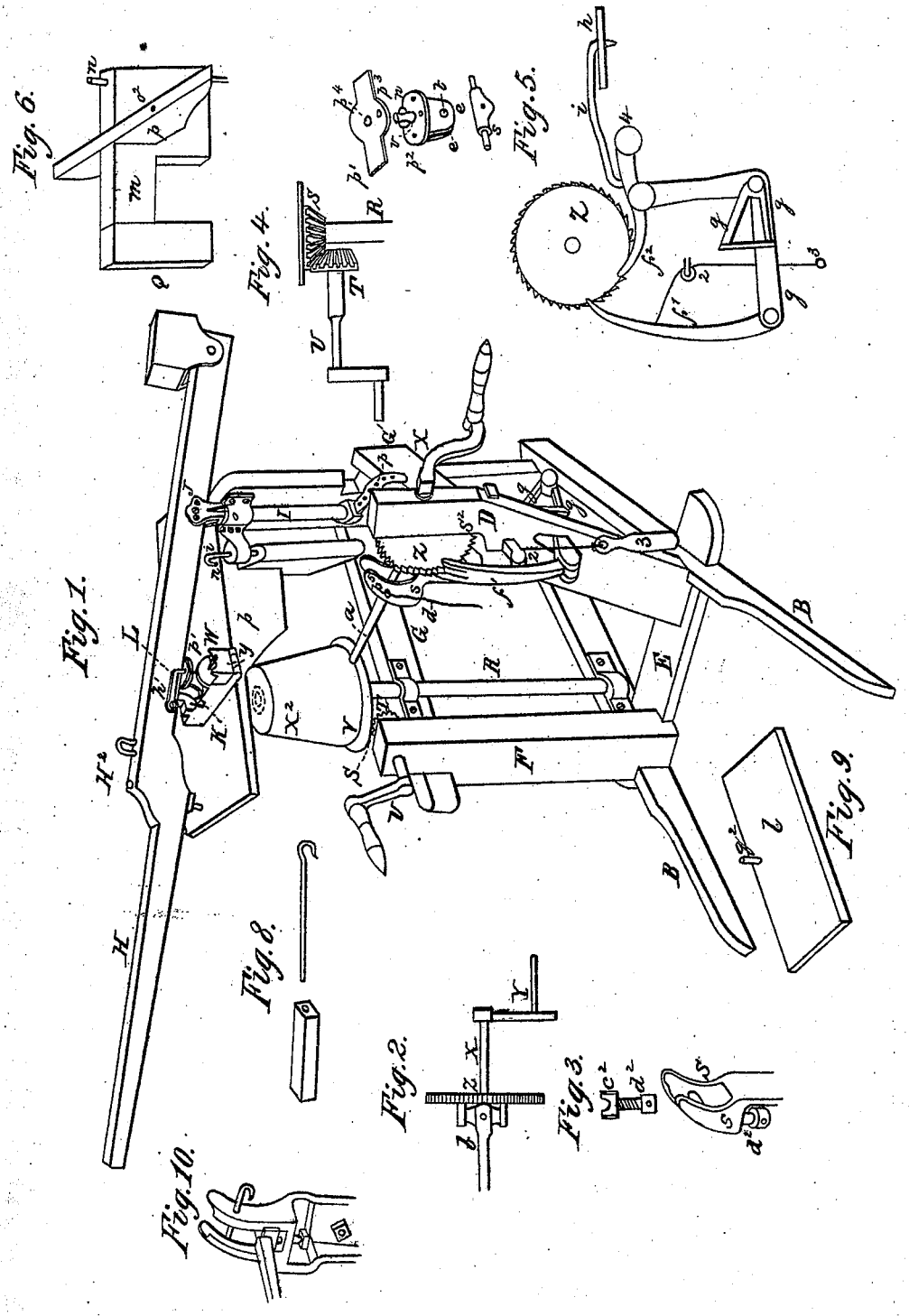
R. Murdoch.

Ironing Hats.

No. 1635 Patented Jun. 17, 1840.



UNITED STATES PATENT OFFICE.

RICHARD MURDOCK, OF BALTIMORE, MARYLAND.

MACHINE FOR IRONING AND PRESSING HATS, BONNETS, &c.

Specification of Letters Patent No. 1,635, dated June 17, 1840.

To all whom it may concern:

Be it known that I, RICHARD MURDOCK, of the city of Baltimore and State of Maryland, have invented a new and useful Machine for Pressing Bonnets, Hats, and other Articles, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the machine; Fig. 2, the universal joint of the ratchet wheel and inclined shaft; Fig. 3, sliding box placed in front of the joint Fig. 2; Fig. 4, bevel gearing for turning the bonnet block; Fig. 5, hands, rod, perforated arm, right-angle lever and ratchet wheel &c; Fig. 6, perspective view of the swinging frame sustaining the table; Fig. 7, parts forming the universal joint of box K; Fig. 8, heater and rod; Fig. 9, the under side of the table; Fig. 10, perspective view of the crotched seat.

Similar letters refer to similar parts in the figures.

The frame A of this machine is made of a suitable size and strength to contain and support the several parts of the machine hereafter described.

The sills B, B, and E are arranged in a manner to resemble the letter A, having a post C bolted between the two side sills where they approach each other and form the angle, and an obtuse angled standard D fastened to one of the side sills B and cross sill E at their intersection, and an upright F secured to the other side sill B at its intersection with the cross sill E and two side rails G, G′, uniting the standard D and upright F to the post C, all well secured together by bolts, pins, or otherwise.

A long lever H is placed in a notch made in the head of a vertical shaft I attached to the post C having a pin J passing horizontally through the sides or forks of said shaft I which embraces the lever and also through the lever and serving as its fulcrum, said shaft turning to the right and left as required in collars which embrace necks thereon, said collars being screwed to the post C one of which is seen at C^2 by which arrangement the lever H not only has a vertical movement but it also has a horizontal movement to the right and left. To the under side of this lever is attached a rectangular box K for containing a heated iron inserted therein or removed at pleasure by means of a tongs, pin, or in any suitable and convenient way for heating the box, which box is made smooth on the under side for pressing the bonnets, &c., smooth, said box being attached to the lever H by a universal joint L for allowing it to move in any direction required for smoothing plain or convex surfaces. It may, however, be governed in its horizontal movements by means of two parallel plates p' p^2, Fig. 7, forming part of the universal joint and a hook h' or catch, which is attached to the side of the lever H whose point passes through said plates p' p^2, secures them together and prevents them from moving either to the right or left.

One of the plates p' is made as represented in Fig. 7 and is secured to the under side of the lever, the perforation for the hook to pass through being seen at p^3 and the perforation for the shank v at p^4. The other plate p^2 is circular and forms part of the swivel. It has two ears e e to admit the shaft s of the swivel between them and for a horizontal pin t to pass through the ears and shaft; a shank v passes through the plate p' on which is screwed a nut n or inserted a pin above said plate to attach the plates together which nut or pin is received into a cavity made in the lever H. In said plate p^2 are made a number of perforations o, which are, when required, to be brought directly under the perforation p^3 in the upper plate so that the hook h' shall pass through them both.

The lever H, Fig. 1, is balanced by means of a counter weight Q placed on its shorter end. It is sometimes made in two parts fastened together by bolts or pins as represented in the drawing at H^2 which renders it susceptible of being folded for the convenience of transportation. A vertical shaft R for carrying the block on which is placed the crown to be pressed turns in a collar a^2 fastened to the long rail G and in a step b^2 secured to the side sill B under it by means of a horizontal bevel wheel S, Fig. 4, fixed on said shaft R, into which gears a vertical bevel wheel T fixed on a horizontal crank shaft U turning in the upright F. A circular stand V is fixed on the vertical shaft R above the bevel wheel S for supporting the bonnet block X^2.

To press the crown of a bonnet the bonnet block with a crown thereon must be placed and secured on the upper or square end of

the vertical shaft R and resting on the circular stand V and a heater being put in the pressing box K. The operator lays hold of the lever H with the left hand and with the right hand takes hold of the crank handle U and turns it which turns the bonnet block and crown while at the same time the heated pressing box K is guided and applied to the crown in any manner desired by means of the lever H and the universal joint L.

The pressing box K is constructed in such manner that the heater may be drawn out by means of a pair of tongs or pincers—that is to say—by having one end hinged as at Y, Fig. 1, so as to be opened and let down out of the way of the tongs and when it is again turned up and closed it is thus held by means of a catch W as represented in the drawing. And instead of the tongs a simple straight rod will answer to draw out the heater by having said heater perforated to admit said rod.

Fig. 8 represents the heater and rod.

To press the sides of the crown of the bonnet the following apparatus is attached to the angular standard D. A horizontal shaft X is passed through the angular standard D near its upper end and is turned by a crank Y, on which shaft is fixed a ratchet wheel Z, at the center of which is attached a shaft a by means of a universal joint b, which last mentioned shaft is turned to a cylindrical form near the middle, where it turns in a sliding box c^2, Fig. 3, supported and sliding in a crotched seat s Figs. 1 and 3, bolted to the angular standard, which box c^2 is raised or lowered in the crotch s by means of a set screw d^2 passing through the seat of the crotch and pressing against the under side of the box c^2 so that by turning said screw to the right the sliding box is raised and the inclination of the shaft increased and by turning it to the left a contrary effect is produced, the angle of the shaft being thus changed as may be required by the taper of the bonnet. The block with a crown is then put on the square part of the shaft, which enters a square aperture in the center of the block to prevent its turning. The operator turns the crank Y with the right hand, which turns the block and crown and with the left hand he applies the heated pressing box by means of the lever in the manner before described for pressing the top or crown. This shaft may be turned by the right and left movement of the lever H without the aid of the crank by means of two hands f^1 f^2, which drop into the notches of the ratchet wheel z, which hands are attached by joints to a right angled lever g, Figs. 1 and 5, one at each end, vibrated by the right and left movement of the lever as before mentioned, a segment perforated arm h projecting from the vertical shaft I of the lever H. A connecting rod i connects said arm h to the end of the vertical arm of the right angled lever g. The hands f^1 f^2 are kept in gear with the ratchet wheel z by a cord 1, pulley 2, and weight 3, the cord being attached to the hand f^1 and the hand f^2 is kept in gear, by a weight 4 on its opposite end, so that as the lever is moved to the right and left the right angled lever (whose fulcrum is at its angle and is attached to the angular standard and rail) and hands are moved, which turn the rag wheel and thus turn the shaft and block thereon, the hands alternately acting on the rag wheel in each movement of the lever, the speed of the ratchet wheel being decreased by inserting the end of the connecting rod i into one of the holes in said arm h nearer to the vertical shaft I, and increasing the speed by fixing the end of said rod i farther from the shaft I.

A table l, Fig. 1, on which the front of the bonnet is to be pressed, is hung to the post c in a manner to allow it to swing around horizontally to the right or left as may be required. It is a plain flat rectangular board l, resting on a swinging frame m, Figs. 1 and 6, hung to the post c by a vertical rod n passed through one end of it and through an ear c^5 fastened to the post c and inserted into the long side rail G on which it moves.

The cross arm of the frame p is framed into the swinging arm m in which cross arm p an aperture o^2, Fig. 6, is made to receive a pin q^2, Fig. 9, projecting down from the under side of the table to allow it to have a movement on said pin so as to bring the front of the bonnet to be pressed directly under the pressing box when it is inconvenient to bring the pressing box to it. When the table is not required to be used it is swung back from its position under the pressing box when not in use out of the way in the manner represented in the drawing Fig. 1 and when it is required to be used it is brought around directly under the heated pressing box which is applied to the bonnet front laid on the table by means of the lever H in the manner before described for pressing the crown. And when any part of the front cannot be reached by the presser the table is moved on said pin so as to bring the front within the circle or sweep of the presser. The pressing box may be retained at a right angle to the lever while pressing the side of the crown and parallel with it when pressing the front by means of the before described hook h' passing through the parallel plates p' p^2 and its vertical motion will be governed by forming the joint so as to prevent the box passing but slightly the horizontal position to the left when lying parallel with the lever for pressing the front.

The pin (p^5) is for sustaining the shaft in an elevated position for pressing the cor-

ners of the crown. It is passed horizontally through the forks of the seat under the shaft. It is represented with a red cord attached to it. The sides of the crotched seat are curved and provided on the inside with ribs the segment of a circle described from the center of the universal joint against which the sliding box c^2 moves and by which it is guided, so that the box shall be parallel with the shaft as it is raised or lowered by the set screw d^2, having grooves in the sides of said box to admit said curved ribs. The seat is also flanged on the back and provided with screw bolts and nuts for securing it to the inclined post D. The pressing box may likewise be controlled by means of the lever in its motion on the axis independent of the surface on which it is pressing for the pressing of round crowns, &c., by arranging it in the following manner: Instead of inserting the long lever in the notch in the head of the upright shaft I place therein and secure by the bolt which forms the fulcrum of the lever a short shaft similar to the shafts used in the other universal joints each end of it being cylindrical is inserted into an eye or collar, which is firmly secured to the under side of the lever the lever being thus connected to the frame by a universal joint. The pressing box is connected to the lever by a joint formed by two cheeks projecting down from the under side of the plate said plate being firmly secured to the under side of the lever. Between the cheeks is embraced the middle part of the joint which projects up from a horizontal circular plate, the cheeks and middle being held together by a bolt passed through them horizontally at a right angle to the lever and forming the axis of the joint. The said horizontal circular plate is made thinner on the outside than in the middle and connected to the top of the pressing box by a cap in which it turns, which cap has a round hole in the center large enough for the middle part of the joint to pass up through, said cap being fastened down to the top of the pressing box by screws or otherwise and retaining under it the circular plate from which the middle part of the joint projects up. A hook or pin similar to that used in the above described original plan is connected to the pressing box by a joint at one end which allows the other end to rise and fall. The pin on the other end is placed in a hole which passes through the cap and top of the pressing box and also through the circular plate in two places near its edge one of which is for retaining the pressing box at a right angle and the other parallel to the lever.

The counter weight is placed on the lever in such a position by inclining it or otherwise as shall bring the center of gravity in the center of the horizontal axis of the upright shaft and cause the lever, &c., to remain in any position on either of said axes. A latch or catch is fixed to a block on the right side of the lever above the axis of the cross joint. On one edge of said latch a space is left having a sloped shoulder above and below—the said space being intended to receive the end of the bolt of the cross joint which is lengthened for that purpose and preventing the lever from moving on the axes which is parallel to it. Into each shoulder of the above space a set screw may be put for regulating the position or tightness of the lever held thereby. The above latch is so constructed as to fall against the bolt and a small pin in the lever prevents it going too far. When it is desired to liberate the lever a cord one end of which is attached to the latch and the other to the lever is drawn over a knob or pin inserted in the lever.

What I claim as my invention and desire to secure by Letters Patent consists—

1. In the combination of the shaft I, the curved arm h, right angled lever g, the hands f^1 f^2, and ratchet wheel in the manner herein described and these thus combined I claim in combination with the lever H and pressing box K for the purpose and in the manner described.

2. The method of adjusting the block on which the bonnet is placed by means of the shaft attached to the face of the ratchet wheel with a universal joint and the sliding box in the forked seat provided with a set screw as herein described.

3. The arrangement of the swinging table on which the front is pressed as before described.

RICHD. MURDOCK.

Witnesses:
HENRY WHITE,
JOHN WRIGHT.