

(No Model.)

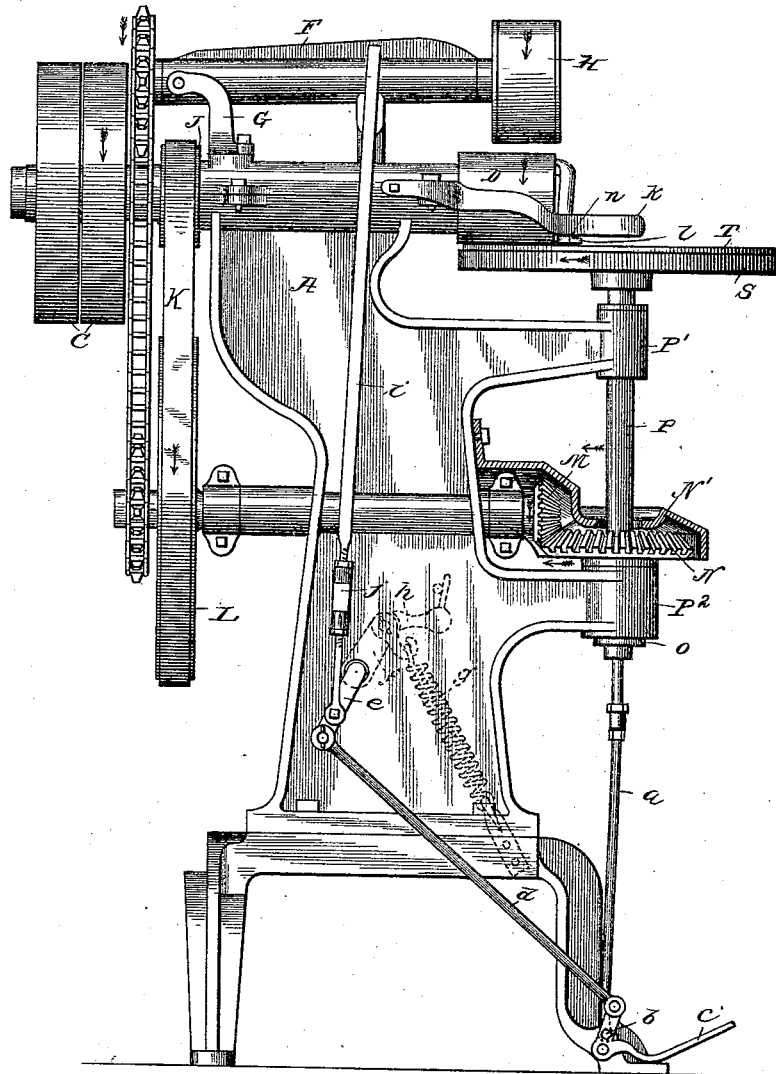
4 Sheets—Sheet 1.

L. H. WATSON.
IRONING MACHINE.

No. 454,786.

Patented June 23, 1891.

Fig. 1.



Witnesses.

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Inventor.

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(No Model.)

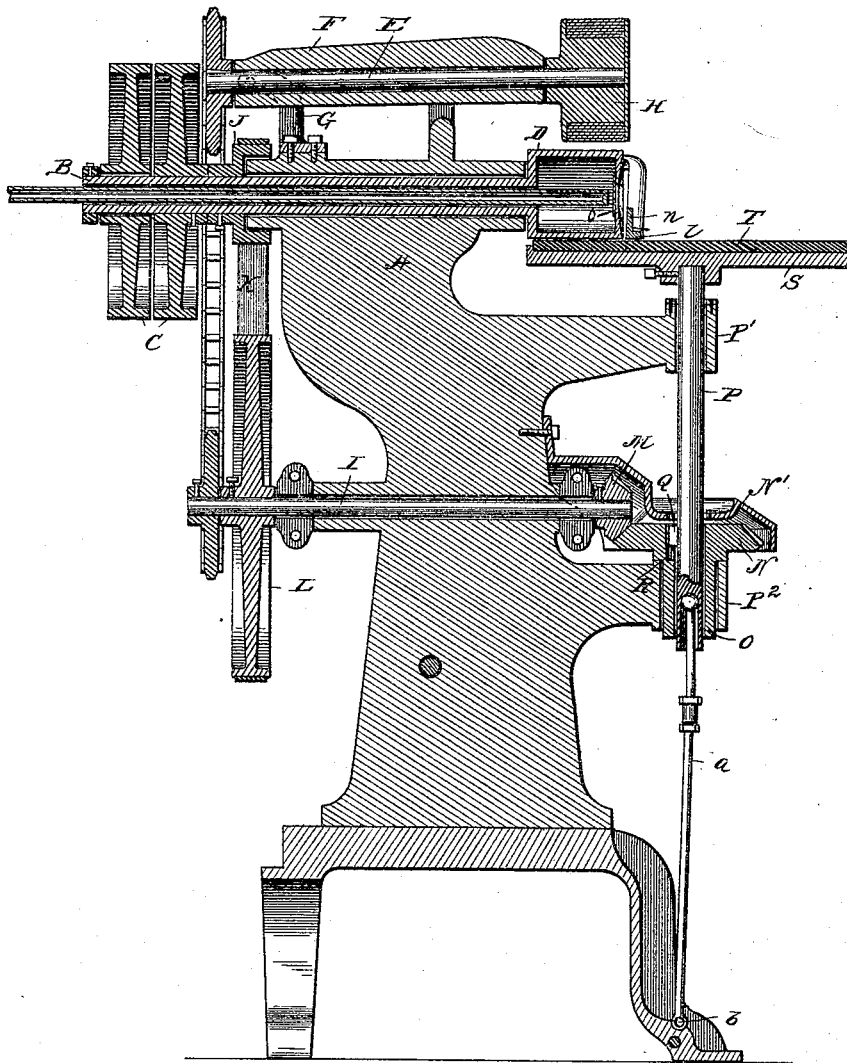
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L. H. WATSON.
IRONING MACHINE.

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Patented June 23, 1891.

Fig. 2.



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4 Sheets—Sheet 3.

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Fig. 3.

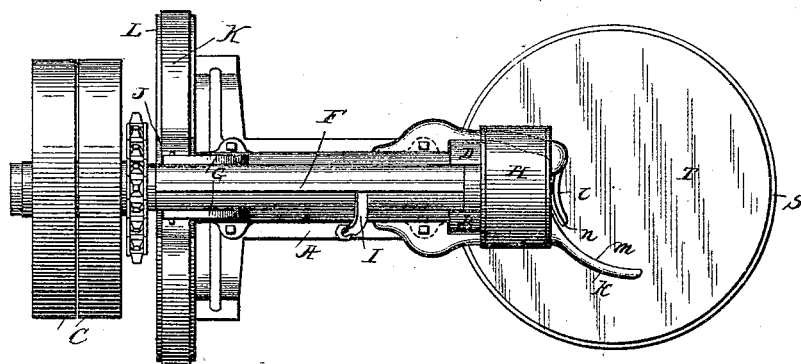
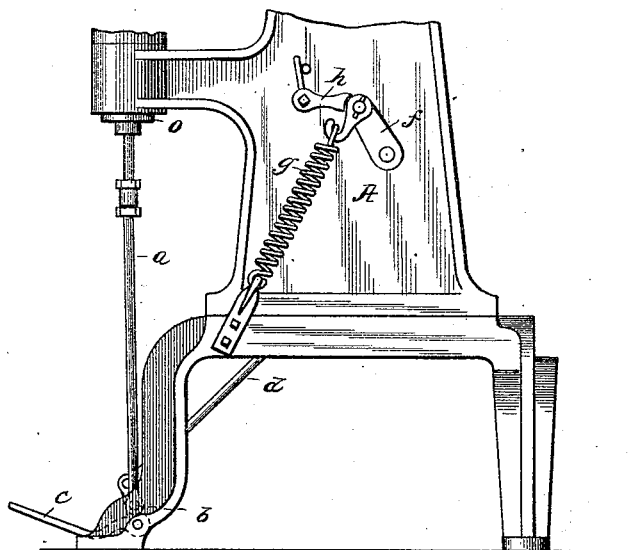


Fig. 4.



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4 Sheets—Sheet 4.

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Fig. 5.

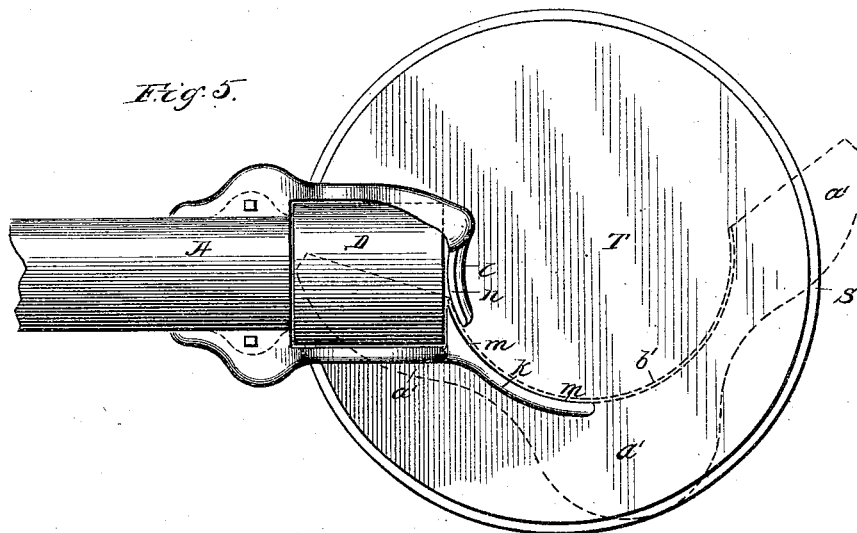


Fig. 6.

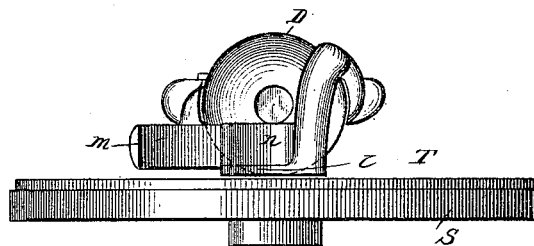


Fig. 7.

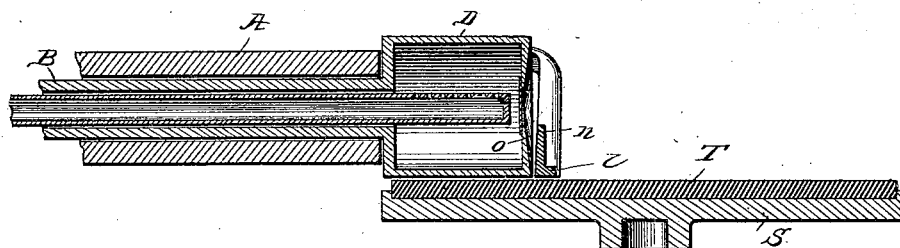
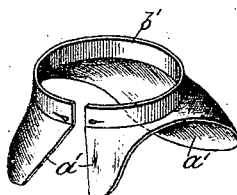


Fig. 8.



Witnesses
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UNITED STATES PATENT OFFICE.

LEWIS H. WATSON, OF CHICAGO, ILLINOIS.

IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,786, dated June 23, 1891.

Application filed August 13, 1888. Serial No. 282,551. (No model.)

To all whom it may concern:

Be it known that I, LEWIS H. WATSON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ironing-Machines, of which the following is a specification.

This invention relates to improvements in ironing-machines, and more particularly to that class designed for ironing what are commonly known as "cape-collars."

The prime object of this invention is to produce a machine for ironing both the cape and neck portions of the collar, but in separate operations, whereby all danger of tearing the cape from the collar is avoided, and the original angle or set of the cape is preserved.

Another object is to utilize the same iron in performing both of the foregoing operations, and to have the mechanisms of such a character that the cape and collar ironing devices may be brought alternately into an operative position.

Another object is to guide the collar through the machine in such manner that the cape may be operated upon in substantially its normal position relative to the neck portion of the collar.

I attain these objects by the devices illustrated in accompanying drawings, in which—

Figure 1 represents a side elevation of an ironing-machine embodying my invention, showing a portion of the casing broken away to more clearly illustrate the gear-connections between the operative parts thereof; Fig. 2, a central vertical section thereof; Fig. 3, a plan view of the same; Fig. 4, a detail side elevation of the lower portion of the machine; Fig. 5, a detail plan view of the ironing roller and disk, showing the location of the guides for the collar while the cape is being ironed; Fig. 6, a front view thereof; Fig. 7, a central vertical section, and Fig. 8 a perspective view, of an ordinary cape-collar.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates the frame or standard of my machine, and B a hollow shaft journaled in the upper portion thereof, upon one

end of which are mounted the usual fast and loose pulleys C, by means of which power is applied to the said shaft, while upon the opposite end thereof is mounted an ironing-roller D, to which heat may be applied in any well-known and convenient manner. Above the shaft B is another shaft E, journaled in a rocking-frame F, pivotally supported toward one end upon brackets G, secured to the frame A, upon one end of which shaft and above the ironing-roller D is mounted a padded roller H, for the purpose hereinafter described. Power is applied to this shaft E through the medium of a sprocket-wheel-and-chain connection with another shaft I, journaled in the main frame below the ironing-roller shaft B, to which power is communicated from a pulley J on the ironing-roller shaft through the medium of a belt K, and a pulley L, mounted upon the shaft I, the speed of the various shafts being regulated by the difference in the sizes of the respective pulleys and gearing, according to the work to be performed. Upon the opposite or forward end of the shaft I is mounted a bevel-gear M, meshing with a corresponding bevel-gear N, provided with an elongated hub O, mounted upon and through which works a vertically-sliding shaft P, guided in bearings P' P², between which latter and a casing N' the gear N is confined, a rotary motion being imparted to said shaft by means of a spline or feather Q thereon, working in a corresponding groove R in the hub of the gear N, or in any other well-known and convenient manner, which will permit a vertical or longitudinal movement of the shaft independent of the gear, and at the same time transmit to the shaft the rotary motion of the gear. Upon the upper end of this shaft is mounted a horizontal disk or table S, preferably provided with a facing T, of rubber or other yielding fabric, the said disk lying immediately beneath, but with the center thereof of beyond the front end or face of the ironing-roller, so that the said roller must operate at all times upon one side thereof during the rotation of the disk.

In order to move the shaft P, and consequently the disk, vertically toward and away from the ironing-roller, I employ a rod α , between the upper end of which and the lower end of the shaft there is a ball-and-socket

joint or universal coupling, so as to permit a free rotation of the shaft independent of the rod, while the lower end of the rod is pivotally connected at *b*, with a spring-controlled bell-crank foot-lever *c*, the tendency of which is to at all times elevate the disk into contact with the ironing-roller.

For convenience of operation, and in order to reduce the spring-power required, I apply such power to the foot-lever through the medium of a connecting-rod *d*, pivotally secured at one end to the upright arm of said lever and at its opposite end to a double crank-arm journaled in the frame A, one arm *e* thereof, to which the rod is attached, lying upon one side of the frame while the opposite arm *f* lies upon the opposite side of the frame, and has attached thereto one end of a powerful coiled spring *g*, the opposite end of which spring is attached at any suitable point to the frame. I also provide a stop *h*, bearing against the free end of the crank-arm *f*, in order to limit the movement of said arm, and consequently of all the parts connected therewith. For the purpose hereinafter described it is also desirable to give the padded roller H a movement in unison with the disk in order that said roller and the disk may be alternately brought into contact with or in an operative position relative to the ironing-roller, so that when one of said members is operating the other member is clear of the ironing-roller and out of an operative position, to which end the rocking frame F, carrying said roller, is connected with the arm *e* of the crank-arm by a rod *i*, the length of which may, if desired, be adjusted by a turn-buckle *j* or in any other convenient manner. The parts thus connected move away from the ironing-roller simultaneously with the movement of the disk toward the roller, and vice versa, at the will of the operator, who by means of the foot-lever may control the movements by overcoming or permitting the spring to act according to the member which is desired to operate in conjunction with the ironing-roller.

Secured to the frame A of the machine and standing from the front end or face of the ironing-roller are two guides *k* and *l*, the former for the cape *a'* and the latter for the neck portion *b'* of the collar while the cape is being ironed, during which operation the cape *a'* passes under the guide *k* with the collar portion *b'* standing vertically or at right angles to the disk upon which the cape rests against the vertical face *m* of said guide *k*, from which it passes between the slightly-inclined vertical face *n* of the guide *l* and the end of the ironing-roller which tapers slightly inwardly toward the center, as shown at *o*, in order to increase the passage for the neck portion of the collar, which is thus permitted to pass freely between these parts, and at the same time enable the cape to be ironed up to the point of its conjunction with the neck or collar portion.

During the ironing of the cape, as before de-

scribed, it will be understood that the padded roller is elevated above and clear of the ironing-roller, thus relieving the latter of the frictional contact thereof, and avoiding unnecessary wear and burning of the parts; but when it is desired to iron the neck portion of the collar, it is only necessary for the operator to depress the foot-lever, when the said roller will be brought down into its operative position in contact with the ironing-roller, while the ironing table or disk will be simultaneously moved away from and out of contact with the ironing-roller, when the neck portion of the collar may be ironed without creasing or in any manner disfiguring or injuring the cape.

As will be observed, both of the rollers, as well as the ironing-table, have a continuous rotation, that of the two rollers, as indicated by the arrows in Fig. 1, being in the same direction on their own axes, which causes the contacting-surfaces thereof to travel in a reverse direction as to each other for the purpose of producing the desired finish and polish, and hence the alternate operation of the padded roller and ironing-table is of especial advantage in that the machine, while either of said members is operating, is relieved of the retarding friction of the other member, and all danger of burning or otherwise injuring either of said members is thereby obviated.

The especial function of the cape-guide *k*, aside from that of a mere guide, is to enable the operator to straighten out the cape before being ironed, for when inserted in the machine in the position shown by dotted lines in Fig. 5, with the neck portion against the inside thereof, the operator may draw and stretch the cape until it is evenly spread out upon the table ready for ironing, and during the continuous operation of the machine.

In conclusion I may state that I do not desire to limit myself to either a rotating or stationary ironing-roller, for obviously a fixed two-faced or oval iron might be employed and effect the same result, my invention, broadly, including any form of heated iron and any means for applying heat thereto.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an ironing-machine, the combination, with the iron, of a rotatable disk or table located below said iron and a padded roller located above the iron, substantially as described.

2. In an ironing-machine, the combination, with the iron, of a vertically-adjustable padded roller above the same and a vertically-adjustable rotating disk or table below said iron, substantially as described.

3. In an ironing-machine, the combination, with the iron, of a padded roller located above the same and a rotating ironing-table located below the same, and mechanism for causing said padded roller and table to be alternately

brought in contact with said iron, substantially as described.

4. In an ironing-machine, the combination, with the iron and a rotatable disk or ironing-table, of the cape and collar guides, substantially as and for the purpose described.

5. In an ironing-machine, the combination, with the iron, of a padded roller, a rotating disk or ironing-table, a foot-lever, and con-

nections between the lever and table and the lever and said roller, whereby the table and padded roller are simultaneously moved vertically by a movement of the foot-lever, substantially as described.

LEWIS H. WATSON.

Witnesses:

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