

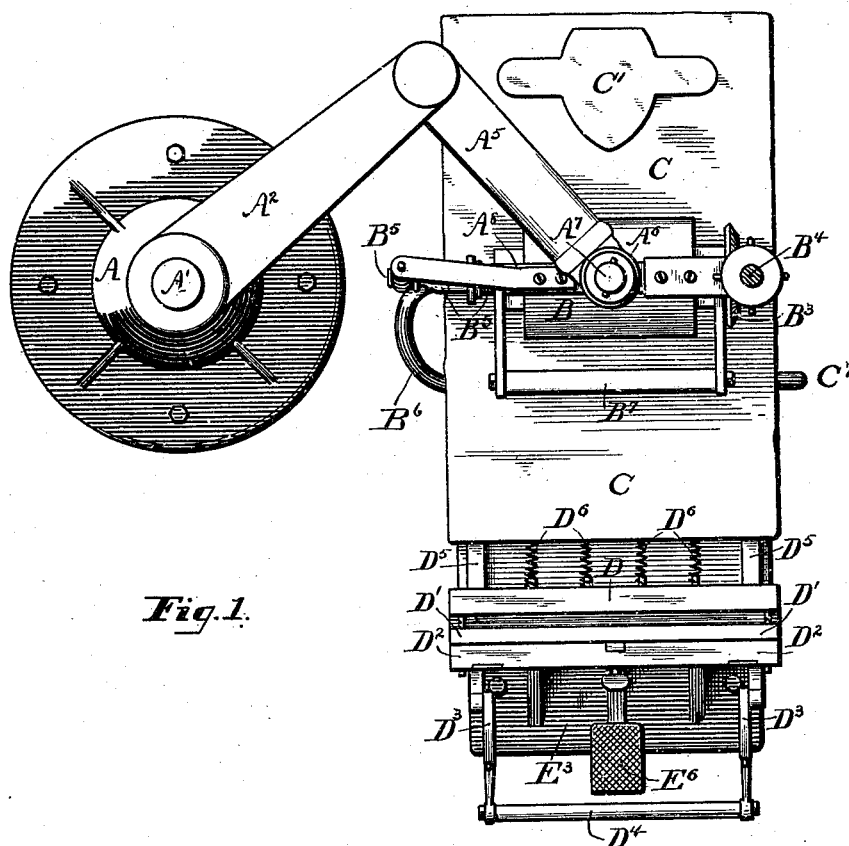
(No Model.)

4 Sheets—Sheet 1.

C. L. SMITH.  
IRONING MACHINE.

No. 418,765.

Patented Jan. 7, 1890.



*Fig. 1.*

WITNESSES:

*A. E. Paige*  
*Linn Wheeler*

INVENTOR

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*Alfred W. Maguire*

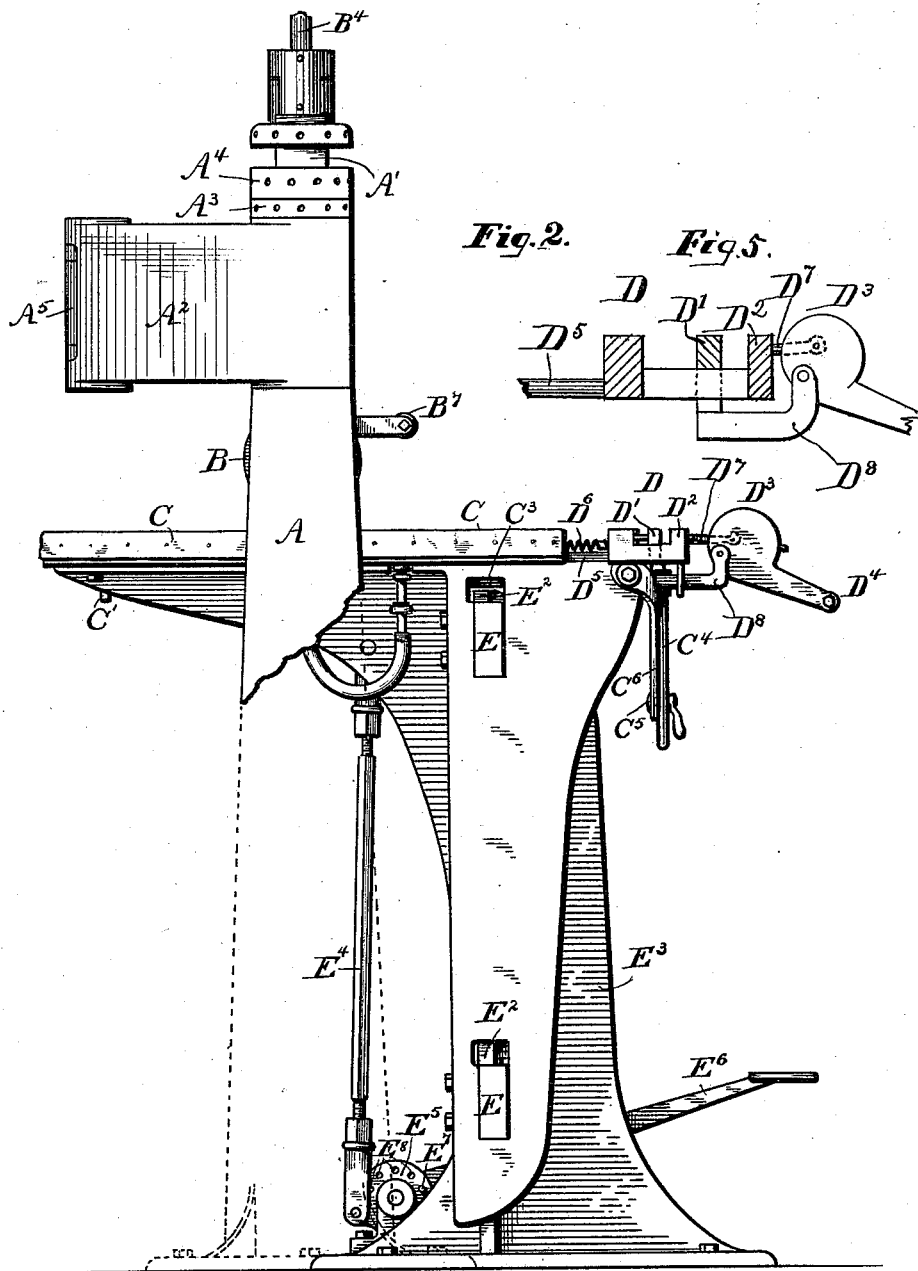
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IRONING MACHINE.

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WITNESSES:

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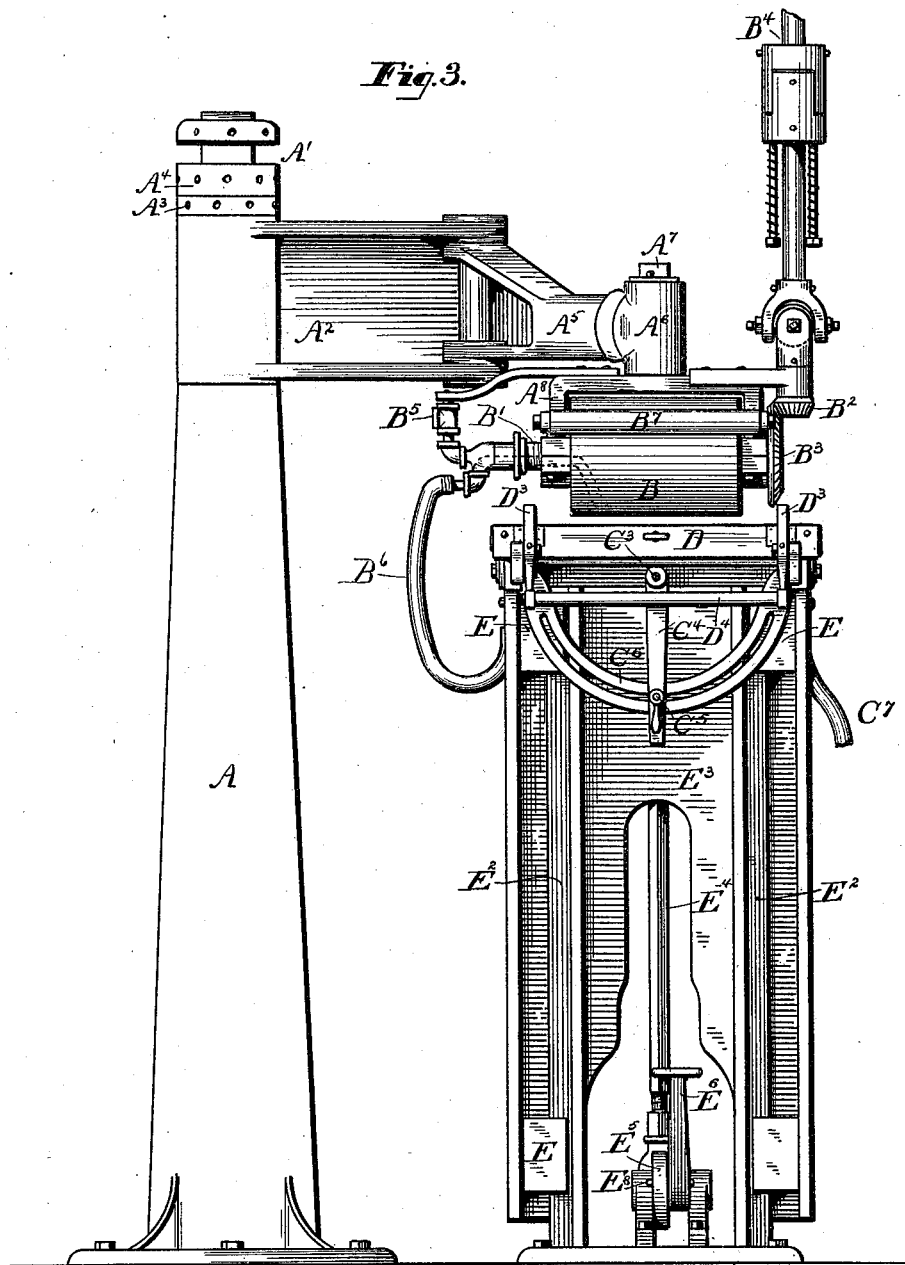
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*Fig. 3.*



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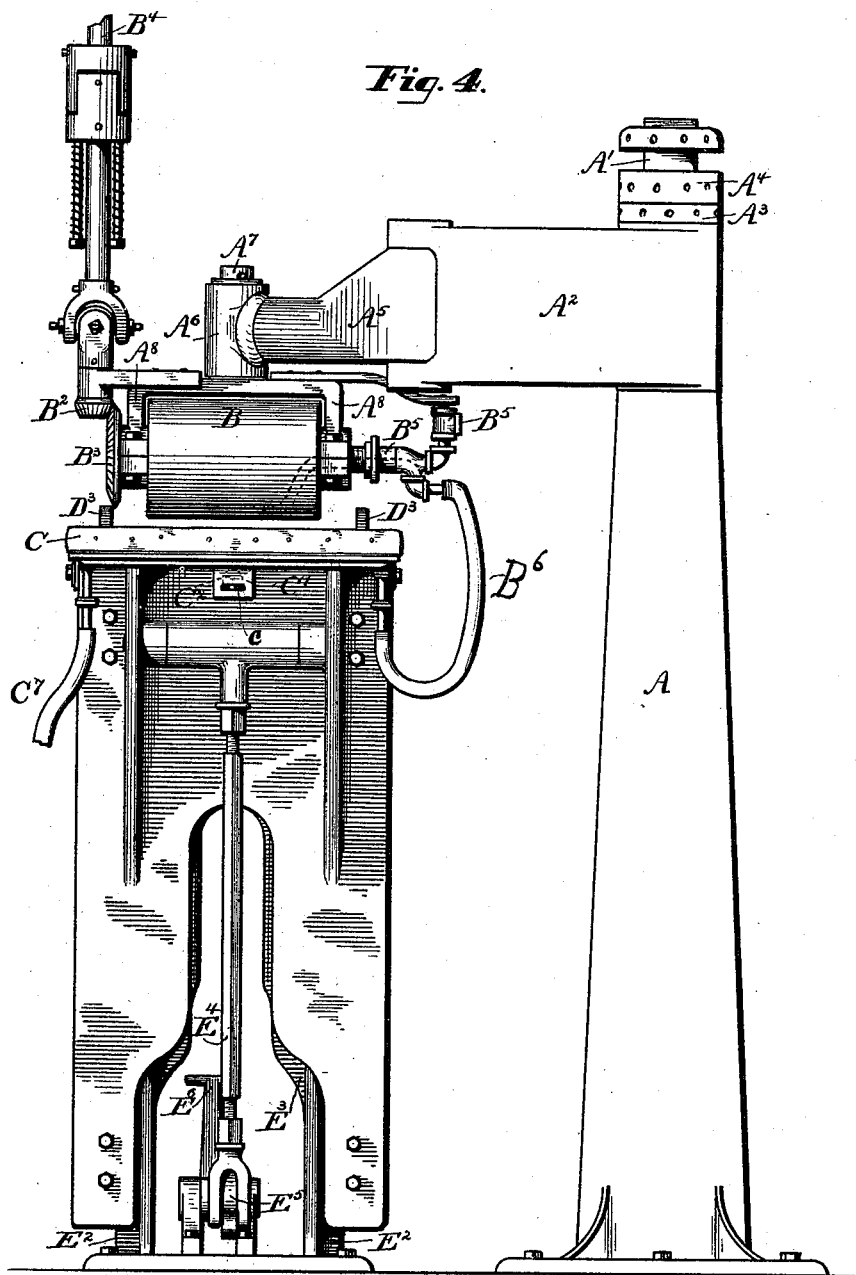
(No Model.)

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IRONING MACHINE.

No. 418,765.

Patented Jan. 7, 1890.



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# UNITED STATES PATENT OFFICE.

CHESTER L. SMITH, OF NORRISTOWN, PENNSYLVANIA.

## IRONING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 418,765, dated January 7, 1890.

Application filed December 11, 1884. Serial No. 150,100. (No model.)

*To all whom it may concern:*

Be it known that I, CHESTER L. SMITH, a citizen of the United States, residing at Norristown, in the county of Montgomery and State of Pennsylvania, have invented certain new and useful Improvements in Ironing-Machines; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof to enable others skilled in the art to make and use the said invention.

This invention relates to machines for smoothing clothing by ironing, and the requisite pressure is produced by a lever operated by the foot of the operator and the motion of the ironing-surface by steam or other power supplied by a rotating shaft.

I will now proceed to fully describe the mode of making and using the said invention, referring in so doing to the drawings annexed and the letters of reference marked thereon.

Figure 1 shows a top view or plan of the machine; Fig. 2, a side elevation thereof with part of the column broken away and indicated in dotted lines, so as to expose details of the table and its supporting mechanism; and Figs. 3 and 4 show opposite end views or elevations of the machine. Fig. 5 is an enlarged sectional view of the clamping-jaws.

The same letters of reference apply to the same parts in the several figures.

A represents a column firmly secured to the floor and having a journal A' formed on its upper end, whereon is fitted, so as to swing in horizontal plane, an arm A<sup>2</sup>, which is held down by collars and nuts A<sup>3</sup> and A<sup>4</sup>. Upon the outer end of the arm A<sup>2</sup> is pivotally attached, so as to swing in horizontal plane, a second arm A<sup>5</sup>, having in its outer end a bearing A<sup>6</sup> formed, in which turns the vertical pivot A<sup>7</sup> of the frame A<sup>8</sup>, bearing a roller B, turning with a hollow horizontal shaft B' in the frame A<sup>8</sup> and receiving rotary motion through the beveled toothed wheels B<sup>2</sup> and B<sup>3</sup> from the flexible shaft B<sup>4</sup>, driven by any suitable motor.

The roller B is hollow and fluid-tight and arranged to be heated by steam entering a pipe B<sup>5</sup>, and the condensed water is discharged by the pipe B<sup>6</sup>, the form of which inside of

the roller is indicated in dotted lines in Figs. 3 and 4. A handle B<sup>7</sup>, adapted to be grasped by the operator, serves to move the roller in any desired direction.

C is a table having a cushioned or cloth-covered top upon which the work to be ironed is laid. The table C is of metal and made hollow, so as to be heated by the steam and hot water flowing by the pipe B<sup>6</sup> from the roller B, which water is discharged by a pipe C<sup>7</sup> from the table C after imparting heat thereto, and by so heating the table C accelerates the evaporation of moisture in the ironing or smoothing process.

C' is a clamp conforming in shape to the form of the neckband of a shirt when pressed flat, as shown in Fig. 1. A portion of the clamp C' extends below the table C and is slotted, as shown in Fig. 4. In the slot c an eccentric-pin C<sup>2</sup> on the end of the shaft C<sup>3</sup> rotates and operates to raise and lower the clamp C', the motion of the shaft C<sup>3</sup> being imparted by the lever C<sup>4</sup>, which is clamped in position by a screw C<sup>5</sup>, passing through a curved sector C<sup>6</sup> at the opposite end of the shaft, as shown in Fig. 3. By means of the clamp C' the neckband of the shirt can be held securely on or released from the table C.

D is a clamp consisting of two opposing jaws D' and D<sup>2</sup>. The cams D<sup>3</sup> are connected by the handle D<sup>4</sup>. The clamp D is fitted upon and secured to parallel rods D<sup>5</sup>, fitted to slide horizontally in holes made in the table C, and by means of springs D<sup>6</sup> is forced outwardly from the table C, so as to stretch the shirt in the part between the clamps C' and D. The cams D<sup>3</sup> are connected to the jaw D<sup>2</sup> of the clamp D by a small rod or bar D<sup>7</sup>. The jaw D' is connected to the cams D<sup>3</sup> by an arm D<sup>8</sup>, and when the handle D<sup>4</sup> is raised it turns the cams D<sup>3</sup>, and by the connecting-rod D<sup>7</sup> forces the jaw D<sup>2</sup> inward, while at the same time the jaw D' is drawn outward by the connecting-arm D<sup>8</sup>, and thus the jaws are moved toward each other with the part of the shirt to be clamped between them until they meet, grip, and hold the shirt until the handle D<sup>4</sup> is lowered, and the operator, passing the rotating hot roller B over it, smooths and glosses the previously starched and moistened part of the shirt.

The table C is supported by slides E, fitting upon correspondingly-shaped guides E<sup>2</sup>, formed on the column E<sup>3</sup>, and is raised and lowered by the link E<sup>4</sup>, operated by the lever E<sup>5</sup>, which is adjustably connected to the treadle-lever E<sup>6</sup> by means of a pin E<sup>7</sup> and series of holes E<sup>8</sup>, so that with the treadle-lever E<sup>6</sup> in a convenient position for the operator the required pressure of the table C upward toward the roller B may be easily secured.

The machine is operated by placing a shirt previously starched and moistened, while the table is lowered, with the neckband under the clamp C' and then clamping it to the table, and by placing the lower part of the shirt between the jaws D' and D<sup>2</sup> and clamping it, while the clamp D is pressed horizontally toward the table C, and upon relieving the horizontal pressure on the clamp the springs D<sup>6</sup> stretch the shirt lengthwise, and the operator then, moving the revolving roller B over the shirt and pressing the foot upon the treadle, presses the shirt upward against the roller B, and then moving the roller over all parts of the shirt smooths and burnishes it into a glazed surface. The pressure of the table C upward against the roller B is made only with moderate force at first, so as to set the starch and partially dry and stiffen the work, and the tendency of the roller is, when held with its axis transversely to the length

of the table C, to travel in a right line, the direction of its motion controlled by steering or guiding it by the handle. The resistance to the return movement which the roller would otherwise make is avoided by relieving the pressure of the table by allowing the treadle to rise. After the preliminary drying and smoothing operations are performed the glossing or polishing of the surface is effected by making a firm pressure of the work against the roller by means of the treadle and causing the roller to travel over the work and thus burnish it. The operator during these processes requires to exert but little strength, owing to the multiplication of force by the treadle-lever for pressing and owing to the motion of the smoothing and polishing roller being supplied by the driving-power through the flexible shaft.

Having described my invention and the mode of using the same, what I claim is—

The combination of the neck-clamp C', eccentric-pin C<sup>2</sup>, shaft C<sup>3</sup>, lever C<sup>4</sup>, screw C<sup>5</sup>, and sector C<sup>6</sup> with the hollow metallic table C, substantially as shown and described, and for the purpose set forth.

CHESTER L. SMITH.

Witnesses:

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