E. H. WILSON AND W. C. EHRENFELD.

SPINNING ROLL FOR SPINNING MILLS.

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Fig. 1.

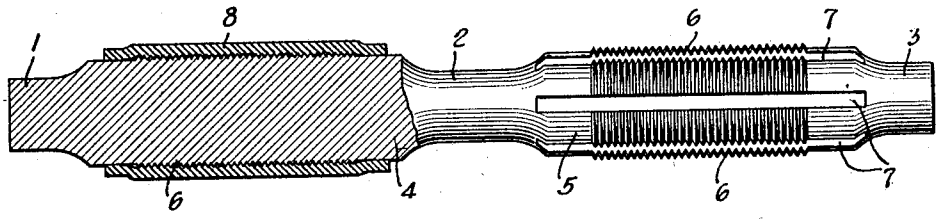
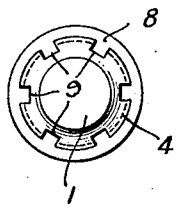


Fig. 2.



WITNESSES

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SPINNING ROLL FOR SPINNING MILLS.

1,408,327. Specification of Letters Patent. Patented Feb. 28, 1922.

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To all whom it may concern:

Be it known that we, EDGAR H. WILSON and WILLIAM C. EHRENFELD, citizens of the United States, and residents of Flemington, in the county of Hunterdon and State of New Jersey, have invented a new and Improved Spinning Roll for Spinning Mills, of which the following is a full, clear, and exact description.

This invention relates to a new and improved form of roller for use in spinning mills. An object of the invention resides in the provision of means whereby rollers in spinning mills, especially those used for drawing the thread, can be very simply and easily repaired and replaced in the mill without requiring that they be sent back to the manufacturer.

Another object resides in the provision of means whereby a new wearing surface for the above-mentioned rolls can be simply and efficiently applied to the rolls whenever the surface in use commences to wear.

A further object resides in the provision of the particular construction and arrangement of parts whereby the above-mentioned objects may be effected with a minimum expenditure of time and labor.

In the use of spinning rolls in textile mills and similar places, heretofore the rolls which are used for drawing or spinning the thread have been coated with a thin layer of leather, the adjacent ends of which are glued together. These edges, due to the wear and tear of use, gradually become loosened or torn. These rough surfaces thereafter become detrimental to the spinning action and very frequently cause the breaking of the thread passing between the rolls. Whenever the wearing surfaces of leather, or other similar material, above mentioned, commences to wear it becomes necessary to replace these worn surfaces. Because of the extreme difficulty of placing the leather covering on these rolls, and because of the usual lack of facilities for gluing it on, it was necessary to send these rollers back to the manufacturer in order to be repaired. This required that the mills have large stocks of these rolls on hand so they would always have enough to use while others were being sent back to be repaired. Furthermore, the time involved in repairing them and the expense amounted to a considerable item in the cost of the operation.

Our invention, in general, comprises a removable sleeve which can be placed on and removed from the roll very readily by any workman without requiring more than the average degree of skill and which sleeve has the proper characteristics of a wearing and drawing surface in place of the leather covering above mentioned.

The invention is illustrated in the drawings, of which—

Figure 1 is a side elevation, partly in section, of the roll, one end of which is shown with the sleeve attached and the other end shown with the sleeve not attached; and

Figure 2 is an end elevation of the roll.

The preferred embodiment of our invention as shown in the drawing is applied preferably to a spinning roll or cot used in textile and spinning mills. These cots are used to draw the thread down to any degree of fineness. They are usually covered with a covering of leather the ends of which are glued together and to the surface of the roll. As shown in the drawings, the roll is provided with three bearing surfaces, such as 1, 2 and 3, intermediate which are portions 4 and 5 of somewhat enlarged diameter and adapted to receive the drawing surfaces. These enlarged body portions 4 and 5 are serrated, as shown at 6, to form an efficient gripping surface. They are also provided with longitudinally extending spaced grooves such as 7. Over the body portions 4 and 5 we propose to place a sleeve such as 8. This sleeve is preferably made of a very high grade of rubber of the proper consistency and having the proper predetermined wearing qualties. This sleeve of rubber is provided with a plurality of longitudinally extending, inwardly projecting ribs, such as 9 shown in Fig. 2. These ribs are molded with the sleeve by any suitable process and are adapted to lie in and engage with the grooves 7 in the roll above mentioned. The combined gripping action between the ribs 9 and the grooves 7, and between the inner surfaces of the sleeve 8 and the serrated portion 6 provided with the sleeve 8, causes the sleeve to be held on the roll very firmly after once having been placed thereon. When this surface has been used for such a length of time as to cause it to commence to wear, it may be very readily removed merely by being pulled off the roll. To place a new sleeve on the roll, it merely requires to be slipped on with the ribs 9 sliding into engagement with the grooves 7.

In this way a mill operator can carry in stock a large number of these sleeves, instead of having to send the entire roll back to the factory to be repaired. This amounts to a very great saving in the time lost in operating and in the expense involved.

What we claim is:

1. A spinning roll, which comprises a cylindrical body portion having a plurality of substantially longitudinal and continuous grooves in its surface, an integral sleeve of resilient material adapted to be slipped on said body portion to cover the same, and a plurality of ribs extending along the inner surface of said sleeve to engage in the grooves in the body portion to insure the disposition of the sleeve thereon.

2. A spinning roll comprising a cylindrical body portion having a plurality of substantially longitudinal and continuous slots in its outer surface, a plurality of serrated teethlike projections on the surface of the body portion, an integral sleeve of resilient material disposed over the surface of the roll, and a plurality of ribs disposed along the inner surface of the sleeve to engage with the slots to hold the sleeve on the roll.

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