

A. FERGUSON, JR.
 COLLAR IRONING MACHINE.
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1,049,470.

Patented Jan. 7, 1913.

Fig. 1.

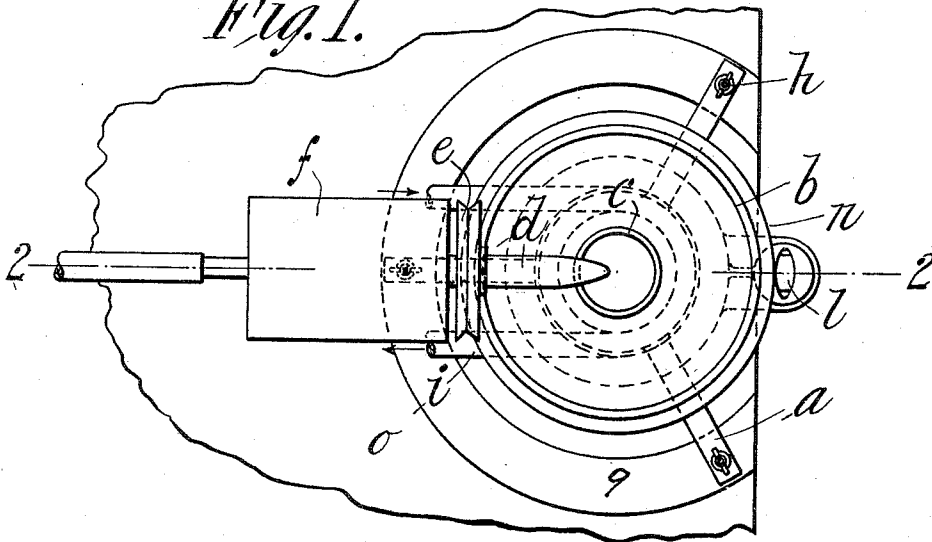
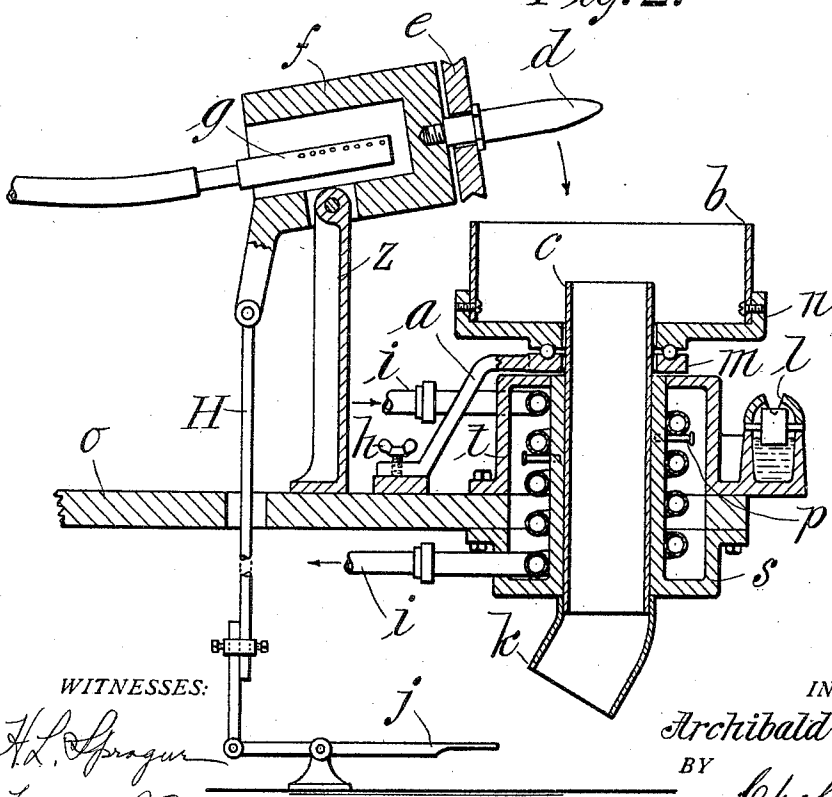


Fig. 2.



WITNESSES:

H. L. Sprague
Franklin P. Neal

INVENTOR,

Archibald Ferguson, Jr.

BY

Chapin & Co.
 ATTORNEY.

UNITED STATES PATENT OFFICE.

ARCHIBALD FERGUSON, JR., OF HOLYOKE, MASSACHUSETTS.

COLLAR-IRONING MACHINE.

1,049,470.

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To all whom it may concern:

Be it known that I, ARCHIBALD FERGUSON, Jr., a citizen of the United States of America, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Collar-Ironing Machines, of which the following is a specification.

This invention consists in certain improvements in collar formers or shapers.

Machines have hitherto been made in which the ironing element remains stationary while the collar-holding element is partially rotated and the collar is ironed. A machine of this class is shown in the patent to Asher dated June 27, 1899 and numbered 627,889.

The object of the present invention is to improve this class of machines.

In the drawings forming part of this application,—Figure 1 is a plan view showing the three track-supporting legs as they are arranged on the supporting table. Fig. 2 is a central sectional view, taken along the line 2—2 of Fig. 1, and shows the arrangement of all the parts not clearly shown by Fig. 1.

The machine is mounted on a supporting table *o* as follows: A steam chest, made of two parts *s* and *t*, is assembled around an opening in the table. The lower and upper half of this chest are held together by bolts passing through the table. The lower half of the chest has a central cylindrical portion extending upwardly to meet the inverted portion of the upper half, thus forming a complete annular steam chest easy to assemble and break down. Cast integrally with the upper half of the chest is a receptacle carrying a moistening roll *l* of a usual type. The central, cylindrical portion of the steam chest forms a support for both the drying tube *c* and the steam-pipe *i*. The drying tube fits snugly in the said cylindrical portion and extends both below and above the chest, as shown. The steam pipe *i* is wound spirally in the annular steam chest and is supported by one or more pins *p* screwed into the aforementioned cylindrical portion of the chest. These pins take just enough of the weight of the pipe to provide a proper support for the latter. When steam is passed through the pipe *i* it heats the drying tube *c* and with the steam-chest arranged as described, an exact even heat can be obtained at all times. Above the

steam chest and surrounding the drying tube *c* are an annular ball-bearing track *m* and a collar-supporting element or shaper *b*, the latter being rotatably mounted on the track. The ball-bearing track *m* is not supported by the steam-chest but has a wholly independent support consisting of three legs *a* resting on a casting fast to the table *o*, each leg being adjustable by means of a thumb-screw *h*. These thumb-screws, one to each leg, as shown in Fig. 1, engage a threaded opening in the lower horizontal part of each leg. The ends of the screws rest upon the casting 9 whereon the screws rotate freely. With this structure any one leg *a* may be raised or lowered by turning the thumb-screw in the proper way. The collar-shaper *b* has a base *n* containing a track for the balls, and this base rests on the balls in the track *m*.

The machine so far described is made up of few parts, each part being arranged in its most convenient position: For instance, the drying tube is arranged centrally in the collar-shaper where the collars can be placed therein most conveniently. It is supported only by the steam-chest and not in any way by the collar-shaper or its track. The latter may therefore be removed and replaced without any inconvenience. The ironing element *f* is pivotally mounted on the upright support *z* and is swung on its pivot by the foot-operated lever *j*, and adjustable connecting rod *h* as shown. In the element *f* a chamber is hollowed out to provide room for the gas burner *g* which heats the element *f*, and the ironing roll *e* is heated by radiation from the element *f*. The ironing roll *e* is loosely mounted, as shown, for a purpose to be described. The point *d* provides a heated point to be used when desired.

The operation is as follows: The folded edge of a collar is moistened by the roll *l*. The turned down collar is then folded around the shaper *b* and the grooved ironing roll *e* brought into contact with the folded edge of the turn down collar by the foot pressing on the lever *j*. The operator then grasps the sides of the shaper and partially rotates it in reverse directions thus bringing all parts of the collar under the ironing revoluble element *e*. The pressure of the foot on the lever *j* will regulate the pressure on the collar. Any irregularities in the folded edge of the collar may be smoothed over by the ironing part without tearing the

collar in any way. This is accomplished by having the ironing part *e* loosely mounted so that it may follow the shape of the collar, as the ironing takes place, and gradually work the edge of the collar into uniform shape. It can be seen that if there are any torn edges at the points of the collars, the ironing element *e* will ride over the points without tearing, because of the loose mounting of the roll *e*.

An important feature of this invention is the means by which the plane of the "shaper" or "former" *b* is regulated to allow the ironing element *e* an exact engagement with the edge of the collar.

It has been found from experience from using the old forms of machines that the plane of the collar-shaper changes as the machine is used. This is probably due to the continued pressure of the ironing element.

It can be seen from the drawings that if the plane of the shaper *b* be changed, then the character of the engagement of the ironing part *e* is changed. There is one engagement of the ironing element *e* with the collar, as placed on the shaper *b*, which is the most efficient for good work. If the proper engagement of the ironing element with the collar is always maintained then the collars are worn as little as possible and are practically never torn.

By the apparatus shown, an operator may, by turning the thumb-screws *h*, regulate the engagement of the ironing element with the collar on the shaper. This can be done with practically no waste of time on the operator's part and is exceedingly important in preventing the wear on the collars which takes place in the old forms of machines.

With the machine constructed as shown,

the collars, after being ironed, are rolled up and inserted in the drying tube. They leave this tube through the outlet *k* which can be directed to a basket conveniently placed on the floor.

An important feature of the invention is the arrangement whereby some of the parts may be replaced independently of the other parts. For instance, the collar shaper, together with its track, may be removed bodily from the rest of the machine which makes it possible to transpose the collar "shaper" from one machine to another with very little labor.

What I claim, is:—

1. A collar ironing machine comprising a drying tube, a heating chest by which said drying tube is frictionally supported, a collar shaper surrounding the upper end of said tube, a support for said collar shaper independent of the drying tube and heating chest, said shaper being mounted on said support for circular movement, all for the purpose described.

2. An ironing machine comprising a centrally arranged drying tube, means for heating the same, a collar shaper surrounding the upper end of said tube, a ball-bearing support for said collar-shaper, an ironing element pivotally mounted and adapted to engage a collar on the shaper, and means for adjusting the plane of the shaper support.

3. A collar shaper having a curved surface for receiving a folded collar, together with a circular track support for the same on which the shaper may be rotated, and a drying tube centrally mounted within said track.

ARCHIBALD FERGUSON, JR.

Witnesses:

GEO. H. ALLYN,
DANIEL J. LEARY.