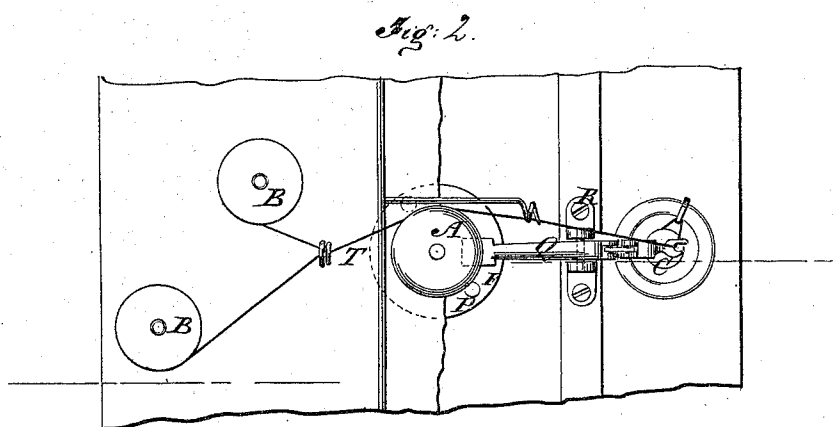
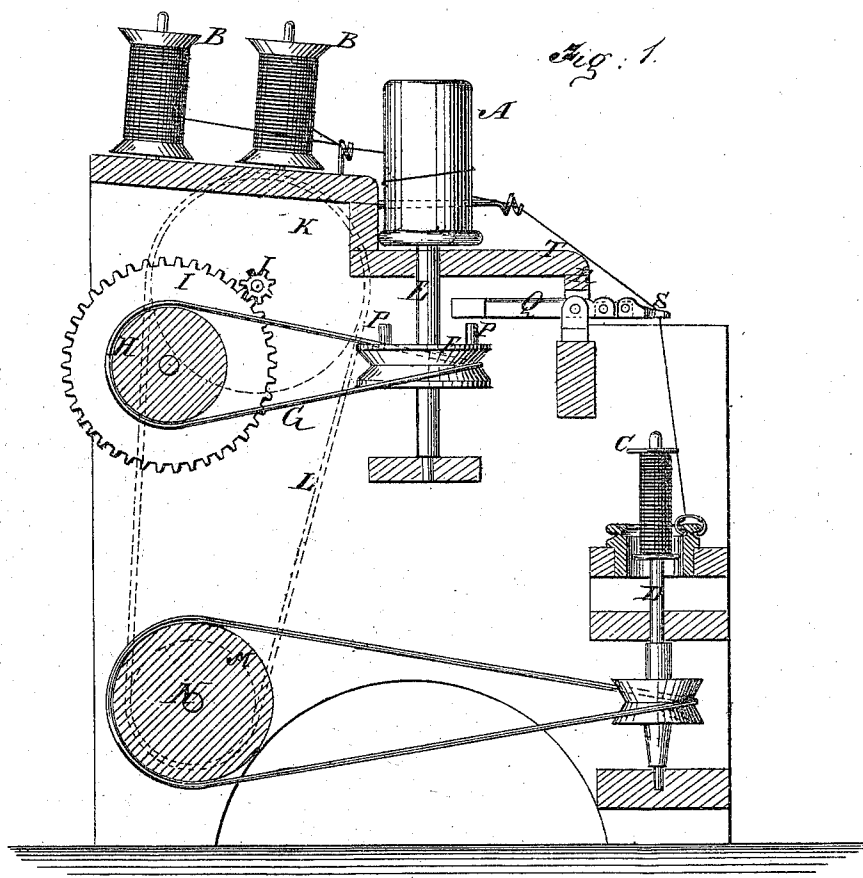


W. COCKCROFT & R. ACKROYD.
Stopping Mechanisms for Doubling and Twisting
Machines.

No. 142,374.

Patented September 2, 1873.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM COCKCROFT AND REUBEN ACKROYD, OF CHESTER, PA., ASSIGNORS
TO THEMSELVES AND JAMES MASSEY, OF SAME PLACE.

IMPROVEMENT IN STOPPING MECHANISMS FOR DOUBLING AND TWISTING MACHINES.

Specification forming part of Letters Patent No. **142,374**, dated September 2, 1873; application filed July 26, 1873.

To all whom it may concern:

Be it known that we, WILLIAM COCKCROFT and REUBEN ACKROYD, of Chester, in the county of Delaware and State of Pennsylvania, have invented a new and useful Improvement in Ring-Twisting Machine, of which the following is a specification:

Our invention consists of a stop-motion in connection with the feeding or delivering-roll of a twisting-machine, so contrived that if the threads or yarns break it will stop the delivery, and thus prevent the ends from going from one spindle to another.

In the drawing, Figure 1 is a transverse sectional elevation of the machine, and Fig. 2 a plan view of the same.

The principal object of our invention is to provide an improved stop-motion for twisting-machines adapted to take up the slack after a thread or yarn has broken and its ends been reunited. To this end we construct the machine as follows:

A is the delivery-roll around which the yarn passes to be drawn from the bobbins B and delivered to the bobbin C on the twisting-spindle D. E is the spindle of the roll A, and F the pulley, by which it is turned. On the upper side of the pulley F we have two or more studs, P, and on the front beam R of the frame we have a weighted lever, Q, to each spindle C, and roll A having a yarn-guide, S, in the outer end through which the yarn F passes, so that its tension will hold the inner weighted end of the lever up above the stud-pins so long as the yarn remains taut and unbroken, but when the yarn breaks the inner end of the lever will fall and stop the delivery-roll by engaging one of the stop-pins, and thus prevent the further

delivery of the yarn until it is mended. The rotary motion of the pulley F is derived from the transverse drum or shaft H through the medium of the belt G. A large spur-gear, I, on said drum H, meshes with a pinion, J, which is keyed on the same shaft as the large pulley K, whose speed determines that of the twisting-spindle D by means of the belts L and M passing around the drum N.

It is apparent that when the yarn breaks and the lever Q engages the pins on the pulley F, it cannot be kept disengaged therefrom until the spindle D has revolved sufficiently to take up the slack (which invariably occurs in such cases) and draw the yarn taut so as to hold the outer end of the lever.

To effect this result—i. e., take up the slack—all the parts must operate, save the spindle E and roll A, which are held locked by the lever Q. Hence we arrange the belt G to slip on pulley F, and, as the arrangement of gearing is such that the slip is very slight, the frictional resistance is practically of no account.

What we claim is—

The combination, with the twisting-spindle D and delivery-roll A, spindle E, pulley F provided with studs P on its upper side, and the pivoted weighted lever Q, of the pulley K, pinion J, gear I, drums H N, and belts G L, all constructed, arranged, and operating as shown and described, for the purpose specified.

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REUBEN ACKROYD. [L. S.]

Witnesses:

JOSEPH HOLT,
THOMAS S. HALL.