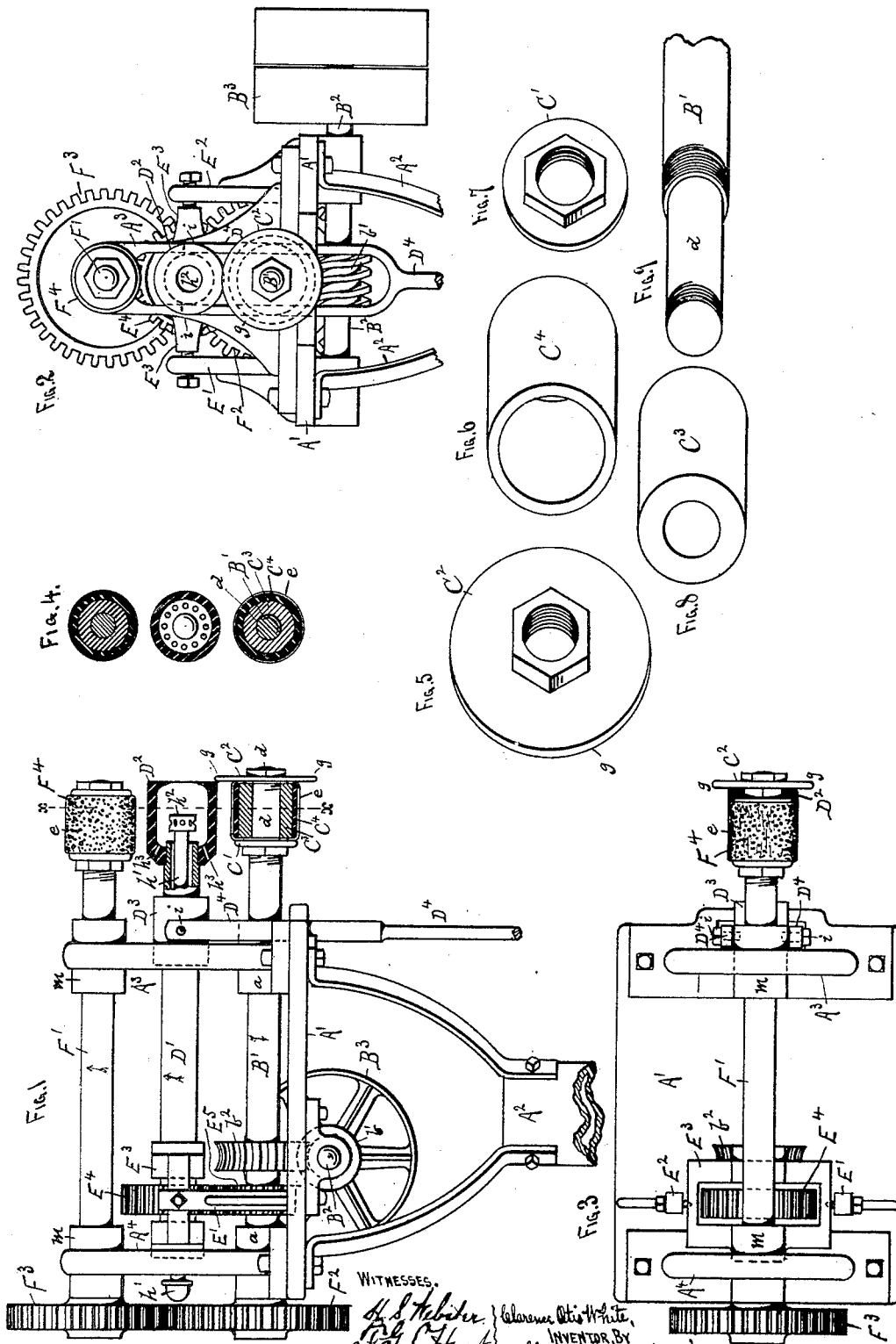


(No Model.)

C. O. WHITE.
IRONING AND POLISHING MACHINE.

No. 419,164.

Patented Jan. 7, 1890.



WITNESSES.

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UNITED STATES PATENT OFFICE.

CLARENCE OTIS WHITE, OF MINNEAPOLIS, MINNESOTA.

IRONING AND POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 419,164, dated January 7, 1890.

Application filed October 15, 1886. Serial No. 216,368. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE OTIS WHITE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Ironing and Polishing Machine for Collars, Cuffs, Neckbands, and other Parts of Garments, of which the following is a specification.

The invention has for its object, among other things, to combine, with a pair of rolls, a roller or an iron arranged between said rollers, and mechanism for separately effecting a co-operative contact between said middle member and either one of the outside rollers.

Other objects will appear from the following description; and to the accomplishments of the several objects in view the invention consists in the parts hereinafter fully described, and afterward pointed out in the claims, reference being had to the accompanying drawings, forming part hereof, and in which—

Figure 1 is a side elevation, partially in section, of the "head" or operative part of the machine. Fig. 2 is a front view, and Fig. 3 is a plan view, of the same. Fig. 4 is a cross-sectional view of the rollers on the line $x x$ of Fig. 1. Figs. 5, 6, 7, 8, and 9 are enlarged disconnected perspective views of the different parts of the padded roll, illustrating more fully its construction.

In the drawings, the letter A' designates a base-plate upon which the mechanism is mounted, and which will be in turn suitably mounted upon a stand A^2 . This stand may be constructed in any suitable manner and of any desired height, or the bed-plate A' may be set upon a table or bench and the stand dispensed with, as preferred.

B' is a shaft mounted in bearings a on the plate A' , and adapted to be driven by a worm b' on a cross-shaft B^2 , engaging with a worm-gear b^3 on the shaft B' , the shaft B^2 adapted to be driven by a belt running over a pulley B^3 , the belt not being shown in the drawings.

The shaft B' is formed with an outer section d of reduced size, and upon the main part of the shaft next this reduced section a

screw-thread is formed to receive a metal disk C' , the latter provided with six sides or other irregular shaped portions by which it may be turned upon the shaft to regulate its position thereon. On the extreme outer end of the shaft B' another screw-thread is formed, upon which another metal disk C^2 is mounted, and between these two disks a metal collar C^3 is fitted closely upon the reduced portion of the shaft, as shown in Fig. 1. Around this collar C^3 is placed a rubber or other similar suitable flexible collar C^4 , and outside of this rubber collar the layers e of the cloth padding are wound, the number of thicknesses of cloth being determined by the requirements of the work to be performed by the machine. The cloth strip of which the padding is formed is wider than the rubber or metal collars C^3 C^4 , so that its edges may be folded down over the ends of the rubber and metal collars and between the latter and the disks C' C^2 , so that when the latter are screwed up against the ends of the collars the cloth padding will be firmly clamped in place between them and thereby secured.

D' is the "hot-roll" shaft running between standards A^3 A^4 on the plate A' above the shaft B' , and with the hollow metal roll D^2 on its outer end directly above the shaft B' , as shown, the outer face of the hot roll D^2 being in line with the inner face of the disk C^2 , as shown in Fig. 1.

The shaft D' is hollow, as shown in Fig. 1, and contains a gas-pipe h' , having perforated cap h^2 inside the roll D^2 , and forming the "burner" by which the requisite degree of heat is imparted to the roll, the pipe extending out beyond the rear end of the shaft D' and connected to the gas-main in the ordinary manner. The rear of the hot roll D^2 is provided with the usual ventilating-holes h^3 . Just in the rear of the hot roll D^2 the shaft D' passes through a sleeve D^3 , to which a yoke lever or rod D^4 is pivoted at i , and extends down to a treadle or other means, (not shown,) so that the hot roll may be elevated and depressed to bring it in contact with either of the padded rolls, as hereinafter described.

E' E^2 are two standards rising from the plate A' , and between which the rear end of

the shaft D' is pivoted in a swivel-frame E³, as shown. Upon the shaft D', inside the swivel-frame E³, is a gear E⁴, adapted to engage with another gear E⁵ on the shaft B', by which means the hot-roll shaft is driven, the swivel-frame E³ enabling the shaft D' to be adjusted to any extent sufficient to secure the proper movement of the hot roll without disconnecting the gears. The gear E⁴ on the shaft D' is larger than the gear E⁵ on the shaft B', so that the speed of the padded roll is greater than the speed of the hot roll, thereby greatly increasing the effect and power of the machine, and also facilitating the work, as the machine works more efficiently than where the speed is uniform. Above the shaft D' is another shaft F', suitably mounted in bearing *m* in the standards A³ A⁴, and adapted to be driven by gears F² F³ from the shaft B', as shown, the gears F² F³ being of the same size, so that the speed of the shafts B' and F' will be the same. The outer end of the shaft F' is provided with a padded roll F⁴, constructed in the same manner as the padded roll upon the shaft B', with the exception that the flange shown to the plate C² is not used.

It will be observed that the shaft D' and shaft F' rotate in the same direction. By such operation the contiguous surfaces of the iron or roll D² and the padded roll F⁴ are made to turn or move always in opposite directions, and as a consequence there is obtained a "rubbing" or "polishing" action on the article being passed between the iron and roll.

The padded roll F⁴ is arranged upon the shaft F' slightly nearer the standard A³ than the lower padded roll, so that its outer end is a short distance back of the outer end of the hot roll, so that the garments will not come in contact with the end of the upper padded roll when a neckband is being ironed.

As hereinbefore stated, the heated roll-shaft is provided with a yoke-frame D⁴, which is extended downward. The depending end of this rod may be connected to suitable treadle mechanism or otherwise operated, so that by pushing upon the depending portion of the yoke-frame the rod or depending portion of the frame D⁴ will be elevated, and thus cor-

respondingly elevate the hot roll D² against the padded roll F⁴, while, on the other hand, if the depending rod be drawn down, the hot roll will be correspondingly depressed and brought to bear against the lower padded roll. The two movements are thus entirely independent of each other; but at the same time by them the hot roll can be actuated as required, and by this simple arrangement both sides of collars and neckbands and similar garments or parts of garments may be ironed on one machine by merely operating the parts, as described.

Having thus described my invention, what I claim as new is—

1. In an ironing and polishing machine, two padded rotating rollers, in combination with a roller located between said padded rollers and movable into and out of working contact with each of said padded rollers separately, substantially as and for the purposes set forth.

2. In a machine of the class described, the combination, with a pair of rollers, of an iron arranged between them and a treadle mechanism for separately effecting a co-operative contact between the iron and either one of the two rollers.

3. In a machine of the class described, the combination, with a pair of rollers, of a roller arranged between them and a treadle mechanism for separately effecting a co-operative contact between the middle roller and either one of the other rollers.

4. In an ironing and polishing machine, the padded roll consisting of a shaft B', disks C' C², screwed upon said shaft, metal collars C³ upon said shaft between said disks, suitable flexible collar C⁴ upon said metal collar, and the padding *e*, surrounding said flexible collar and with its edges folded over the ends of said flexible collar and held between said disks and flexible and metal collars, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CLARENCE OTIS WHITE.

Witnesses.

C. N. WOODWARD,
CHAS. BURTON.