(No Model.)

J. E. FITZGERALD.

TOP ROLL FOR TWISTING MACHINES.

No. 485,266. Patented Nov. 1, 1892.

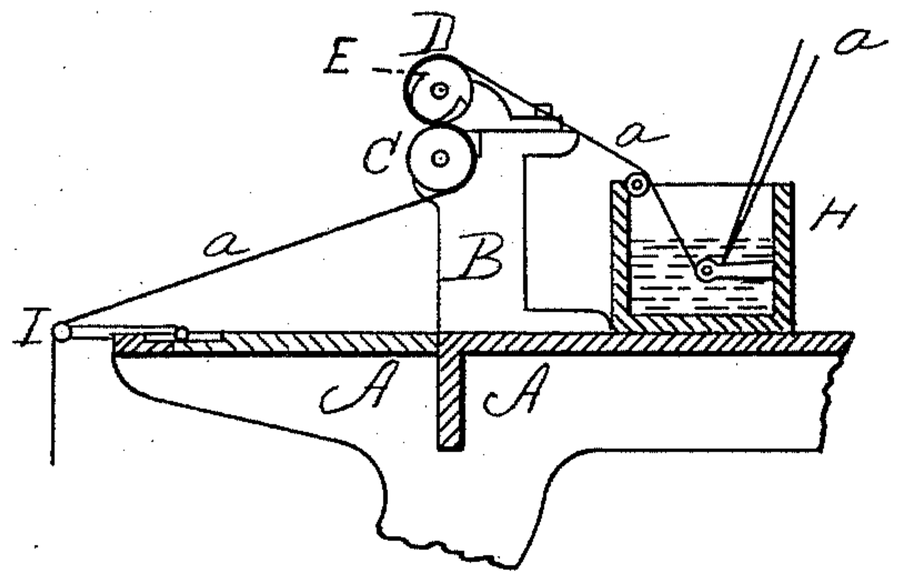

Fig. 1.

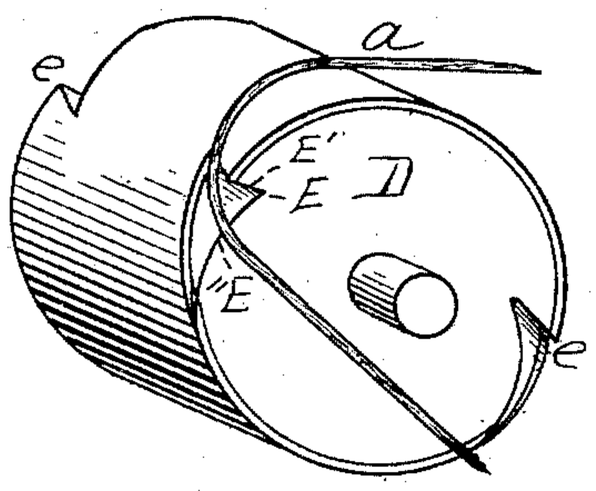

Fig. 2.

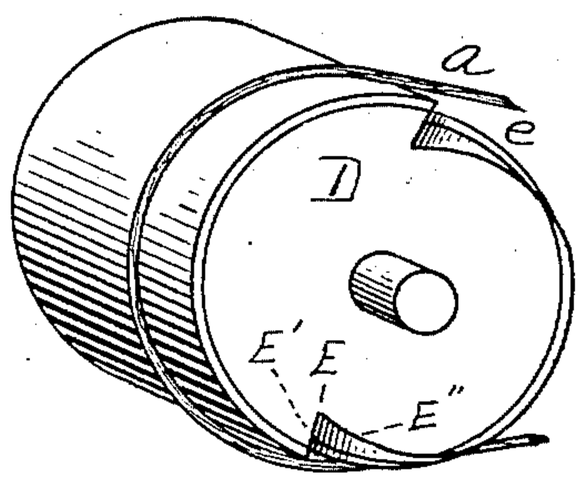

Fig. 3.

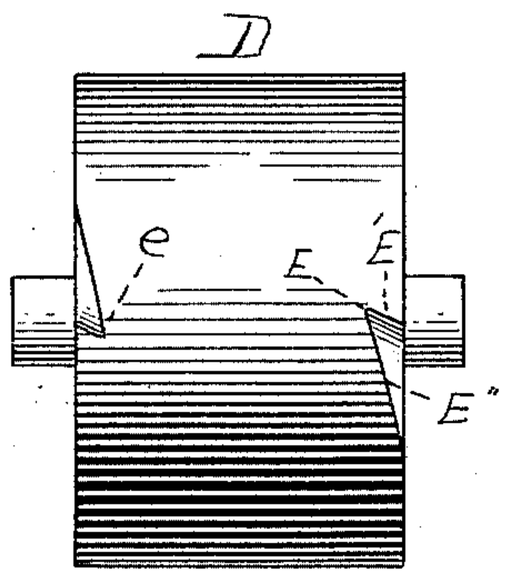

Fig. 4.

WITNESSES

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JAMES E. FITZGERALD, OF FALL RIVER, MASSACHUSETTS.

TOP ROLL FOR TWISTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 485,266, dated November 1, 1892.

Application filed March 22, 1892. Serial No. 425,952. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. FITZGERALD, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in Top Rolls for Twisting-Machines, of which the following is a specification.

This invention relates to top rolls of twisting-machines for twisting yarn, silk, cotton, or wool. It is quite common for a strand of yarn while passing over the top roll to slip over and off the edge thereof with the result that it becomes twisted too hard at that point, thus producing a serious imperfection. By means of my improvement the top roll is provided with certain notches, which catch the yarn instantly when it slips over the edge and guide it back to its position on the surface or periphery of the top roll.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a vertical section of a portion of a twisting-machine, showing in end elevation a top roll embodying my improvement. Fig. 2 is an enlarged perspective of a top roll, showing the operation of my invention as a strand is being restored to its position. Fig. 3 is a similar view with the yarn restored to its position on the roll. Fig. 4 is an elevation of my improved top roll.

A represents a portion of a frame of a twisting-machine, provided with the usual support B for the rolls C and D. It will be understood that the yarn or strands *a* pass from the creel through the trough H, over the top roll D, thence under the roll C, and through the guide or eye I to the flyer in the usual manner. The only portion of this device with which my invention has to do is the top roll. This top roll D is provided with one or more notches E, cut in one or both of the edges of the periphery—that is to say, the notches are cut in the corners formed by the periphery and ends. It will be noticed that the sides of these notches are not alike—*i. e.*, they are not at exactly opposite angles. On the contrary, one side E′ of the notch forms an acute angle with the surface in which it is cut, or, at least, an angle not greater than a right angle, while the other side E″ of the notch forms a very obtuse angle, so that there is a long and gradual approach to the side E′. This side E″ is always toward the direction in which the roll turns. Now if a strand *a* slips over the edge it is instantly guided by the side E″ of the notch to the acute side E′ thereof and is caught by it, as shown in Fig. 2, and restored to its position on the top roll by the continued rotation thereof, as shown in Fig. 3. It is advisable to have a notch on each edge of the periphery, so that on whichever side the thread works off there will be a notch to catch and replace it. Moreover, it is desirable to have a reverse notch *e* on each side, so that in case the roll D is removed and replaced in a reverse position the same provision is made for catching the strands.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A top roll for a twisting-machine, provided with one or more notches, as E, in the edge of its periphery, whereby a strand which has slipped over the edge will be engaged and restored to its position on the periphery by the rotation of the roll, substantially as set forth.

2. A top roll for a twisting-machine, provided with one or more notches, as E, in the edge of its periphery, each of said notches consisting of the abrupt side E′ and the gradually-inclined side E″, formed at an obtuse angle, as shown, whereby a strand which has slipped over the edge will be engaged and restored to its position on the periphery by the rotation of the roll, substantially as described.

JAMES E. FITZGERALD.

Witnesses:
MICHAEL J. GRIFFIN,
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