SAFETY DEVICE FOR IRONING MACHINES

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This invention relates to ironing machines and more particularly to a safety device for machines of this character.

In ironing machines of the type in which a rotating feeding element or roller cooperates with an ironing element or shoe to feed the material therebetween there is danger that the hands or fingers of the operator may be fed between the feeding element and the ironing element thereby seriously injuring and crushing these members.

The object of this invention is to safeguard the operator of an ironing machine by preventing the feeding of the operator's fingers or hands between the elements of the machine.

Another object of the invention is to provide means accessible from the front of the machine for starting or stopping the machine motor.

Further objects of the invention will appear from the following specification taken in connection with the drawings, in which,

Fig. 1 is an end elevation partly in section of an ironing machine having a safety device constructed in accordance with my invention.

Fig. 2 is a front elevation of the safety device shown in Fig. 1, and Fig. 3 is a sectional view taken substantially on line 3—3 of Fig. 2.

Briefly stated the objects of the invention are attained in the embodiment illustrated by providing a member such as a rod or bar positioned above the feed roller and between the table and the ironing element, these members being connected to a switch for controlling the driving motor. The safety device in this instance, therefore, is designed to cut off the power from the feed roller before the hands or fingers of the operator can reach the ironing element or shoe. The device is also operable to stop the motor after it has been started.

The ironing element illustrated comprises a frame 20 upon which is supported in any suitable manner, a table 21, a motor 22, a feed roller 23 and an ironing element or shoe 24. Guiding means 25 is provided for supporting and guiding material back to the front of the machine after it leaves the feed roller and ironing element. Any suitable driving connections between the motor and the feed roller may be utilized and in the embodiment of the invention illustrated these connections comprise a worm 26 carried by the motor shaft and meshing with a worm gear 27 carried by shaft 28, the latter shaft being splined to a shaft 29. The shaft 29 is connected through a worm 30 and worm gear 31 to the roller shaft 32.

The safety device comprises a rod or bar 33 which extends throughout the length of the roller 23 and is secured at its ends to arms 34 carried by a shaft 35 mounted in the frame members 20. A stop 36 is carried by each of the frame members and limits the backward movement of the arms 34. The shaft 35 has secured thereto an arm 37, the lower end of which is slotted as shown at 38. A snap switch 39 is secured to one of the frame members and is connected by wires 40 and 41 to the motor 22. A button or pin 42 is carried by the switch 39 and extends into the slotted portion 38 of the arm 37. Any suitable construction of switch may be used and in the embodiment shown the full line position of the button indicates the closed position of the switch. When, however, the button is moved to the dotted line position upon the raising of the bar 33, the switch will be opened and the motor will be stopped.

From the position of the rod 33 in close proximity to the surface of the feed roller and between the table 21 and the shoe 24, it will be evident that the fingers of an operator would engage and raise this rod before they could pass between the feed roller and the ironing shoe. The safety device, therefore, effectively prevents the feeding of the operator's fingers into the machine.

The rod 33 or arms 34 may be actuated, of course, to start or stop the motor at any time the operator desires and these parts therefore serve the purpose of control means as well as a safety device.

Although one specific embodiment of the invention has been illustrated and described, it will be understood that the invention is capable of modification and that changes in the construction and in the arrangement of the cooperating parts may be made without departing from the spirit or scope of the invention as expressed in the following claims.
What I claim is:

1. In an ironing machine, a feeding element, an ironing element, driving means for said feeding element, a safety device positioned in advance of the ironing element and adapted to be engaged and actuated by the fingers of the operator as they rest on and are fed by the feeding element toward the ironing element and control connections between said safety device and said driving means, said control connections including an electric switch and positive operative connections between the safety device and switch whereby movement of the device away from the ironing element will open the switch and movement of the device toward the ironing element will close the switch.

2. In an ironing machine, a feed roller, a shoe, a rod above said roller located in advance of the shoe, a motor operatively connected to drive said feed roll and means including a switch and operative connections between the switch and the rod whereby movement of the rod away from the roller will open the switch and movement of the rod toward the roller will close the switch.

In witness whereof, I have hereunto set my hand this 10th day of June, 1921.

ROBERT J. MOMPERE.