

1,047,124.

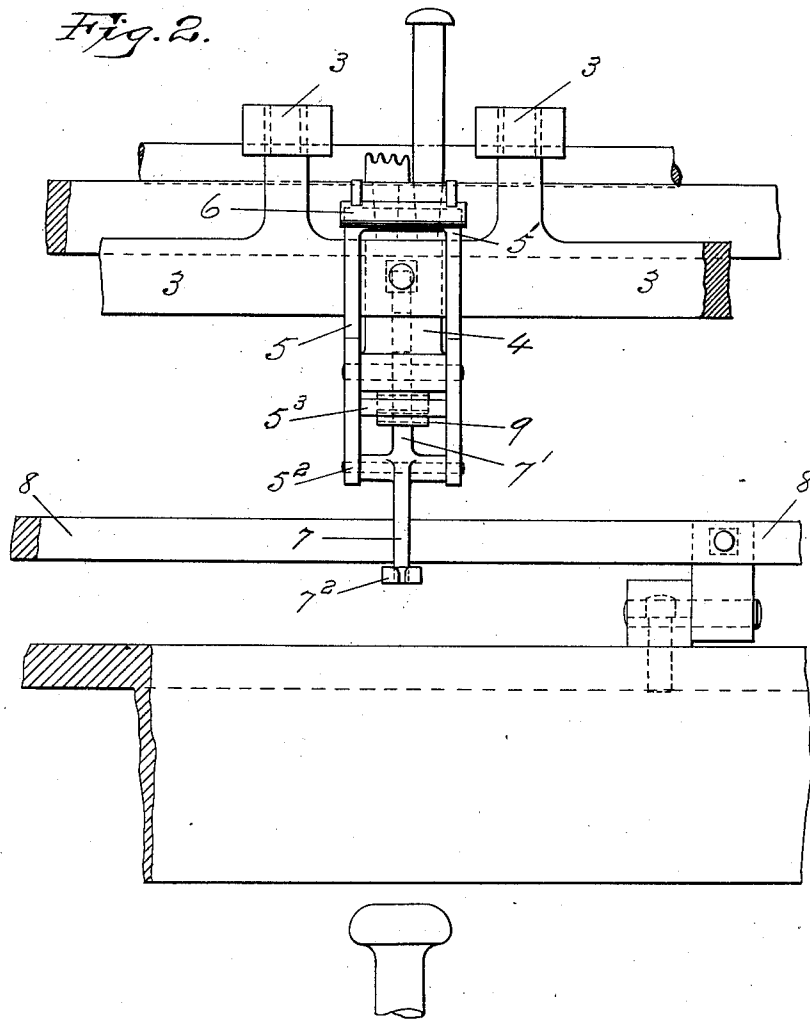
2 SHEETS—SHEET 1.

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T. A. BOYD.
STOP MOTION DEVICE FOR TWISTING FRAMES.
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1,047,124.

Patented Dec. 10, 1912.
2 SHEETS—SHEET 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS A. BOYD, OF GLASGOW, SCOTLAND.

STOP-MOTION DEVICE FOR TWISTING-FRAMES.

1,047,124.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed August 13, 1910. Serial No. 577,078.

To all whom it may concern:

Be it known that I, THOMAS A. BOYD, a subject of the King of Great Britain, and residing at Glasgow, Scotland, have invented certain new and useful Improvements in Stop-Motion Devices for Twisting-Frames, of which the following is a specification.

My invention relates to twisting frames which have a horizontal delivery roller with a pressing roller to each spindle adapted to draw the yarns which are to be twisted together from the creel and deliver them to the twisting spindle and has for its object an improved means of automatically separating these rollers when the thread fails so as to cause the delivery of the threads to cease and thus save waste.

My invention consists of a vertical lever placed behind the delivery roller of each spindle, having a horizontal member adapted to enter between the pair of delivery rollers and separate them thus causing the delivery of the yarn to cease. The horizontal member of the upright lever may be made to pass between the rollers clear of the threads or it may be made to hold the thread as it moves the pressing roller clear of the delivery roller and thus prevent the yarn being wound around the latter. The said vertical lever has mounted upon it a balanced lever which is controlled by the thread and is arranged so that on the thread failing between the delivery rollers and the twisting spindle it will fall in the path of a moving bar or shaft and thereby press the horizontal member of the vertical lever between the delivery roller thus causing the drawing of the yarn from the creel to cease.

In carrying out my invention in one arrangement, shown on the accompanying two sheets of drawings, No. 1 showing a side elevation and No. 2 a front elevation with the rollers removed I employ a delivery roller 1 passing along the whole side of a twisting frame, a top pressing roller 2 for each spindle a cap bar 3 to carry and guide the top pressing roller 2—all these are of ordinary well known construction. On the cap bar 3, behind the delivery roller 1 and pressing rollers 2 I fix a bracket 4 projecting downward and I joint on the said bracket a vertical lever 5 having at its upper end 5¹ a horizontal member 6 made of vulcanite or pressed paper. I prefer to hold this horizontal member loosely at its inner end so that it may adapt itself to its work. The

outer end of the said horizontal member 6 rests on the delivery roller 1 close to the point of contact with the pressing roller 2. On the vertical lever 5, I center at a point 5² below its pivot a thread lever 7, weighted at its inner end 7¹, and held down by the thread at its outer end 7². Under the inner end 7¹, I place a rocking bar 8 operated by any well known means. When the thread fails the balanced thread lever 7 rises at its front end 7², and descends at its inner or back end 7¹, and comes into the path of the rocking bar 8 which forces the horizontal member 6 of the vertical lever 5 between the delivery rollers 1 and 2 thus stopping the pressing roller 2 and at the same time holding the thread.

It will thus be understood when the two single threads from the creel bobbins pass through the delivery rollers should one of these fail the other thread will be untwisted and will also fail. Thereupon the balanced thread lever 7 rises and its inner end comes in contact with the rocking bar 8. The vertical lever 5, on which the balanced thread lever 7 is carried is pulled back and in turn forces the horizontal hinged member 6 at its upper end between the delivery rollers 1 and 2 separating them and causing them to cease drawing the yarn from the creel. To make certain that the vertical lever 5 will reach and remain at its extreme point either clear of or with its horizontal member 6 between the delivery rollers 1 and 2 I fix a spring 9 horizontally at the lower end to the bracket 4 which carries the vertical lever 5. This spring projects forward and is bent at its outer end so as to engage with a V shaped catch 5³ on the vertical lever 5. According as the spring presses on the one side or the other of the V the vertical lever is pressed and held in the one direction or the other.

Claims:

1. In a spinning or twisting machine, the combination of the feed rollers, with a stop feed device comprising a vertical lever pivoted intermediate its ends, a horizontal separator bar connected to the upper end of said lever, a balanced lever pivoted to the lower end of said vertical lever, one end of said balanced lever having a guide eye for engaging the thread after it has left the delivery rollers, together with a vibrator arranged below the other end of said balanced lever and engaging the same upon its drop,

after failure of the thread, to rock said vertical lever whereby the separator bar is thrust between the delivery rollers, substantially as described.

5 2. In a spinning or twisting machine, the combination of the feed rollers, with a stop feed device comprising a vertical lever pivoted intermediate its ends, a horizontal separator bar, connected to the upper end
10 of said lever, a balanced lever pivoted to the lower end of said vertical lever, one end of said balanced lever having a guide eye for engaging the thread after it has left the delivery rollers, said guide eye being positioned over the spindle and serving to guide
15 the thread from the rollers to the spindle, together with a vibrator arranged below the other end of said balanced lever and engaging the same upon its drop, after failure of
20 the thread, to rock said vertical lever whereby the separator bar is thrust between the delivery rollers, substantially as described.

3. In a spinning or twisting machine, the combination of the feed rollers, with a stop
25 feed device comprising a vertical lever pivoted intermediate its ends, a horizontal separator bar loosely jointed to the upper end of said lever so that it may adapt itself to its work, a balanced lever pivoted to the
30 lower end of said vertical lever, one end of said balanced lever having a guide eye for engaging the thread after it has left the delivery rollers, together with a vibrator ar-

ranged below the other end of said balanced lever and engaging the same upon its drop, 35 after failure of the thread, to rock said vertical lever whereby the separator bar is thrust between the delivery rollers, substantially as described.

4. In a spinning or twisting machine, the 40 combination of the feed rollers, with a stop feed device comprising a vertical lever pivoted intermediate its ends, a horizontal separator bar connected to the upper end of said lever, a balanced lever pivoted to the 45 lower end of said vertical lever, one end of said balanced lever having a guide eye for engaging the thread after it has left the delivery rollers, together with a vibrator arranged below the other end of said balanced 50 lever and engaging the same upon its drop, after failure of the thread, to rock said vertical lever whereby the separator bar is thrust between the delivery rollers, together with a spring engaging said vertical lever 55 and tending to maintain the same in both feed and stop positions, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of 60 two subscribing witnesses.

T. A. BOYD.

Witnesses:

JAMES CUNNINGHAM,
R. E. BOYD.