S. E. WHITTEMORE & W. A. GREEN.

TOP-ROLLS FOR SPINNING MACHINERY.

No. 192,315. Patented June 19, 1877.

Fig: 1.

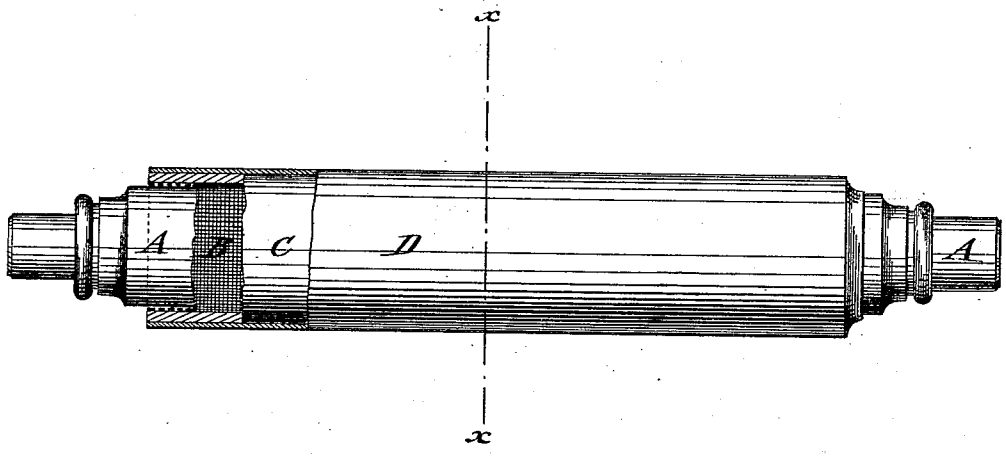
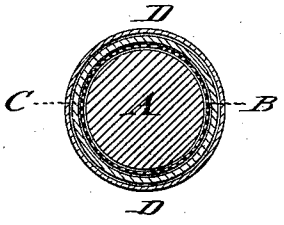


Fig: 2.



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SAMUEL E. WHITTEMORE AND WILLIAM A. GREEN, OF BRISTOL, R. I.

IMPROVEMENT IN TOP-ROLLS FOR SPINNING MACHINERY.

Specification forming part of Letters Patent No. **192,315**, dated June 19, 1877; application filed March 19, 1877.

To all whom it may concern:

Be it known that we, SAMUEL E. WHITTEMORE and WILLIAM A. GREEN, both of Bristol, in the county of Bristol and State of Rhode Island, have invented certain new and useful Improvements in Top-Rolls for Spinning-Machinery; and we do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part of the same, is a clear, true, and complete description thereof.

As heretofore constructed, top-rolls have been provided between the working surface and the roll with a layer or layers of elastic material, whereby a desirable contact between the outer cover and the bottom roll may be attained, and various cements and glues have been heretofore employed for securing unity of the cover with the roll. This latter feature is one of great importance, for if the cover slips on the roll the "drawing" will be uneven, and the yarns practically worthless.

Our invention consists in a top-roll having beneath the outer cover of leather or other suitable material a foundation composed of textile fabric interposed between two layers of vulcanizable rubber compound, which are united to each other and to the roll by vulcanization.

In the drawings the roll is shown at A, the textile fabric at B, the cushion layer of rubber at C, and the usual outer cover at D.

The layer of rubber which lies beneath the fabric B is quite thin, is applied to the fabric in the sheet prior to vulcanization, and the fabric is also treated with gum in solution, all in a manner well known to rubber-workers. The layer of vulcanizable rubber C is then applied, secured in the usual manner, and the whole vulcanized, whereby the several layers are firmly united to each other, and secured thoroughly to the roll. The outer cover D, usually of leather, is then applied without gum or other adhesive matter between it and the rubber, although the usual cement is employed for uniting the edges of the leather in forming a joint or seam. The frictional contact of the rubber surface with the under surface of the leather serves to prevent the latter from slipping.

We are aware that it is not new to apply a layer of rubber beneath the outer covering of top-rolls; but, so far as our knowledge extends, such rubber layers have never been connected to an intermediate fabric, a layer of rubber, and thence to the roll by being vulcanized thereon. It will be seen that the elastic foundation is strengthened by the intermediate fabric, and so thoroughly attached to the roll as to preclude the possibility of its being loosened therefrom, and that the pressure of fluted bottom rolls on the outer covering is not so liable to score the cover as when it is united by cement or glue to the foundation, because, in our rolls, the elastic layer is free to adjust itself after receiving pressure, and we consider it important that the leather and rubber be not united.

Our rolls are more durable than any we are cognizant of, perform excellent service, and can be covered at low cost, and, as we believe from long and severe tests, great practical economy is attained by reason of our invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

A top-roll provided with a suitable outer covering and a foundation composed of textile fabric interposed between two layers of vulcanizable india-rubber, united to each other and to the roll by vulcanization, substantially as described.

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Witnesses:
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