Nov. 1, 1927. 1,647,501

P. N. BRAUN

PRESSING MACHINE (SLIDING HEAD)

Filed Feb. 24, 1926 2 Sheets-Sheet 1

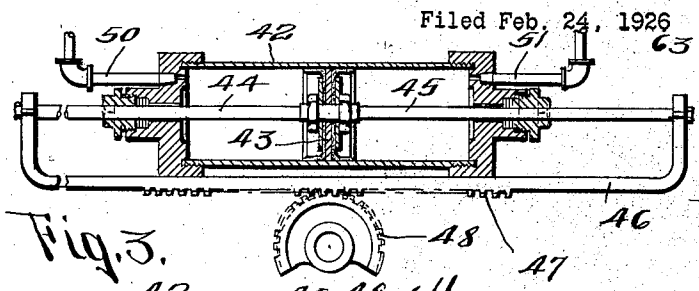


Fig. 3.

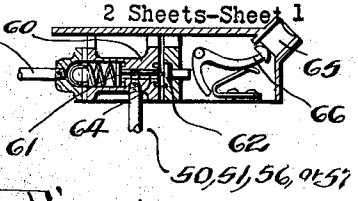


Fig. 4.

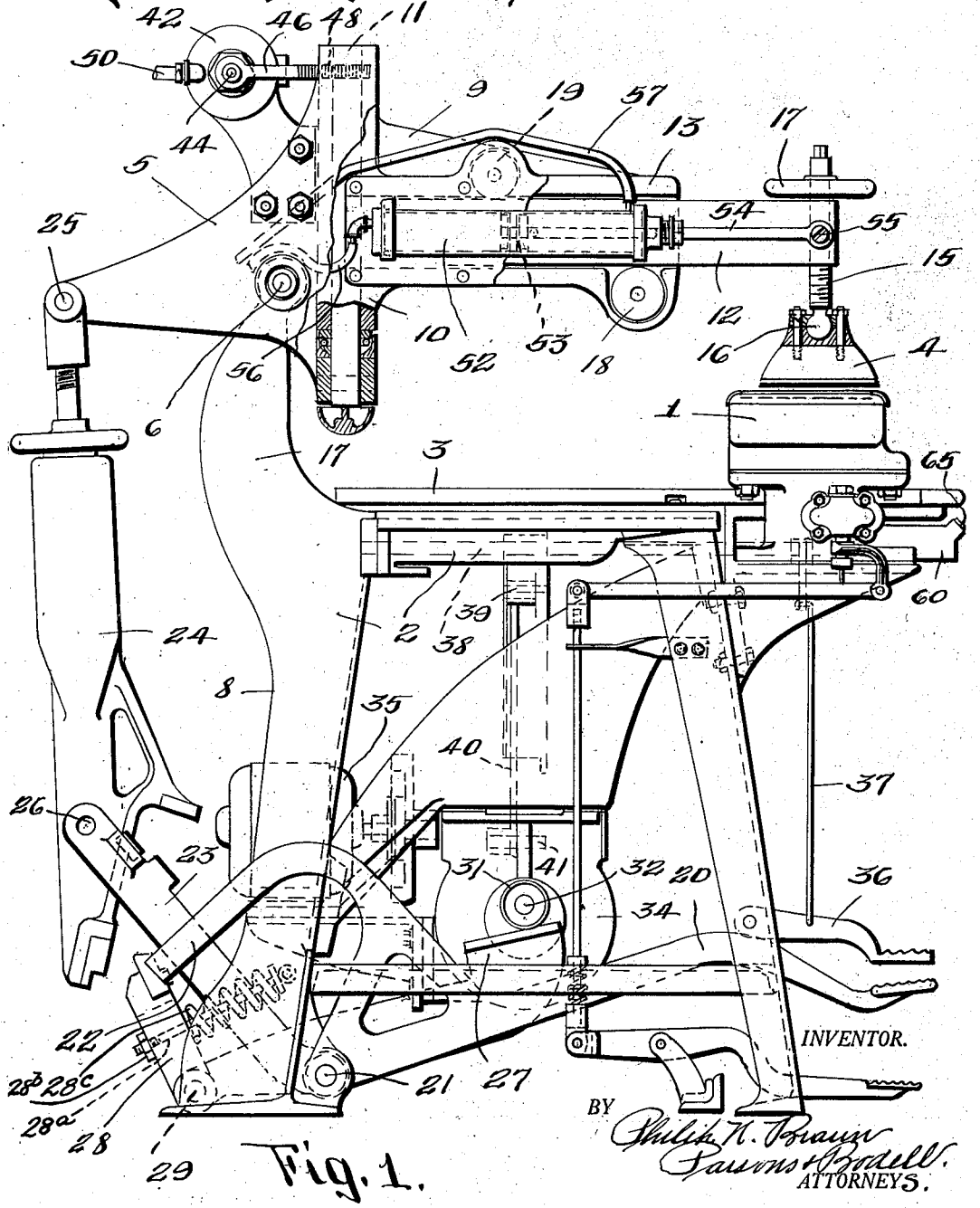


Fig. 1.

INVENTOR.

BY Philip N. Braun

Parsons & Bradell.

ATTORNEYS.

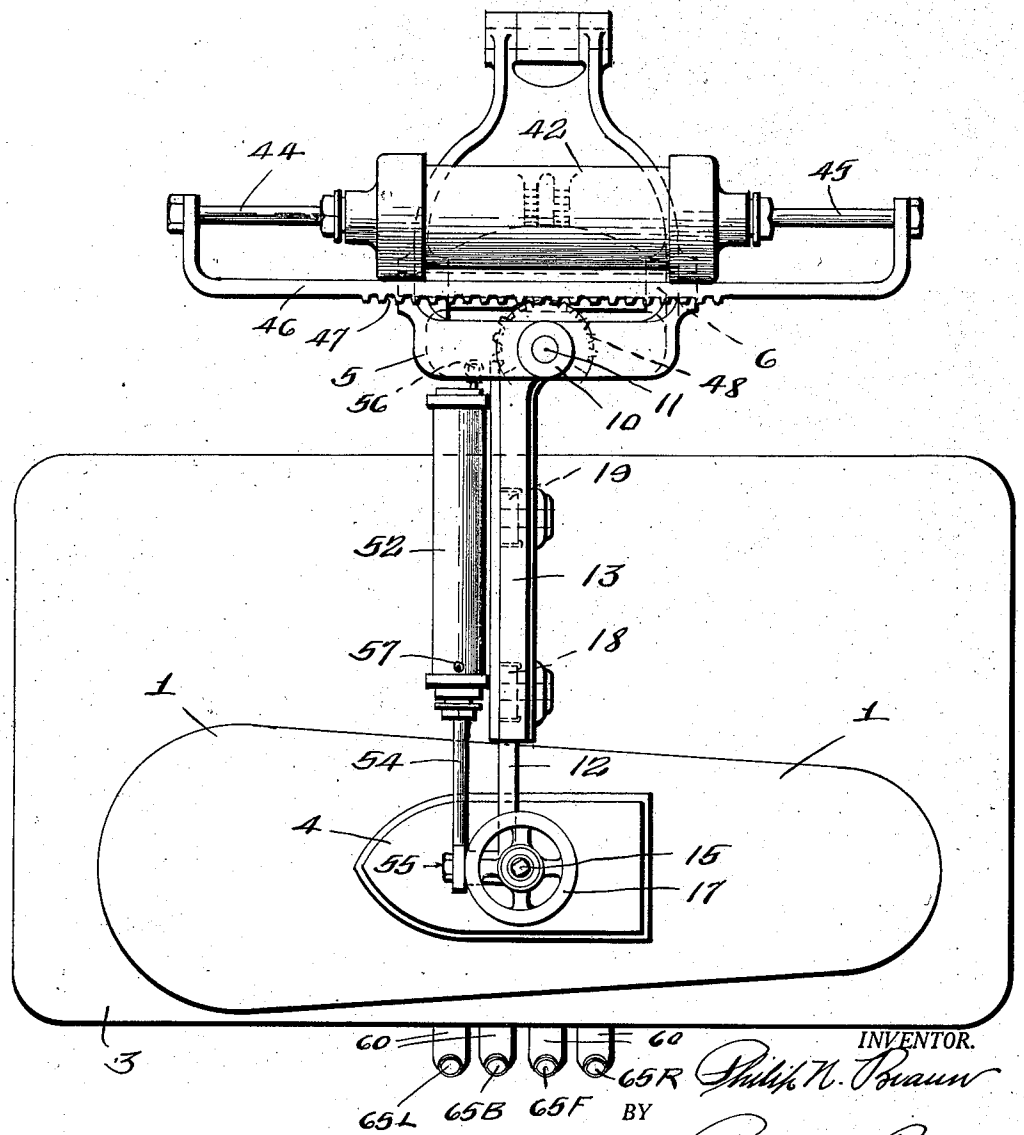
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Fig. 2.



INVENTOR.
Philip N. Braun
BY
Parmenter Bordell
ATTORNEYS.

Patented Nov. 1, 1927. 1,647,501

UNITED STATES PATENT OFFICE.

PHILIP N. BRAUN, OF SYRACUSE, NEW YORK, ASSIGNOR TO THE PROSPERITY COMPANY INC., OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

PRESSING MACHINE (SLIDING HEAD).

Application filed February 24, 1926. Serial No. 90,398.

This invention relates to a pressing machine of the type in which an ironing head or a large sad iron is movable lengthwise of the buck and also forwardly and rearwardly over the face of the buck and also has a movement toward and from the buck. It has for its object a particularly simple, efficient and easily controlled power mechanism for actuating the ironing head lengthwise of the buck and also forwardly and rearwardly.

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 machine embodying my invention.

Figure 2 is a plan view of parts seen in Figure 1.

Figure 3 is a longitudinal sectional view through the motor means for the swinging carriage.

Figure 4 is a longitudinal sectional view through one of the manually operable means or valves.

This machine comprises, generally, a buck, an ironing head movable toward and from the buck, a support for the ironing head including a yoke pivoted on a horizontal axis, a swinging carrier pivoted to the yoke on a vertical axis, a slide movable toward and from the axis of the carrier and carrying the ironing head at its front end, manually controlled means for moving the yoke to carry the head toward and from the buck, and manually controlled power means for moving the carrier and the slide.

1 designates the buck which may be of any suitable form, size and construction, it being mounted upon a suitable frame 2 or a table 3 on the frame.

4 is the ironing head.

5 is the yoke for supporting it, the yoke being pivoted at 6 on a horizontal axis to an upright 7 rising from the frame or a rear leg 8 thereof.

9 is the carrier having an upright bearing 10 mounted on a vertical shaft or spindle 11 suitably carried by the yoke 5 in front of the axis 6 thereof.

12 is a sliding bar movable in a suitable guide 13 in the carrier 9 and carrying the ironing head 4 at its front end, the bar 12 being here shown as connected to a rod 15 which threads vertically through the front end of the slide 12 and which is connected by a universal joint 16 to the ironing head 4. The threaded rod 15 is turned by means of a wrench applied to the upper end thereof and is held in its adjusted position by a wheel 17 threading thereon, the wheel serving as a jamb nut. The slide 12 moves on suitable rollers 18 and 19 carried by the carrier 9.

The yoke 5 is actuated either by power or by foot to apply the pressure, and in the illustrated embodiment of my invention, the yoke 5 must be preliminarily actuated before the power can be effectively applied.

The yoke 5 is here illustrated as initially actuated to bring the head 4 down onto the buck 1 by means of a foot lever 20 pivoted at 21 to the frame and having an arm 22 arranged to hook back of the lower link 23 of a toggle. The other link 24 of the toggle is pivoted at 25 to the rear arm of the yoke 5. The links 23 and 24 are pivoted together at 26. Obviously by depressing the pedal 20 the toggle 23, 24 will be straightened and hence the head 4 moved down onto the buck 1 or the work thereon. After the head 4 has been brought down on the buck 1 heavy pressure may be applied by power through a lever 27, pivoted at 21 to the frame or on the same pivot that the foot lever 20 is mounted, the power lever having a thrust link 28 pivoted at 29 thereto, which thrust link coacts with the lower end of the link 24 to thrust the link 24 endwise, when its lower end has been brought into engagement with the thrust link 28 by the preliminary closing of the head 4 by the lever 20. The power lever 27 is actuated by a roller 31 mounted on an eccentric or crank pin 32 carried by a suitable shaft journaled in a housing 34, the roller coacting with a face on the front end of the lever 27. The shaft on which the pin 32 is mounted is actuated from an electric motor 35 through suitable reduction gearing and a periodic clutch not shown which is manually controlled, that is, the clutch is thrown in by hand and automatically thrown out when the eccentric 32 makes a half revolution.

The link 28 is held in its angular position relatively to the lever 20 in any suitable manner as by a rod 28[a] pivoted within the rear leg 8 and extending through an

opening in the link 28 and having a nut 28^b at its rear end. A spring 28^c encircles the rod between an abutment thereon and the link 28 and holds the link 28 against the nut. This feature forms no part of this invention.

The throwing of the clutch is controlled by a suitable pedal 36 connected by a link 37 to a rock shaft 38 having an arm 39 thereon coacting with the rock arm 40 pivoted at 41 to the clutch housing 34 and operating to throw the clutch therein.

The power mechanism and clutch and its operating mechanism, form no part of this invention and further description is unnecessary to a full understanding thereof.

Upon the depression of the lever 36, the clutch is thrown in and the eccentric 32 caused to make a half revolution to depress the power lever 27 and hence apply power to the head 4 after the head has been preliminarily closed. To open the press, the lever 36 is depressed again so that the eccentric 32 makes another half revolution back to the position shown in Figure 1.

The means for actuating the iron 4 lengthwise of the buck or to right and to the left acts on the carrier 9 to swing it about the pin 11. This means is here shown as a cylinder 42 having a double acting piston 43 therein and piston rods 44 and 45 extending through opposite ends of the cylinder and connected to a yoke 46 having a rack 47 thereon meshing with the pinion 48 on the bearing 10 of the carriage 9. The cylinder 42 has combined intake and exhaust pipes 50 and 51 at each end thereof and the flow of air through the pipes 50 and 51 is manually controlled. Likewise the slide 12 is actuated by a similar cylinder 52 carried by the guide 13 of the carriage 9 and having a double acting piston 53 therein, the rod 54 of which is secured at 55 to the front end of the slide.

A combined intake and exhaust pipe 56 or 57 is connected to each end of the cylinder 52. The flow of air through these pipes 56, 57 is also controlled by manual means. The manual control means is the same in all instances and is as shown in Figure 4 and comprises a valve casing 60 having a normally closed spring pressed intake valve 61 and a normally opened exhaust valve 62 and a combined intake and exhaust pipe 50, 51, 56 or 57 between the valves 61, 62. 63 designates the intake pipe from a suitable source of supply of energy as compressed air. The intake and exhaust valves 61 and 62 are connected by a stem 64 so that they work in unison and this stem is actuated by a button 65, the motion of which is transferred to the stem 64 through a suitable motion transmitting lever 66. There is a button 65 for controlling the opening of each pipe 50, 51 and a button 65 for controlling the flow through each of the pipes 56, 57. All of these buttons are conveniently located on the front of the machine, and that for controlling the forward movement run is designated 65^F, that for controlling the backward movement 65^B. That for controlling the swinging of the lever to the left is designated 65^L and that for controlling the swinging to the right 65^R.

In operation after the head 4 has been brought down on the buck as described, the ironing head 4 can be caused to swing to the left by pressing the button 65^L, which opens the normally closed intake valve 61 in the left hand pipe 50 and closes the exhaust valve which is normally open so that the piston 43 moves to the right causing the rack 47 to move to the right, turning the pinion 48 and hence the carriage 9 in a clockwise direction or to the left. Depression of the button 65^R opens the valve 61 in the right hand pipe 51 causing the piston 43 to move to the left and the pinion 48 to move in an anticlock direction. At the same time or separately either button 65^F or 65^B may be operated to cause the slide 12 to move forward or backward.

What I claim is:—

1. In a pressing machine the combination of a buck, an ironing head coacting with the buck and movable toward and from the same, supporting means for the ironing head comprising a yoke pivoted on a horizontal axis, a carrier pivoted to the yoke on a vertical axis and a slide supported by the carrier carrying the head and movable radially relative to the vertical axis, means for moving the yoke about its axis, manually controlled power means carried by the yoke for swinging the carrier and manually controlled power means carried by the carrier for actuating the slide.

2. A pressing machine comprising a buck, an ironing head movable over the buck, means for carrying the ironing head including a yoke pivoted on a horizontal axis, a carrier pivoted to the yoke on a vertical axis, power means carried by the yoke including a cylinder, a double actuating piston movable in the cylinder, a rack movable with the piston and a pinion arranged concentric with the pivotal axis of the carrier and being fixed to the carrier and meshing with the rack.

3. In a pressing machine the combination of a buck, an ironing head coacting with the buck and means for supporting the ironing head comprising a yoke pivoted on a horizontal axis, a carriage pivoted to the yoke on an upright axis, a slide carried by the carriage and movable radially relatively to the pivotal axis of the carriage and carrying the head, means carried by the yoke and including a rack and a pinion the latter being mounted on the carrier concentric with

the vertical axis thereof and means carried by the carrier and coacting with the slide for reciprocating it and means for actuating the yoke about its horizontal axis.

4. In a pressing machine of the type having a swinging and movable ironing head, the combination of a yoke, a swinging carrier pivoted to the yoke and a slide supported by the carriage and carrying the head, manually controlled power means arranged to swing the carrier in opposite directions and manually controlled power means for moving the slide in opposite directions.

5. In a pressing machine of the type having a swinging and movable ironing head, the combinatioin of a yoke, a swinging carrier pivoted to the yoke and a slide supported by the carrier for movement in opposite directions and manually controlled power means for swinging the carrier and manually controlled power means for moving the slide in opposite directions, the former power means being carried by the yoke and the latter by the carrier.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga, and State of New York, this 28th day of January, 1926.

PHILIP N. BRAUN.