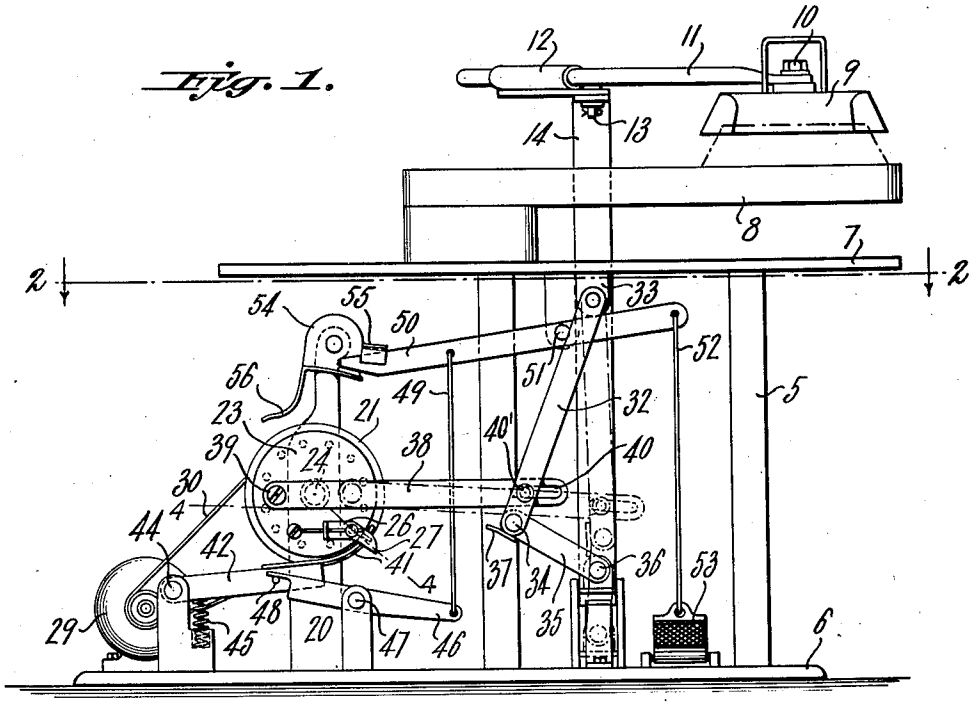
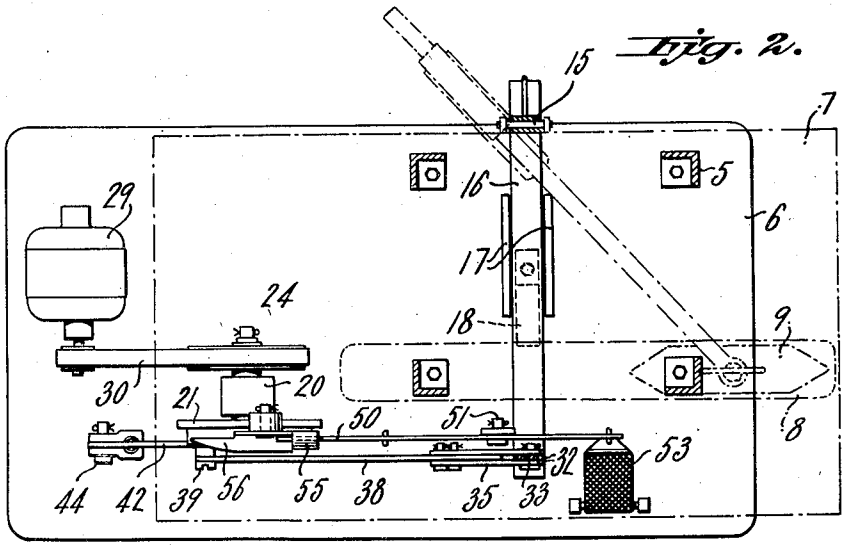


Fig. 2.



INVENTOR.
NATHAN SLOBOTKIN
BY M. C. Lyddane
ATTORNEY.

March 1, 1938. N. SLOBOTKIN 2,110,031

GARMENT PRESS

Filed June 10, 1936 2 Sheets-Sheet 2

Fig. 3.

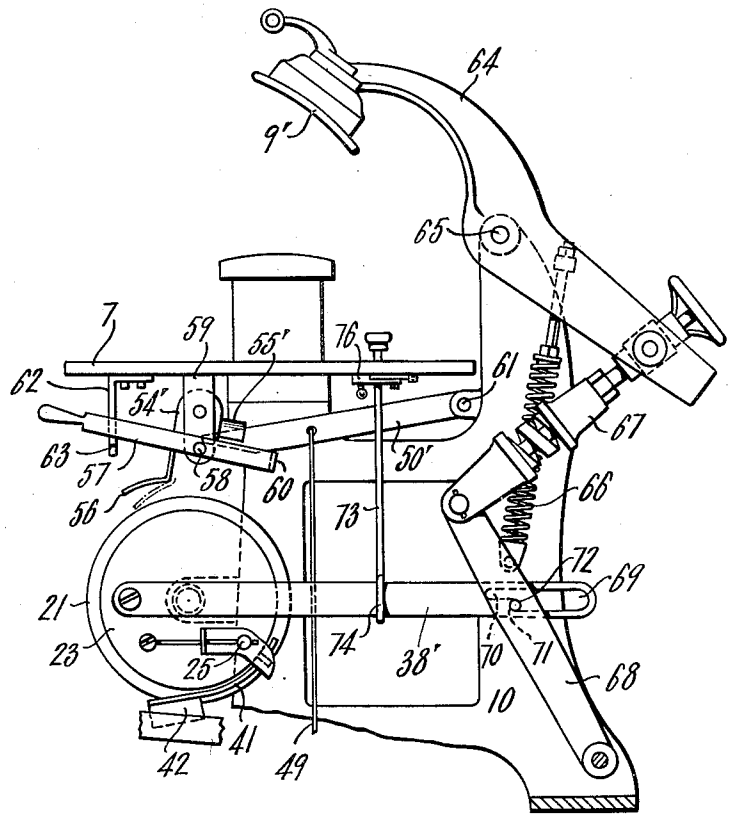
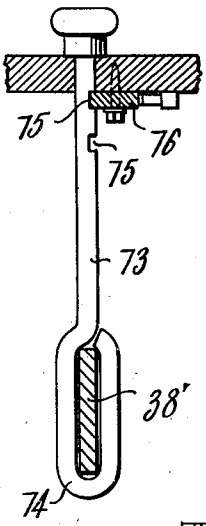


Fig. 4.



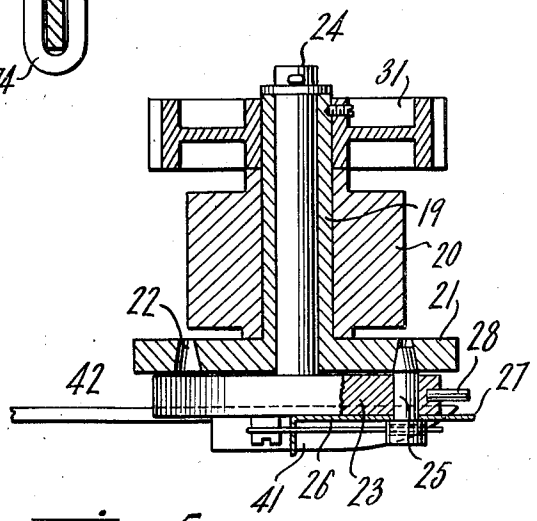


Fig. 5.

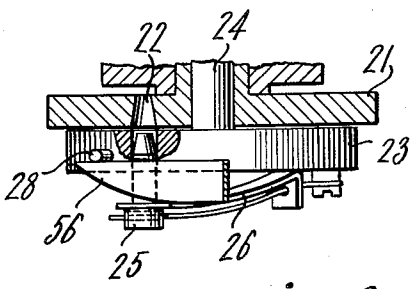


Fig. 6.

INVENTOR.
NATHAN SLOBOTKIN

BY M. C. Sydnor

ATTORNEY.

Patented Mar. 1, 1938 2,110,031

UNITED STATES PATENT OFFICE

2,110,031

GARMENT PRESS

Nathan Slobotkin, New York, N. Y., assignor of one-half to Rhoda Esther Zuckerman, New York, N. Y.

Application June 10, 1936, Serial No. 84,390

5 Claims. (Cl. 38—33)

This invention relates to garment pressers and has for its general object and purpose to provide simply and easily operated means for actuating a movable presser element by constantly operated power means.

A more particular object of the invention is to provide an improved interconnection between power operated means and the movable presser element, including a normally engaged clutch for positively moving the presser element into and out of pressing relation with a stationary buck, and manually controllable means operable to effect the release of the clutch after said element is moved to its pressing position and after it is returned to its normal position.

It is a further object of the invention to provide means for controlling the operation of the movable presser element which may be advantageously used upon garment pressers of the type employed for pressing the garments along the seams, in which the movable presser element, after it is disposed in pressing position upon the garment is manually moved along the seam, as well as heavy duty pressers, in which the movable presser element is operated to apply the relatively heavy pressure to a selected part of the garment and is not manually manipulated longitudinally of the stationary buck.

It is also another object of the invention, in one of its embodiments, to provide a simple and easily operated means for regulating or varying the pressure of the movable presser element on the garment.

With the above and other objects in view, the invention consists in the improved garment presser, and in the form, construction and relative arrangement of its several parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and subsequently incorporated in the subjoined claims.

In the drawings, wherein I have illustrated several simple and practical embodiments of the invention, and in which similar reference characters designate corresponding parts throughout the several views:

Fig. 1 is a side elevation of a garment press of the type in which the movable presser iron or element is manually moved when in pressing position along the garment seams, having my present improvements applied thereto.

Fig. 2 is a horizontal sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary side elevation showing a slightly modified form of the invention as applied to a heavy duty pressing machine.

Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a detail horizontal section through the clutch showing the same in an engaged position and

Fig. 6 is a similar fragmentary section showing the movable clutch element in release position.

Referring in detail to the drawings and for the present more particularly in Figs. 1 and 2 thereof, 5 designates the standards of a suitable frame, rising from the base 6 and having a table 7 suitably mounted upon the upper ends thereof, upon which the stationary presser element or buck 8 is supported.

In the type of garment press in which the movable presser element or iron is to be manually moved along the seams of the garment arranged upon the buck 8, the said iron, indicated at 9, is centrally mounted on a vertical bolt 10 for horizontal pivotal movement upon one end of the rod 11. This rod is shiftable through a tubular guide 12 which is pivotally supported as at 13 upon the upper end of a lever 14 vertically disposed at the rear side of the table and suitably fulcrumed thereon, as at 15, for transverse rocking or oscillating movement. At its lower end this lever is provided with a horizontal extension 16 positioned between suitably spaced guide plates 17 on the base 6. A leaf spring 18 arranged between these guide plates bears at its free end against the lever extension 16 to yieldingly hold the same in a normal position in which the iron 9 is spaced upon the buck 8 and out of pressing relation to a garment positioned thereon.

In laterally spaced relation to the lever 14, a power driven shaft 19 is mounted in a suitable supporting bearing 20. This shaft as shown in Fig. 5 of the drawings, is of tubular form and has a wheel or disk 21 secured to or formed integrally with one end thereof. This disk in spaced relation to its perimeter is provided with a circular series of equi-distantly spaced openings 22. A clutch disk 23 on one end of the shaft 24, loosely mounted within the tubular shaft 19, is arranged at one side of the disk 21 and carries the clutch pin 25 normally urged by the spring plate 26 fixed to the face of the disk 23 into one of the openings 22, and thereby connecting the disks 21 and 23 for unitary rotation. The free end of the plate 26 projects beyond the periphery of the disk 23 as shown at 27 and in spaced relation to a pin 28 projecting radially from the periphery of the disk.

Shaft 19 and disk 21 may be continuously

driven from any suitable source of power, and in Fig. 2, I have shown said shaft connected with the shaft of a motor 29 by means of a suitable drive belt 30, while in Fig. 5 a gear 31 is fixed to the shaft 19 for engagement with a gear on the motor shaft to drive the disk 21 at the required speed.

A link 32 is pivotally connected at its upper end to the bracket 33, depending from the table 7, and has its lower end pivotally connected, as at 34, to the upper end of a relatively short link 35, the other end of which is pivoted, as at 36, to the forward end of the horizontal extension 16 of the lever 14. To the upper end of this link 35 at one edge thereof a stop lug 37 is secured to contact with the corresponding edge of the link 32 at its lower end, and limit relative pivotal movement of said links to the position indicated in broken lines in Fig. 1 of the drawings.

A connecting rod 38 is eccentrically pivoted at one of its ends as at 39 to the clutch disk 23 and is provided with a slot 40 in its other end receiving the pin or stud 40' secured to the link 32 adjacent the lower end thereof.

Below the clutch disk 23 a finger 41 on the free end of an arm 42 is positioned, said arm being pivotally mounted at its other end, as at 44, and urged upwardly by the spring 45 to normally position said finger for engagement between the end 27 of the spring 26 carrying the clutch pin and the pin 28 projecting from disk 23.

One end of a lever 46 fulcrumed intermediate of its ends, as at 47, has bearing engagement upon the upper side of a stud 48 fixed to the arm 42. The lower end of a rod 49 is connected to the other end of a lever 46 and has its other end connected with the lever 50, fulcrumed in spaced relation to one end thereof, as at 51, upon a depending bracket secured to the table 7. The latter end of a lever 50 is connected by a rod 52 with a foot pedal 53. The other end of said lever 50 bears upwardly against a lug 55 on the pivoted clutch releasing member 54, said member having a finger 56 also adapted to cooperate with the free end of the spring plate 27 as will be presently explained.

Assuming that the several parts are in the position shown in full lines in Fig. 1 of the drawings, the garment to be pressed is first arranged upon the stationary buck 8. The finger 41 having engaged the spring plate 27 and moved the clutch pin 25 to its release position, when the motor 29 is started, the shaft 19 and disk 21 are continuously operated without transmitting motion to the toggle links 32 and 35 and connecting rod 38. The operator now depresses the pedal 53 thereby rocking the levers 50 and 46 and moving the finger 41 downwardly, out of engagement with the plate 27, and lowering finger 56 to a position adjacent the periphery of the disk 23. Therefore, the clutch pin 25 is now urged by the plate 27 into one of the openings 22 of the disk 21, thus connecting this power driven disk with the clutch disk. In the rotation of the latter disk in a clockwise direction, the connecting rod 38 exerts a thrust against pin 40' and straightens out the toggle links 32 and 35, slightly past a position in true vertical alignment with each other, until the stop lug 37 contacts with the link 32 as shown in broken lines in Fig. 1. Thus, the link 35 forces the forward end of the lever extension 16 downwardly and rocks said lever upon its fulcrum 15, thus forcing the iron 9 downwardly under pressure upon the garment. As shown, this iron is similarly shaped at each end and may be moved in both directions upon the garment along the seam thereof longitudinally of the stationary buck 8.

Pressure being maintained upon the foot pedal 53, in the continued unitary rotation of the disks 21 and 23, the finger 56 will enter between the pin 28 and the free end of the plate 27 and press said plate laterally to disengage the clutch pin 25 from the opening 22 in the disk 21, thus releasing the connection between the clutch disk and the continuously driven disk 21 and maintaining the movable presser element or iron in its lowered position upon the garment. The slot 40 and pin 40' provide a lost motion connection between member 38 and toggle element 32, and thus permit movement of member 38 in the continued rotation of disk 23, without breaking the toggle joint.

When pressure on the foot pedal is released, the spring 45 acts to return the clutch releasing fingers 41 and 56 to their normal positions so that pin 25 will again be engaged with one of the openings of the driven disk 21 to reverse the movement of the connecting rod 38 and break the toggle link connection, so that the link members 32 and 35 return to the position shown in full lines of Fig. 1 and the movable presser element or iron 9 is lifted out of pressing engagement upon the garment by the action of the leaf spring 18 on the lever 14. At the end of this releasing operation, the finger 41 again engages the spring plate 27 and moves the clutch pin 25 to release position, thereby disconnecting disk 23 from the continuously rotating disk 21. It will of course, be understood that as soon as the pivotal connection 34 between the toggle links moves to the left of the dead center position, the spring 18 acts upon lever 14 to continue the movement of the toggle links independently of the connecting rod 38, the pin or stud 40' moving into the inner end of the slot 40 in said connecting rod.

In Figs. 3 and 4 of the drawings, I have illustrated an application of my invention to a heavy duty machine in which a heavy pressure of the movable element upon a selected part of the garment is desired. In this case, the foot pedal 53 is dispensed with and in lieu thereof a hand-operated lever 57 is fulcrumed intermediate of its ends, as at 58, upon the supporting bracket 59 for the pivoted clutch releasing member 54'. One end of this lever has a lug, indicated at 60, bearing upwardly against the lower edge of the lever 50' which is fulcrumed at one of its ends, as at 61, upon a suitable part of the machine frame, the other end of this lever bearing against the lug 55' of the member 54', as in the construction first described. The hand lever 57, adjacent its other end, is adapted for engagement with the latching shoulder 63 of a bracket arm 62 depending from the table 7.

The movable presser element 9' is carried by one end of a lever 64, fulcrumed intermediate of its ends on the machine frame as at 65. This lever is yieldingly held in the normal position shown in the drawings by one or more springs 66. The lever is actuated by the usual toggle mechanism consisting of suitable links 67 and 68. In this case, the connecting rod 38' is provided with a slot 69, having a part at its inner end and at the upper side thereof of reduced width, as shown at 70, thus producing the shoulder at 71 for engagement with the pin or stud 72 carried by the toggle link 68.

A vertically extending rod 73 has a loop 74 at its lower end embracing the connecting rod 38'.

The upper end of this rod extends through the table 7 and below said table is provided with spaced notches, indicated at 75, to receive a suitable spring pressed latch plate 76 pivotally mounted on the underside of the table. When this latch plate is manually moved out of the notch 75 from the position shown in Fig. 4, the rod 73 may then be vertically adjusted in the table 7 to position shoulder 71 of the rod 38' relative to the stud 72.

The same power driven mechanism is provided for the operation of the lever 64 as above described, and when the rod 73 is raised and latched in the position shown in Fig. 3, the shoulder 71 will engage the stud 72 and move the toggle link connection with the lever 64 to the extreme position to obtain the maximum pressure of the movable element 9' upon the garment. However, when the rod 73 is forced downwardly so that the upper edge of the slot 69 will be engaged upon the stud 72, a certain amount of lost motion will occur in the thrust movement of the connecting rod 38' until the end of the narrow portion 70 of the slot engages stud 72, so that there will be a less heavy pressure of the element 9' upon the garment.

From the above description, considered in connection with the accompanying drawings, the construction, manner of operation and several advantages of my present invention will be clearly and fully understood. It will be seen that I have devised a very simple and easily operated mechanism whereby the proper actuation of the movable presser element may be secured, either in that type of machine in which the presser element or iron is manually moved when in pressing position, or in machines of the type in which a heavy presser is maintained upon selected portions of the garment. The clutch mechanism is of very simple form and positive and reliable in its operation, whereby the movable presser element may be actuated by the constantly operating power means.

I have herein described several simple and practical embodiments of the invention, which I believe to be preferable. Nevertheless, it is to be understood that in the further practical development of the invention, various modifications in the form, construction and relative arrangement of the several elements may be found desirable. Accordingly, I reserve the privilege of resorting to all such legitimate changes therein as may fairly be considered within the spirit and scope of the appended claims.

I claim:

1. In a garment press, a fixed pressing element, a movable element adapted to be moved into pressing relation with the fixed element, and manually controllable means for actuating said movable element, including a toggle connected with said movable pressing element, means holding said movable element out of pressing relation to the fixed pressing element and urging the toggle elements towards collapsed position, power operated means including a member having a lost motion connection at one of its ends with one of the toggle elements, and said element and the power operated member having coacting parts effective in the movement of said member in one direction to straighten the toggle elements and move the same slightly past dead center position whereby said movable pressing element is maintained in pressing relation with the fixed pressing element and said member having an initial movement in the opposite direction relative to the toggle element.

2. In a garment press a fixed pressing element, a movable element adapted to be moved into pressing relation with the fixed element, and manually controllable means for actuating said movable element, including pivotally connected toggle members, means holding said movable element out of pressing relation to the fixed pressing element and urging the toggle members towards collapsed position, and a power operated member having a longitudinal slot in one end and a stud fixed to one of the toggle members positioned in said slot, said power operated member in its movement in one direction engaging said stud at one end of said slot to straighten the toggle members and move the same slightly past dead center position whereby said movable pressing element is maintained in pressing relation with the fixed pressing element and said pin and slot providing a lost motion connection between the toggle and power operated member in the movement of the latter in the opposite direction.

3. In a garment press, a fixed pressing element, a movable element adapted to be moved into pressing relation with the fixed element, and manually controllable means for actuating said movable element including a toggle connected with said movable element, spring means yieldingly holding said movable element out of pressing relation to the fixed pressing element and urging the toggle elements towards collapsed position, a stud fixed to one of the toggle elements, a power operated reciprocable member having longitudinally spaced parts, and means for relatively adjusting said member and stud to selectively engage said spaced parts with the stud in the movement of said member in one direction, whereby said toggle is actuated to variably position said movable pressing element in pressing relation to said fixed pressing element.

4. In a garment press, a fixed pressing element, a movable element adapted to be moved into pressing relation with the fixed element, a toggle connected with said movable pressing element, power operated means including a rod operatively connected with one element of the toggle, said rod having a slot provided with a shoulder in spaced relation to one end thereof, a stud carried by the toggle element, means for relatively adjusting said rod and stud, whereby said stud will be engaged by said shoulder or received within said end of the slot in the thrust movement of said rod in one direction, to actuate said toggle and variably position the movable pressing element in pressing relation to the fixed pressing element.

5. In a garment press, a fixed pressing element, a movable element adapted to be moved into pressing relation with the fixed element, a toggle connected with said movable pressing element, power operated means including a rod operatively connected with one element of the toggle, said rod having a slot provided with a shoulder in spaced relation to one end thereof, a stud carried by the toggle element, and manually adjustable means connected with said rod to position the same relative to the toggle element whereby said stud is engaged by said shoulder or received in said end of the slot in the thrust movement of said rod in one direction to actuate the toggle and variably position the movable pressing element in pressing relation to the fixed pressing element.

NATHAN SLOBOTKIN.