223. Apparel Apparatus,

52.2

No. 818,247. PATENTED APR. 17, 1906.

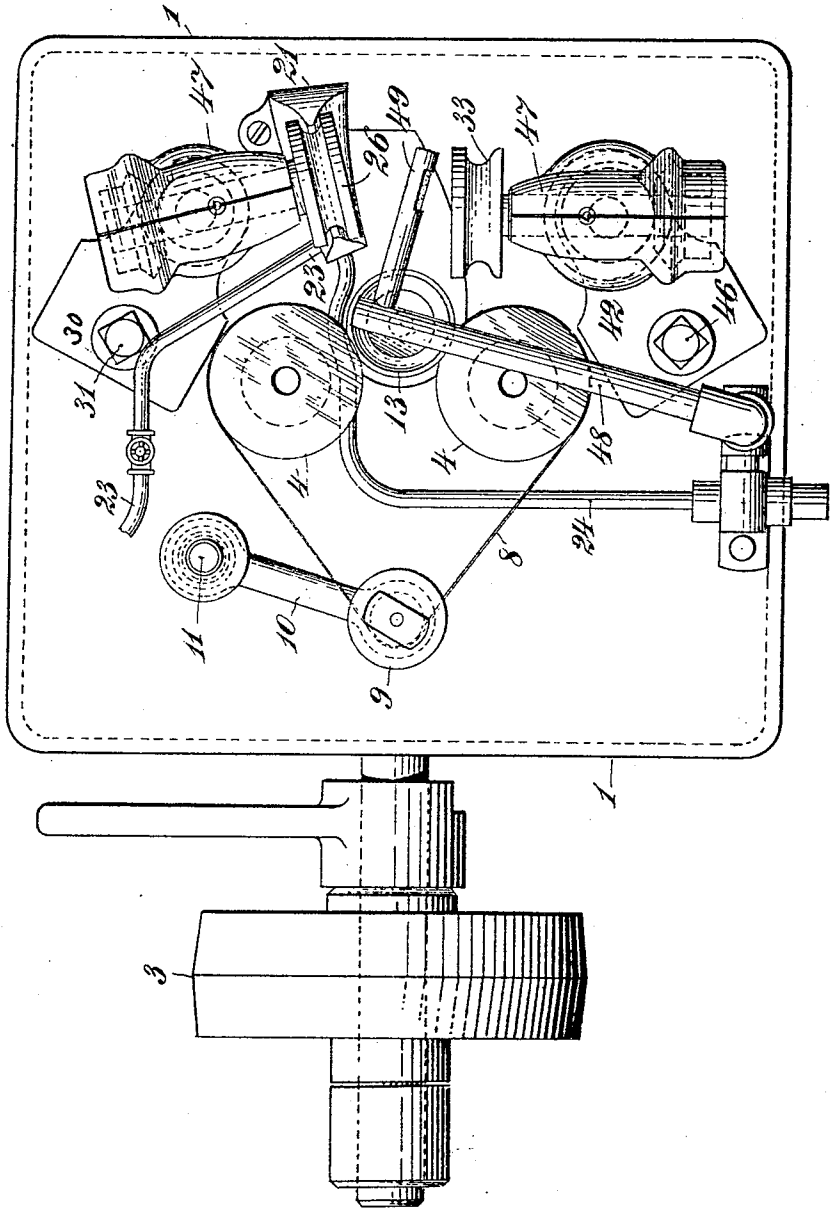
L. R. HEIM.

MACHINE FOR IRONING FOLD COLLARS.

APPLICATION FILED MAR. 20, 1905.

4 SHEETS—SHEET 1.

Fig. 1.



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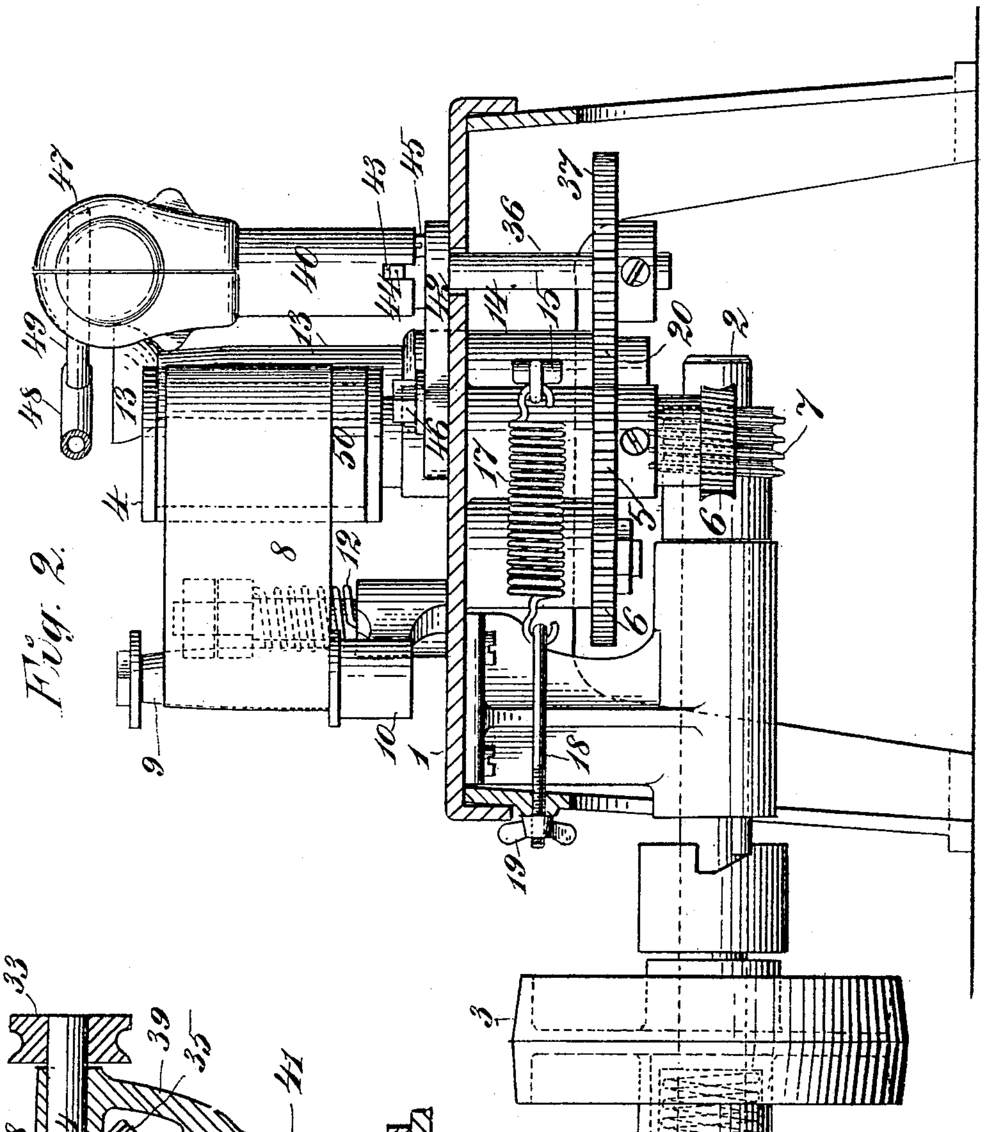

Fig. 2.

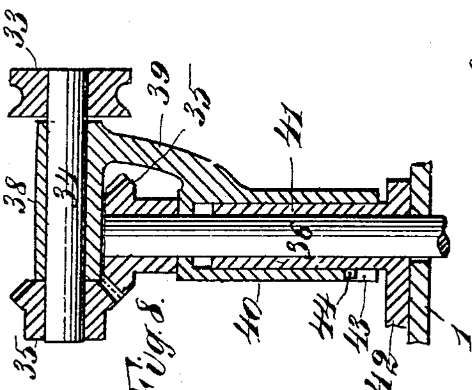

Fig. 8.

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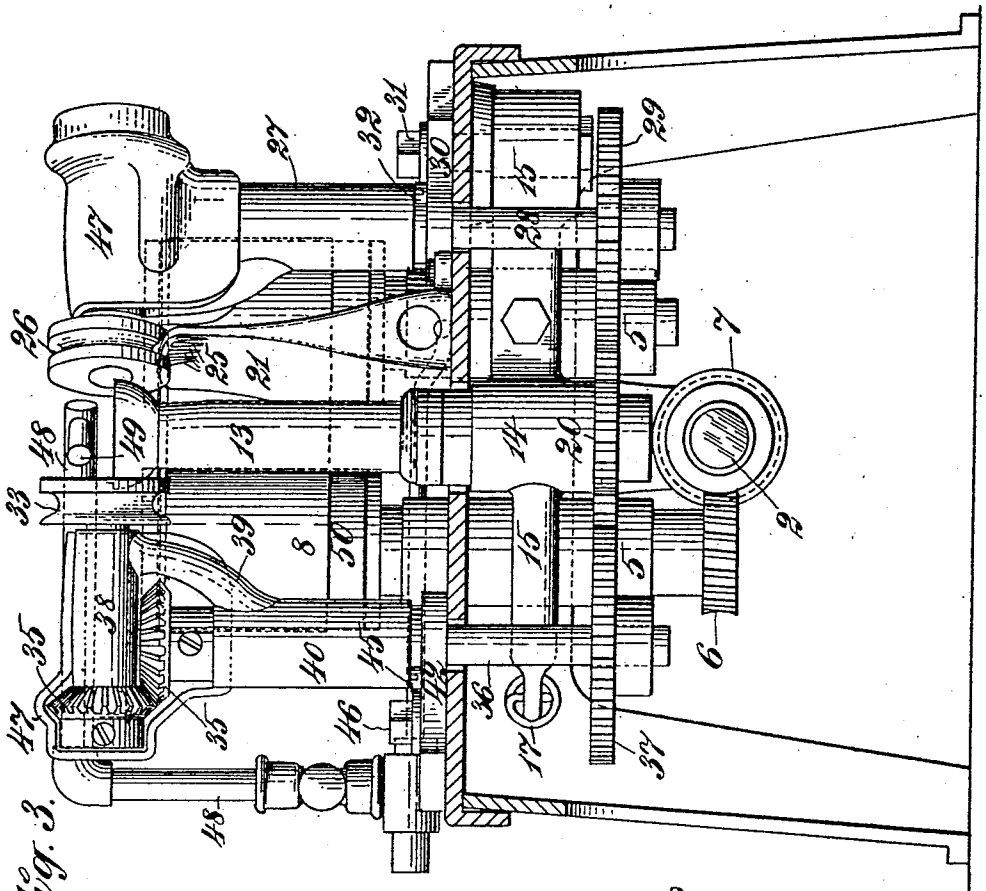

Fig. 3.

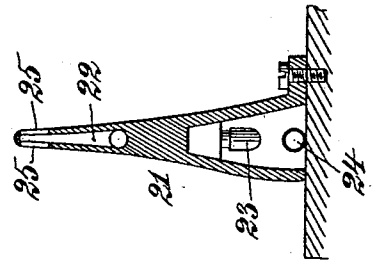

Fig. 7.

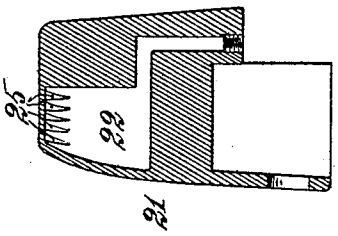

Fig. 6.

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4 SHEETS—SHEET 4.

Fig. 4.

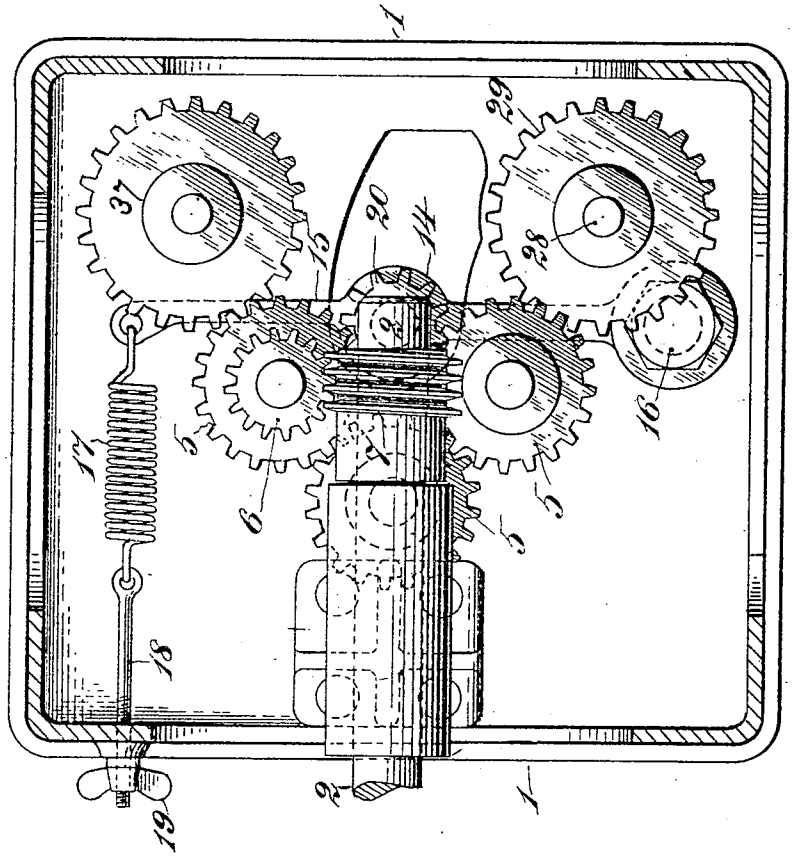
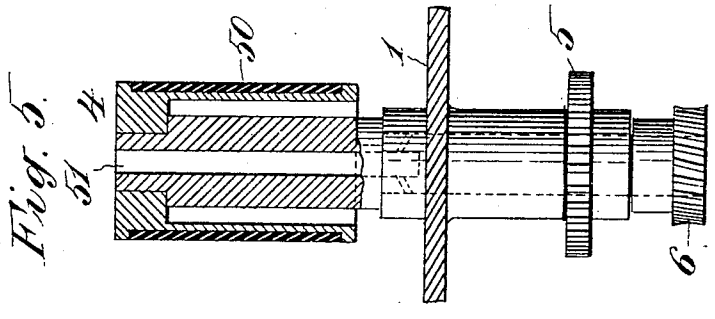


Fig. 5.



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UNITED STATES PATENT OFFICE.

LEWIS R. HEIM, OF DANBURY, CONNECTICUT.

MACHINE FOR IRONING FOLD-COLLARS.

No. 818,247. Specification of Letters Patent. Patented April 17, 1906.

Application filed March 20, 1905. Serial No. 251,040.

To whom it may concern:

Be it known that I, LEWIS R. HEIM, a citizen of the United States, residing in Danbury, Fairfield county, Connecticut, have invented certain new and useful Improvements in Machines for Ironing Fold-Collars, of which the following is a specification.

This invention relates to that class of laundry-machines wherein rollers, and sometimes a belt on said rollers, are employed for ironing collars. The patent to Heim and Targett No. 780,750, of January 24, 1905, and the patent to myself, No. 783,433, of February 28, 1905, show characteristic types of the class of machines to which this invention belongs. It may be stated briefly that in this class of machines as heretofore constructed the folded collar is fed into the bight of the three rollers of the machine over a standard, and as it is drawn in a saddle-like ironer on or over the standard irons it. When the collar issues from the rollers, it is not further acted upon.

According to the present invention, the collar is guided into the bight of the rollers by the standard, and means are employed for ironing or polishing the folded edge of the collar as the latter emerges from the rollers.

The machine will be hereinafter described in detail, and its novel features carefully defined in the claims.

In the accompanying drawings, which serve to illustrate an embodiment of the invention, Figure 1 is a plan of the machine. Fig. 2 is a side elevation with the bed or support in section. Fig. 3 is a front elevation with the bed or support in section. Fig. 4 is an under side view showing the driving mechanism. Fig. 5 is a sectional detail view of one of the rollers. Figs. 6 and 7 are sectional detail views of the standard. Fig. 8 is a sectional detail view of the mounting of the ironing-wheel.

1 designates the bed or support.

2 is the driving-shaft, mounted rotatively in bearings below the bed. 3 is the driving-pulley on said shaft.

4 4 are two upright rollers rotatively mounted in long bearings in the bed and geared together by spur-wheels 5, and 6 is a worm-wheel on the journal of one of said rollers 4. This wheel gears with a screw or worm 7 on the main shaft for driving. About the rollers 4 is a belt or band 8, which takes about an upright tightening-roller 9, mounted on an arm 10, which swings about a post 11 and has a torsion-spring 12, which tends to swing the arm outward in a manner to tighten the belt 8.

13 is an upright pressure-roller which is rotatively mounted in a bearing 14 on an arm 15, mounted to swing about a journal 16 below the bed. This arm is coupled at its free end to a spring 17, which tends to draw the roller 13 up against the belt 8 and press the latter in between the two rollers 4, as seen in Fig. 1. The spring has a rod 18 and nut 19 for regulating its tension. On the journal of the roller 13 is a spur-wheel 20, which gears with the wheels 5 for driving the roller 13.

Mounted on the bed is a standard 21, made hollow, as seen in Figs. 6 and 7, so as to be heated by gas and also so that it may receive steam and supply it in small quantity, if required, to the inner surface of the collar passing over its upper edge. This standard is similar to that shown in my before-mentioned Patent No. 783,433. The steam is admitted to a cavity 22 in its interior from a pipe 23, and the gas is admitted under it from a pipe 24. The steam escapes from the standard at slits 25 in the walls of the chamber or cavity 22, near the upper edge of the standard.

Over the standard is a guide 26, which may be saddle-like, but which is, as herein shown, in the form of a grooved roller or wheel. This wheel is on a shaft rotatively mounted in a bearing 27 and driven by miter-gears from an upright shaft 28. This shaft 28 has on its lower end, below the bed, a spur-wheel 29, which gears with one of the wheels 5 for driving. The bearing 27 is movable up and down over a tubular flanged bearing-piece 30, secured to the bed by a screw 31, and a slight adjustment of the height of the wheel 26 is effected by a screw 32, set in the flanged base of the bearing-piece 30. The bearing 27 rests on the head of said screw.

Near the point where the collar emerges from the rollers is mounted a smoothing or ironing wheel 33. This wheel is grooved and is secured to a shaft 34, which is driven by bevel-gears 35 from an upright shaft 36, bearing at its lower end a spur-wheel 37, which gears with one of the wheels 5 for driving. Fig. 8 shows the manner of mounting the wheel 33 in detail, and as this construction is substantially the same as that of the wheel 26 the detail in Fig. 8 will serve equally well for both. In this figure it will be noted that the shaft 34 is mounted in a long horizontal bearing 38, which is mounted on a bracket-

arm 39, springing from an upright sleeve 40, which fits slidably over an upright bearing 41 on a flange or base 42. The upright shaft 36 finds a bearing in the part 41, and the boss of the bevel-wheel on the shaft 36 rests on the top of the sleeve 40. To prevent the sleeve from turning axially, a slot 43 at its lower end engages a stud 44 on the bearing 41. To regulate the height of the wheel 33, the base of the sleeve rests on a screw 45, Fig. 2, set in the flanged base 42. This base is secured to the bed by a screw 46.

The bearings of the shafts which carry the two wheels 26 and 33 and the bevel-gears for driving them are shown in the principal views as inclosed in hoods 47, each made of two sections, and in Fig. 3 one section of the hood at the left is omitted to disclose the mechanism. These hoods are merely to house the parts and are not essential to the invention. In Fig. 8 the hood is omitted.

The wheel 33 and roller 13 are heated by gas-jets from the pipe 48 and its branch 49. The vertical adjustment of the wheels 26 and 33 need only be slight, and it can be effected without disengaging the spur driving-gears.

Fig. 5 shows the construction of the upright rollers 4. The roller is recessed circumferentially and provided with a face 50, of rubber or similar soft material. The roller is hollow and is mounted on an upright shaft, having in it a bore 51 to receive oil for lubrication.

The ironing-wheel 33 is driven at a speed somewhat greater than that at which the collar moves, and the effect of this is to cause the periphery of the wheel to rub and smooth the fold of the collar. The pressure of the wheel is very light, as the collar will not be supported directly beneath the wheel.

It should be understood that wheels for ironing the edges of flat collars have been before employed, but the wheel 33 is not intended for this purpose. It is used in operative connection with means for shaping a fold-collar, and is for ironing the fold of a shaped or curved collar. The devices heretofore employed were not adapted to accomplish this.

Having thus described my invention, I claim—

1. A machine for the purpose specified, having a mechanism for shaping and feeding the collar, means for folding and guiding the collar into said mechanism, and an independent rotating ironer, adjacent to the outlet of said mechanism, so disposed as to iron the fold of the shaped collar as it emerges from said mechanism.

2. A machine for the purpose specified, having mechanism for feeding and shaping the folded collar, means for folding the collar and guiding it into said mechanism, a rotating ironer for the fold of the shaped collar, said ironer being disposed adjacent to the point where the collar emerges from the feeding and shaping mechanism, and means for adjusting the height of said ironer.

3. A machine for the purpose specified, having mechanism for feeding and shaping the folded collar, means for folding the collar and guiding it into said mechanism, a rotating grooved ironing-wheel disposed adjacent to the point where the collar emerges from the feeding and shaping mechanism and in position to bear on the fold of the collar, and means for imparting to said wheel a peripheral speed greater than the speed at which the collar is moved.

4. A machine for the purpose specified, having mechanism for feeding and shaping the folded collar, means for folding the collar and guiding it into said mechanism, a rotatable, grooved ironing-wheel disposed adjacent to the point where the collar emerges from the feeding and shaping mechanism and in position to bear on and roll over the fold of the collar, and means for driving said wheel.

5. A machine for the purpose specified, having a feeding and shaping mechanism for a folded collar consisting of two upright, rotating rollers provided with faces of soft material, a spring-actuated pressure-roller, an endless belt on the two upright rollers, and means for tightening said belt, means for folding and guiding the collar into said shaping and feeding mechanism, and an adjustable rotating ironer disposed adjacent to the point where the collar emerges.

6. A machine for ironing fold-collars, having a feed mechanism comprising two upright rotating rollers 4, provided with faces 50 of soft, yielding material, a spring-actuated pressure-roller 13, an endless belt 8, on the rollers 4, and means for tightening said belt, means for guiding the folded collar into said feed mechanism, and a rotating ironer situated adjacent to the point where the collar emerges from the feed mechanism.

7. A machine for ironing fold-collars, having a feed mechanism provided with a heated pressure-roller, means for guiding the collar into the feed mechanism and for steaming it, and a heated, rotating ironing-roller disposed near the point where the collar emerges from the feed mechanism and in position to iron its upper, folded edge.

In witness whereof I have hereunto signed my name, this 16th day of March, 1905, in the presence of two subscribing witnesses.

LEWIS R. HEIM.

Witnesses:
WILLIAM J. FIRTH,
HENRY G. HOSE.