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MANGLE

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Fig. 1.

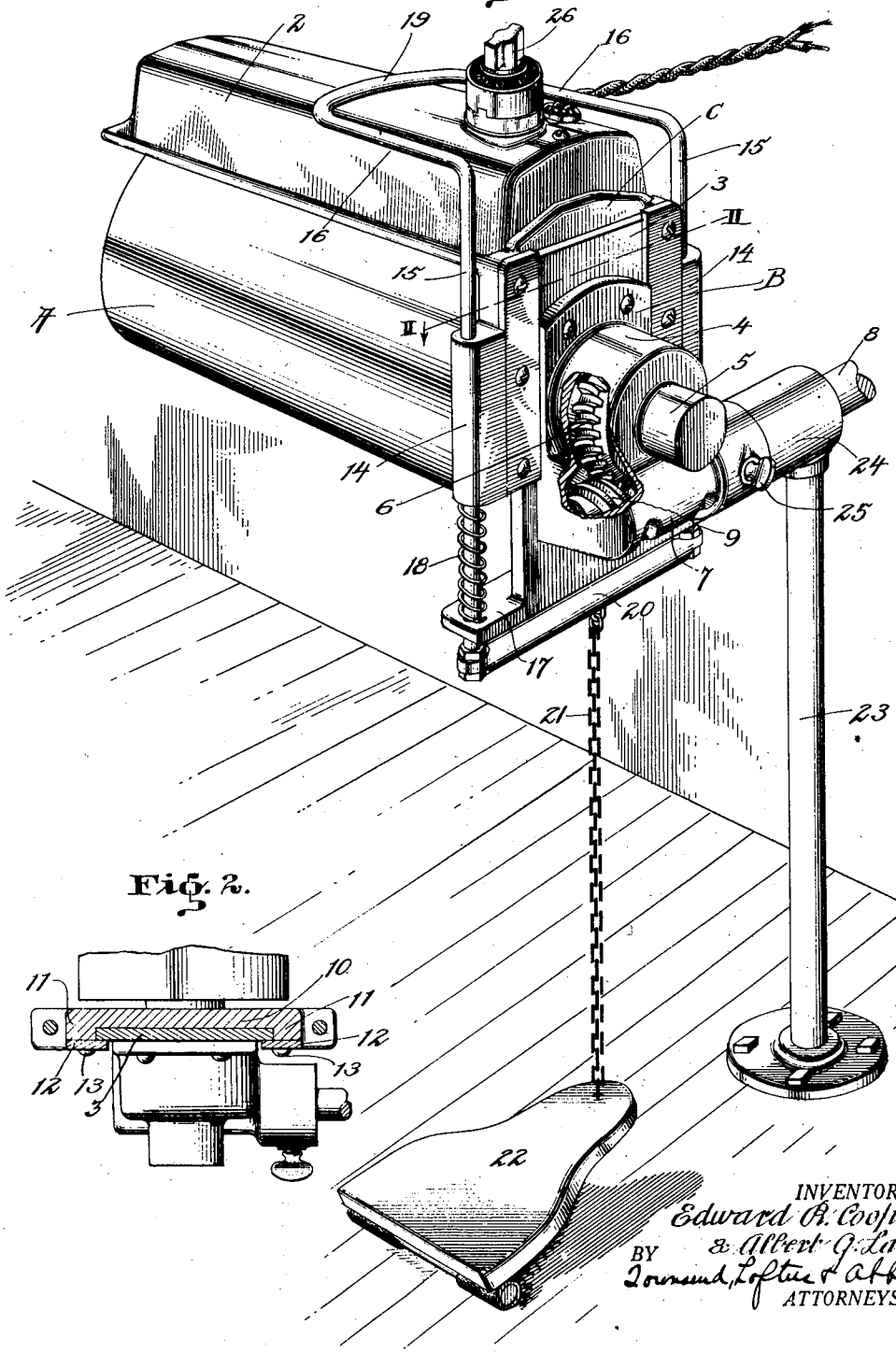


Fig. 2.

INVENTOR.
Edward R. Cooper
& Albert G. Larson
BY
Townsend, Lofton & Abbott
ATTORNEYS.

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EDWARD R. COOPER, OF SAN LEANDRO, AND ALBERT G. LARSON, OF PIEDMONT, CALIFORNIA.

MANGLE.

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This invention relates to a mangle or ironing machine particularly of that type which is electrically operated and power driven. The object of the invention is to generally improve and simplify the construction and operation of machines of the character described; to provide a machine in which the shoe or iron may be moved or forced into engagement with a padded roller by means of a foot actuated mechanism, thereby leaving the hands of the operator free to handle the articles to be ironed; to provide a mechanism whereby pressure is applied to the center of the shoe or iron when being depressed so as to exert uniform pressure from end to end; to provide spring actuated means whereby the iron is normally held in raised or inoperative position with relation to the padded roller; to provide a structure whereby the padded roller is supported, journaled and driven from one end and in conjunction therewith, to provide a cross head structure and guide whereby the iron may also be supported at one end.

One form which the ironing machine may assume is exemplified in the accompanying drawings, in which:

Figure 1 is a perspective view of the ironing machine partly broken away and also partly shown in section.

Figure 2 is a cross section on line II—II.

Referring to the drawings in detail and particularly Figure 1, A indicates the padded roller of the machine and 2 the iron which cooperates therewith. The roller and the iron are both supported at one end and the iron is movable vertically into and out of contact with the padded roller as will hereinafter be described. A roller and iron supported in this manner is particularly convenient and efficient, as it leaves one end of the roller and the iron unobstructed so that clothing may be inserted from one end if desired, for instance, when ironing lace edging on articles such as wearing apparel and the like. A common support is provided both for the roller and the iron and this is generally indicated at B. The support consists of a plate 3 to which is secured a housing 4. This housing contains an inner journal not shown and an exterior journal 5. These journals form a support for the shaft of the roller A and the housing also forms a cover for a worm gear 6 secured on the shaft. The lower part of the housing is extended as at 7 and this extended portion forms a bearing for a driving shaft 8 and it also forms an enclosure or housing for a worm pinion 9 which constantly meshes with the worm gear 6 and drives the same. The pinion 9 is secured on the shaft 8 and as such rotates in unison with the same when the shaft is driven. The shaft 8 may be driven from any convenient source such as an electric motor or the like, not illustrated. The plate 3 does not only form a support for the housing 4, but it also forms a guide for a cross head member generally indicated at C. The cross head member C is formed integral with one end of the iron 2 or it may be secured thereto. It consists of a plate 10 on which is formed side flanges 11. These flanges engage the outer edges of the plate 3 and they form supports for auxiliary guide plates 12 which are secured to the flanges 11 by means of screws 13. The flanges 11 are also provided with extending lugs 14 which form supports and guides for a yoke member consisting of two vertical rods 15 and spring arm sections 16. The rods 15 are freely movable in the lugs 14 and they are extended downwardly through a foot plate 17 formed on the lower end of the plate 3. Springs 18 are interposed between the foot plate 17 and the lower ends of the lugs 14 and their function will hereinafter be described. The spring arms 16 of the yoke are connected by a cross section 19 which engages the center top portion of the iron and the lower ends of the rods 15 are connected by a cross bar 20, to which is attached a chain 21, the opposite end of the chain being connected to a foot treadle 22.

The machine as a whole may be supported on the edge of a table by means of the foot flange 17 on the plate 3 and by screws, bolts or other suitable means to rigidly secure the machine to the table. In the present instance, the machine is shown as supported by a standard 23. This standard is provided with a collar 24 on its upper end which extends into the lower portion 7 of the housing 4 and it is there secured by means of a set screw 25. Any suitable method of supporting the machine may however be employed. In actual operation, it will be noted that the iron 2 is electrically heated and when it is desired to operate the machine, it

is only necessary to turn on the switch 26 and to start the motor or other driving unit, whereby shaft 8 is driven. Roller A will under these conditions rotate at a uniform speed and articles to be ironed are inserted between the roller and the lower face of the iron which is maintained at the proper temperature by means of the heating units mounted within the iron. It is of course necessary to apply pressure when the clothing is passing under the iron and this is accomplished in the present instance by merely depressing or stepping on the treadle 22. Pressure on this pedal exerts a pull on the chain 21 and the cross bar 20. This in turn pulls the rods 15 of the yoke downwardly and as such transmits a downward movement to the cross head C and the iron proper, this being due to the fact that the rods 15 terminate in spring arms 16 and to the cross bar 19 which applies a yielding pressure to the top center portion of the iron. The iron and the cross head will thus move downwardly on the guide plate 13 and as such will compress the springs 18, any pressure desired being applied by stepping on or applying more or less pressure on the treadle 22. When the article is passed through, the operator merely releases pressure on the treadle and the iron is instantly elevated, as the tension of the springs 18 which have been placed under compression during downward movement of the iron, will automatically raise it to elevated or normally inoperative position.

From the foregoing, it is obvious that one end of the roller and the iron is free and unobstructed, thus permitting the extreme end of the roller and the iron to be utilized when ironing ruffles, laces, neck bands of shirts etc. It will further be noted that the pressure from the treadle is resiliently applied and that the most delicate articles of wearing apparel may thus be handled without danger of tearing or mutilating the same. The machine as a whole is exceedingly simple and compact and as it may be attached directly to a table or a standard, it is obvious that it may be installed in a laundry, a kitchen, or at almost any point convenient.

While certain features of the present invention are more or less specifically illustrated, we wish it understood that varying changes may be resorted to within the scope of the appended claims and similarly, that the materials and finish of the several parts employed may be such as varying conditions or the dictates of the manufacturer may demand.

Having thus described our invention, what we claim is:

1. In an ironing machine, a stationary guide member, a shaft journaled and supported at one end in said guide member, a roller secured on the shaft, an iron disposed above the roller and extending substantially from end to end thereof, a depending cross head vertically movable on the guide member and secured to one end of the iron and forming a support therefor, and spring actuated means whereby the iron is normally held in an elevated position with relation to the roller.

2. In an ironing machine, a stationary guide member, a shaft journaled and supported at one end in said guide member, a roller secured on the shaft, an iron disposed above the roller and extending substantially from end to end thereof, a cross head vertically movable on the guide member and secured to one end of the iron and forming a support therefor, spring actuated means whereby the iron is normally held in an elevated position with relation to the roller, and means engaging the iron at a point substantially centrally relative to its length, whereby uniform pressure is exerted from end to end of the iron upon forcing the same downwardly into engagement with the roller.

3. In an ironing machine, a stationary guide member, a shaft journaled and supported at one end in said guide member, a roller secured on the shaft, an iron disposed above the roller and extending substantially from end to end thereof, a cross head vertically movable on the guide member and secured to one end of the iron and forming a support therefor, spring actuated means whereby the iron is normally held in an elevated position with relation to the roller, a treadle mechanism from which movement is transmitted to force the iron downwardly into engagement with the roller means for rotating the roller said means including power transmitting devices carried by said stationary guide member.

4. In an ironing machine, a stationary guide plate, a shaft journaled and supported at one end in said guide plate, a roller on said shaft, an iron disposed above said roller, a cross head on said iron having guide ways therein to receive the guide plate whereby vertical movement of the iron on the guide plate is permitted, means for driving said roller, and other means for imparting vertical movement to the iron.

EDWARD R. COOPER.
ALBERT G. LARSON.