

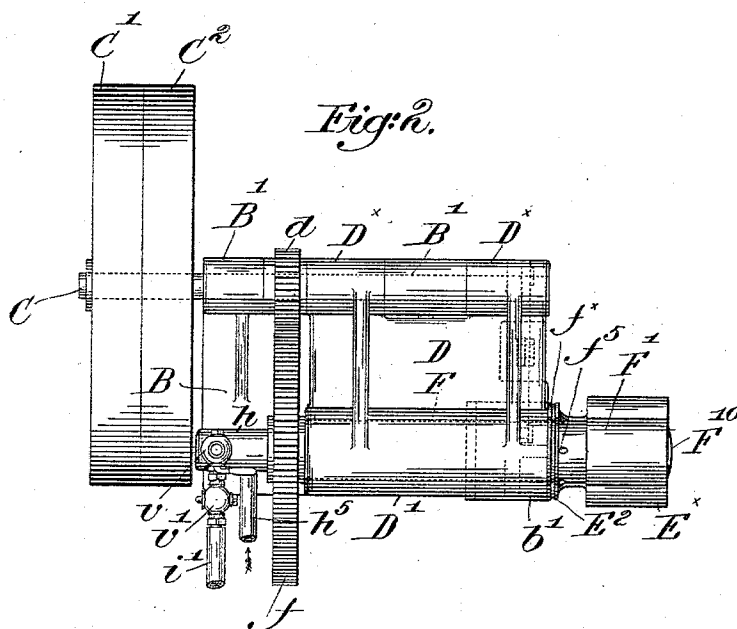
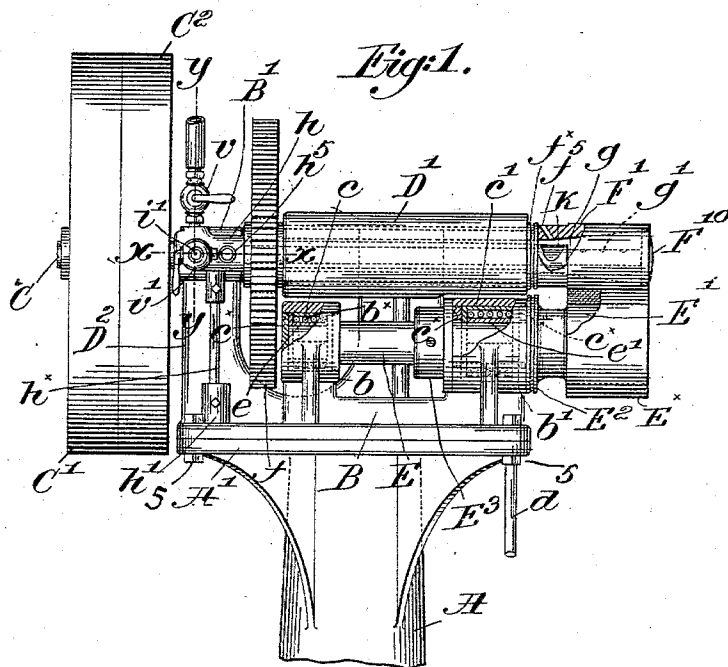
(No Model.)

2 Sheets—Sheet 1.

W. A. E. HENRICI.
NECK AND WRIST BAND IRONING MACHINE.

No. 556,925.

Patented Mar. 24, 1896.



Witnesses
Fred S. Grumbaf.
Edward F. Allen.

Inventor:
William A. E. Henrici,
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Fig. 3.

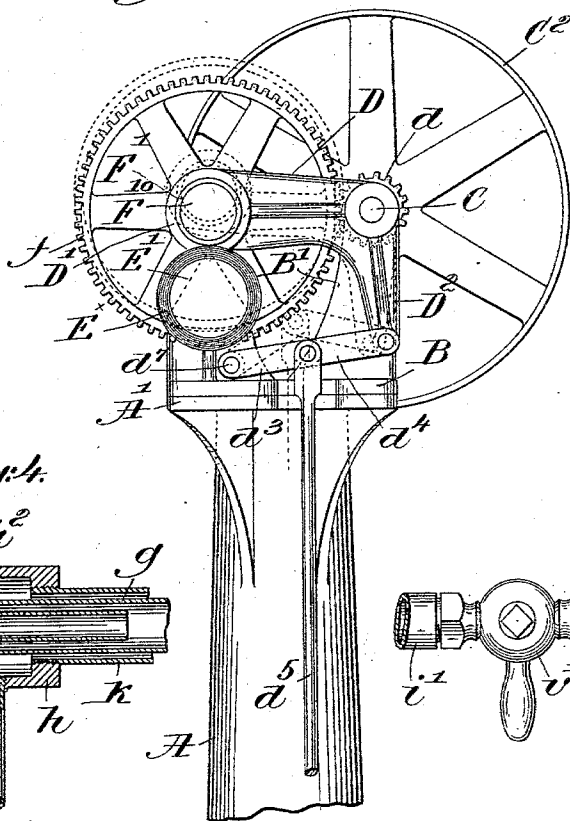


Fig. 4.

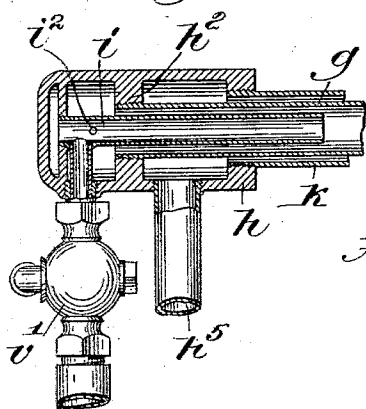
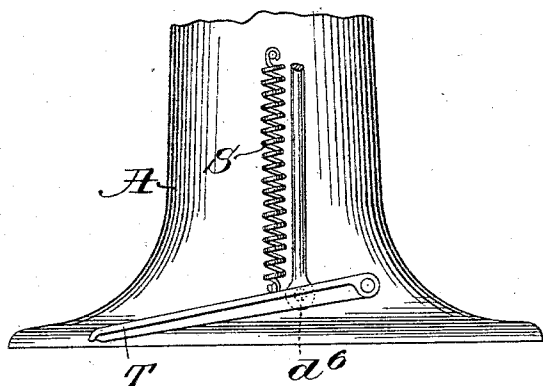
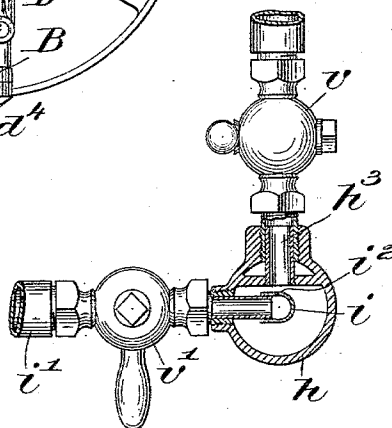


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM A. E. HENRICI, OF CHELSEA, MASSACHUSETTS.

NECK AND WRIST BAND IRONING MACHINE.

SPECIFICATION forming part of Letters Patent No. 556,925, dated March 24, 1896.

Application filed April 13, 1895. Serial No. 545,638. (No model.)

To all whom it may concern:

Beit known that I, WILLIAM A. E. HENRICI, of Chelsea, county of Suffolk, State of Massachusetts, have invented an Improvement in Neck and Wrist Band Ironing Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object the production of a machine for ironing the neck-bands and wristbands of shirts to produce the so-called "domestic" finish, the machine being simple, compact, and very strong in construction and so arranged as to press the ironing-roll upon the work-support in perfect parallelism therewith and with a comparatively small expenditure of power on the part of the operator. The ironing-roll is made of polished steel or other suitable metal mounted to be positively rotated in a rocking carrier, whereby it may be moved toward and from the work-support by the operator, and the work-support is shown as cylindrical and mounted to freely rotate in suitable fixed bearings, the rotation of the said work-support, however, being due entirely to friction exerted thereupon by the positively-rotated ironing-roll.

My invention will be hereinafter described, and particularly pointed out in the claims.

Figure 1 is a front elevation, partly broken out, of the upper part or head of an ironing-machine embodying my invention. Fig. 2 is a top or plan view thereof. Fig. 3 is a right-hand end elevation of the machine shown in Fig. 1, the standard being broken out to save space. Fig. 4 is an enlarged view, partly in section, on the line *x x*, Fig. 1, of the air and gas mixer; and Fig. 5 is an enlarged detail of the mixer, partly in section, on the line *y y*, Fig. 1, looking to the left.

I have herein shown the operative parts of the machine as mounted on a suitable column or base A, (shown in Figs. 1 and 3 as provided with a flat extended top A', to which is secured by suitable bolts 5 the head B of the apparatus, of suitable shape to provide bearings for the operating parts. The head B has thereon two bearings *b b'* to receive therein two thimbles *c* and *c'* respectively, to receive therethrough the shaft E of the work-support-

ing roll E', which has secured thereupon a yielding cover E^x of felt, cloth, or other suitable material. The shaft E has secured there- 55 to two sleeves *e e'*, adapted to enter within the thimbles *c* and *c'* respectively, as shown in Fig. 1, to form with the thimbles a raceway for a series of friction rolls or balls *b^x*. The bearings *b b'* are threaded to receive retaining-caps *c^x* at each end thereof to retain the raceway in place. The shaft is enlarged or flanged at E² to bear against the outer side of the bearing *b'*, and a collar E³ is secured to the shaft by a suitable set-screw at the in- 65 ner side of said bearing to prevent longitudinal movement of said shaft, the bearings for the shaft described reducing the friction to a minimum.

The head B has at its rear side upturned standards B', having bearings for a driving-shaft C, provided with usual fast and loose pulleys C' C² respectively, whereby the shaft may be driven and controlled by a suitable belt. (Not shown.) 75

A rocking frame D is pivotally supported upon the main shaft by bearings D^x, adapted to straddle one of the standards B', to thus prevent longitudinal movement of the carrier, and has an elongated sleeve-like bearing D' to receive therein a hollow shaft F, to the inner end of which is secured a gear *f*, the outer end of the hollow shaft forming an ironing-roll F', a flange *f^x* on the shaft, with the hub of the gear *f*, preventing longitudinal 85 movement of the ironing-roll in its bearings. The gear *f* is in mesh with a pinion *d* fast on the driving-shaft C, to thus rotate the ironing-roll positively, and as the pinion *d* is concentric with the pivot of the rocking carrier 90 D the latter may be swung about such pivot without disengaging the teeth of the gear, as is shown in full and dotted lines, Fig. 3.

The carrier D has a depending arm D², pivotally connected by the toggle-levers *d³* and *d⁴* to a link *d⁵*, pivoted at *d⁶* to a treadle T, pivoted to the base or column A and normally lifted by a spring S to break the toggle-joint, as shown by dotted lines, Fig. 3, the lever *d³* being pivoted to the head at *d⁷*. 100

Normally the spring S by breaking the toggle-joint will maintain the ironing-roll in dotted-line position, Fig. 3, away from the work-support to permit the insertion or removal

of a neckband or wristband of a shirt, and depression of the treadle by the operator will bring the ironing-roll upon the work to feed it between the roll and the work-support, the latter rotating solely by the friction thus caused, and the work will be given a dull finish, commonly known as "domestic" finish.

The ironing-roll is heated by a mixture of air and gas conducted through a tube *g*, the openings *g'* therein (see dotted lines, Fig. 1) forming burners within the roll *F'*, the products of combustion passing off through the vent-openings *f⁵* in the shaft. The vent-openings are necessary, as I prefer to close the outer end of the roll by means of a suitable cap *F¹⁰*.

A mixing-chamber *h* (see Figs. 1, 2, 4 and 5) is suitably mounted at the inner end of the hollow shaft *F*, and, as shown in Fig. 1, the said chamber is mounted on a support *h^x*, secured in a socket *h'* on the head, although it is obvious that any other desired form of support may be employed. The tube *g* is extended through the hollow shaft and into the partition-wall *h²* of the mixing-chamber, (see Fig. 4,) communicating by means of an inlet *h³* with a suitable air supply controlled by a valve *v*, while a smaller and shorter pipe *i* is extended within the pipe *g* and is connected to a gas-generator by means of a pipe *i'*, controlled by a valve *v'*, the said pipe *i* having one or more openings *i²* therein communicating with the chamber *h*, in which the air is received, so that the air and gas are thoroughly mixed as they pass through the two pipes *g* and *i* to the burners *g'*.

In order to furnish a plentiful supply of air to sustain combustion in the ironing-roll I fit an inclosing pipe *k* into the inner end of the chamber, the compartment of the latter at the right of the partition *h²* communicating by a pipe *h⁵* with an air supply, so that a current of air passes continually through the pipe *k* to near the burners, the outer end of the said pipe *k* being shown in Fig. 1.

By regulating the valves *v* and *v'* and also the air for supporting combustion the heat imparted to the ironing-roll may be regulated with great nicety.

The carrier *D* is very strong and solid, and by its construction and arrangement the ironing-roll is pressed firmly and in parallelism

against the work-support to insure even and smooth ironing. Also by reason of its pivotal arrangement the ironing-roll may be swung entirely away from the work-support for the purpose of cleaning or adjusting the cover thereof without stopping its continuous rotation.

The hollow shaft *F* forms an extended journal for the ironing-roll in the long bearing *D'* of the rocking carrier, so that there is no possibility of the latter working out of true.

The machine is under the complete control of the operator at all times, and while the ironing-roll is continuously rotated the work-support is at rest except when the work is being ironed.

I claim—

1. In an ironing-machine, a standard or base, a main driving-shaft, a rocking frame pivotally mounted thereon, an ironing-roll rotatable in a bearing in the rocking frame, gearing carried by the frame, said gearing connecting the roll and driving-shaft, an integral extension from said frame, and a toggle-lever pivoted at one end to the outer end of said extension and at the other end to the said standard, and centrally jointed to suitable operating means, provided therefor, as a foot-lever, substantially as described.

2. In an ironing-machine, a standard or base, a main driving-shaft, a rocking frame pivotally mounted thereon, an ironing-roll rotatable in a bearing in the rocking frame, gearing connecting the roll and driving-shaft, and an integral extension from said frame, a toggle-lever pivoted at one end to the outer end of said extension and at the other end to the said standard, and centrally jointed to suitable operating means, provided therefor, as a foot-lever, and a spring normally tending to break said toggle-lever and thereby swing said roll with its frame, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. E. HENRICI.

Witnesses:

JOHN C. EDWARDS,
EMMA J. BENNETT.