(No Model.)

J. RATCLIFFE, J. HILTON & E. MELLOR.

SPINNING MULE.

No. 476,308. Patented June 7, 1892.

Fig. 1.

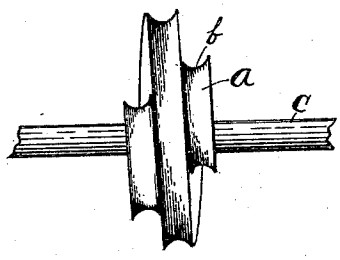

Fig. 2.

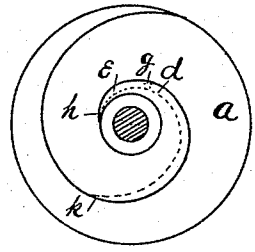

Fig. 3.

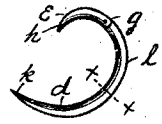

Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN RATCLIFFE, JOHN HILTON, AND EDWIN MELLOR, OF NEW BEDFORD, MASSACHUSETTS.

SPINNING-MULE.

SPECIFICATION forming part of Letters Patent No. 476,308, dated June 7, 1892.

Application filed December 17, 1891. Serial No. 415,406. (No model.)

To all whom it may concern:

Be it known that we, JOHN RATCLIFFE and JOHN HILTON, citizens of the United States, and EDWIN MELLOR, a subject of the Queen of Great Britain, and residents of New Bedford, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Spinning-Mules, of which the following is a specification.

Our invention relates to that class of spinning-mules in which a drawing-in scroll is used to draw the carriage into the beam. It is a well-known fact that when this class of mules are used in a mill and are situated some considerable distance from the power which drives the main shaft the rope band which draws in the carriage by means of the scroll becomes more or less slack just at the moment when the carriage reaches the beam, thus allowing the carriage to have a more or less sudden recoil, which recoil is sometimes great enough to cut or break down the yarn, whereas if the band on the drawing-in scroll was always taut there could be no recoil, and therefore no cutting of the yarn.

The object of our invention is to provide means whereby the slackness of the bands at such times may be prevented and the cutting of the yarn obviated.

To this end our invention consists in the device illustrated in the accompanying drawings, in which—

Figure 1 represents a front view of a drawing-in scroll as it appears when mounted on its driving-shaft. Fig. 2 represents a side view of the same, showing the position of our device on the scroll in dotted lines. Fig. 3 represents a side view of our improvement as it appears before being applied to the drawing-in scroll. Fig. 4 represents a cross-sectional view of our improvement through the dotted line *x x*.

Similar letters refer to similar parts throughout the several views.

a represents the drawing-in scroll mounted on its shaft *c*.

b represents the groove in the edge of the scroll.

d represents our improvement, preferably composed of metal, having its inner side rounded to fit the groove in the drawing-in scroll and its outer side *l* flat and provided with perforations at *h* and *k* for the reception of screws, (not shown,) by means of which it is secured to the drawing-in scroll.

The device may be made of metal soft enough to be bent to the shape of the scroll; but if made of harder metal it is constructed in two parts *d* and *e*, hinged together at *g*, in order that it may be adjusted to the scroll.

It will be observed that our improvement is to be applied to that part of the drawing-in scroll over which the rope band passes as the carriage is making the last portion of its journey toward the beam, thus obviating the evil effects of a slack band on mules situated farthest from the power which drives the main shaft by increasing the diameter of that part of the scroll to the extent of the thickness of the device *d*.

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

In combination with a spinning-mule having a drawing-in scroll, the device *d*, adapted to be secured to and lie in the groove of said drawing-in scroll, for the purpose described.

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