

H. G. BEEDE.
TWISTING MACHINE.
APPLICATION FILED DEC. 1, 1911.

1,064,280.

Patented June 10, 1913.

Fig. 1.

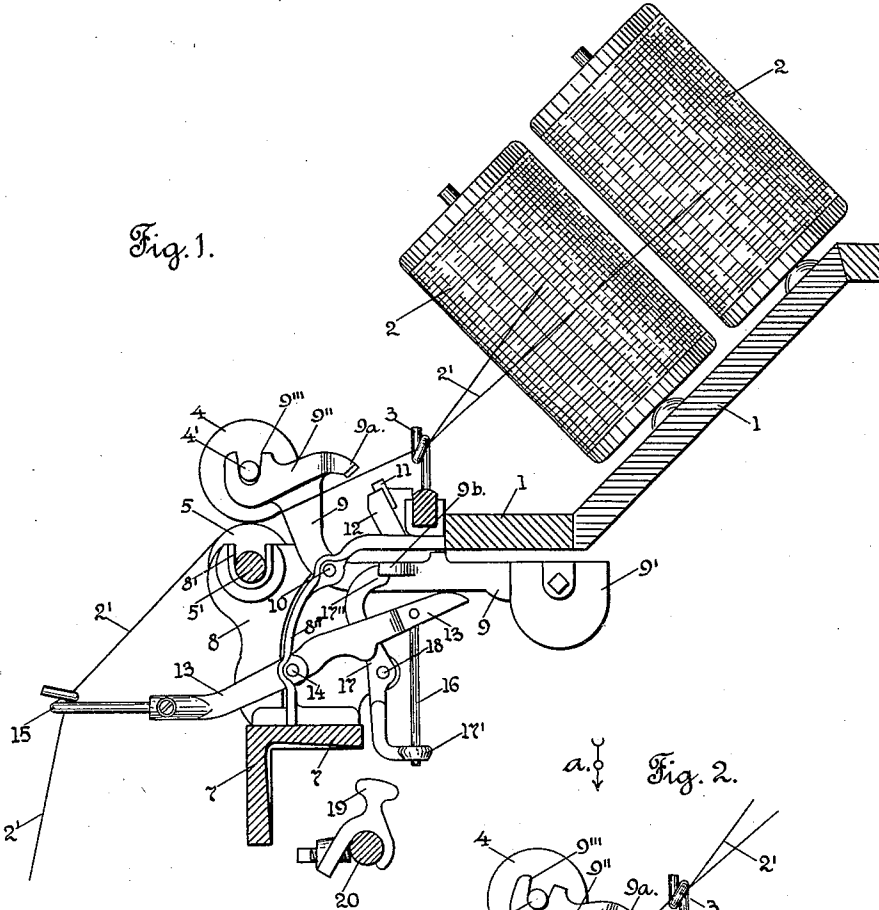


Fig. 2.

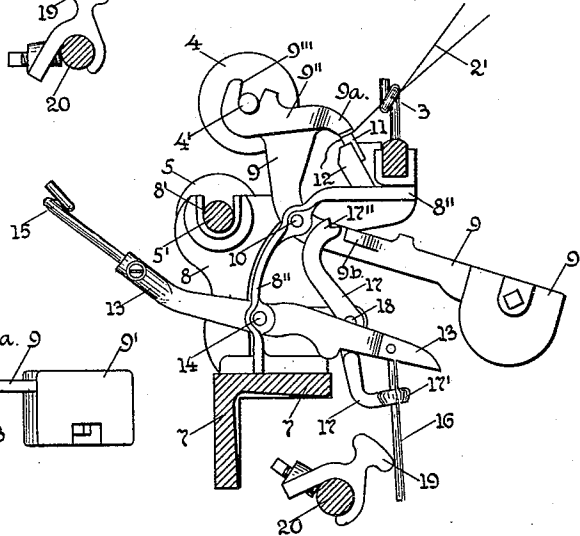
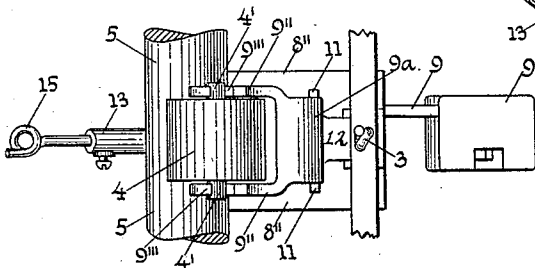


Fig. 3.



Witnesses

M. B. Zedl.
W. Haase

Inventor

H. G. Beede.

By John C. Dewey.
Attorney.

UNITED STATES PATENT OFFICE.

HERBERT G. BEEDE, OF PAWTUCKET, RHODE ISLAND.

TWISTING-MACHINE.

1,064,280.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed December 1, 1911. Serial No. 663,239.

To all whom it may concern:

Be it known that I, HERBERT G. BEEDE, a citizen of the United States, residing at Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Twisting-Machines, of which the following is a specification.

My invention relates to twisting machines, or machines for twisting yarns and the like, and particularly to that type of machine shown and described in U. S. Letters Patent, No. 936,346, in which there is a stop motion, which will act automatically on the breaking of a thread, to stop the feed of the thread between the feed rolls, and hold the broken end of the thread.

The object of my invention is to improve upon the construction of the stop motion, which stops the feed of the thread between the feed rolls, and holds the broken end of the thread, shown and described in said patent. In said patent, the top feed roll is supported in pivotally mounted bearings, and is adapted, on the breaking of a thread, to be raised out of engagement with the lower feed roll, and the roll and the thread or yarn thereon moved into engagement with what is termed a "brake shoe"; said brake shoe is provided with yielding material against which the top roll and the yarn or thread thereon press, and the broken end of the yarn or thread is held between the top roll and said yielding material.

It has been found in practice, that the engagement of the yarn or thread on the top roll, with the yielding material on the brake shoe, is in some cases not sufficient to hold the yarn or thread between the same, and the broken end of the thread is liable to slip out between said two yielding surfaces.

In my improved construction, I have the top roll rotatably supported in pivotally mounted bearings, and I provide a rigid extension on said bearings, and preferably forming a part thereof, and extending rearwardly therefrom, and comprising a metal bar or plate, which extends beyond the surface of the yarn or thread on the roll, and on the breaking of the thread or yarn, and the raising of the top roll, will extend in the path of and engage a second stationary rigid plate or bar, also preferably of metal, and bind and tightly hold the end of the broken thread or threads between said rigid surfaces, the top roll and the yarn or thread

thereon not engaging with any brake shoe, or other projection on the frame, as in the case of the patent referred to.

My invention consists in certain novel features of construction of my improvements as will be hereinafter fully described.

Referring to the drawing:—Figure 1 is a sectional view of a detached portion of a twisting machine with my improvements in stop motion combined therewith. Fig. 2 corresponds to Fig. 1, but shows the stop motion mechanism in its opposite position, when a thread is broken. The two spools and their supports, shown in Fig. 1, are not shown in this figure, and, Fig. 3 is a plan view of the parts shown in Fig. 2, looking in the direction of arrow *a*, same figure.

In the accompanying drawing, 1 is the creel board, 2 are spools supported thereon. The threads 2' on the spools 2 pass through a guide 3, and in this instance under the top roll 4, and over the lower roll 5, and through a guide, to be hereinafter described, to the traveler, not shown. The above mentioned parts may be of the usual and well known construction.

I will now describe my improvements. To the frame 7 of the machine is secured a stand 8. The stand 8 has notches or recesses 8' therein for the trunnions 5' on the lower roll 5. A lever 9 is pivoted at 10 on the stand 8'', and has adjustably secured to its rear end a weight 9'. The forward end 9'' of the lever 9 is made forked shape, as shown in Fig. 3, to receive the top roll 4, and is provided with notches or recesses 9''' for the trunnions 4' on said roll 4. Extending rearwardly from the forked end 9'' of the lever 9 and preferably integral therewith is an extension 9^a, in the form of a transverse plate or bar, see Fig. 3, and which, on the rising of the top roll 4 when a thread breaks, will engage a plate or bar 11 forming a stop, or engaging surface, and supported on a stand 12 secured to the stand 8'', see Fig. 2. A second lever 13, forming a part of the stop motion, is pivotally mounted on a stud 14, and carries an eye 15 through which the thread 2' passes. To the rear end of the lever 13, which end is heavier than the forward end, is pivotally attached the upper end of a wire 16. The wire 16 passes through an eye or loop 17', at the lower end of the lever 17, which is pivotally mounted, intermediate its ends, at 18 on the stand 8''. The upper end of the lever

17 is provided in this instance with a notch 17'' therein, which is adapted to engage in this instance the front edge of a projection 9^b on the lever 9, see Fig. 1.

5 19 is a continuously vibrating actuator, secured on a rock shaft 20, driven in any suitable manner from some driven part of the machine. The actuator 19 is so located relatively to the wire 16, that when said wire is
10 dropped, as indicated in Fig. 2, it will be in the path of the actuator 19. On the engagement of the actuator 19 with the wire 16, said wire will be moved rearwardly, as shown in Fig. 2, and cause, through said
15 wire passing through the eye 17' on the lever 17, the movement of said lever 17, to disengage the notched end 17'' thereon from the projection 9^b on the lever 9, to allow the weighted end 9' of said lever 9 to move down
20 said lever 9 at its rear end, and raise the roll 4, and bring the projection 9^a in engagement with the plate or bar 11 on the stand 12, as shown in Fig. 2.

From the above description in connection
25 with the drawings, the operation of my improvements in stop motion for twisting machines, etc., will be readily understood by those skilled in the art. As long as the thread 2' from the spools 2 remains intact,
30 the parts of the stop motion will be in the position shown in Fig. 1. In case of the breaking of the thread, the tension thereof on the eye 15 on the lever 13 will be released, and the heavier rear end of said lever 13 will
35 drop and with it the wire 16, pivotally attached thereto, to bring the wire 16 in the path of the actuator 19. The engagement of the actuator 19 with the wire 16, (said wire extending through the eye 17' in the lever
40 17,) will move the lever 17 on its pivot pin 18, and disengage its upper notched end 17'' from the lug or projection 9^b on the lever 9, as shown in Fig. 2, and allow the weighted end 9' of the lever 9, to move down and
45 carry the roll 4 out of engagement with the roll 5, and at the same time cause the projection 9^a on the lever 9 to engage the broken end of the thread 2', and hold it between the end of the projection 9^a and the plate or bar
50 11 on the stand 12, as shown in Fig. 2, thus stopping the feed of the thread and holding the broken end of the thread. To re-set the parts, the lever 13 is moved down at its

front end, and the lever 9 raised at its rear end, to bring the notched end 17'' on the lever 17 under the lip or projection 9^b on the lever 9, as shown in Fig. 1, and the wire 16 out of the path of the actuator 19.

It will be understood that the details of construction of my improvements may be varied if desired.

The advantages of my improved construction of a stop motion for twisting machines of the type above referred to, will be readily appreciated by those skilled in the art.

I provide two rigid, and preferably metallic surfaces, brought into operation by the automatic rising of the top roll, through the pivotal movement of its bearing, to press on and bind the broken end of the thread or threads, independently of any engagement of the roll, and the thread or yarn thereon, with any other surface.

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

1. In a twisting machine, a pair of feed rolls, a pivotally mounted support for one of said rolls, said support having a projection thereon, a stationary plate or bar normally out of contact with said projection, and positively actuated automatic means, controlled by the thread, for moving said pivotally mounted roll away from the other roll and bringing the projection on the support of said roll into engagement with said stationary plate or bar.

2. In a twisting machine, the combination with a stationarily supported rotatable roll, of a movably supported rotatable roll, said roll supported in a pivotally mounted lever, having a pivotal movement in a vertical plane, and said lever, having a yoke shaped end for said roll, and a rigid extension extending rearwardly therefrom, adapted to be moved into the path of and engage a rigid plate or bar, on the upward movement of said roll, and said plate or bar, said extension, and said plate or bar, forming rigid surfaces to bind and hold the broken thread or threads.

HERBERT G. BEEDE.

Witnesses:

FREDERICK M. ARMSTRONG,
HUBERT J. SUTTON.