H. E. SMITH.
Ironing-Machine.

No. 208,643. Patented Oct. 1, 1878.

Fig. 1.

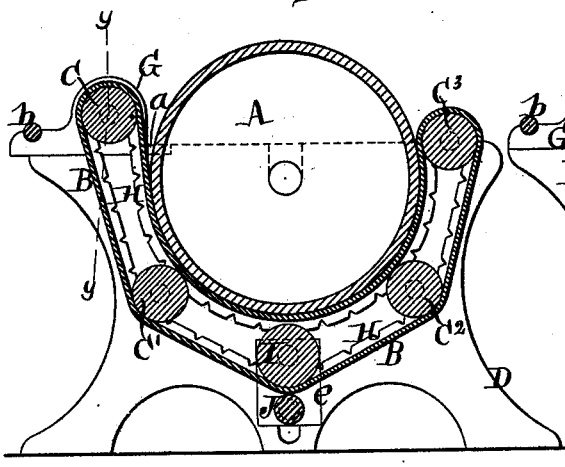


Fig. 2.

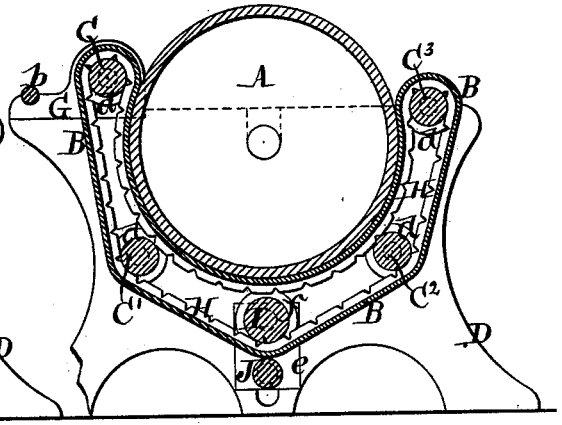


Fig. 3.

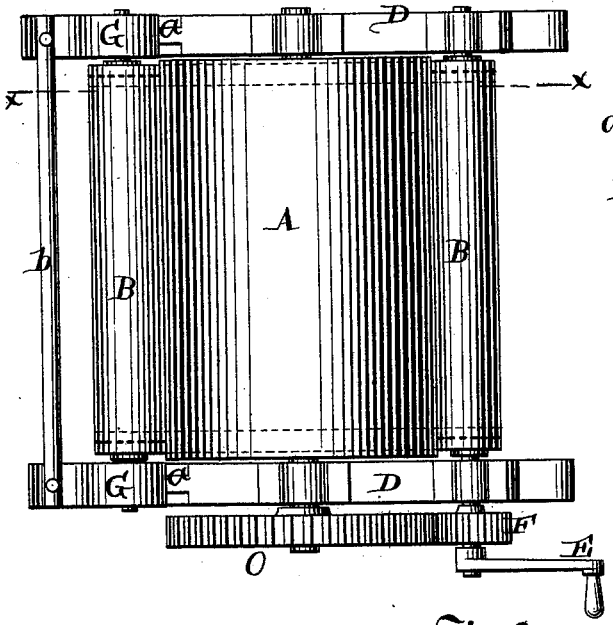


Fig. 4.

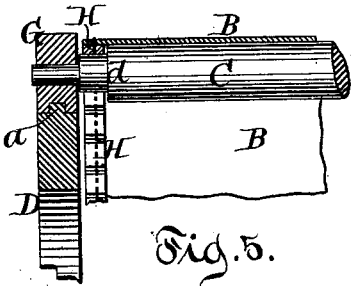


Fig. 5.

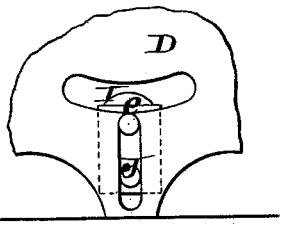
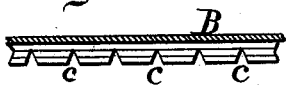


Fig. 6.



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UNITED STATES PATENT OFFICE.

HAMILTON E. SMITH, OF NEW YORK, N. Y.

IMPROVEMENT IN IRONING-MACHINES.

Specification forming part of Letters Patent No. **208,643,** dated October 1, 1878; application filed March 13, 1878.

To all whom it may concern:

Be it known that I, HAMILTON E. SMITH, of New York, county and State of New York, have invented a new and useful Improvement in Ironing Apparatus, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a vertical central section of a machine embracing my invention. Fig. 2 is a like section thereof in the line *x x*, Fig. 3. Fig. 3 is a plan or top view of the same. Fig. 4 is a cross-section of a portion of the machine-frame and the apron in the line *y y*, Fig. 1, showing also one of the apron-supporting rollers. Fig. 5 is a side view of a portion of the machine-frame, showing one of the journal-boxes which carry the tightening-roller and the auxiliary apron-supporting roller. Fig. 6 is a longitudinal section of a portion of the apron.

Similar letters indicate corresponding parts.

My invention relates especially to that class of apparatus embodying a polishing-roller which is adapted to be heated, an endless apron, and a series of apron-supporting rollers, which latter are so arranged that the endless apron is thereby brought in superficial contact with the polishing-roller.

It consists in the combination, with the apron-supporting roller at the receiving end of the machine, of movable journal-boxes which carry such receiving-roller, so that the latter, or that portion of the apron which it supports, can be brought in or out of contact with the polishing-roller at will, while, by bringing the same out of contact therewith, the operator is enabled to lay the piece of clothes to be ironed in a straight line without danger of its being caught between the apron and the polishing-roller; and if, when the piece has been adjusted in the proper position, the receiving-roller is moved back, the piece is caught between the apron and the polishing-roller, and thereby carried through the machine; further, in the combination, with the endless apron, of a tightening-roller and an auxiliary apron-supporting roller, which latter is located adjacent to the tighting-roller, in superficial contact with the apron, and is arranged to move with the tightening-roller, so that while the apron is stretched lengthwise by means of the tightening-roller, it is kept on the tightening-roller in any position of the latter; also, in providing the tightening-roller with shoulders at its opposite ends to adapt the same to an apron, having flexible bands on its opposite edges for stretching the apron crosswise, and combining therewith the beforementioned auxiliary apron-supporting roller, as hereinafter more fully set forth.

In the drawing, the letter A designates the polishing-roller, B is the endless apron, and C C^1 C^2 C^3 are the apron-supporting rollers, of my machine, the several rollers, excepting the roller C, being mounted, by preference, in elastic or yielding bearings in a frame, D, and the polishing-roller A being provided with a hollow gudgeon, for the introduction of steam or any other heating agent, while the supporting-rollers C^1, &c., are so disposed as to bring the apron B in superficial contact with the polishing-roller A.

On the shaft of the supporting-roller C^3, at the discharge end of the machine, is secured a winch, E, and a pinion, F, (see Fig. 3,) which latter gears with a cog-wheel, O, secured to one of the gudgeons of the polishing-roller A, in such a manner that the polishing-roller and the apron B move in the same direction, but with different superficial velocities.

The letter G designates two movable journal-boxes, which carry the apron-supporting roller C, which is situated at the receiving end of my machine. In the example shown these boxes G are guided by horizontal ways *a*, formed on the machine-frame, and they are so arranged that the roller C is above the axis of the polishing-roller A. By moving the boxes G back to the position shown in Fig. 1, the roller C, or that part of the apron which it supports, is brought out of contact with the polishing-roller A, thus permitting of laying the clothes to be ironed in a straight line, which is a great desideratum in ironing large pieces, while, when the roller C is moved forward to the position shown in Fig. 2, the piece of clothes which is laid thereon is caught between the polishing-roller and the apron, and thereby is carried through the machine.

The movable boxes G are connected together

by a cross-bar, *b;* and, if desired, a treadle may be combined therewith, for the purpose of moving the same to and fro.

The letter H designates flexible bands secured to the opposite edges of the endless apron B. These bands are preferably made of leather, and provided with V-shaped notches *c*, (see Fig. 6,) to facilitate their passage around the rollers, while they are secured to the apron B by a line of stitching, as shown. *d* are shoulders, formed at the opposite ends of the supporting-rollers C C¹, &c., to form abutments for the flexible bands H. These shoulders *d* are formed by reducing the diameter of the rollers C C¹, &c., near their opposite ends to an extent about equal to the thickness of the bands H, as clearly shown in Fig. 4.

It will be seen that by the action of the flexible bands H and the shoulders *d*, the apron B is kept in a distended condition crosswise throughout its length, while it is also guided over the rollers.

The letter I designates the tightening-roller, by which the apron B is stretched or kept in a taut condition lengthwise, and J is an auxiliary apron-supporting roller. The tightening-roller I performs its functions by the action of its own weight, the same being arranged at the lowest part of the apron B, and being mounted in loose bearings *e*. In these bearings *e* is also mounted the auxiliary supporting-roller J, so that the latter is caused to partake of the up-and-down movement of the tightening-roller, the roller J being so arranged that it is directly beneath the tightening-roller I, and in surface-contact with the apron B.

I construct the tightening-roller I like the supporting-rollers C C¹, &c., with shoulders *f*, (see Fig. 2,) to form abutments for the bands H, so that the tightening-roller also assists in guiding and stretching the endless apron crosswise. By the auxiliary apron-supporting roller J the apron B is kept on the tightening-roller I, and the bands H are kept in their proper places in any position of the tightening-roller.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an ironing apparatus of the character specified, the combination, with the apron-supporting roller C at the receiving end of the machine, of movable journal-boxes G, which carry such receiving-roller, substantially as and for the purpose described.

2. In an ironing apparatus of the character specified, the combination, with the endless apron B, of a tightening-roller I, and an auxiliary apron-supporting roller, J, which is located beneath the tightening-roller in superficial contact with the apron, and is arranged to move with the tightening-roller, substantially as and for the purpose described.

3. In an ironing machine of the character specified, the combination of an endless apron, B, having flexible bands on its opposite edges, a tightening-roller, I, having shoulders to form abutments for such bands, and an auxiliary apron-supporting roller, J, which is located beneath the tightening-roller in superficial contact with the apron, and is arranged to move with the tightening-roller, substantially as and for the purpose described.

In testimony that I claim the foregoing I hereunto set my hand and seal this 9th day of March, 1878.

HAMILTON E. SMITH. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.