

A. R. GUSTAFSON.
 IRONING MACHINE.
 APPLICATION FILED MAR. 10, 1911.

1,004,872.

Patented Oct. 3, 1911.

2 SHEETS—SHEET 1.

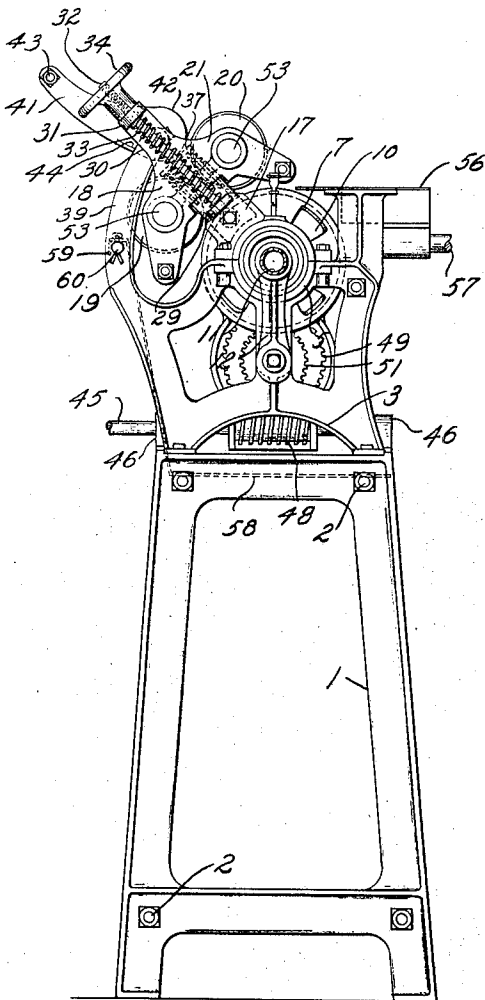


FIG. 1.

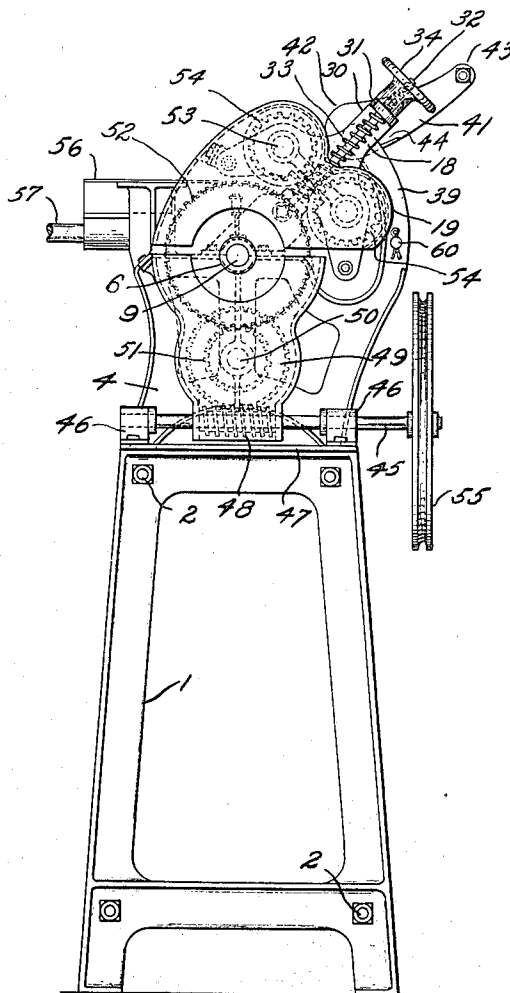


FIG. 2.

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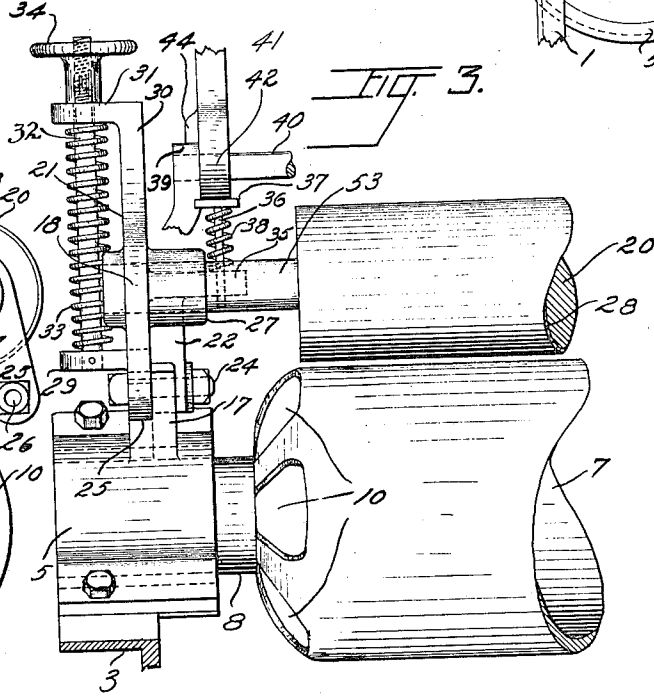
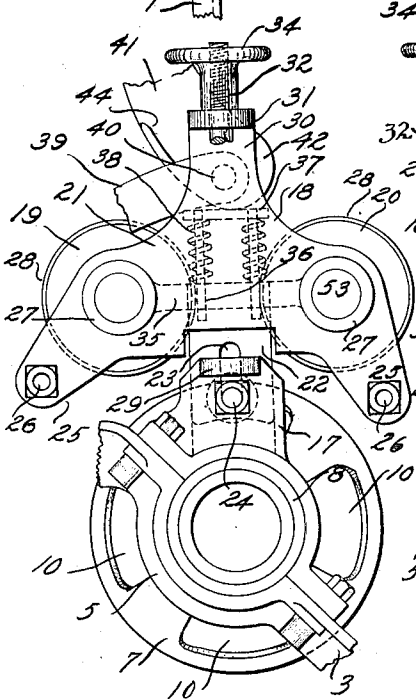
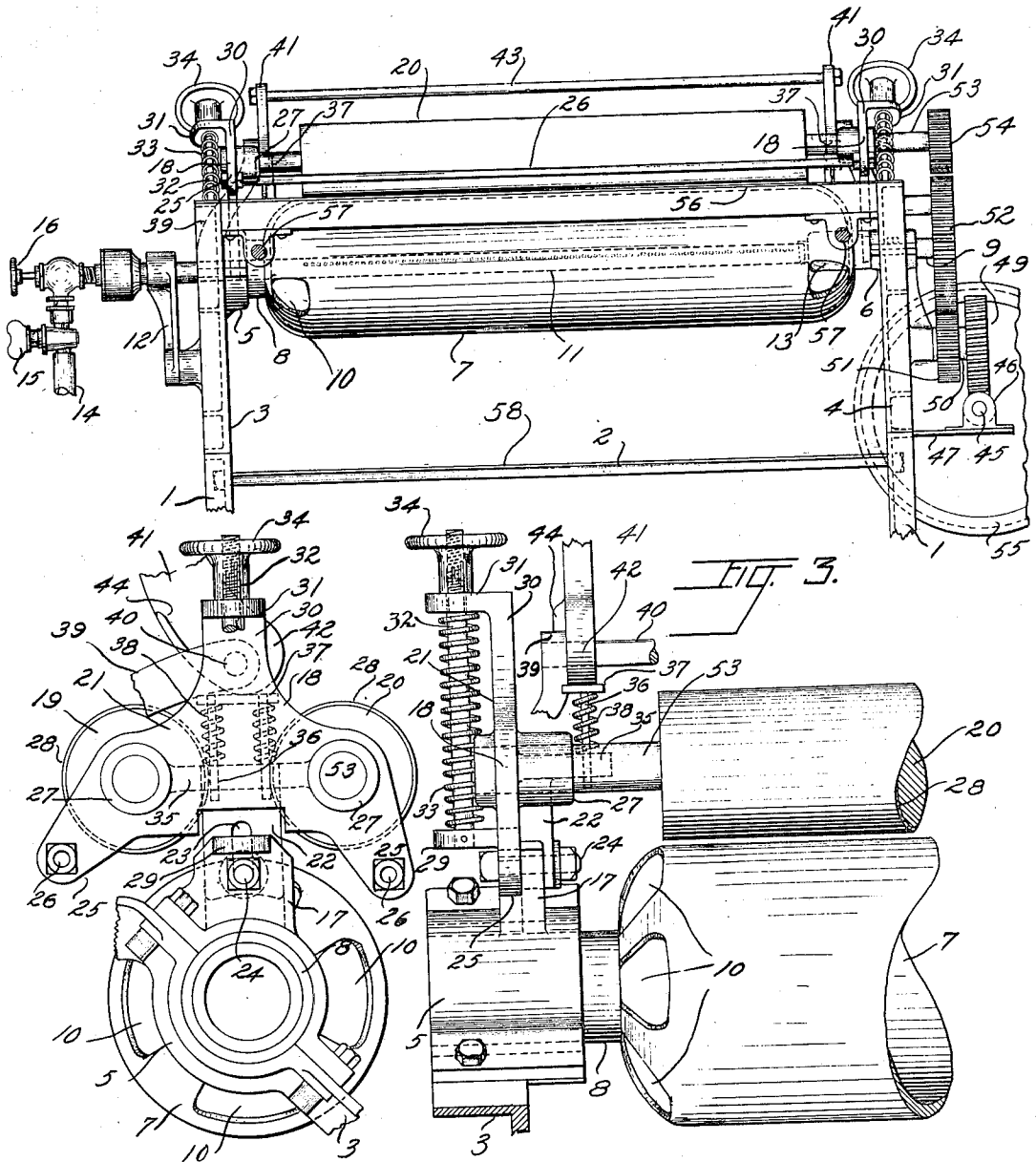
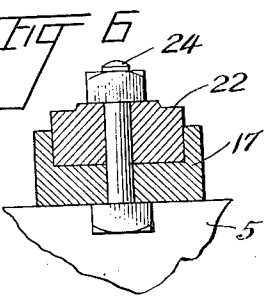


FIG. 4

FIG. 5

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IRONING-MACHINE.

1,004,872.

Specification of Letters Patent.

Patented Oct. 3, 1911.

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To all whom it may concern:

Be it known that I, AXEL R. GUSTAFSON, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Ironing-Machines, of which the following is a complete specification.

The main objects of this invention are to provide an improved ironing machine for laundry purposes; to provide an improved ironing machine having improved mechanism for regulating the pressure of the ironing rollers upon the articles being ironed; to provide an ironing machine in which the compression rollers may be quickly thrown into or out of engagement with the articles being ironed without stopping the machine; and to provide an ironing machine capable of performing its work with great efficiency and rapidity without injuring the articles being operated upon.

A specific embodiment of the invention is illustrated in the accompanying drawings, in which:

Figure 1 is an elevation of one end of an ironing machine embodied in this invention. Fig. 2 is an end elevation of the other end of the machine. Fig. 3 is a front elevation of the machine, with parts removed. Fig. 4 is an enlarged, fragmentary end elevation of the ironing rollers and the means for adjusting the same. Fig. 5 is an enlarged, fragmentary front elevation of the ironing rollers and the means for adjusting the upper rollers with respect to the lower roller. Fig. 6 is a horizontal section of one of the channel guides and guide arms.

In the construction shown, a suitable frame is provided which comprises end members 1 which are rigidly secured together by means of tie or brace rods 2. Rigidly secured on the tops of the end members 1 are the bearing members 3 and 4 on which the operative mechanism is mounted. The bearing members 3 and 4 are provided with bearings 5 and 6 in which is journaled the heating roller 7, which is provided at its ends with trunnions 8 and 9 mounted in said bearings. The heating roller 7 is hollow and is provided with ventilating apertures 10 in one end. A burner 11, comprising a perforated pipe, is rigidly secured in a bracket 12 carried on the member 3, and extends through the trunnion 8 into the

roller 7. The inner end of the burner is supported in a bearing 13 at the end of the roller, and the outer end of the burner is connected with a pipe 14 leading from a gas supply, and provided with suitable cocks 15 and 16 which are adapted to control the amount of gas entering the burner.

Extending upwardly and rearwardly from the bearings 5 and 6 are the channel shaped guides 17, and slidably mounted in said guides is the carriage 18 for the compression rollers 19 and 20. Said carriage comprises end pieces 21, each of which is provided with a centrally disposed, downwardly directed guide arm 22 which is slidably mounted in the adjacent guide 17, and is provided with a slot 23 through which a stop bolt 24 projects. Said bolts are rigidly secured in the guides 17 and act to limit the movement of the carriage 18, and to prevent said carriage from being displaced from the bearing members 3 and 4. Extending downwardly and laterally from each of the end pieces are arms 25 in which tie rods 26 are secured to connect the end pieces together and cause them to move in unison. The compression rollers 19 and 20 are journaled respectively in the rear and front sides of the carriage 18 in bearings 27 in the end pieces 21, and are each covered with canvas or other suitable material 28.

Extending outwardly from the upper end of each guide 17 is an apertured lug 29, and extending upwardly on each end piece 21 is a bracket 30 having an outwardly directed apertured lug 31. At each end of the carriage is an adjusting shaft or bolt 32 which is rigidly secured at its lower end in the lug 29, and at its upper end extends through and is loosely mounted in the lug 31. Carried on said shafts between the lugs 29 and 31 are coiled springs 33 which normally act to hold the carriage 18 in an elevated position with the compression rollers out of contact with the heating roller. The upper end of each shaft 32 is screw-threaded, and having threaded engagement thereon is a hand wheel 34 which when turned into engagement with the lug 31 acts to force the carriage downwardly and increase the tension of the springs 33.

On the inner face of each end piece 21 is a ledge 35 having apertures therethrough through which project pins 36 which carry

at their upper ends a plate 37. Mounted on said pins 36 between the ledges 35 and the plates 37 are coiled springs 38 at each end of the machine, whose combined strength is

5 greater than that of the springs 33.
Extending upwardly and forwardly from the rear sides of the bearing members 3 and 4 to a point above the plates 37 are arms 39, which carry a rod 40 at their upper ends.
10 Journaled on said rod 40 above the plates 37 are the cam levers 41 which have cams 42 at their lower ends which bear on the plates 37. The upper ends of said levers are connected by an operating bar 43 by means
15 of which the levers may be simultaneously operated. Each lever 41 is provided with a stop-block 44 on its outer side, which blocks are adapted to rest on the arms 39 when the levers are at their rearward limit of move-
20 ment, to limit said movement in that direction. For the purpose of operating said rollers a drive shaft 45 is journaled in bearings 46 carried on a bracket 47 at one end of the machine. A worm 48 is rigidly secured
25 on said shaft and meshes with a worm gear 49 which is carried on a stud shaft 50 journaled on the bearing member 4. Rigidly secured on the shaft 50 is a pinion 51 which meshes with a gear 52 on the trunnion 9 of
30 the roller 7. The rollers 19 and 20 are provided at their ends with bearing trunnions 53 which are journaled in the bearings 27, and rigidly secured on the trunnions at the end of the rollers adjacent to the gear 52
35 are gears 54 which are adapted to mesh with the gear 52 when the carriage is lowered. As shown, the shaft 45 is provided with a pulley 55 adapted to be driven from any suitable source of power.

40 Supported on the members 3 and 4 at the front of the machine is the work table 56 which partially overlaps and is on a level with the top of the roller 7. The work is supported on said table while being fed to
45 the rollers. Extending forwardly at each end of the machine, and slightly below the table 56 is a work supporting rod 57, which is preferably formed of wood. Upon one of said rods the articles to be operated upon
50 may be hung, and upon the other the finished work may be hung.

A tray 58, formed of sheet iron or other suitable material, is supported between the frames 1 on the upper rods 2, and at the
55 rear of the machine the tray extends upwardly to a point behind the rollers. The upper edge of the tray is turned rearwardly to provide a hook 59 which engages over the rod 60 supported on the arms 39. This
60 method of mounting the tray makes it removable so that it may be kept clean.

The operation of the construction shown is as follows: The operator lights the burner and when the heating roller has become suf-
65 ficiently heated power is applied to the pul-

ley 55 to set the heating roller in motion. The operator then pulls the bar 43 forwardly thereby causing the cam levers 41 to compress the springs 38 and force the carriage downwardly against the tension of the
70 springs 33 until the gears 54 are in mesh with the gear 52.

The clothes to be ironed are hung upon one of the rods 57 in convenient position for the operator to get and feed into the
75 machine. The articles after passing between the rollers drop into the tray 58 where the operator may remove them from the front of the machine and hang them on the other rod 57.

Obviously the ironing operation may be instantly stopped by throwing the levers 41 rearwardly thereby releasing the tension of the springs 38 and permitting the springs
80 33 to force the carriage upwardly and throw the gears out of mesh. By adjusting the hand wheels 34 on the shafts 32 the pressure of the compression rollers 19 and 20 may be regulated.

While I have shown and described but
90 one embodiment of the invention, it will be understood that many details of the construction shown may be varied or omitted without departing from the scope of the
95 claims.

I claim:

1. An ironing machine, comprising a frame, a heating roller journaled on the frame, compression rollers, a carriage movably supporting the compression rollers on
100 the frame, oppositely acting springs supporting the carriage, and cam levers acting on part of said springs and adapted to move the compression rollers toward the heating
105 roller.

2. An ironing machine, comprising a frame, a heating roller journaled on the frame, a channel guide at each end of the frame, a carriage having guide arms slidably mounted in said guides, springs sup-
110 porting the carriage on said guides, means yieldingly engaging the carriage from above and adapted to force the carriage downwardly, and rollers mounted on said carriage and adapted to co-act with the heating
115 roller.

3. An ironing machine, comprising a frame, upwardly and rearwardly extending channel guides on the frame, a carriage, a guide arm at each end of the carriage slidably mounted in the adjacent channel, a rod
120 extending upwardly from each channel, a spring thereon, there being parts on the carriage supported on said springs, upwardly and rearwardly directed arms on the frame,
125 a rod mounted in said arms, cam levers pivoted on said rod, springs interposed between the cam levers and the carriage, and front and rear rollers on the carriage adapted to co-act with the heating roller.
130

4. An ironing machine, comprising a frame, a heating roller journaled on the frame, a carriage slidably mounted on the frame, springs adapted to normally hold the carriage in elevated position, means for regulating the tension of said springs, compression rollers journaled on the carriage, a cam lever pivoted on the frame, a plate yieldingly supported on the carriage and adapted to be engaged by said lever to force the compression rollers toward the heating roller, and gears connected with the heating and compression rollers and adapted to intermesh when the rollers are in close proximity to each other.

5. An ironing machine, comprising a frame, a heating roller journaled on the frame, guides on the frame extending upwardly and rearwardly from said roller, a carriage having guide arms at its ends slidably mounted in said guides, springs at each end of the carriage and bearing thereagainst from both above and below, cam levers acting on the upper springs to force the carriage downwardly, and compression rollers

journaled on the carriage adapted to co-act with the heating roller.

6. An ironing machine, comprising a frame, a hollow heating roller journaled on the frame, a burner in said roller, a carriage slidably mounted on the frame and adapted to be raised and lowered with respect to said heating roller, springs acting normally to hold the carriage in elevated position, means for adjusting the tension of said springs, compression rollers journaled in said carriage, plates yieldingly mounted on the ends of the carriage, a bar supported on the frame above said plates, cam levers pivoted on the bar and adapted to engage said plates and force the carriage toward the heating roller, a bar connecting said levers, and means for operating said rollers.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

AXEL R. GUSTAFSON.

Witnesses:

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D. D. SWEM.