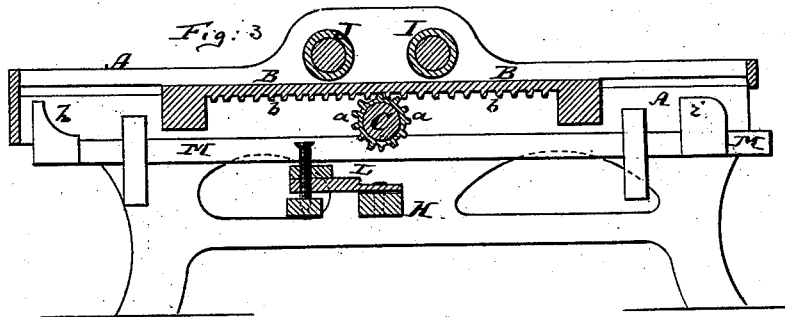
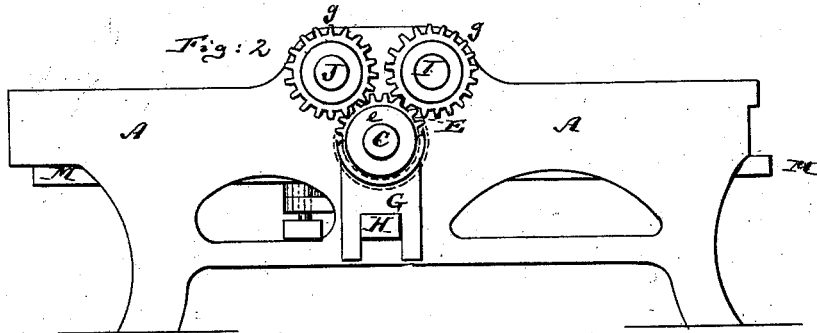
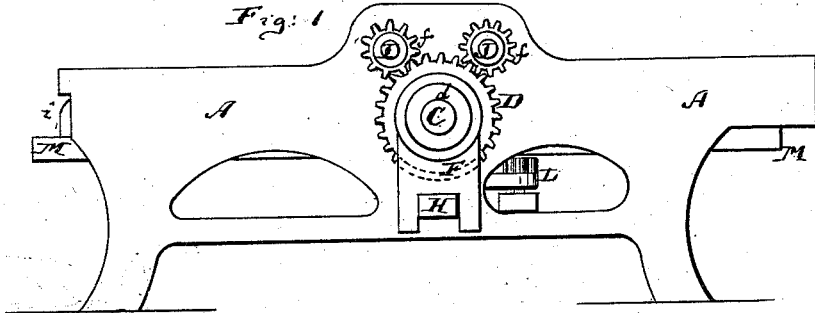


P. O'THAYNE.
Ironing-Machine.

No. 197,884.

Patented Dec. 4, 1877



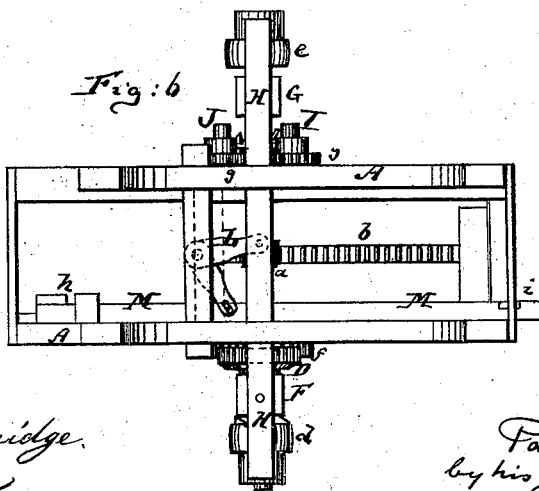
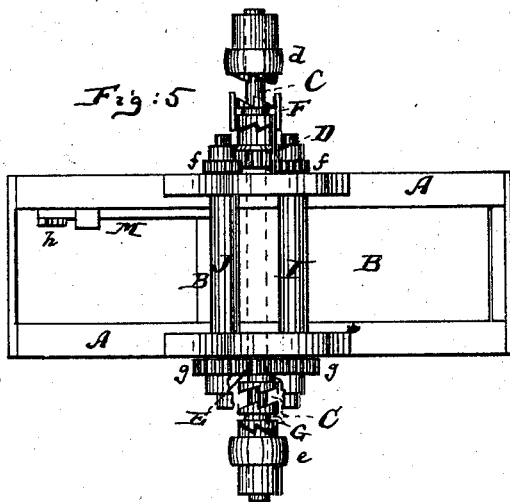
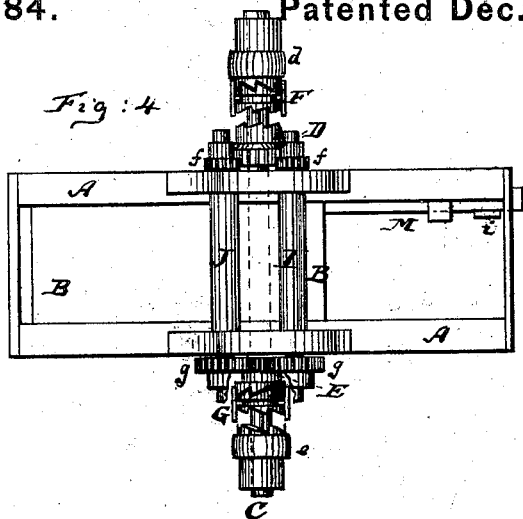
Witnesses:
John C. Tunbridge
A. V. Briesen

Inventor:
Patrick O'Thayne
by his attorney
A. V. Briesen

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UNITED STATES PATENT OFFICE.

PATRICK O'THAYNE, OF NEW YORK, N. Y.

IMPROVEMENT IN IRONING-MACHINES.

Specification forming part of Letters Patent No. 197,884, dated December 4, 1877; application filed June 2, 1877.

To all whom it may concern:

Be it known that I, PATRICK O'THAYNE, of New York city, in the county and State of New York, have invented a new and Improved Ironing-Machine, of which the following is a specification:

Figure 1 is a side view of my improved ironing-machine. Fig. 2 is an elevation of the opposite side of the same. Fig. 3 is a vertical longitudinal section of the same. Fig. 4 is a plan or top view, partly in section, of the same; Fig. 5, a plan or top view, partly in section, of the same, showing the clutches in a position different from what they are in Fig. 4. Fig. 6 is a bottom view of the same. Figs. 4, 5, and 6 are drawn on a smaller scale than Figs. 1, 2, and 3.

Similar letters of reference indicate corresponding parts in all the figures.

The object of this invention is to produce an ironing-machine in which the same rollers may serve as ironing or drying, and as smoothing or polishing, rollers. The difference in the function of said rollers is merely one of speed, with reference to the speed of the goods to be ironed—that is to say, if a garment is moved beneath the heated rollers with a speed equaling that with which the rollers revolve, said rollers will, to some extent, iron the garment, and will deprive the same of its moisture, but they will not polish the garment to a sufficient extent. This is done by causing the rollers to revolve faster than the garment moves, thereby producing an excess of friction on the garment, which produces the requisite polish.

My invention consists, principally, in combining, with one or more ironing-rollers, and with a reciprocating ironing-table, a mechanism for automatically changing the speed of the rollers without in any way interfering with the speed of the ironing-table. This invention may be carried into effect by various mechanical means, and I have illustrated in the drawings one means which I deem most practicable, but others may be substituted.

In the drawings, letter A represents the frame of the machine. B is the reciprocating ironing-table, moving horizontally on guides that are formed in the frame A, and receiving its motion from a toothed wheel, *a*, which is mounted upon a transverse shaft, C, and which

meshes into a rack, *b*, that is attached to the ironing-table, preferably to its under side; but other means of moving the ironing-table may be used. The shaft C is hung in the frame A, and extends beyond said frame at both sides of the same, and carries at one side a larger toothed wheel, D, and at the other side a smaller toothed wheel, E, both of which are loose on the shaft, but either of which may be thrown into connection with the shaft by one of two sliding clutches, F and G, which clutches are connected with each other by a cross-bar, H. Upon the shaft C are also hung two loose pulleys, *d* and *e*, one near each end of the shaft, both serving to receive motive power, but in opposite direction, for the operation of the machine. When the bar H is moved to throw the clutch F against the large wheel D, the clutch G is meanwhile also thrown against the loose pulley *e*, as in Fig. 5, and therefore in this position of the parts the pulley *e* imparts motion to the shaft C, and thereby also to the larger toothed wheel D. When, however, the bar H is moved to throw the clutch F against the pulley *d*, the clutch G is thereby withdrawn from the pulley *e* and moved against the smaller toothed wheel E, as in Fig. 4, so that thus the larger toothed wheel will be out of gear, and the shaft be moved, together with the smaller toothed wheel E, by means of the pulley *d*. I and J are two ironing-rollers, made of metal or other suitable material, and hung in the frame A, above the reciprocating table B, in such manner as to affect in proper degree the garments placed upon said table. The rollers I and J may be provided with means for heating the same, or otherwise prepared for effectively carrying out the object for which they are used in this machine. They carry at one end small pinions *f f*, which are in gear with the larger toothed wheel D, hereinbefore referred to, and on the other end they carry larger toothed wheels *g g*, of the same size as and in gear with the smaller toothed wheel E hereinabove referred to. It is clear now that when the clutch-bar H, which may more properly be termed the "shipping-bar," is moved in one direction, the rollers I and J will be moved faster by the larger wheel D than if the bar H is set to throw these rollers into gear with the smaller wheel E, and

yet at the same time the shaft C, by its pinion *a*, maintains the movement of the ironing-table at the same ratio of speed throughout. Therefore, after the goods on the ironing-table have been sufficiently dried by the slow motion of the rollers I and J, which slow motion is equal to the motion of the table, they are afterward polished by a more rapid motion of the rollers I and J, without in any way changing the degree of speed of the table. The shifting of the clutches may, of course, be effected by hand, if desired, and may be effected while the table moves in the same direction; but I prefer to shift the clutches automatically, and to use the moving table as a means for effecting this end. For this purpose I connect the shipping-bar H by a bell-crank, L, with a sliding bar, M, which is hung in bearings in the frame A, and capable of moving parallel with the table. The bar M has projecting lugs *h* and *i* at its ends, and when the table B at the end of one of its movements strikes one of these lugs it will move the bar M, and thereby also the shipping-bar, so as to reset the clutches, reverse the movement of the table and the movement of the rollers, and change the speed of the latter in the manner desired, as hereinbefore stated. At the end of every stroke of the table B this motion of the shipping-bar and reversing and changing speed takes place all automatically without requiring the employment of skillful attendants. When desired, the clutches may be set entirely out of action, at least out of gear with the rollers I and J, and in this case I may, by set-screws or otherwise, fasten the rollers I and J, so that they may be used stationarily or with reduced motion above the moving table, and polish the garments by the friction thus produced.

It will be observed that, by having the two loose pulleys on the shaft C, the reversal of

the motion of the table and rollers is made possible without requiring the reversal of the mechanism that moves these pulleys. As to the ironing-table, it may be constructed as a plain platform, or provided with means for clamping the garments, such as are described in Letters Patent No. 118,878, reissued April 7, 1874, or other equivalent means.

I claim as my invention—

1. In an ironing-machine, the combination of a movable ironing-table, B, and of one or more ironing-rollers, I and J, with toothed wheels E and D, of different diameters, engaging with the pinions *f* and *g*, and with moving clutches for varying the relative speed of the said roller or rollers and table during the operation of the machine, substantially as specified.

2. The combination of the toothed wheels D and E on the shaft C with the clutches F and G, shipping-bar H, and loose pulleys *d* *e*, all arranged so that the clutch which is out of connection with one of the toothed wheels, will connect with one of the pulleys on same side of machine, substantially as described.

3. The reciprocating table B, combined with the parallel sliding bar M, having stops *h* and *i* that project into the path of the table, and with the link L, shipping-bar H, toothed wheels D and E, of different diameters, and one or more ironing-rollers, I J, all arranged so that by the alternate contact of the table with the stops *h* and *i*, its own motion and that of the roller or rollers will be reversed and their relative speed changed, substantially as specified.

The foregoing description of my invention signed by me this 31st day of May, 1877.

PATRICK O'THAYNE.

Witnesses:

ERNEST C. WEBB,
F. V. BRIESEN.