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FEED APRON FOR MANGLES.

(Application filed Feb. 15, 1901.)

(No Model.)

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FEED-APRON FOR MANGLES.

SPECIFICATION forming part of Letters Patent No. 689,794, dated December 24, 1901.

Application filed February 15, 1901. Serial No. 47,471. (No model.)

To all whom it may concern:

Be it known that I, ALLEN CONKLING, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Feed-Aprons for Mangles, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to an apron-feed mechanism; and it has for its primary object an arrangement of an apron-feed which is particularly adapted for use in connection with an ironing-machine for laundry purposes and for such a machine when the same is constructed in sections or embodies successive sets of ironing mechanisms, whereby the employment of a continuous apron for feeding material to be operated upon from one set to another of the ironing mechanisms of the machine is avoided.

In machines of the particular class above referred to it is customary to install in a laundry an ironing-machine comprising a minimum number of sets which will meet the demand of the business of the laundry and to subsequently add to the machine additional sets as the increased business demands. Now it is apparent that if a single feed-apron be employed for two or more sections the provision of an additional set or sets to the machine would necessitate the provision of a new feed-apron.

While the invention herein disclosed is adapted for use in connection with any ironing-machine comprising successive ironing mechanisms, it is primarily designed in its construction, arrangement, and details to be applied to an ironing-machine or mangle such as is disclosed in my Patent No. 624,180, of May 2, 1899, reference to which is made for the purpose of information of details not dependent upon or necessary to a clear understanding of the invention disclosed herein. Suffice it to say that the ironing-machine or mangle therein shown consists of one or more sets or sections of ironing mechanisms each comprising two principal elements, the one being a stationary steam-chest coacting with a clothed drum and the other element comprising a rotary steam or otherwise heated drum coacting with a rotary clothed drum,

these two elements being arranged in feeding relation with each other, so as to convey goods from one to the other coincidently with the process of ironing the same.

Referring to the drawings, Figure 1 is a substantially central longitudinal vertical section of the rear element of one set or section and the front element of an adjacent set or section of the elements of the machine of the character referred to. Fig. 2 is a perspective of a bracket and its adjuncts for adjusting and supporting a feed-apron roller, and Fig. 3 is a side elevation of said bracket.

Like letters of reference indicate like parts throughout the several figures of the drawings.

The letter A, Fig. 1, represents the rear portion of the framework of a set or section of ironing mechanisms such as above described, and B represents the front portion of a similar set or section. In other words, a set of "ironing mechanisms," as such terms are herein employed, comprises the following elements in the order now to be described. The first ironing elements of such a set—that is, those which in the use of the set first receive the goods to be operated upon—comprise a drum C, suitably supported upon a shaft C' and provided with a clothing or covering C² of suitable textile material, which drum is by suitable gearing adapted to rotate within a steam-chest D, terminating on its delivery side with a horn D' or any other suitable device for conducting goods from the chest to or into the bite of the other ironing element of the set or section, which comprises a steam or otherwise heated roller E and a clothed roll or drum F.

For the purpose of illustrating the applicability of the invention herein disclosed to the object in view, Fig. 1 of the drawings illustrates but one of the principal elements of each set or section; but this fact arises from the illustration of the last element only of one section and the first element of a succeeding section. It is therefore to be clearly understood that the element which first operates upon the goods is the steam chest and drum ironing mechanism and that the goods are conveyed from and by that element to the rotary ironing mechanism constituting the remaining elements of a set or section.

Now it will be seen that the addition of a section to an already-installed machine would involve the connection of the framework B to the framework A at its delivery end and in juxtaposition to the rotary ironing members therein mounted. It has been found by practical use of machines of this character which are intended for ironing unstarched goods of large proportion—such as sheets, blankets, table-cloths, towels, and the like—that such articles, especially those having fringed ends or edges, require carefully-operating feed and guiding devices to transfer the same from one section to another of the machine—that is to say, from the rotary ironing devices to the steam chest and drum—in such a manner that the fringed or other edges shall be positively directed to and against the drum in such manner as to be carried into and along the concave ironing-surface of the steam-chest. In order to provide a feed-apron for this purpose which can be applied in such manner as to serve or carry the goods from one set to another, and this without change in the form or construction of the framework of either set, and also to provide for a superabundance or surplus length of feed-apron, whereby a much greater portion thereof is exposed to the air, and consequently dried, than the portion which is doing the actual work of transferring goods, and thus to materially aid in extracting the moisture from the goods being ironed, I have devised attachments of such form, construction, and adaptation and to be so located as to secure the advantages just above mentioned—to wit, application to the framework of adjacent sets and exposure of surplus apron-surface for drying purposes—and this without altering the form of the framework of either set. By this means the enlargement of a capacity of a laundry for work upon this class of machines is rendered more economical and convenient in that the aprons on the sets previously used and brought into satisfactory working conditions are not disturbed while a new apron and the devices necessary for its operation are readily attached, and the goods are conveyed directly by the apron from one section to the other.

The frames A and B are jointed in any usual well-known mechanical manner along the line B'.

G represents a bracket, the upper end of which is slotted, as at G', so that by means of bolts G² the same may be secured upon the top of the frames A and B over their line of junction and in a manner to be movable along said frame. The bracket G has ways G³ for the support and guidance of a sliding bearing-block H, adapted to fit the ways, and is provided with an adjusting-bolt H', threaded in a boss H², projecting from the face of the bracket. Within the bearing-block H is mounted a roller I, over which the feed-apron J passes. Now it will be seen that the roller I may be adjusted toward and from the drum

C and up and down with relation to said drum, so that the delivery-point of the apron may be adjusted so as to convey goods to a desired point on the drum-surface and at any distance above the entrance between the surfaces of the steam-chest and of the drum desired. This is quite important in ironing unstarched goods of the character specified.

It is of course understood that the invention herein disclosed is not restricted to any particular character of goods operated upon by the mechanism shown and described.

Upon the frame B there are mounted bearing-blocks K by means of bolts K' for the support of a roller L, the purpose of which is to deflect the apron J away from the upper edge of the steam-chest D and from the drum C. Upon the same frame there are mounted brackets M, secured to the frame by bolts M'. It is understood, of course, that all of the brackets and bearings above mentioned are duplicated, one being upon each side of the machine, and that the rollers mounted therein extend from side to side of the machine, as does the apron J. It is also understood that instead of a transversely-continuous apron a tape or series of tapes of suitable width may be employed. The bracket M supports a sliding bearing-block N for the shaft of a roller O, said bearing-block being adjustable vertically in the bracket by means of the bolt N'. Now it is apparent that the apron J passes over the clothed drum F, over the longitudinally and vertically adjustable roll I, over the deflecting-roll L, and around the roll O. The portion of the apron in contact with the goods is that which extends from the bite of the rollers E and F to the roller I, it being by far a lesser portion of the apron than that which is not in actual use through the operation of the machine, whereby the latter larger portion has ample time for the evaporation of moisture therefrom before it is brought into use. In this manner the apron is presented in a drier condition, and therefore better adapted to absorb moisture from the goods being operated upon and from the clothing F' of the roll F, than if it were shortened. The particular location of the excess of length of the apron is one adapted to the framework and the elements of the machine mounted therein and one which renders accessible the devices for regulating the tension of the apron—that is to say, the roll O and its bearings and adjusting-bolts.

From the above it is apparent that all the parts required to add to the capacity of a machine comprising one or more sections is an additional section of ironing elements, to wit: steam-drum and rotary ironing mechanisms mounted in their own framework and the three brackets and an apron, as hereinbefore described. These are located at such points as to be readily attached and regulated when in use.

I have shown one form of devices for applying an apron to an added section of iron-

ing mechanisms in a machine of the class described; but it is apparent that mechanical skill will suggest various changes in detail, and I therefore do not limit my invention in this regard. For example, the bracket M may be attached to the frame A instead of the frame B or it may extend from one frame to the other and be secured by bolts M' to the frames A and B, thereby giving greater rigidity to the bracket and serving as a tie or connection between the two frames.

Having described my invention, what I claim is—

1. In a machine of the character described, the combination with the final ironing mechanism of one section and with the primary ironing mechanisms of an adjacent section, of an apron passing about the clothed roller of the final elements of one section, an attachable bracket horizontally adjustable upon the frame and carrying a roller for the apron vertically adjustable in said bracket, and an attachable bracket carrying an apron-tension-controlling roller located below the final elements of the first set; substantially as specified.

2. The combination with final and primary ironing mechanisms, such as described, of a feed-apron, and horizontally adjustably mounted brackets opposite the primary mechanism provided with a vertically-adjustable support and guide over which said apron passes; substantially as specified.

3. The combination with final and primary ironing mechanisms, such as described, of a feed-apron, horizontally adjustably mounted

brackets provided with vertically-adjustable bearings, said brackets being mounted opposite the face of a rotating member, of a succeeding section of ironing mechanism and a roller pivoted in said bearings; substantially as specified.

4. The combination with final and primary ironing mechanisms, such as described, of a feed-apron, brackets secured upon the framework of said mechanisms and provided with horizontal adjusting means, a vertically-adjustable roller mounted in said brackets, a deflecting-roller detachably mounted upon said framework, brackets mounted upon one of the frames and projecting into the vertical plane of the final ironing elements, and a tension-roller mounted in said brackets; substantially as specified.

5. The combination with the final ironing mechanism of a set and the primary ironing elements of an adjacent set, of a feed-apron, means for adjusting said apron in a horizontal plane toward and from the periphery of a rotating member of the primary elements, and means for independently adjusting said apron in a single vertical plane at a right angle to said horizontal plane and opposite the periphery of said rotating member; substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ALLEN CONKLING.

Witnesses:

E. B. STOCKING,
WM. D. SHOEMAKER.