

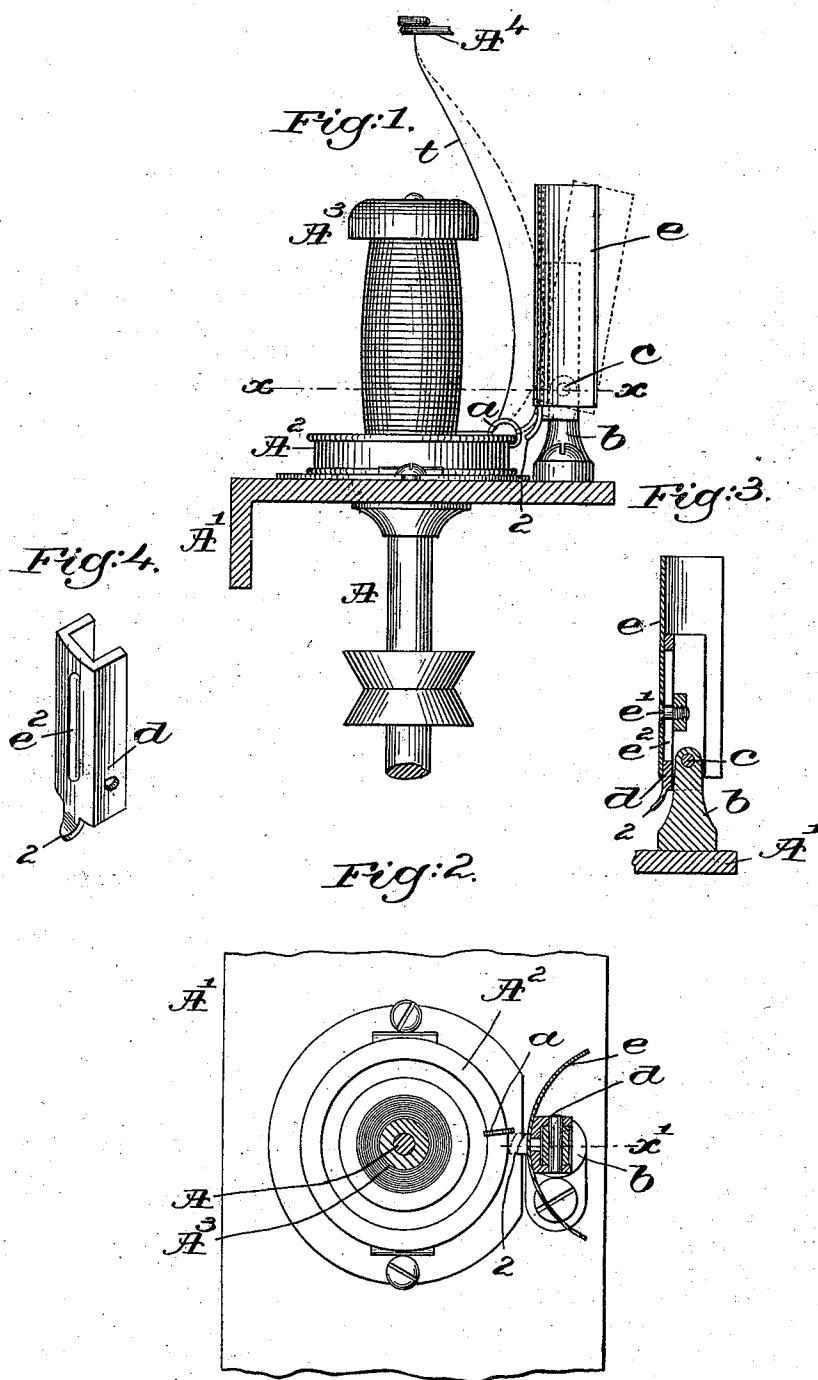
(No Model.)

J. T. COLLINS.

THREAD BREAKING DEVICE FOR SPINNING AND TWISTING FRAMES.

No. 506,159.

Patented Oct. 3, 1893.



Witnesses.

Louis McGowell
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Inventor.

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UNITED STATES PATENT OFFICE.

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THREAD-BREAKING DEVICE FOR SPINNING OR TWISTING FRAMES.

SPECIFICATION forming part of Letters Patent No. 506,159, dated October 3, 1893.

Application filed June 23, 1893. Serial No. 478,669. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. COLLINS, a citizen of the United States, residing at Yarmouth, county of Yarmouth, Nova Scotia, Canada, have invented an Improvement in Thread-Breaking Devices for Spinning or Twisting Frames, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

In the use of rings and travelers in spinning and twisting operations a bunch in the yarn causes the latter to "balloon" as it is called, or move outwardly into and travel in a large circle, and striking other threads of adjacent spindle ends are broken down, resulting in damage and loss. It is also advisable to know when such bunches occur so as to remove them. I have devised a stop-motion device designed especially to break the thread on the occurrence of a fault which is sufficient to let the thread "balloon out." In accordance with my invention I have mounted on the rail at one side of the regular ring and traveler a post or stud upon which is pivoted a traveler catcher having an attached fender adapted to be swung on its pivots by the pressure of the thread against it in case the thread "balloons" or begins to travel for any cause in a larger circle than that in which it should travel, the tipping of the fender moving the traveler catcher toward the traveler and so as to catch the traveler and break the thread as will happen if the traveler is stopped when the bobbin is revolving. The operative can then remove the bunch and tie the broken ends.

Figure 1 shows part of a spindle and a ring-rail, ring and traveler with my improvements added. Fig. 2 is a section in the line $x-x$, Fig. 1. Fig. 3 is a section on the line x' Fig. 2, and Fig. 4 shows the thread catcher detached.

The spindle A, ring-rail A', ring A², bobbin or spool A³, pig-tail A⁴, supposed to be connected with a guide-board, and the traveler a are and may be all as usual, and each of any usual type.

In accordance with my invention I have erected on the ring-rail a stand or post b, on which I have pivoted at c a traveler catcher

d having a point 2, the body of said traveler catcher, as herein shown, having connected to it a fender e, the connection being preferably adjustable and effected by a bolt or screw e' extended through it into slot e² of the catcher body.

To enable the stand to be adjusted on the rail to thus put the fender and catcher into proper relation to the ring, of whatever diameter, I have pivoted the stand to the rail by a screw g. When the thread t is being delivered and cared for properly it moves in an arc, represented by full lines Fig. 1, and the fender and catcher stand as shown by full lines, but when a bunch or knot comes in the thread, or for any cause the thread "balloons," as indicated by dotted lines Fig. 1, then the thread strikes the fender and the latter in its movement into its dotted line position puts the point 2 of the traveler catcher close to the path of movement of the traveler, and the latter strikes and is held while the thread is broken by the rotation of the bobbin. The weight of the fender and catcher with relation to the pivot c is such as to cause the same to stand normally in the full line position Figs. 1 and 2, only very slight pressure, however, being necessary to overcome the normal position and move the fender back.

This invention is not limited to the exact shape shown for the catcher and fender, nor to the exact manner shown of operatively connecting them so that the movement of the fender by the thread will cause the catcher to be put into operative position.

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

The combination with a ring and traveler, of a fender and a traveler catcher, the action of the thread on the fender putting the catcher into position to effect the breaking of the thread, substantially as described.

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

JOHN T. COLLINS.

Witnesses:

W. O. GRAY,
R. S. EAKINS.