

A. R. GUSTAFSON.

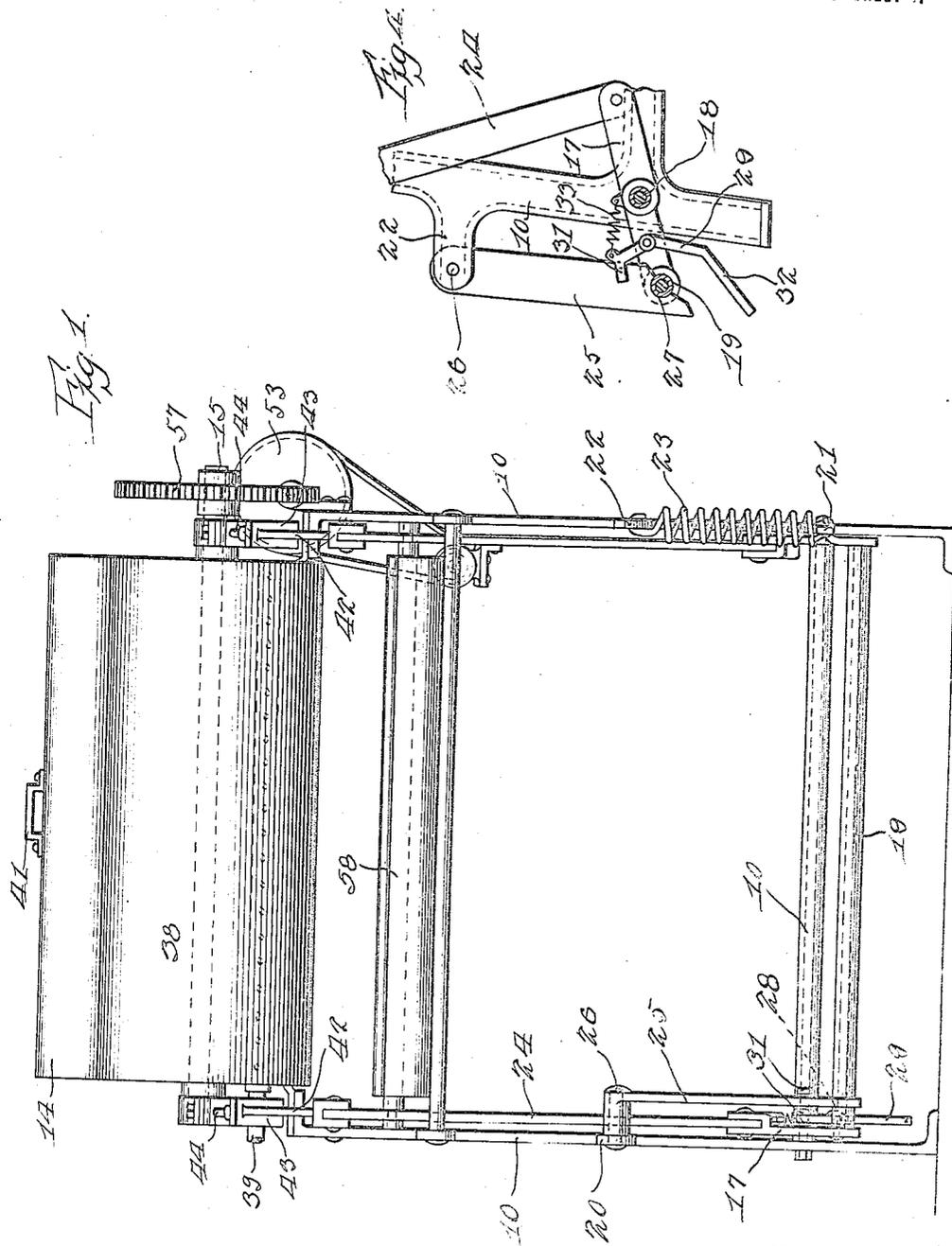
MANGLE.

APPLICATION FILED NOV. 26, 1919.

1,435,157.

Patented Nov. 14, 1922.

2 SHEETS—SHEET 1.



Witness:
Carl S. Magnusson.

Inventor:
Axel R. Gustafson
by Robt. R. Coffey
Coffey

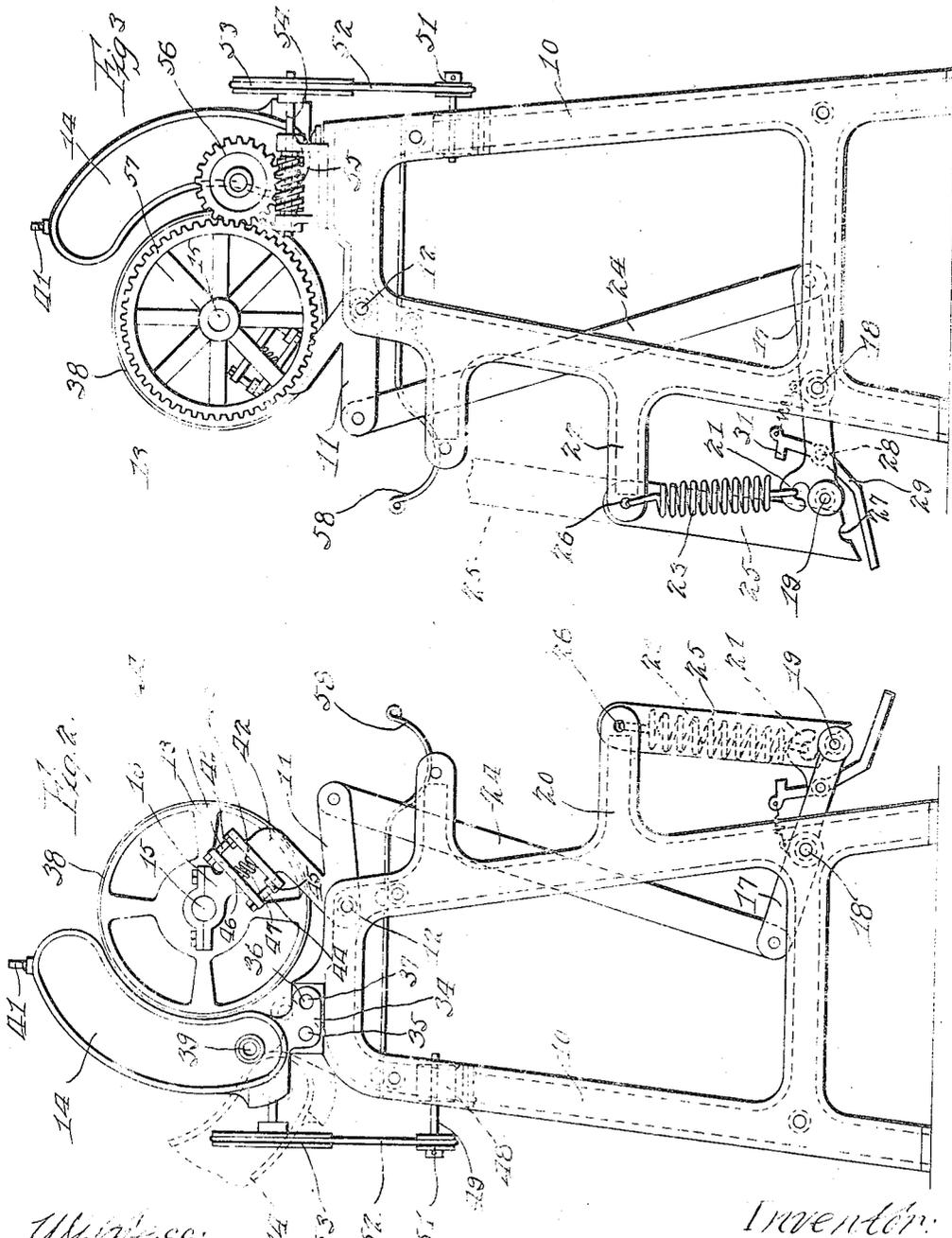
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Inventor:
A. R. Gustafson
by Robt. Kliff
Att'y

UNITED STATES PATENT OFFICE.

AXEL R. GUSTAFSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO ANNE C. GUSTAFSON, OF CHICAGO, ILLINOIS.

MANGLE.

Application filed November 26, 1919. Serial No. 340,711.

To all whom it may concern:

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

My invention relates to mangles, and is in the nature of an improvement on the mangle described in my co-pending application Serial No. 317,424, filed August 14, 1919. By the apparatus therein disclosed the pressure with which the clothes are ironed is controlled by the degree of force by which the operator holds down the foot rail, and when the foot is removed from that rail the ironing roll is drawn away from its co-operating ironing elements—in that case the two back rolls. The continuous pressure of the foot upon the foot rail becomes tiresome and, for the relief of the operator, should be avoided, when for example, a large batch of clothes of approximately the same thickness is being ironed. The primary object of this invention is to provide improved means for so relieving the operator while enabling him, at will, to resume the foot controlled pressure of the ironing roll against its cooperating element. Another object lies in the provision of improved bearing supports for the ironing roll.

Other objects and advantages of my invention will appear from the following description, taken in conjunction with the accompanying drawings which form a part of this specification and illustrate the preferred embodiment of the invention.

In the drawings:—

Fig. 1 is a front elevation of a mangle constructed in accordance with the purpose of the present invention.

Fig. 2 is a left end elevation thereof.

Fig. 3 is a right end elevation thereof.

Fig. 4 is a fragmentary detail illustrating a position of parts to be described.

Reference numeral 10 indicates generally the main frame of the invention, in the upper portion of which are oppositely pivoted a pair of bell cranks 11 which swing about their axes 12 to bring the ironing roll 13 against and away from a heated ironing buck 14. The ironing roll 13 is journaled as at 15 in a pair of bearings generally indicated at 16, these bearings

being mounted on the bell cranks 11 by means to be described. Near the bottom of frame 10 and at each side thereof is mounted a foot lever 17, each foot lever being pivoted in the frame on a common axes 18. The forward ends of these foot levers are connected by a horizontal foot bar 19 and the right hand lever at its forward end carries, upon its upper side, a hook 21. Projecting forwardly from the frame 10 above hook 21 is a rigid arm 22, and a strong helical spring 23 is tensed between hook 21 and arm 22 just above. The rear end of each foot lever 17 is pivotally connected to the forwardly extending arm of that bell crank 11 above it by means of a stiff link 24, so that the movements of the foot levers 17, accomplished by pressure of the operator's foot upon the foot bar 19, are conveyed to the ironing roll 13 to move it about pivot 12 against the ironing buck 14, as seen in Fig. 2. Conversely, the removal of the operator's foot from the foot bar, as described in the above mentioned co-pending application, releases the ironing roll to the action of spring 23 whereby the roll is withdrawn from the ironing buck to the position illustrated in Fig. 3.

I provide means for holding the ironing roll against the ironing buck, as illustrated in Fig. 2, without the necessity of having the operator exert continuous downward pressure upon the foot bar 19. To this end I provide a strut 25 pivoted at its upper end to the forward extremity of an arm 20, similar to arm 22, as at 26. The lower extremity of the strut is mutilated as at 27 to receive and hold itself upon the foot bar 19 when the latter is depressed—see Figs. 2 and 4. This mutilation is such, however, that the lower end of the strut may be readily pushed forwardly from its engagement with the foot bar, in order to release that bar and the ironing roll associated mechanism to the action of spring 23. As a means of readily pushing the strut off of the depressed foot bar, I provide one of the foot levers 17 with a stub shaft 28 upon which is pivoted a release lever 29 the upper bifurcated end 31 of which may be forced forwardly against the rear edge of the strut, as seen in Fig. 4, by foot pressure applied to the lower end 32 of the release lever. Continuous pressure of the release lever removes the lower end of the strut from the

foot bar and permits the foot bar to rise to the position shown in Fig. 3. A spring 33 is provided and suitably arranged for holding the upper end of the release lever out of contact with the strut.

At its right and left hand ends, the ironing buck 14 is provided with a downwardly projecting supporting arm 34 which, at each side of the machine, is pivoted as at 35 to frame 10, the frame and arm being provided with registering holes 36 for insertion of a pin 37 which, at each side of the machine, holds the ironing buck 14 in the elevated position shown in full lines in Figs. 1, 2 and 3. The pins 37 may be withdrawn and the ironing buck 14 thrown rearwardly about pivot 35 as illustrated in dotted lines in Fig. 2. With the ironing buck thus thrown back, the ironing roll is unobstructed and may be readily provided with a new covering of padding 38. Inasmuch as the ironing buck is heated by gas entering through a pipe 39, and is normally too hot to touch, I provide on its upper edge a handle 41 by which it may be swung about its pivot 35.

The bearings 16 are mounted in a novel way by means which, it is believed, are much cheaper to manufacture and easier to assemble and operate than means heretofore provided. Upon the upper arm 42 of each bell crank 11 is cast a supporting plate 43 from which projects upwardly and rearwardly parallel guide bolts 44 screw threaded into the plate 43 and provided with lock nuts 45 by means of which they are held rigidly in the plate. Guided upon the bolts 44 is the casting 16 forming the main portion of the bearing and terminating at its lower forward end in a plate 46. A strong helical spring 47 is interposed between the plates 43 and 46 and thus yieldingly holds the ironing roll 13 against the buck 14 while the ironing operation is proceeding. Obviously, the bolts 44 may be adjusted upon the bell crank in order to vary the pressure of the springs 47.

By means of any suitable form of motor 48 the ironing roll is rotated through the motor shaft 49, the pulley 51, a belt 52, a pulley 53, a shaft 54, a worm 55, a worm wheel 56, and gearing connecting the wheel 56 with a gear wheel 57 concentrically fixed on the ironing roll shaft 15.

In the operation of the invention, the ironing buck is pinned into the upright posi-

tion shown in Figs. 1, 2 and 3, and is heated by gas entering through pipe 39. The motor 48 is now started causing roll 13 to rotate. By pressure of his foot on bar 19 the operator swings the ironing roll against the ironing buck 14. The strut 25, upon depression of bar 19, interposes itself by gravity between the foot bar and arm 20 to hold the roll 13 against the ironing buck, thus eliminating the necessity of continued foot pressure upon bar 19. Clothes to be ironed are now fed between the ironing roll and the buck 14 and fall onto a table 58 secured in the frame. The strut 25 is employed when a large batch of clothes of similar thickness is to be ironed. At other times it may be swung up into the inoperative position shown by dotted lines in Fig. 3 and the mangle operated continuously by foot pressure.

While I have illustrated and described the preferred embodiment of my invention, it is obvious that one skilled in the art may make modifications thereof without departing from the spirit of the invention. I wish, therefore, not to be restricted to the precise embodiment shown except in so far as the same is limited in the appended claims.

I claim:

1. In a mangle, the combination with a suitable frame, of an ironing buck, supporting arms projecting therefrom and pivoted to the frame on a common axis, each of said arms and the adjacent portions of the frame being formed with registering holes, a pin removably fitting each such set of holes, and an ironing roll mounted in the frame for limited movement to and from said buck.
2. In a mangle, the combination of a frame, a pair of bell cranks pivoted thereon, an ironing roll carried by said bell cranks, operating levers mounted on said frame, links connecting said levers with said bell cranks respectively, a spring adapted to urge said roll in one direction, a locking member adapted to lock said roll against movement by said spring, a releasing device pivoted on one of said levers, and a spring normally holding said releasing device in inoperative position, said device being adapted to be foot-actuated to release said locking member so as to permit said spring to move said roll.

In testimony whereof I have affixed my signature.

AXEL R. GUSTAFSON.