H. MONK.

Ironing-Machine.

No. 197,047. Patented Nov. 13, 1877.

Fig. 1.

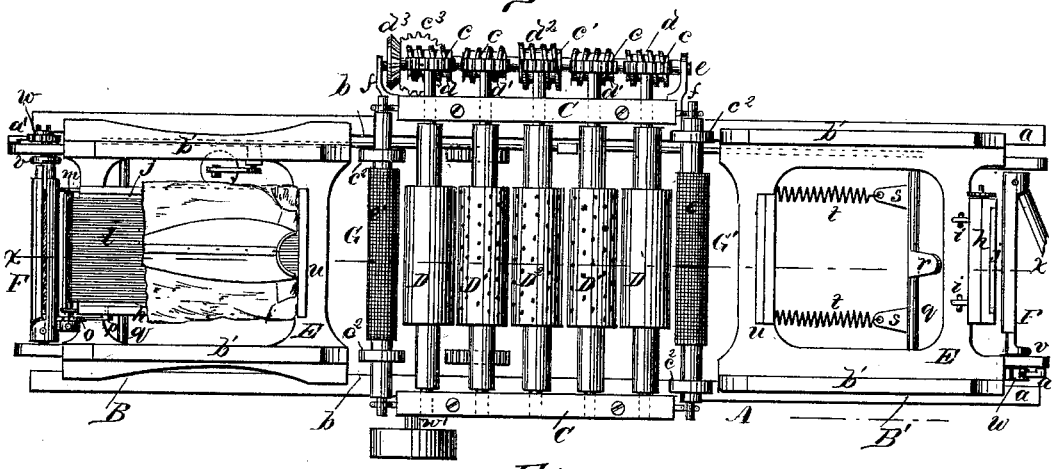


Fig. 2.

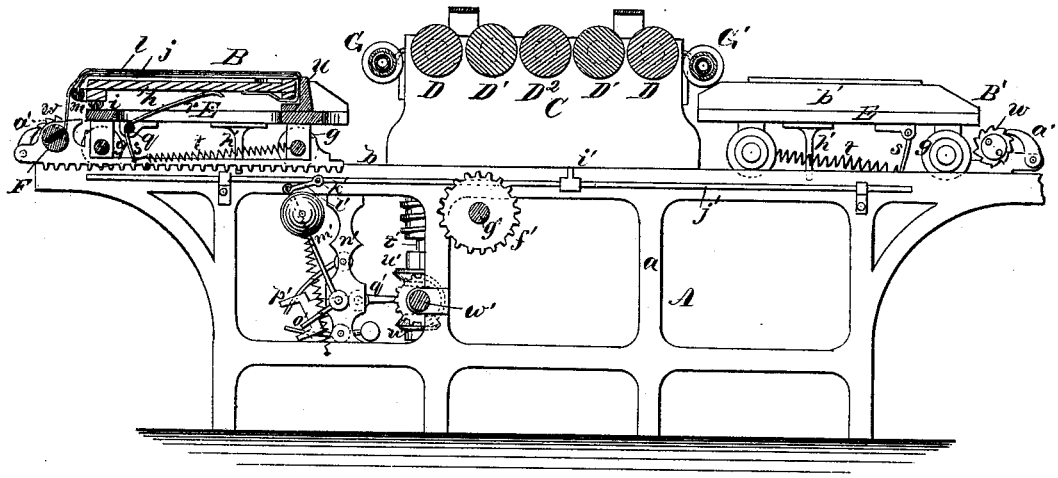


Fig. 3.

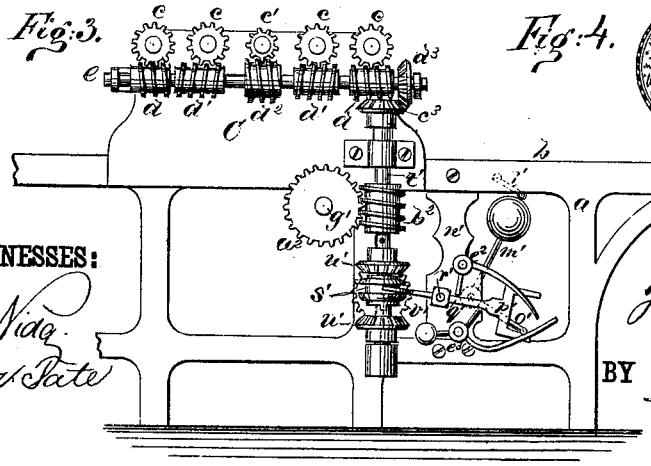
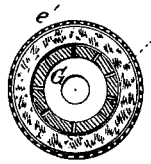


Fig. 4.



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HENRY MONK, OF TROY, NEW YORK.

IMPROVEMENT IN IRONING-MACHINES.

Specification forming part of Letters Patent No. **197,047**, dated November 13, 1877; application filed September 1, 1877.

To all whom it may concern:

Be it known that I, HENRY MONK, of Troy, county of Rensselaer, and State of New York, have invented a new and Improved Ironing-Machine, of which the following is a specification:

Figure 1 is a plan view of my improved ironing-machine. Fig. 2 is a longitudinal vertical section of the same, taken on line *x x* in Fig. 1. Fig. 3 is a side elevation, and Fig. 4 is a transverse section of one of the moistening-rolls.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing and then pointed out in the claims.

Referring to the drawing, A is the frame of the machine, consisting of two similar side pieces, *a*, connected by suitable cross-bars. A track, *b*, is formed upon the upper edge of the side pieces, for supporting the ironing-tables B.

Supports C are formed on the sides of the frame A, in which the hollow rollers D D^1 D^2 are journaled. The shafts of these rollers are tubular, and to them the worm-wheels *c* c^1 are secured. The outer rolls D are plain. The center rolls D^1 D^2 are indented with small concavities, such as are formed by the point of a drill. The worm-wheel c^1 on the shaft of the center roll D^2 is smaller than the worm-wheels on the shafts of the other rolls.

The worm-wheels *c* c^1 are driven by worms *d* d^1 d^2 on the shaft *e*, journaled in brackets *f*, that project from the side of the frame A. The worms are right and left hand, so that both rolls D rotate in the same directions, and the motion of the indented rolls D^1 is opposed to the adjacent smooth rolls D.

The center indented roll D^2 rotates in the same direction as the outer smooth rolls D, but with greater speed, the difference in speed being secured by making the worm-wheel c^1 smaller and the worm d^2 larger than the others.

The ironing-table B consists of a frame, E, mounted on wheels *g*, and carrying a table, *h*, which is attached to it by hinges *i*.

The table *h* is recessed to receive an elastic pad, *j*, of rubber or other suitable material. The pad *j* is cut away to receive the neck-band of the shirt, and a cloth cover, *l*, is attached to the under surface of the table *h* at its free end, and is of sufficient length to cover the face of the table and extend into the fastener *m*, which consists of a split roller journaled at the hinged end of the table *h*, and provided with a ratchet, *o*, and pawl *p*, by which the cloth is kept taut.

A rocking shaft, *q*, is journaled in the frame E, and has an arm, *r*, that bears against the under surface of the table *h*, and is provided with two arms, *s*, for receiving one end of the springs *t*, the other ends being attached to the frame E. These springs have sufficient strength to nearly or quite counterbalance the table *h*, so that little effort will be required to raise it. When the table *h* is in a horizontal position its free end rests in a rabbeted rib, *u*, on the upper face of the frame E.

The shirt is drawn over the table *h*, and its lower end is clasped between the halves of a split roller, F, the movable part of which is hinged to the main portion, and secured, when closed, by a ring, *v*, which encircles both halves. This split roller is journaled in the frame E, near the hinged end of the table *h*, and is provided with a ratchet, *w*, and pawl a^1.

The frame E is provided with two ribs, b^1, one at each side of the table *h*, for engaging collars c^2 on the moistening-roll G. Two similar tables, B B′, are employed in this machine, one at each end, so that while one is passing under the rolls the other is being made ready to pass under the rolls.

The moistening-rolls G G′, one of which is suspended at each end of the support C, are made hollow to contain water or steam, and are perforated and provided with a covering, d^3, of sponge, and an outer envelope, e^1, of cloth.

The collars c^2 on the moistening-roll G are placed the same distance apart as the ribs b^1 on the frame E, so that as the said frame is moved under the roll the latter is raised so that it will not touch the shirt; but as the frame passes under the roll G′, the collars c^2 of the said roll being wider apart than the ribs b^1, the roll touches and moistens the shirt-front. The table B′ operates in a similar way, its ribs being the proper distance apart to

engage the collars c^2 of the roll G′, raise the said roll as the table moves forward, so that it does not touch the shirt carried by the table, but as the table moves under the roll G, the ribs b being farther apart than the collars c^2 of the said roll, the roll touches and moistens the shirt.

Each table carries two racks, which are engaged by pinions f' on the shaft g', which is journaled in the frame A, and they are each provided with a finger, h', that extends downward and engages a finger, i', on the sliding rod j', which moves in guides attached to the side piece of the frame A.

A stud, k', projects from the side of the rod j' for receiving a link, l', that connects the said rod with a weighted lever, m', which turns on a stud projecting from a vertical bar, n', forming a part of one of the side pieces a. The lever m' has a right-angled arm, o', which extends to the outside of the frame A, and engages the forked ends p' of the clutch-lever q', which turns on a stud, r', that projects from the vertical bar n'. The opposite end of the lever engages a grooved sliding sleeve, s', on the vertical shaft t', journaled in brackets that project from the frame a. The said sleeve is prevented from turning on the shaft by a feather, and it is provided with lug-pins at its ends for engaging similar pins, that project from the miter-wheels u', which are placed loosely on the shaft t', one above and one below the sleeve s'. These miter-wheels mesh into a miter-wheel, v', on the driving-shaft, w'.

A worm-wheel, a^2, is placed on the end of the shaft g', and takes motion from a worm, b^2, on the vertical shaft t', and to the upper end of the said shaft a miter-wheel, c^3, is secured, which meshes into a miter-wheel, d^3, on the shaft e.

Lock-levers e^2 e^3 are pivoted to the bar n', one above and one below the lever q'. The long arms of the levers project beyond the arm p' of the lever q', in position to be engaged by the projecting end of the arm o' of the weighted lever m'. The shorter arms lock the lever q' in either of its positions. The lever e^3 is provided with a counter-weight for balancing its longer arm.

The operation of my improved machine is as follows: The shirt, the front of which is to be ironed, is drawn over the table h, when the latter is folded down upon the frame E, and the lower end of the shirt is secured in the split roller F, which is turned until the shirt is made taut. The table is moved forward until its racks engage the pinions f', when the rotation of the pinions carries the table forward under the rolls D D^1 D^2, which are heated and rotated in different directions, as already described. As the table passes under the moistening-roll the shirt-front is moistened, and as the table emerges from the rolls the finger h' touches the finger i, moving the rod j', so that the weight of the lever m' is carried over its fulcrum, and the upper lock-lever e^2 releases the lever q', while the lower lock-lever e^3 locks it as the lever is moved by the arm o' in shifting the sleeve s' from one of the bevel-wheels u' to the other. By this means the motion of the machine is reversed, and the shirt is carried back under the rolls and polished.

The indentations in the rolls D^1 D^2, the rotation of the rolls in different directions and at different speeds, and the movement of the table B at less surface-speed than that of any of the rolls, gives the shirt-front a superior finish.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The frame E, mounted on wheels g, the table h, connected by hinges i with the frame E, and the spring-actuated lever r, in combination, substantially as shown and described.

2. A moistening-roll consisting of a hollow perforated core, a coating of sponge, and an envelope of cloth, substantially as herein shown and described.

3. The combination, in an ironing-machine, of the moistening-rollers G G′, having formed on them collars c^2, and the frames E, having ribs b^1, substantially as herein shown and described.

4. The worms d d^1 d^2 and the worm-wheels c c^1, in combination, for driving the ironing-rolls in different directions and at different speeds, substantially as specified.

HENRY MONK.

Witnesses:
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