No. 869,572. PATENTED OCT. 29, 1907.

J. H. HUNT.

COVERING FOR MANGLE ROLLS.

APPLICATION FILED AUG. 4, 1906.

Fig. 1.

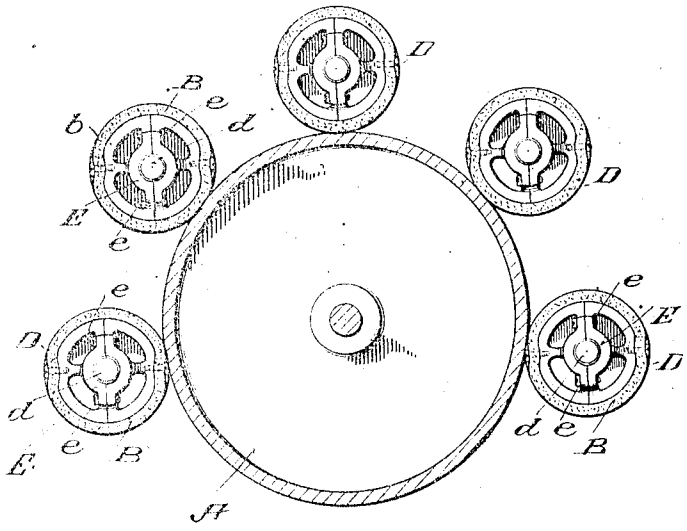


Fig. 2.

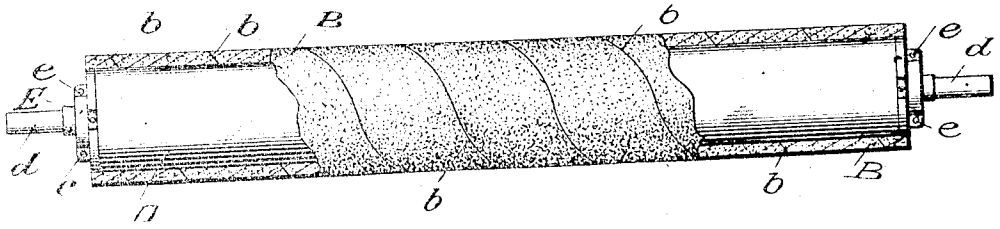
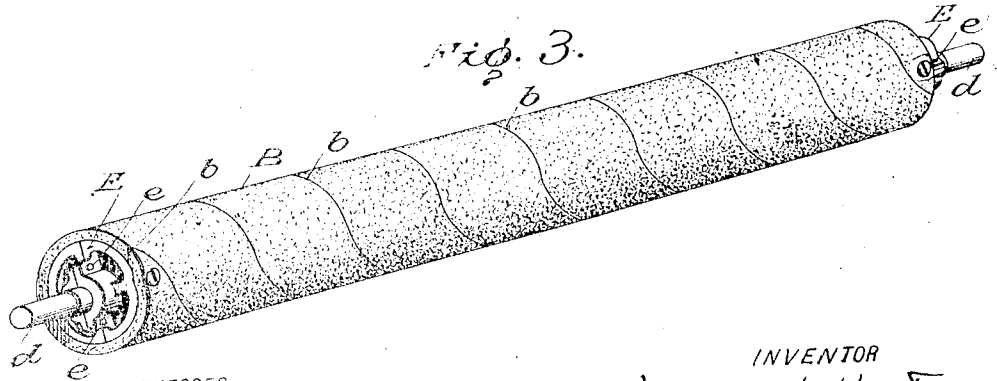


Fig. 3.



WITNESSES:

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COVERING FOR MANGLE-ROLLS.

No. 869,572. Specification of Letters Patent. Patented Oct. 29, 1907.

Application filed August 4, 1906. Serial No. 329,256.

To all whom it may concern:

Be it known that I, JAMES H. HUNT, of Greenwich, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Coverings for Mangle-Rolls, of which the following is a specification.

This invention relates to certain new and useful improvements in coverings for mangle rolls, and the object of my invention is to provide a new and elastic covering which is exceedingly durable and is so held on the mangle roll as to maintain a uniform cushioning effect to insure good work as long as the covering is in use on the roll, and at the same time to permit of the adjustment of the tension of said covering whereby the desired cushioning effect may be produced.

The covering for mangle rolls as now generally used in large factories for the manufacture of shirts, collars, cuffs, and the like, has to be renewed about five times a year on account of the hardening of the fibers and the consequent loss of the cushioning effect so necessary to turn out good work. In addition to this hardening effect, since the coverings of the mangle rolls are in peripheral contact with a highly heated revoluble cylinder, the intense heat, together with the pressure to which the fibers of the covering are subjected, scorches the fibers of the covering and at the same time renders them hard and stiff so that the rolls become gradually less efficient, and finally the renewal of the covering becomes necessary at considerable expense and loss of time incident to the stopping of the mangle. I overcome these difficulties by employing a fire-proofed felt covering which is of such a nature as to resist scorching and at the same time preserve its cushioning effect, notwithstanding the high heat and great pressure, and by winding the covering spirally in such a way that its tension may be adjusted to provide the proper cushion. The fire-proofing of the felt may be done by any method of fire-proofing, but I prefer to treat the fibers before the formation of the felt with a solution of silicate of soda, tungstate of soda, and water, and also to again treat the felted material with the same solution during the last step of the felting process. Other solutions may be employed with good effect, and I am not herein claiming the method of fire-proofing, as I am aware that such fire-proofing processes are old *per se*, but I believe it is new to have a mangle roll covering of felt which is fire proofed, irrespective of how this fire proofing is accomplished, whether by chemicals or otherwise. After the material is felted and is fire-proofed, it is cut in somewhat narrow widths with beveled edges and these strips are then wound upon the rollers spirally. At each end of the roller I provide a sleeve or collar to which the ends of the spirally wound strip are connected. These sleeves or collars are arranged so that they may be freely rotated with respect to the roller but are provided with clamping screws permitting their position to be changed with respect to the axle or journals of the rollers in order that the proper tension may be given to the covering so that the proper cushion may be produced. I also deem it advisable that the coverings not only have their edges beveled so that the one lightly overlaps the other, but it is also desirable to crowd the covering onto the roll, and this is very well effected by means of the sleeves or collars aforesaid.

My invention therefore consists in the mangle roll covering hereinafter more particularly described in its preferable embodiment and then definitely set forth by the claims at the end hereof.

In the accompanying drawings which represent the preferable embodiment of my invention: Figure 1 is a sectional view of part of a laundry machine having various rollers showing the application of my invention. Fig. 2 is a side elevation, partly in section, and Fig. 3 is a perspective view of a roller covered in accordance with my invention.

Referring now to the aforesaid drawings by reference letters: In Fig. 1 of my drawings is shown a machine, commonly known as a "mangle" in which the steam heated cylinder A is surrounded by a plurality of mangle rolls D, these last mentioned rolls being covered, where they come into peripheral contact with the aforesaid steam heated cylinder A, by means of a felted fabric B. This felted fabric is fire-proofed by any desirable means, but preferably by means of a solution consisting of ten percent of silicate of soda, five percent of tungstate of soda, and eighty-five percent of water. After this covering is fire-proofed, it is cut in a continuous strip of suitable width with the side edges beveled as indicated at *b*. This strip, with its beveled edges is then wound upon the cylinder or mangle roll D, and to each end of this strip is secured one of the collars designated by the letter E, these collars being capable of free rotation upon the shafts *d* of the mangle rolls D and yet are capable of being secured thereto by means of clamping screws *e*. These collars may be used to tighten the spiral winding to any desired extent, and then the clamping screws *e* are employed to clamp the collars E to the shafts of the rolls. This provides a covering of felted fire-proofed fabric which is held upon the roller at the proper tension and this covering will be found exceedingly efficient and of lasting quality—the fire-proofing preventing scorching and hardening and the thick felt—which is preferably from seven to nine sixteenths of an inch in thickness— providing a cushion which, because of the spiral winding and adjusting collars, may be changed as desired.

I am well aware that it is old to fire-proof various materials; and I am also aware that it is old to wrap rollers with spirally wound material. Nevertheless I believe I am the first to employ a fire-proofed felt covering for a mangle roll and also that I am the first to

wrap said covering spirally upon a roll and to provide means for adjusting its tension in order that the proper cushion may be maintained.

What I claim as new is:

1. In a machine of the character described, a roll having a covering of fire-proofed felt, said covering being spirally wound upon said roll, and means for holding the same thereon, said spiral winding comprising one layer of sufficient thickness to form the desired cushion, substantially as described.

2. In a machine of the character described, a roll having a covering of fire-proofed felt, said covering being spirally wound upon said roll, means revolubly supported with relation to the roll and its spiral winding and arranged to be adjusted with relation thereto to change the tension of the covering, said means also being arranged to be held with relation to the roll and covering so as to hold the latter at the tension desired, substantially as described.

3. In a machine of the character described, a roll having a covering spirally wound thereon, combined with means supported with relation to the roll and its spiral winding to freely rotate whereby the covering may be adjusted to provide the proper tension and cushion, and said freely rotatable means being also arranged to be held with relation to the roll and its covering so that the latter may be maintained under the proper tension, substantially as described.

4. In a machine of the character described, a roll having a covering spirally wound thereon, said covering having its edges beveled whereby one edge slightly overlaps the other, combined with means supported with relation to the roll and its spiral covering to freely rotate whereby said covering may be adjusted to provide the proper tension and cushion, and said means being also arranged to be held with relation to said roll and its spiral covering as to maintain the latter under the proper tension and cushion, substantially as described.

5. In a machine of the character described, a roll having a covering spirally wound thereon, combined with a collar freely rotatable with respect to said roll and its spiral covering whereby said covering may be adjusted to provide the proper tension and cushion, and said collar having means for holding it fixed with relation to the roll and covering whereby the spiral covering may be maintained under the proper tension and cushion, substantially as described.

6. In a machine of the character described, a roll having a covering spirally wound thereon, said covering having its edges beveled whereby one edge slightly overlaps the other, and means for maintaining the said spiral covering under the proper tension and cushion, said means comprising a collar freely rotatable with respect to the roll and winding and a device for holding said collar in fixed relation to the said roll and its covering thus maintaining the proper tension and cushion, substantially as described.

Signed by me at Glenville, Conn., this 3rd day of August 1906.

JAMES H. HUNT.

Witnesses:
CHARLES DOBBROW,
FREDERICK GILL.