Aug. 16, 1927. 1,639,355

J. H. TAYLOR ET AL

GARMENT PRESS

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FIG. 1.

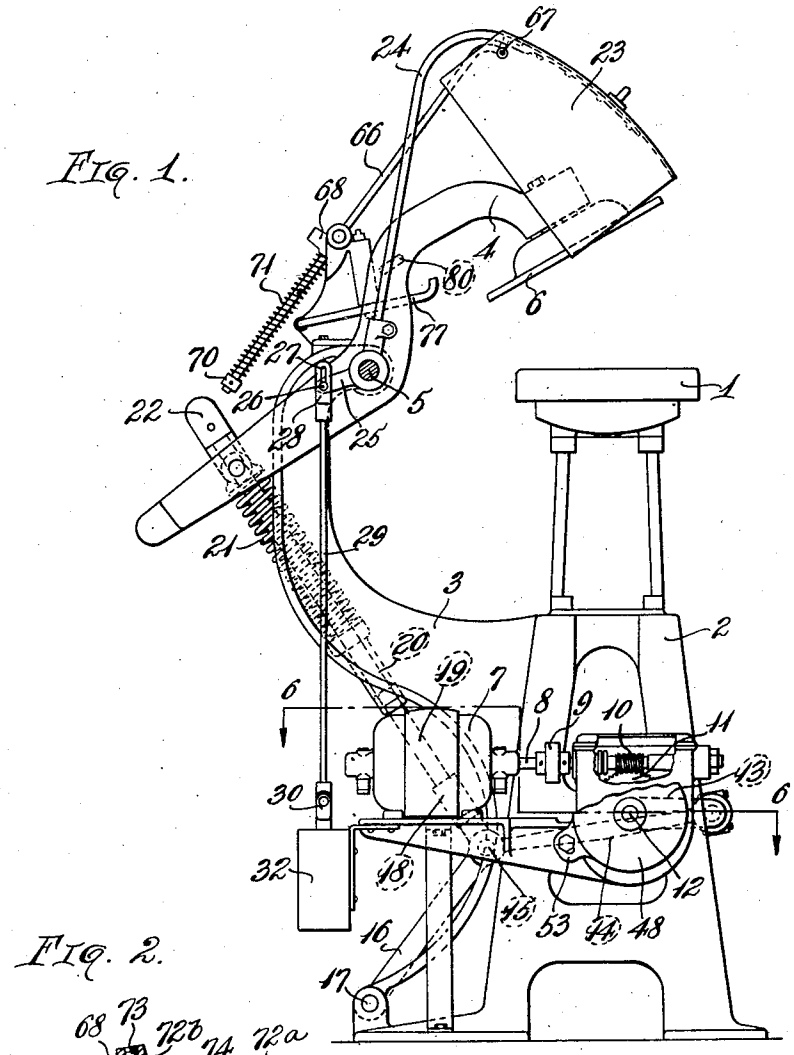
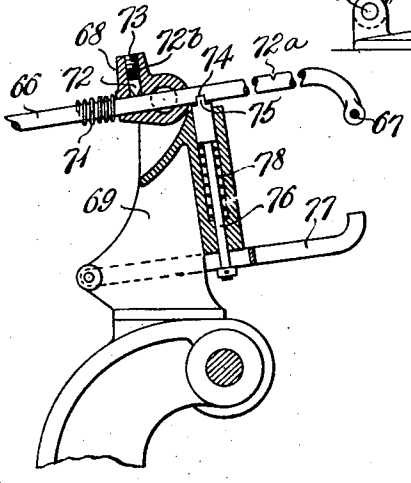


FIG. 2.



INVENTORS
James H. Taylor
John P. Singiser
BY Brockett & Hyde
ATTORNEYS

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J. H. TAYLOR ET AL

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FIG. 3.

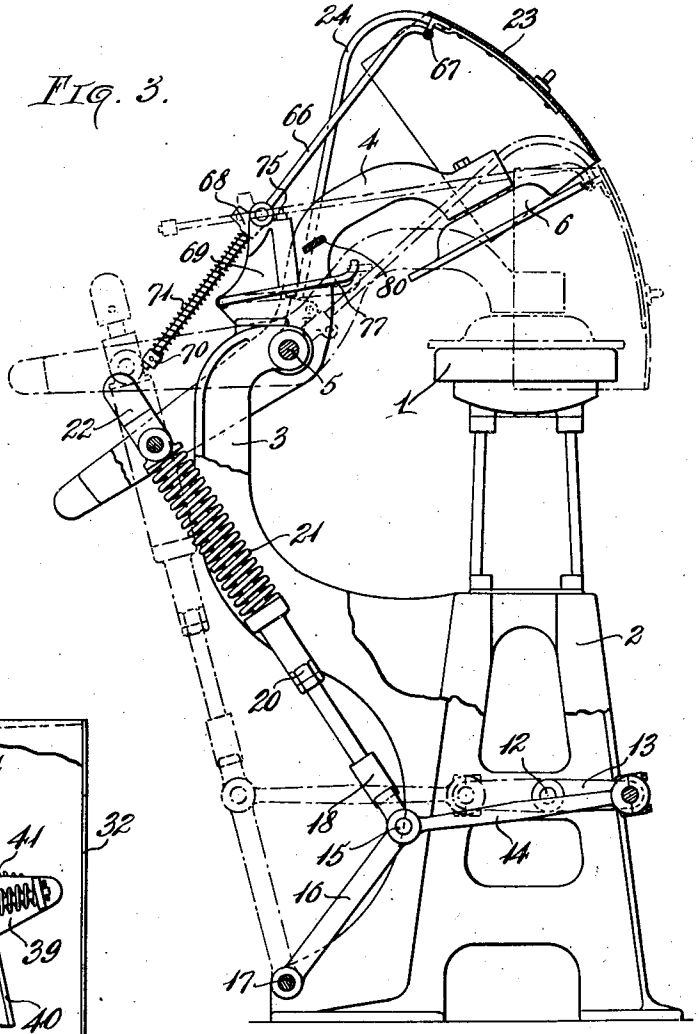
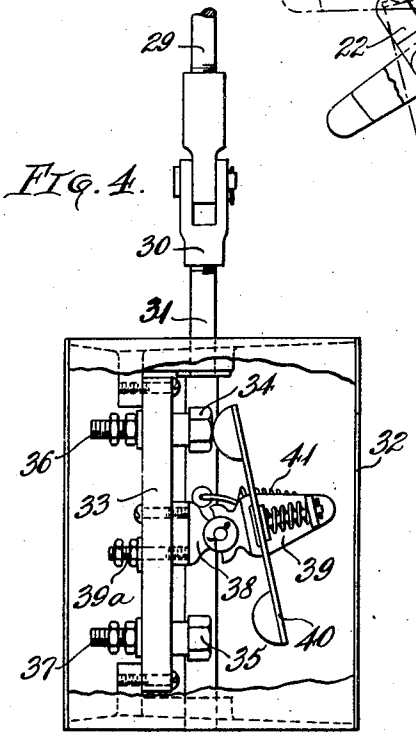


FIG. 4.



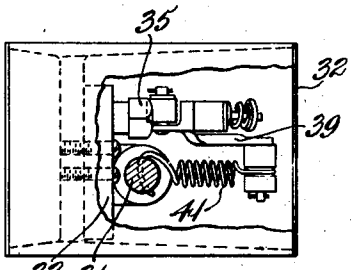


FIG. 5.

INVENTORS
James H. Taylor
BY John P. Singiser
Brockett & Hyde
ATTORNEYS

Aug. 16, 1927. 1,639,355

J. H. TAYLOR ET AL

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FIG. 6.

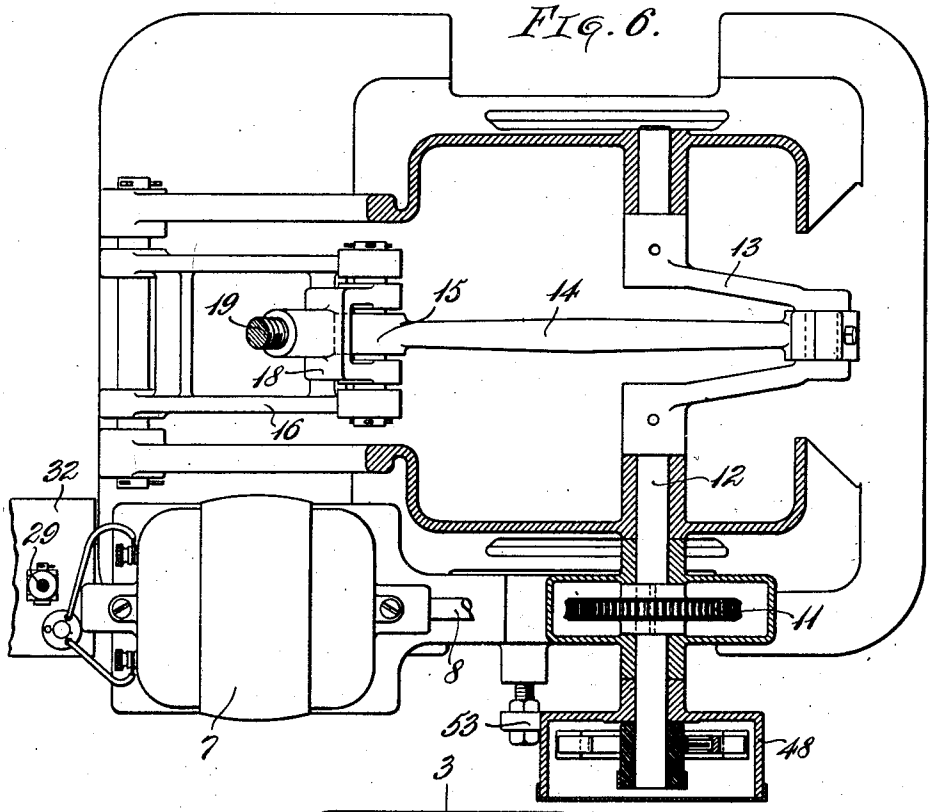
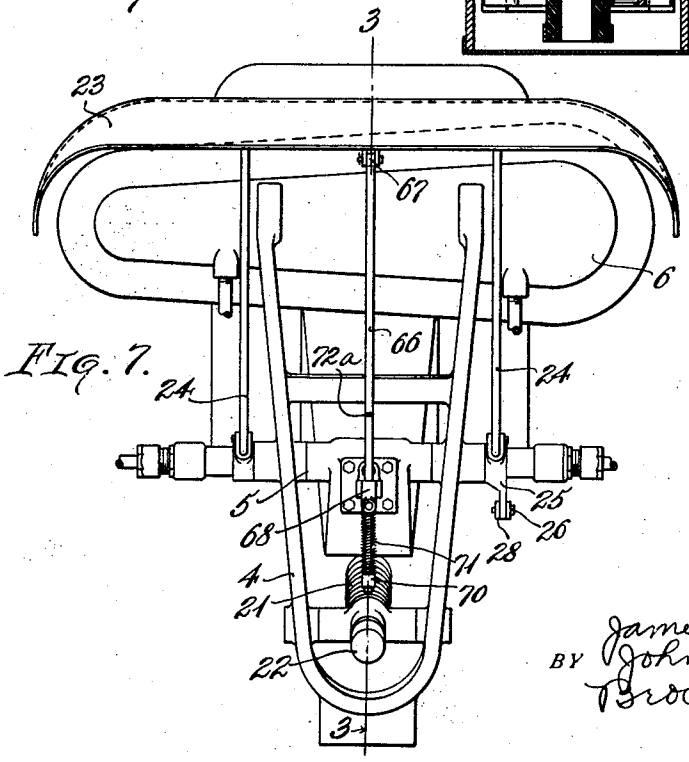


FIG. 7.



INVENTORS
James H. Taylor
BY John P. Sinkiser
Brockett & Hyde
ATTORNEYS

Aug. 16, 1927. 1,639,355

J. H. TAYLOR ET AL

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Fig. 9.

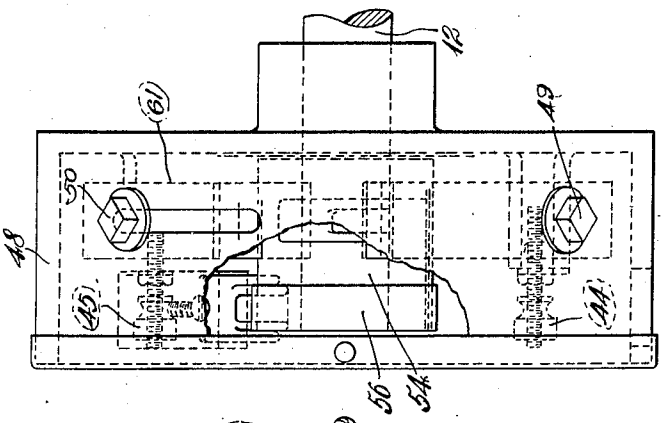
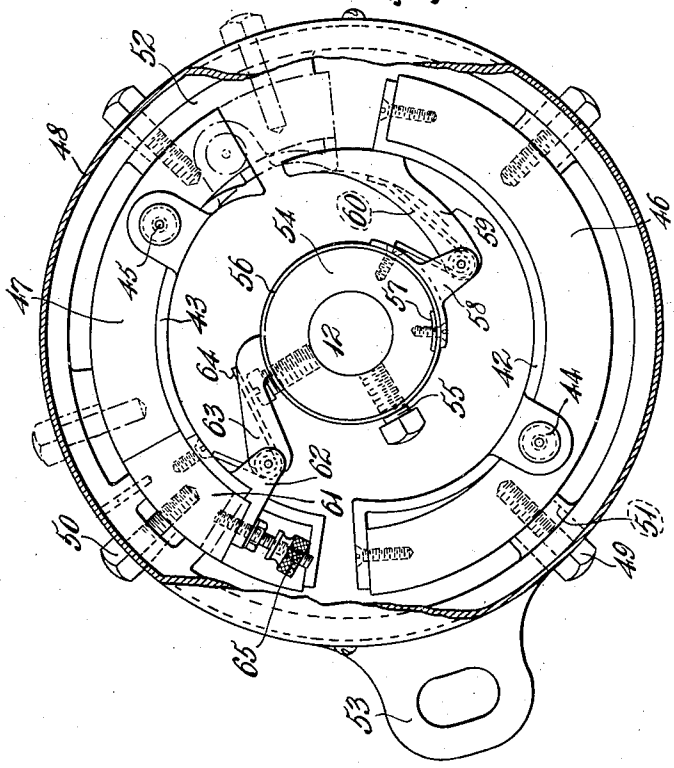


Fig. 8.



INVENTORS
James H. Taylor
BY John P. Singiser
Blackett & Hyde
ATTORNEYS

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J. H. TAYLOR ET AL

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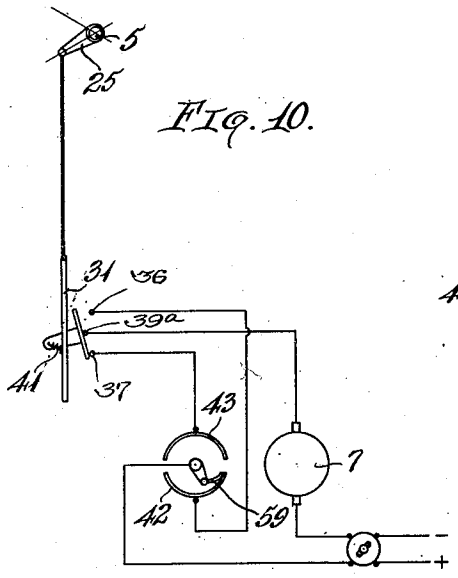


FIG. 10.

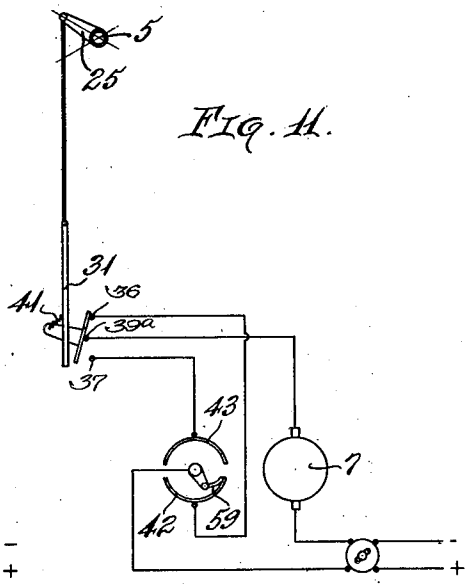


FIG. 11.

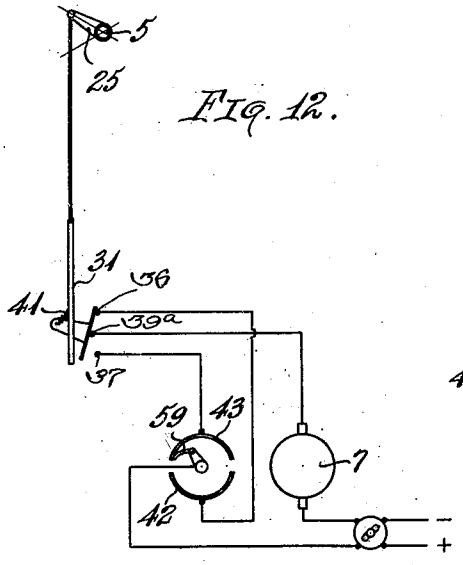


FIG. 12.

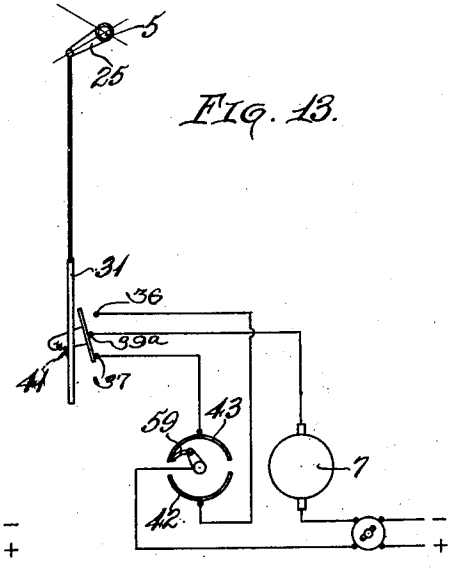


FIG. 13.

INVENTORS
James H. Taylor
John P. Singiser
BY Brockett & Hyde
ATTORNEYS

Patented Aug. 16, 1927. 1,639,355

UNITED STATES PATENT OFFICE.

JAMES H. TAYLOR, OF NEW YORK, N. Y., AND JOHN P. SINGISER, OF CHICAGO, ILLINOIS, ASSIGNORS TO THE AMERICAN LAUNDRY MACHINERY COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

GARMENT PRESS.

Application filed July 17, 1922. Serial No. 575,649.

This invention relates to improvements in ironing machines or garment presses.

The objects of this invention are to provide a machine of this class with power actuated relatively movable pressing members together with a guard for preventing accidental insertion of the operator's hands between the pressing members, and means for preventing closing of the pressing members until the guard member is brought to closed position; to provide means in this type of machine for preventing application of power for closing the pressing members until the guard member is closed; to provide means for permitting opening of the pressing members from fully closed position upon raising of the guard member; to provide means for preventing raising of the shield or guard until the press is fully closed; to provide means for setting in operation the press opening means upon raising the guard.

Another object of this invention is to provide a power press with a guard member, means for automatically stopping the motor upon the members being completely closed and means under control of the opening of the guard member for opening the press and automatically stopping the motor when the press has been fully opened.

Another object of this invention is to provide an electric control switch in connection with the motor for closing and opening the press, together with a guard member whose closing and opening movements control the actuation of the electric switch, said switch being capable of adjustment so as to obtain proper timed relation between the actuation of the motor and the closing and opening of the guard.

Other objects of the invention will appear from the following description and claims when considered together with the accompanying drawings.

Fig. 1 is a side elevation of our device with parts broken away and parts in section; Fig. 2 is a detail sectional view of the latch means for maintaining the guard in closed position until the press has been fully closed; Fig. 3 is a vertical section taken on line 3—3, of Fig. 7, showing the open and closed positions of the guard; Fig. 4 is a detail elevation of the control switch with its casing wall broken away; Fig. 5 is a bottom plan view of the control switch with the top of the casing broken away; Fig. 6 is a transverse section taken on line 6—6 of Fig. 1; Fig. 7 is a plan view of my device; Fig. 8 is a side elevation of the rotary timing switch with one wall of its casing partly broken away; Fig. 9 is an elevation of the rotary timing switch with part of the wall broken away; Figs. 10, 11, 12 and 13 illustrate diagrammatically the electric control system of our device showing the several successive positions of the switches during the complete cycle of operation,—Fig. 10 indicating the circuit when the press is in fully open position and the motor is idle,—Fig. 11 indicating the circuit during the closing operation,—Fig. 12 indicating the circuit when the press is in fully closed position and the motor is idle,—and Fig. 13 illustrating the circuit during the opening operation.

The lower pressing member or buck 1 is supported by the frame or pedestal 2 which is provided with the upwardly extending arm 3 upon which is pivoted the lever arm 4 at the point 5. The arm 4 carries at its forward end the upper pressing member or head 6 which is adapted to be lowered into pressing engagement with the buck 1.

The motor 7, which is suitably mounted upon a bracket on the machine frame drives through its rotor shaft 8 and the coupling 9 the worm section 10 which meshes with the gear 11 on the shaft 12. The shaft 12 is provided with a crank arm 13 which drives the connecting rod 14 pivoted at its other end at 15 to the joint of the toggle mechanism which is adapted to be straightened for closing the press. This toggle mechanism comprises the lower link 16 pivoted in the frame at 17 and jointed at its other end to the clevis 18 which is connected to the rod 19. The adjusting nut 20 on rod 19 provides abutment for one end of the spring 21, the other end of which abuts the rear end portion of the lever arm 4. The rod 19 extends upwardly through the rear end of the arm 4 by means of a T-shaped swivel member, the two side arms of which are swivelled in the lever arm 4 while the main arm of the swivel has the rod 19 extending therethrough. The rod 19 is provided at its upper end with the cap 22. The swivel connection between the rod 19 and the lever arm 4 is already known

in the art. Thus upon actuation of the motor, the toggle mechanism will be straightened through the connections just now described and the press will be closed; and upon again closing the circuit through the motor, the toggle mechanism will be broken to open the press, these two positions of the toggle mechanism being indicated in Fig. 3 of the drawings.

The guard member 23 is mounted upon the rearwardly extending arms 24 the rear ends of which are pivoted on the axis 5 so as to permit the guard member 23 to occupy either raised or lowered position as represented in Fig. 3. One of the arms 24 extends rearwardly so as to provide the arm 25 carrying the pin 26 which is adapted for cooperation with the slot 27 provided in the clevis 28 carried upon the upper end of the rod 29. The lower end of the rod 29 is connected to the clevis 30 which in turn is connected at its lower end to the slide rod 31 which extends through the housing 32 of the control switch mechanism. Suitably mounted within the housing 32 is the insulating block 33 having mounted thereon the contacts 34, 35 which have electric connection with the binding posts 36 and 37. Suitably mounted upon the insulating block 33 is the bracket 38 upon which is rockably mounted the arm 39 carrying the spring contacting blade 40 adapted for electric contact at its two ends with the contacts 34 and 35. The binding post 39^a is also provided. The coil spring 41 insulated from arm 39 is connected at its one end to the arm 39 and at its other end to the slide rod 31 so that upon reciprocation of the rod 31 the contact blade 40 will be caused to snap into either of two positions, one of these positions being indicated in Fig. 4 and corresponding to the upper position of the slide rod 31. Upon lowering the rod 31 the contact blade 40 will be snapped into engagement with the contact 35. The binding posts 36 and 37 are wired to the contact segments 42 and 43 respectively by means of the binding posts 44 and 45, while binding post 39^a is wired to the motor. These electric connections are clearly illustrated in Figs. 10 to 13.

Contact segments 42 and 43 are suitably mounted upon the insulating segments 46 and 47 which are in turn adjustably mounted within the casing 48. This adjustment consists of the screws 49 and 50 which extend through slots 51 and 52. The casing 48 is in turn adjustably mounted about the shaft 12 and is secured in adjusted position by means of the slotted ear 53 which is adapted to be clamped by means of a screw bolt extending therethrough and engaging the wall of the machine frame. The insulating collar or hub 54 is secured to the shaft 12 by means of set screws 55 and is provided with the contact ring 56 which has electric connection through the strips 57 with the bracket 58 upon which is rockably mounted electric contact shoe 59 held by means of the spring 60 in engagement with one of the contact segments 42 and 43. Suitably mounted on the inner wall of the casing 48 is the insulating block 61 having mounted thereon the bracket arm 62 upon which is rockably mounted the contact 63 held by the spring 64 in contact with the ring 56. A binding post 65 for contact 63 is provided upon the bracket arm 62. It will be noted that the contact segments 42 and 43 are curved inwardly at one end so as to provide quick breaking of the circuit as the shoe 59 leaves one of the segments.

With the machine in open idle position as indicated in Fig. 1 and also by full lines in Fig. 3, the contact shoe 59 is in the position indicated in Fig. 10 and the control switch is in lower position as also indicated in Fig. 10, so that the circuit through the motor is broken. Then upon lowering the guard 23 to the dotted line position indicated in Fig. 3, the pin 26 will move to the upper end of the slot 27 and raise the rod 29 so as to move the control switch to the upper position or in other words to snap the contact spring blade 40 into the position indicated in Fig. 4, which corresponds to Fig. 11 of the drawings. The motor is then set into operation and will continue to operate so as to straighten the toggles and close the press head, at which point the traveling contact shoe 59 will leave the corresponding contact segment 42 and cause the circuit to be broken, the shoe 59 passing on to the contact segment 43 which as will be seen from Fig. 12 is not in the motor circuit. The press is then in fully closed position and will remain in such position until the motor is again energized, or in other words, until the contact segment 43 is placed in the motor circuit. This is accomplished by raising the guard which causes the contact blade 40 to close the circuit through the contact 35, as indicated in Fig. 13 of the drawings. The motor will then be set in operation to break the toggle and to open the press to the full line position, causing the contact shoe 59 to return to the segment 42, at which moment the circuit through the motor is broken since the segment 42 is in the motor circuit as illustrated in Fig. 10. Thus the cycle of operations is completed.

As a safeguard against raising the guard 23 until the press is fully closed we have provided the rearwardly extending rod 66 connected to the guard at 67 and extending through the swivel 68 which is mounted upon the bracket 69 of the machine frame. The rear end of the rod 66 carries the nut or collar 70 providing abutment for the spring 71, the other end of which presses against the swivel 68. The swivel 68 is provided

with an opening for the lock pin 72 which is adapted to engage in the notch 72^a in the rod 66, so as to normally maintain the guard in the raised position. The lock pin 72 is provided with the spring 72^b and the screw plug 73 closes the opening for the same. As the guard is closed or lowered the rod 66 will be drawn through the swivel 68 which will rock upon its pivot and when fully closed or lowered the notch 74 in the lower side of the rod 66 will snap over the stud 75 provided upon the upper end of the thrust pin 76 which is mounted at its lower end in the trip lever 77. The rod 76 extends through the bracket 69 and is forced upwardly by the spring 78 and engagement of the stud 75 in the notch 74 will prevent raising of the guard until the press head has been fully closed, or until the projection 80 upon the arm 4 has been lowered so as to engage the trip lever 77 and thus withdraw the stud 75 from engagement with the rod 66.

What we claim is:

1. A pressing machine, comprising relatively movable pressing members, motive means for closing the press, means actuated by closing movement of the press for controlling the operation of said motive means, a movable guard for the press, and means controlled by movement of said guard for rendering said first control means effective.

2. A pressing machine, comprising relatively movable pressing members, motive means for closing the press, means actuated by opening movement of the press for controlling the operation of said motive means, a movable guard for the press, and means controlled by movement of said guard for rendering said first control means effective.

3. A pressing machine, comprising relatively movable pressing members, motive means for closing the press, means actuated by opening and closing movement of the press for controlling the operation of said motive means, a movable guard for the press, and means controlled by movement of said guard for rendering said first control means effective.

4. A pressing machine, comprising relatively movable pressing members, motive means for closing the press, a timing device actuated by said motive means for controlling the operation of said motive means, a movable guard for the press, and means controlled by movement of said guard for rendering said timing device effective.

5. A pressing machine, comprising relatively movable pressing members, an electric motor for closing the press, a timing switch actuated by said motor for controlling the operation of said motor, a movable guard for the press, and a second switch controlled by movement of said guard for rendering said timing switch effective.

6. A pressing machine, comprising relatively movable pressing members, motive means for opening the press, a timing device actuated by said motive means for controlling the operation of said motive means, a movable guard for the press, and means controlled by movement of said guard for rendering said timing device effective.

7. A pressing machine, comprising relatively movable pressing members, an electric motor for opening the press, a timing switch actuated by said motor for controlling the operation of said motor, a movable guard for the press, and a second switch controlled by movement of said guard for rendering said timing switch effective.

8. A pressing machine, comprising relatively movable pressing members, motive means for closing and opening the press, a timing device actuated by said motive means for controlling the operation of said motive means, and a movable guard for the press, and means controlled by movement of said guard for rendering said timing device effective.

9. A pressing machine, comprising relatively movable pressing members, an electric motor for closing and opening the press, a timing switch actuated by said motor for controlling the operation of said motor, a movable guard for the press, and a second switch controlled by movement of said guard for rendering said timing switch effective.

10. A pressing machine, comprising relatively movable pressing members, motive means for closing the press, a rotary timing device actuated by said motive means for controlling the operation of said motive means, a movable guard for the press, and means controlled by movement of said guard for rendering said timing device effective.

11. A pressing machine, comprising relatively movable pressing members, an electric motor for closing the press, a rotary timing switch actuated by said motor for controlling the operation of said motor, a movable guard for the press, and a second switch controlled by movement of said guard for rendering said timing switch effective.

12. A pressing machine, comprising relatively movable pressing members, an electric motor for closing the press, a timing switch actuated by said motor for controlling the operation of said motor, a movable guard for the press, said timing switch including a plurality of contact members, and a second switch having a plurality of contacts connected respectively to the contacts of said timing switch, said second switch being controlled by movement of said guard so as to render said timing switch effective.

13. A pressing machine, comprising relatively movable pressing members, an electric motor for closing the press, a timing switch actuated by said motor for control-

ling the operation of said motor, a movable guard for the press, said timing switch including a plurality of contact segments, and a contact member operatable by said motor so as to alternately engage said contact segments, and a second switch adapted to close the motor circuit through either of said contact segments, said second switch being controlled by movement of said guard so as to render said timing switch effective.

14. A pressing machine, comprising relatively movable pressing members, means for opening and closing the press, a movable guard for the press, and means engaging said guard from below for preventing withdrawal of the same until the press is fully closed.

15. A pressing machine, comprising relatively movable pressing members, means for opening and closing the press, a movable guard for the press, and means engaging said guard from below and controlled by closing of the press for permitting the guard to be withdrawn.

16. A pressing machine, comprising relatively movable pressing members, motive means for closing the press, a movable guard for the press, means engaging said guard from below for securing the guard in closed position, and means actuated by the closing of the press for releasing said securing means.

17. A pressing machine, comprising relatively movable pressing members, motive means for closing the press, a movable guard for the press, means engaging said guard from below for latching the guard in closed position, and means actuated by the closing of the press for releasing said latching means.

18. A pressing machine comprising relatively movable pressing members, motive means for closing the press, a pivotally mounted guard structure for the press provided with a slidable part, means engaging said slidable part for securing the guard in closed position, and means actuated by the closing of the press for releasing said securing means.

19. A pressing machine, comprising relatively movable pressing members, motive means for closing the press, a pivotally mounted guard for the press, a slidable latch rod secured to said guard, and a latch for engaging said rod to prevent premature withdrawal of the guard, said latch being controlled by the closing of the press.

20. A pressing machine, comprising a buck, a swingingly mounted press head movable towards and from said buck for closing and opening the press, means for operating the head, a guard mounted for swinging movement upon the same axis as said press head, and means for ensuring against the guard being withdrawn from guarding position until the presshead is fully closed.

In testimony whereof we hereby affix our signatures.

JAMES H. TAYLOR.
JOHN P. SINGISER.