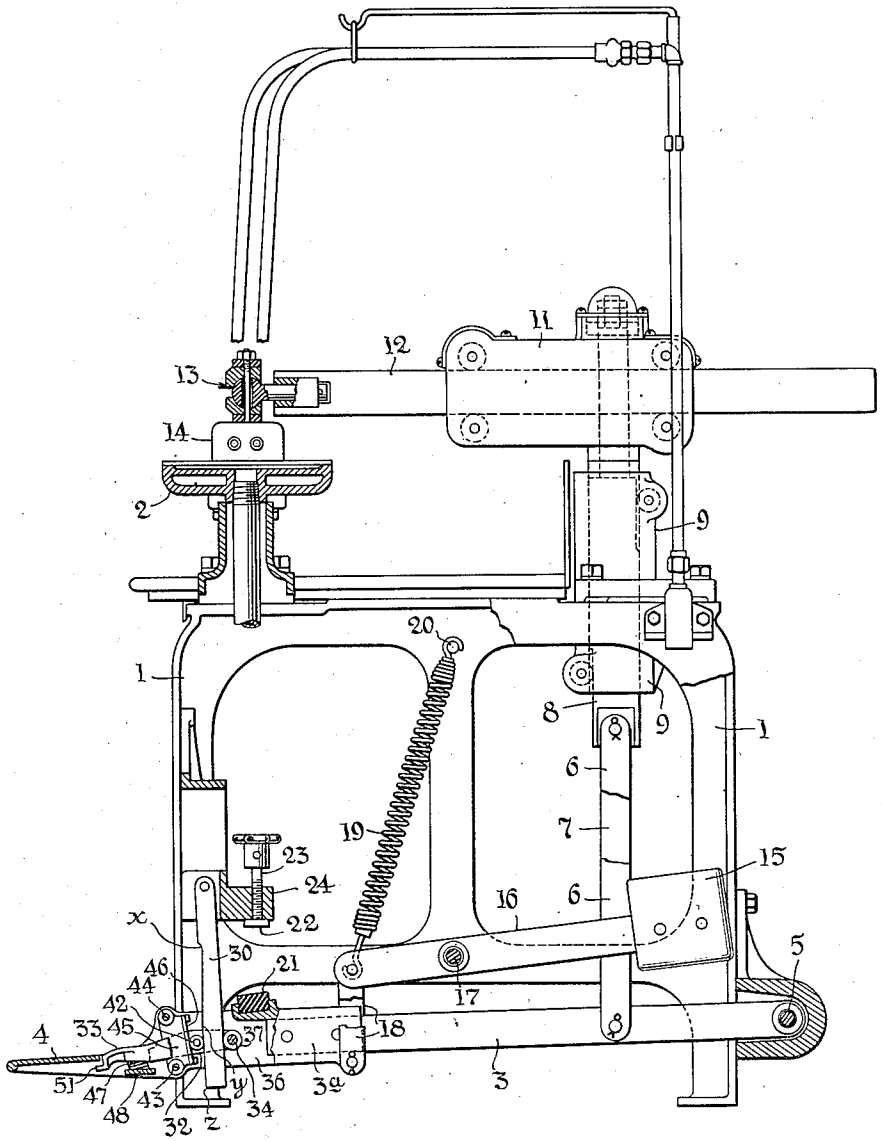
Aug. 10, 1937. W. STROBRIDGE 2,089,586

GARMENT PRESSING MACHINE

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Fig. 1




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Fig. 2

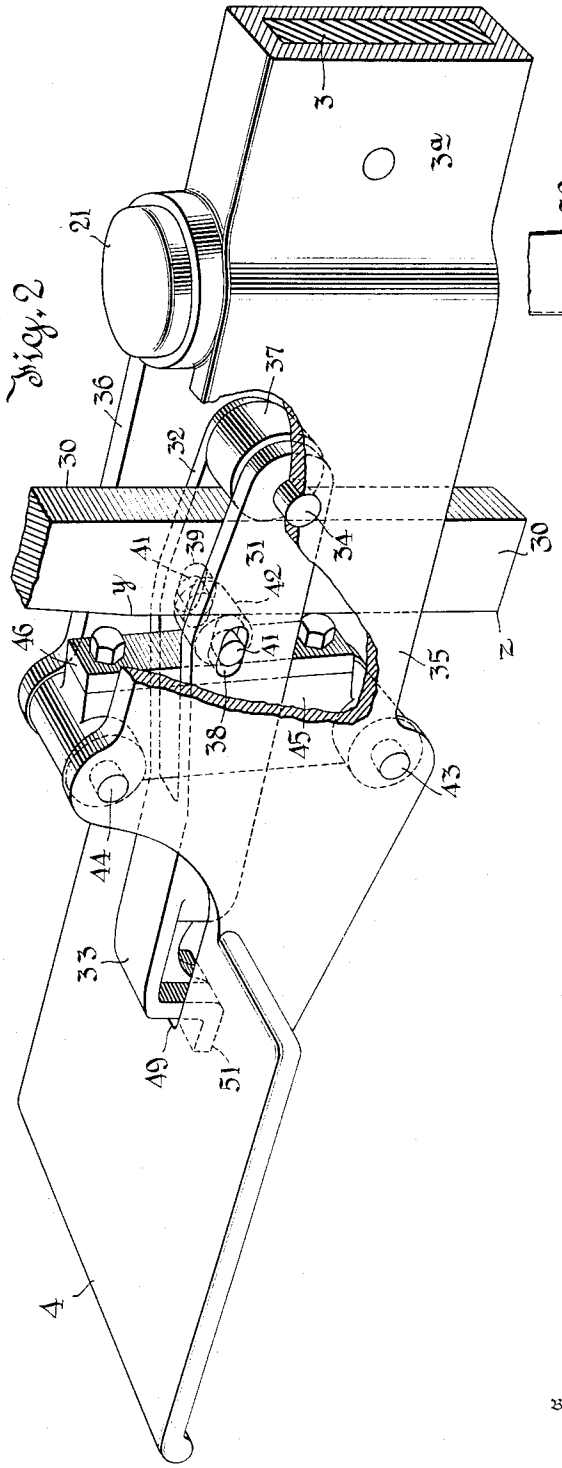
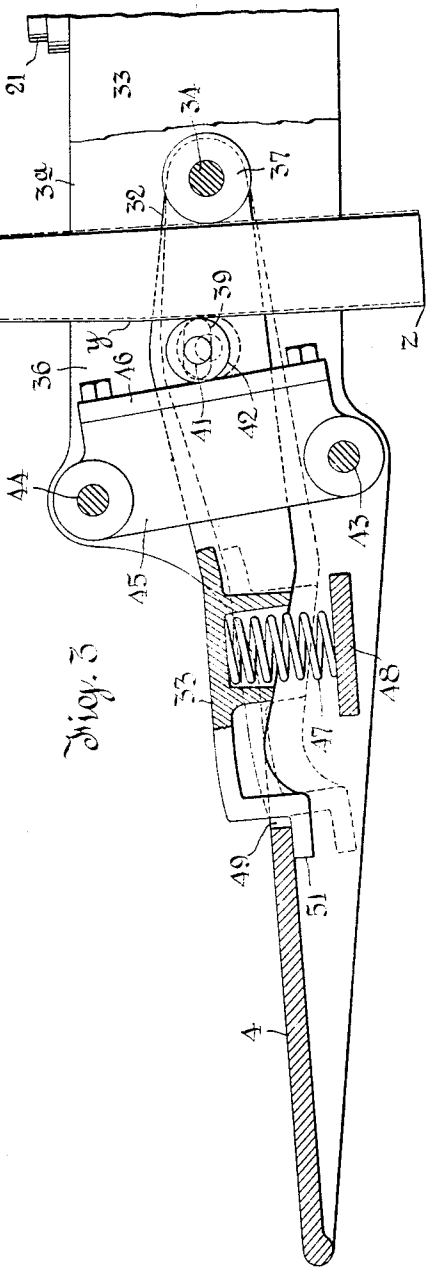



Fig. 3




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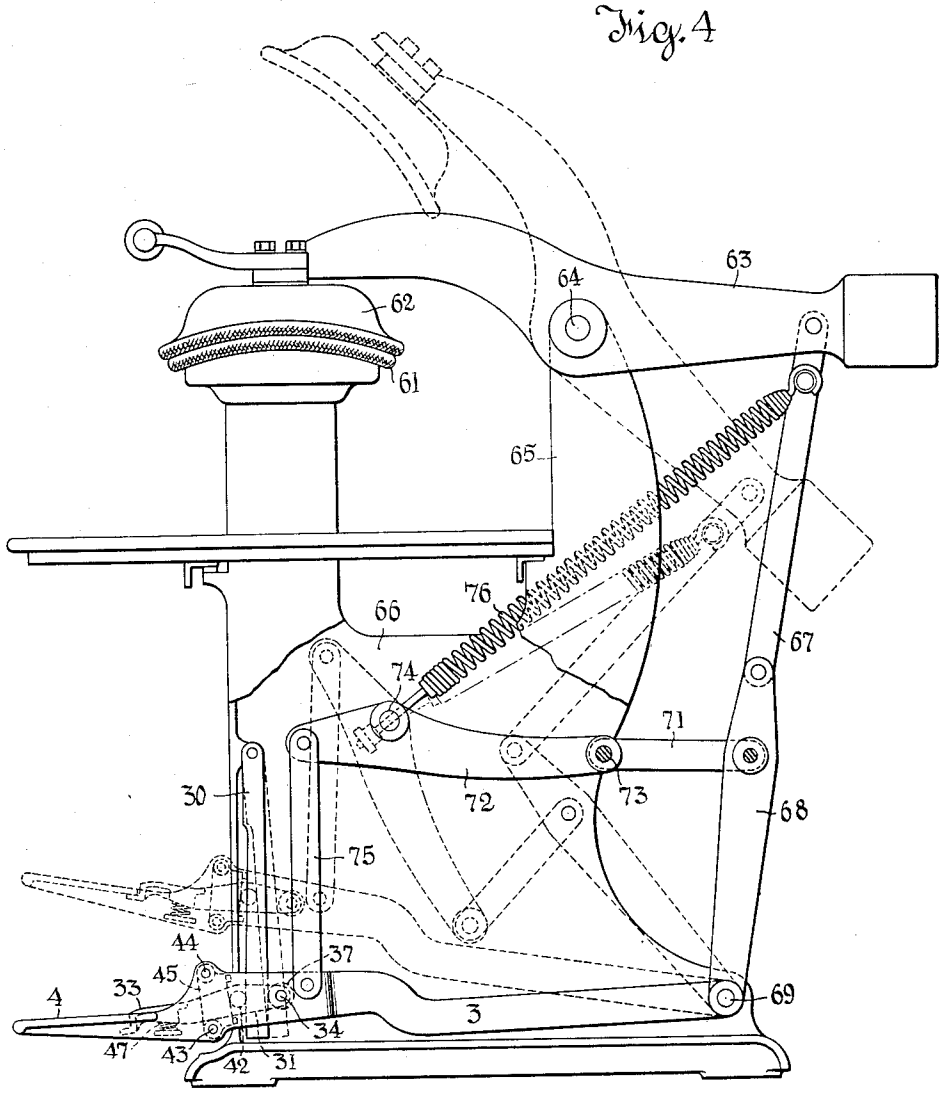
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Fig. 4




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# UNITED STATES PATENT OFFICE

2,089,586

## GARMENT PRESSING MACHINE

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Application May 11, 1936, Serial No. 79,138

11 Claims. (Cl. 38—36)

This invention pertains to garment presses and relates, more particularly, to an improved means for locking and holding the movable press member in its pressing position.

The invention is applicable to garment presses of any type wherein a foot lever is employed to actuate the head or iron in relation to its companion member.

The main object of the invention is to provide a lock which, while simple of construction and easy of operation, is such that a very fine adjustment of the movable pressing member toward its companion member may be had and retained without the possibility of retrograde movement.

The invention, in a sense, is similar to that set forth and claimed in Letters Patent No. 2,014,300, dated September 10, 1935, but is advantageous over that construction because the shock of release from pressure, which is ordinarily transmitted to the operator's foot, has been eliminated.

Again, the present structure is truly selective, and if the operator does not desire to lock the press after establishing pressure between the pressing elements, he does not operate the means whereby the interposed locking member is caused to function. If, on the other hand, he desires to lock the parts in such pressure applying position, he merely has to tip his foot upon the completion of the downward movement of the main pressure applying pedal, and throw the interposed locking element into final locking position. To release the lock, it is only necessary for the operator to slightly depress the main pressure applying or exerting lever, which automatically releases the interposed locking element from locking relation with the other parts.

Two embodiments of my invention are shown in the annexed drawings, one to a seam opener press and the other to a press of the jaw type.

In the drawings:—

Figure 1 is a sectional elevation of a seam opener press, the parts being shown with the iron or pressing head lowered and the lock in its effective locking position;

Fig. 2, a perspective view, with parts broken away, of a portion of the main operating pressure applying lever and the locking mechanism, part of which is carried and supported thereby;

Fig. 3, a longitudinal sectional view of such parts, with the auxiliary lever and its pedal, which lever carries the interposed and movable locking member, shown in dotted lines in depressed locking position; and

Fig. 4, a sectional elevation of a jaw type press showing the applicability of the lever lock to a press of such type.

Referring first to the structure disclosed in Figs. 1 to 3, both inclusive, 1 denotes the main framework of the machine, 2 the fixed table or buck which is preferably made hollow for heating purposes and may also be provided with a suction or vacuum pipe connected up with any suitable exhaust, which latter two elements are not shown.

The main operating and pressure applying lever is denoted by 3, and has secured to it a casting 3a which terminates a treadle 4. This lever is pivoted at 5 to the main frame 1, or a bracket secured thereto, and extending upwardly therefrom are two links, 6 and 7, which, in turn, are attached at their upper ends to a vertically disposed member 8 mounted for sliding movement through a suitable supporting and sustaining member 9. The upper end of the member 8 has swiveled thereon a head piece 11, through which freely extends for reciprocating movement, a bar or arm 12. Said bar has attached to its outer or forward end, in any suitable manner, as by a swivel joint denoted generally by 13, an iron 14, which permits the iron to adjust itself to the goods which may be imposed upon the table or buck 2.

It will be seen that upon pressing down upon the treadle 4, the lever 3 will be rocked, and through the links 6, 7, the sliding member 8 and the head piece 11, as well as bar 12, will be drawn downwardly with the consequence that the iron 14 will be carried into direct pressing contact with the goods imposed upon the buck 2. Any suitable means such as shown in the patent above adverted to may be employed for heating the iron.

Normally, the lever 3 is caused to swing in an upward direction, this being effected in part at least through the action of a counterweight 15 carried at the outer end of a lever 16 fulcrumed at 17 to a fixed portion of the frame 1. Said lever at its forward end is pivotally connected to the main operating lever 3 through a pair of links 18.

In addition to the counterweight, a spring 19 is employed to assist in the upward movement of the parts with the consequent lifting of the iron from the buck or head 2, said spring being connected to the lever 16 at its forward portion and at 20 to the frame 1.

Lever 3 will preferably be provided with a rubber bumper 21 designed to coact, when the lever reaches its upward limit, with an adjust-

able stop element 22 carried by the lower end of a threaded stem 23 mounted for adjustment in a fixed cross element 24 of the main frame. The counterweight and the spring 19, coacting with the tendency of the goods to expand upon pressure condition between the buck and iron, will tend always to move the bar 12 in an upward direction and, consequently, to relieve the goods from any pressing action.

It becomes essential, of course, at times to lock the iron in its depressed position, either while it is held stationary with reference to the head or buck 2, or while it is being moved over the same to effectuate a seam opening and pressing operation. To this end, the locking mechanism best shown in Figs. 2 and 3 is employed. The mechanism, as above pointed out, is such that upon release no shock or jar is imparted to the operator's foot. Such shock was present, however, in the operation of the mechanism shown in the patent above referred to and, hence, the present structure is advantageous over what is shown and claimed in that patent.

The lever 3 at its forward end, as above noted, is provided with a treadle 4, and it is through the depression of this by the operator that the iron is brought into contact with the goods imposed upon the buck or head.

The locking mechanism will be best understood upon reference to Figs. 2 and 3.

As in my former patent, a pendulous bar 30, pivotally attached at its upper end to a fixed portion of the press, is employed. The bar 30 is preferably made straight between the points *y* and *z*, the range of pressure movement of the lever 3 and the inclination of the bearing face 46 to the bar 30 being rather narrowly confined to say between the limits of 8° and 13°. From point *y* to point *x*, which is the range of the free movement of the press head after release from pressure, the front edge of bar 30 is relieved so that no wedging of the roller between the surface 46 and the bar is possible, and the parts of the press, therefore, move freely to the upper release position through the action of the counterweight and spring.

The bar 30 extends downward and freely between two laterally spaced arms 31 and 32 formed as an integral portion of an auxiliary lever or locking pedal 33, fulcrumed upon a shaft 34. Said shaft is secured in laterally spaced cheek plates 35 and 36 and carries a backing-up roller 37 for the bar 30. Each of the arms 31 and 32 is provided with an elongated slot or opening 38 and 39, respectively, into which extends the pintles 41 of a roller 42 which stands in front of the forward face of bar 30.

Rigidly secured between the forward portions of the cheek plates 35, 36, by any suitable means, as pins 43, 44, is a block or casting 45. A hardened wear plate 46 is secured to that face of the casting adjacent the roller 42, the bearing face of said plate standing at an angle to the pendulous bar 30, the convergence of said face and bar being in the direction of the downward movement of lever 3 and allied parts toward press closing position.

Roller 42 is designed under certain operating conditions, to lock the press against opening movement. Said roller is, however, normally held out of such operative position with reference to the pendulous bar and the bearing plate or member 46, by reason of the fact that the lever 33 which carries the roller is urged upwardly by a spring 47, the upper end of which extends into a socket or recess formed on the under face of the lever 33. The lower end of the spring finds its bearing upon a cross bar or element 48 formed as an integral portion of the casting 3a.

The forward end of the lever 33 extends downwardly through an opening 49 formed in the main pedal 4, and is provided with a forwardly extending nose or finger 51 which, when the lever 33 is elevated by the spring, comes into contact with the under face of the pedal structure 4. In other words, this member 51 acts as a stop to limit the upward movement of the lever 33, which may be looked upon as a secondary pedal or a lock engaging pedal.

The locking mechanism is applicable to various forms of presses, and in Fig. 4, a press of the jaw type is disclosed. In that structure, the buck is denoted by 61 and the head by 62. The latter is mounted on the forward end of a lever 63 fulcrumed at 64 upon an upstanding member 65 of the main frame of the press, denoted generally by 66. The lever is counterweighted and is actuated from open to closed position through toggle mechanism comprising a rear toggle composed of links 67 and 68, the former being pivotally connected to the rear portion of the lever 63, while the latter is fulcrumed to a fixed portion of the frame as at 69.

This secondary toggle is actuated through the movement of a primary toggle comprising links 71 and 72, pivotally connected as at 73. The forward link 72 of the primary toggle is fulcrumed upon a shaft 74 secured or mounted between the side members of the main frame 66. At its forward end, it is connected by links 75 (only one of which is shown) to the main operating pedal 3, which is the same as that described above, and is fulcrumed at 69.

The locking mechanism is the same as that heretofore described, and the parts are lettered similarly to those in the foregoing description.

A spring 76 is interconnected with the upper portion of the link 67 of the secondary toggle and the shaft 74. The spring acts with the counterweight upon the lever 63 to rock said lever and carry the head 62 to the open position.

The operation of the locking mechanism with either type of press, or the equivalent thereof, is substantially as follows:

So long as the lever 33 is held in its elevated position by the underlying spring, the roller 42 is held in such position with reference to the pendulous bar 30 and the bearing plate or member 46 that it is free of any binding contact, and the lever 3 may be moved up and down to effectuate a patting action on the goods, or it may move downwardly to full pressure applying position. At such time, the operator holds his foot upon the pedal 4 and if he desires to lock the press in such position, merely puts his toe upon the lever 33, depressing the same, or in other words, rocking the lever about its pivot 34, thereby carrying the roller 42 downwardly into engagement with the bearing face 46 and the forward face of the bar 30.

The bar at such time will be carried from the full line position to the dotted line position in Fig. 3, and come into contact with the backing-up roller 37. The stop extension 51 of the lever 33 will, of course, at such time be carried downwardly and the spring 47 placed under compression. However, the lever 33 cannot swing upwardly so long as the pedal 4 is not given a further downward movement, and the parts will remain in the dotted line position with the press

lever 3 and its allied parts locked against press opening movement.

To release the lock, the operator merely exerts a slight pressure upon the pedal 4, whereupon the roller 42 is relieved from its cramped or locking position between the pendulous bar and the member 46, this by reason of the fact that the pedal 4 and the lever 3 to which it is attached, are free to be moved downwardly independent of any downward movement of the pedal 33. It will, therefore, be seen that there is no jar imparted to the operator's foot upon the unlocking of the press, as it is purely a downward movement of the pedal 4 that effectuates a release of the locking elements and the slight impact which may inhere between the extension 51 and the under side of the pedal 4, is negligible. The lock may not, however, be released until lever 3 is moved downwardly at least to a slight degree or extent, this for the reason that the pressure obtaining on the locking element or roller 42 is greater than the force exerted by spring 47 when the latter is compressed.

It is manifest that a ball or even a block may be utilized instead of a roller, as 42, as the locking element coacting with the converging members 30 and 46. For various reasons, however, the roller as shown is perhaps preferable.

What is claimed is:

1. In a pressing machine, the combination of a pair of pressing members, one movable relative to the other; means for moving one of said members into pressing relation with the other, said means including an actuating lever and interconnections between said lever and the movable pressing element; a lock for said means comprising a pendulous bar attached to a fixed portion of the machine; a bearing surface carried by said press closing means, said surface and the pendulous bar standing in converging relation in the direction of movement of the actuating lever aforesaid toward press closing position; a locking member interposed between said bar and the bearing surface; a pivoted support for said locking member, said support being carried by and movable with an element of the press closing means; and means acting to normally rock the support to carry the locking member upwardly with reference to said bar and the bearing surface out of locking relation therewith, said support being free to be moved by the operator in opposition to said last named means.

2. In a pressing machine, the combination of a pair of pressing members, one movable relative to the other; means for moving one of said members into pressing relation with the other, said means including an actuating lever and interconnections between said lever and the movable pressing element; a lock for said means comprising a pendulous bar attached to a fixed portion of the machine; a bearing surface carried by said press closing means, said surface and the pendulous bar standing in converging relation in the direction of movement of the actuating lever aforesaid toward press closing position; a locking member interposed between said bar and the bearing surface; a pivoted support for said locking member, said support being carried by and movable with an element of the press closing means; and means for biasing the pivoted support in a direction opposite to that of the convergence of the bearing surface and the pendulous bar.

3. A structure as set forth in claim 2, wherein the pivoted support for the locking member is a lever fulcrumed upon the actuating lever at a point in rear of the pendulous bar.

4. A structure as set forth in claim 2, wherein the support for the locking member is a lever fulcrumed upon the main actuating lever and fulcrumed thereon at a point in rear of the pendulous bar, said lever extending forwardly to a pedal carried by the actuating lever and normally held in its elevated position by spring means.

5. In a pressing machine, the combination of a pair of pressing members one movable relative to the other; means for moving one of said members into pressing relation with the other, said means including an actuating lever, toggle means connected to said movable member and a link connecting a member of the toggle means and the lever; a lock for said means comprising a pendulous bar attached to a fixed portion of the machine; a bearing surface carried by the lever, said surface and the pendulous bar standing in converging relation in the direction of the lever toward press closing position; a locking member interposed between said bar and the bearing surface; a pivoted support for said locking member; means for normally rocking the support to carry the locking member outwardly from between the bearing surface and the opposing face of the pendulous bar in the direction of their divergence; and means for holding the bar against swinging movement away from the locking member and maintaining it in close contact with the locking member.

6. In a garment press, the combination of a frame; a buck thereon; a head; a lever to which the head is attached; operator operated means to close the press, said means being connected to the head carrying lever; a pendulous bar; an inclined bearing surface carried by the operating lever forward of the pendulous bar, said bar and the inclined bearing surface standing in a downwardly converging relation; means for maintaining the bar in such relation with reference to said surface; a locking member interposed between the bar and surface; a pivoted support for said locking member; and means for normally swinging said support in a direction opposite to that of the convergence of the members aforesaid.

7. A structure as set forth in claim 6, wherein the pivotal point of said locking member is to the rear of the bar.

8. A structure as set forth in claim 6, wherein the pivotal support for said locking member is to the rear of said pendulous bar and said bar is maintained in its proper relation with a bearing surface by a backing-up roller.

9. In a garment press, the combination of a frame; a pair of relatively movable pressing members; means for moving one of said members into pressing position with the other, said means including a foot actuated lever; and a lock associated with said lever to hold the parts in pressing relation, said lock comprising a pendulous bar, a bearing element rigidly affixed to the lever forwardly of the bar, the adjacent faces of the bar and element standing in converging relation in the direction of movement of the lever toward press closing position, a second lever pivotally connected to the foot lever at a point in rear of the bar, a roller having its axis coincident with that of the second lever and bearing against the rear face of the bar, a wedging element car-

ried by said second lever and lying between the bar and bearing surface, and a spring tending when the foot actuated lever is depressed to a slight degree beyond that to which it was moved to effect the desired and normal pressing relation between the pressing members, to rock the second lever clockwise and thereby to free the wedging element from active relation with the bar and the bearing surface.

10. A press as set forth in claim 9, wherein the second lever at its forward end is fashioned into a stop element which underlies the pedal upon the foot lever.

11. A structure as set forth in claim 9, wherein the second lever at its rear portion is bifurcated and such bifurcated portion straddles the pendulous bar and the bearing surface, with the wedging element supported by the elements of said bifurcated portion, the forward end of the second lever extending downwardly and thence under the main foot pedal carried by the foot lever.

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