No. 837,257. PATENTED NOV. 27, 1906.

W. M. BARNES.

IRONING MACHINE.

APPLICATION FILED FEB. 7, 1905.

2 SHEETS—SHEET 1.

FIG. 1.

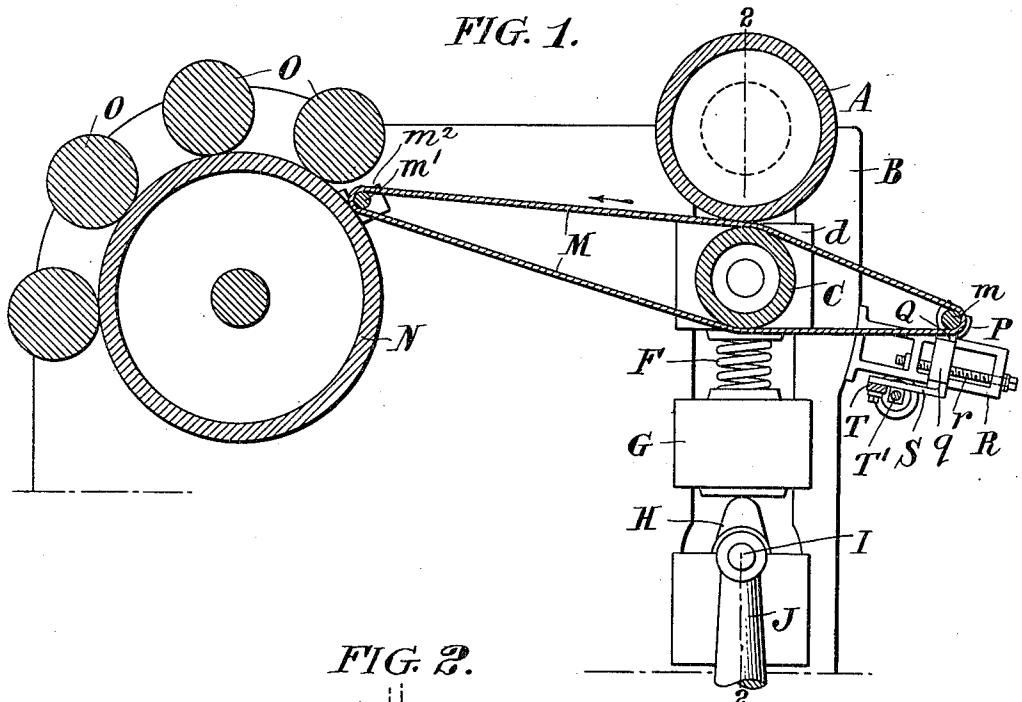


FIG. 2.

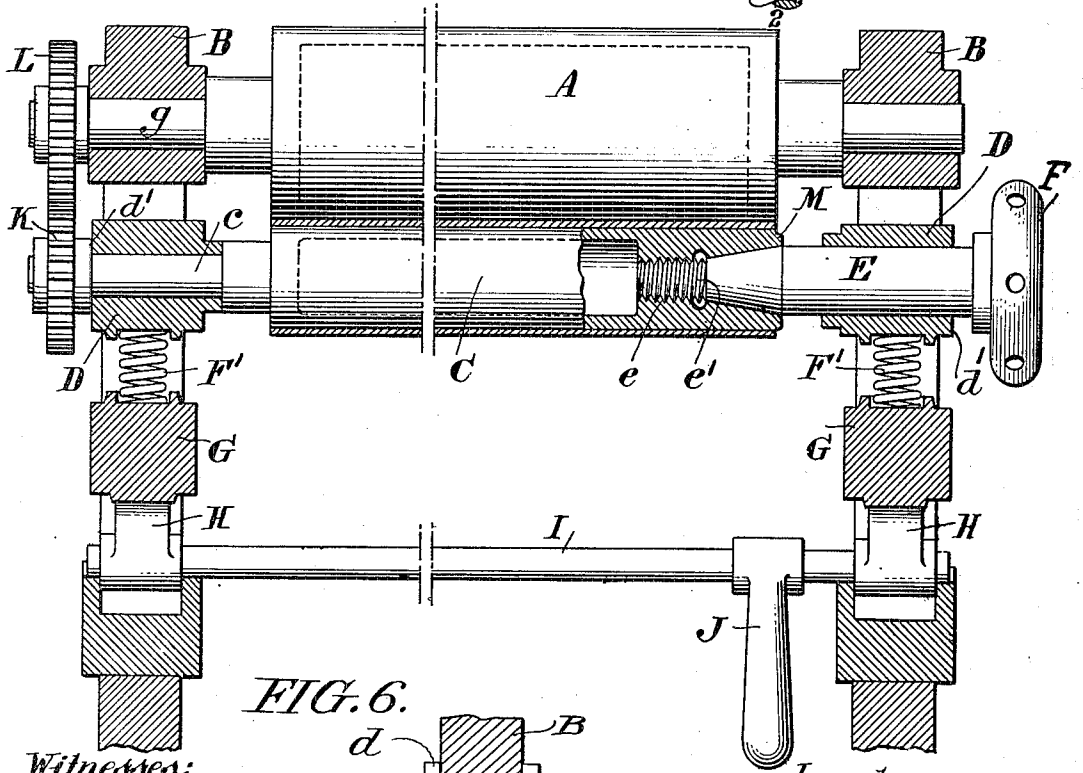
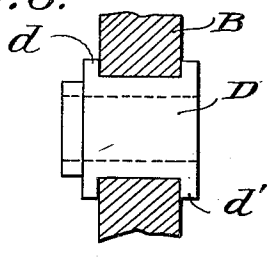


FIG. 6.



Witnesses:

Henry Drury

M. M. Hamilton

Inventor:

William M. Barnes

by Harding & Harding

Attorneys

No. 837,257. PATENTED NOV. 27, 1906.

W. M. BARNES.

IRONING MACHINE.

APPLICATION FILED FEB. 7, 1905.

2 SHEETS—SHEET 2.

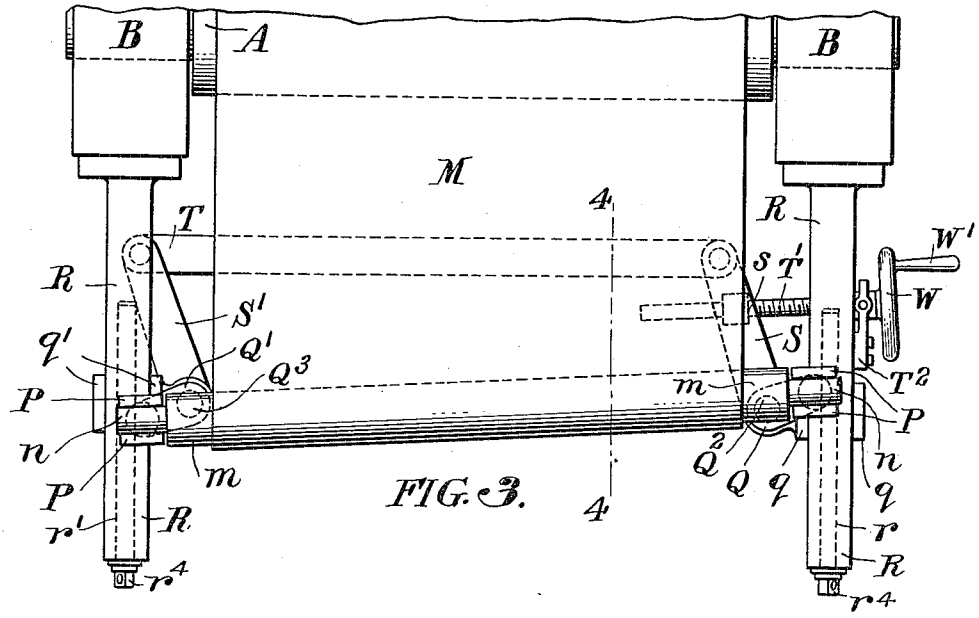


FIG. 3.

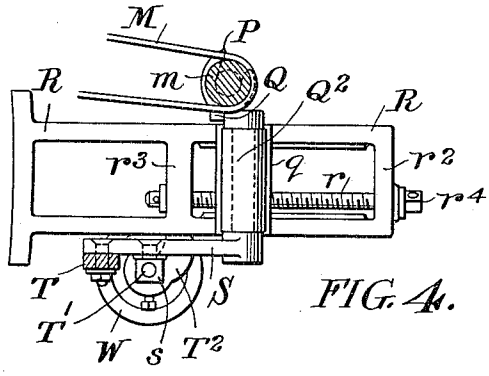


FIG. 4.

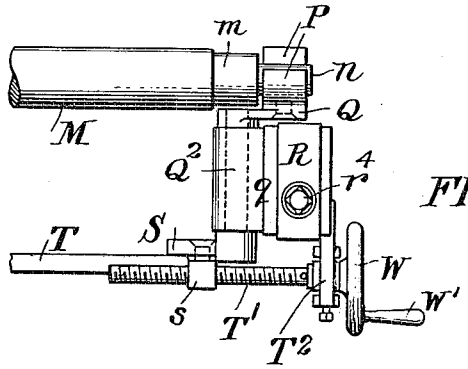


FIG. 5.

Witnesses:
Henry Dewey
M. M. Hamilton

Inventor:
William M. Barnes
by Harding & Harding
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM M. BARNES, OF PHILADELPHIA, PENNSYLVANIA.

IRONING-MACHINE.

No. 837,257. Specification of Letters Patent. Patented Nov. 27, 1906.

Original application filed April 14, 1902, Serial No. 102,697. Divided and this application filed February 7, 1905. Serial No. 244,580.

To all whom it may concern:

Be it known that I, WILLIAM M. BARNES, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Ironing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an ironing-machine, and is illustrated in the accompanying drawings as applied to a machine for ironing collars and cuffs, in which the collars and cuffs to be ironed are passed between two heated rollers and then conveyed to a point where they pass around the periphery of a roller between the periphery and a series of rollers.

The object of my invention is to provide means whereby the conveyer may be readily removed and replaced.

This application is a division of an application filed by me April 14, 1902, Serial No. 102,697.

I will first describe my invention as embodied in the accompanying drawings and then point out the invention in the claims.

In the drawings, Figure 1 is a central section through a portion of the machine. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a plan view of the tension device for belt, on enlarged scale. Fig. 4 is a section on line 4 4, Fig. 3. Fig. 5 is an end view of Fig. 4. Fig. 6 is a longitudinal section through one of the bearing-blocks.

A is the upper front roll, heated in the ordinary manner and supported in bearings in the frame B of the machine. The lower roll C has at one end the shaft *c*, which fits and rotates in the bearing-block D. The block D is movable vertically in ways on the frame B, but is prevented from lateral movement by the laterally-projecting flange portions *d* and *d'*. (Best illustrated in Fig. 6.) The opposite end of the roll C has an internally-threaded portion *e*, in which works the threaded end *e'* of the supporting member or shaft E. This supporting member passes through a second bearing-block D, corresponding in structure to the first-named bearing-block. At the outer end of this supporting member E is the wheel F. The bearing-blocks D are supported upon springs F', secured to the blocks G, which blocks are supported by the eccentrics H, connected together by the rock-shaft I, to which is also connected the crank J. The shafts *c* and *g* of the rolls C and A, respectively, are connected together by the gears K and L. Surrounding the roll C is the endless belt or conveyer M, which passes around the guide-roller *m* in front of the rolls A and C and around the guide-roller *m'* in the rear of the rolls A and C and contiguous to the roll N, which is the ordinary roll of this class of machines and which is heated in the well-known manner of this class of machines. Around the periphery of this roll N and contacting therewith are the rolls O.

To fully understand the means for removing and replacing the conveyer, it will be necessary to understand the means for adjusting the tension and position of the conveyer, as the first step in the insertion or removal of the conveyer involves the operation of the last-named means in the particular embodiment of my invention herein set forth. These means are shown in detail in Figs. 3, 4, and 5. The ends of the roller *m'* rest in U-shaped bearings m^2, one of which is shown in Fig. 1, which permit the roller to be readily removed or inserted. The roller *m* has at each end the shaft *n*, which rests between the jaws P. These jaws P are pivotally connected, respectively, to cranks Q Q'. These cranks are connected, respectively, to shafts Q^2 Q^3. Said shafts are respectively mounted in bearings *q q'*, resting between the upper and lower portions of the frames R, secured to the machine. In each bearing *q* and *q'* is an internally-threaded aperture, through which pass, respectively, threaded rods *r r'*, secured at each end to cross-piece r^2 and provided with a square end r^4. By turning these threaded rods by means of the square ends thereof the position of the roller *m* may be varied to vary the tension of the belt. On the opposite end of the shafts Q^2 Q^3 to that of the crank Q Q' are cranks S S'. The two last-mentioned cranks S and S' are connected together by the connecting-rod T. Pivoted to the crank S is the nut *s*, through which passes a screw T', held from lateral movement by the bearing T^2 on the frame R. A hand-wheel W and crank W' on the end of the screw enables the screw to be rotated. By rotating the screw in one direction the roller is moved angularly, as shown in Fig. 3. A movement of the screw in the other direction will produce a reverse movement of the roller, and thus the angular position of the roller may be adjusted. To remove the endless conveyer

from the roll C, the screws *r* are turned to force the roller *m* inwardly. The crank J is turned so that the blocks G will rest upon the low portion of the eccentrics H, and thus bring the roller C away from the upper roll A. The wheel F is then turned to unscrew the supporting member E from the roll C, which roll when free will be supported from the opposite end, and the endless conveyer may be readily removed from the roll C at this free end. The rollers *m* and *m'* may then be lifted from their supporting-jaws and the apron entirely removed from the machine. To insert a conveyer in the machine, the parts are manipulated in the same way and the conveyer inserted. To again put the machine into action, the member E is replaced and the crank J is again operated to move the eccentrics to the high portion, and thus lift the lower roll C and force the conveyer into contact with the upper roll.

The operation of the machine may be readily understood from the drawings. The articles—say collars and cuffs—to be ironed are placed upon the conveyer M and pass between the rolls A and C and are then carried by the conveyer to the rolls N and O, between which they pass.

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

1. In an ironing-machine, in combination, an upper roller, a lower roller, bearings for the upper roller, bearing-blocks in one of which one end of the lower roller has its bearing, a gear on the last-named end of the lower roller, a gear on the upper roller, supporting-blocks, springs thereon supporting said bearing-blocks, a rock-shaft, eccentrics thereon engaging said supporting-blocks, a guide-roller, an apron extending around said guide-roller and the lower roller, means to advance and retract the guide-roller, a supporting member for the other end of the lower roller, said supporting member having a bearing in said bearing-block and being movable thereon to connect and disconnect it from the lower roller, whereby by operating said supporting member and guide-roller the apron may be removed and replaced.

2. In an ironing-machine, in combination, supporting-blocks, springs thereon, bearing-blocks on said springs, a shaft turning in one of said bearing-blocks, and removable therefrom in the direction of its axis, a wheel on the outer end of said shaft, the inner end being threaded, a lower roller, a threaded orifice in one end thereof adapted to be engaged by said shaft, the other end of the lower roller turning in the other bearing-block, an upper roller, bearings therefor, gears on the ends of said rollers opposite the threaded shaft, and means to raise and lower the supporting-blocks.

3. In an ironing-machine, in combination, spring-supported bearing-blocks, means to move said bearing-blocks vertically, a supporting member removable from one of said bearing-blocks, a lower roll supported at one end on one of said bearing-blocks and at the other end on said supporting member, an upper roller and bearings therefor, driving connections between the two rollers, a guide-roller, an apron extending around said guide-roller and the lower roller, and means to move the guide-roller toward or from the lower roller.

In testimony of which invention I have hereunto set my hand, at Philadelphia, on this 30th day of January, A. D. 1905.

WILLIAM M. BARNES.

Witnesses:
M. M. HAMILTON,
T. B. WOOD.