

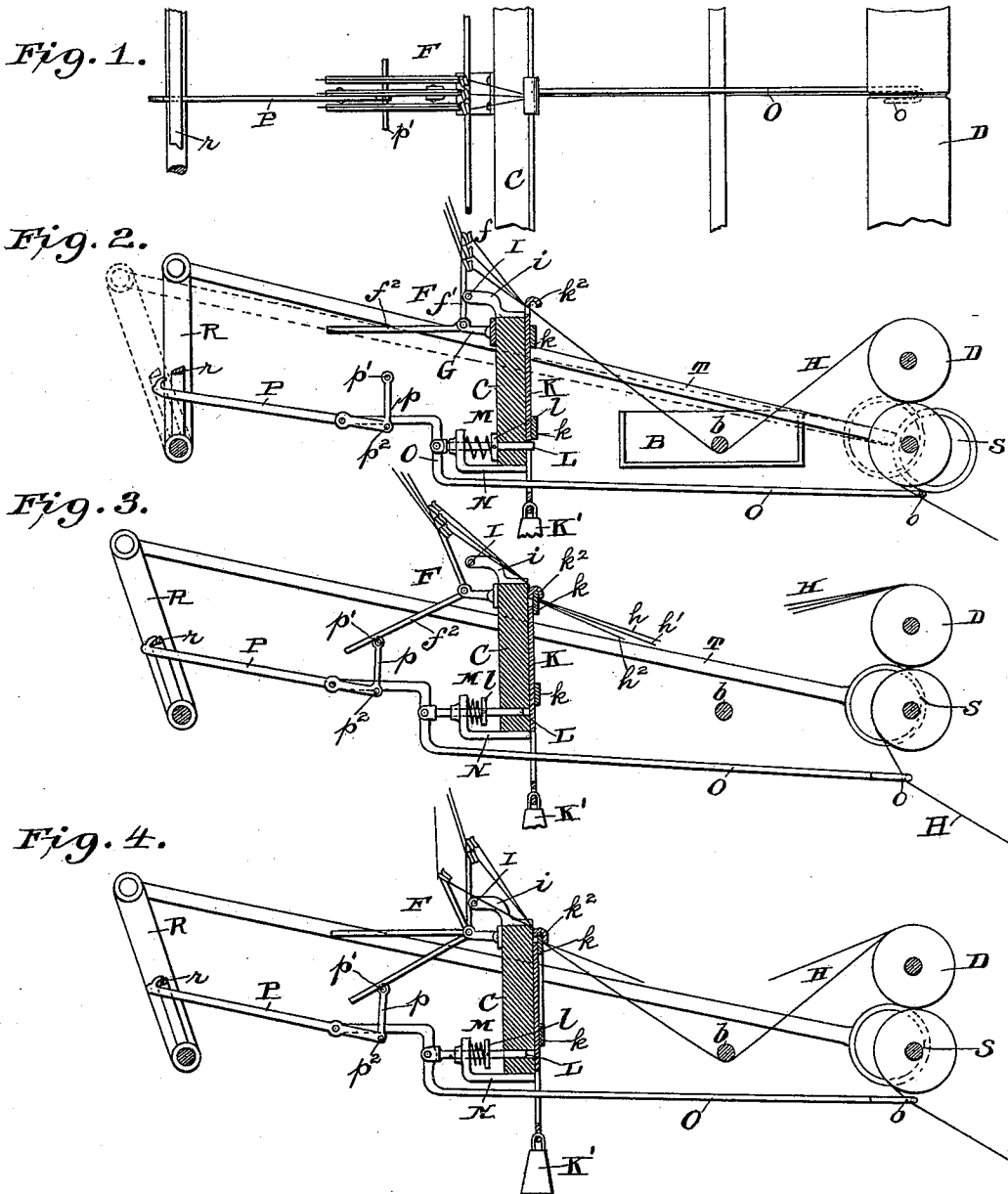
(No Model.)

2 Sheets—Sheet 1.

J. MEEHAN.  
STOP MOTION FOR TWISTERS.

No. 596,076.

Patented Dec. 28, 1897.



Witnesses.

Jas. N. Blackwood  
G. Goodman.

Inventor.

John Meehan,  
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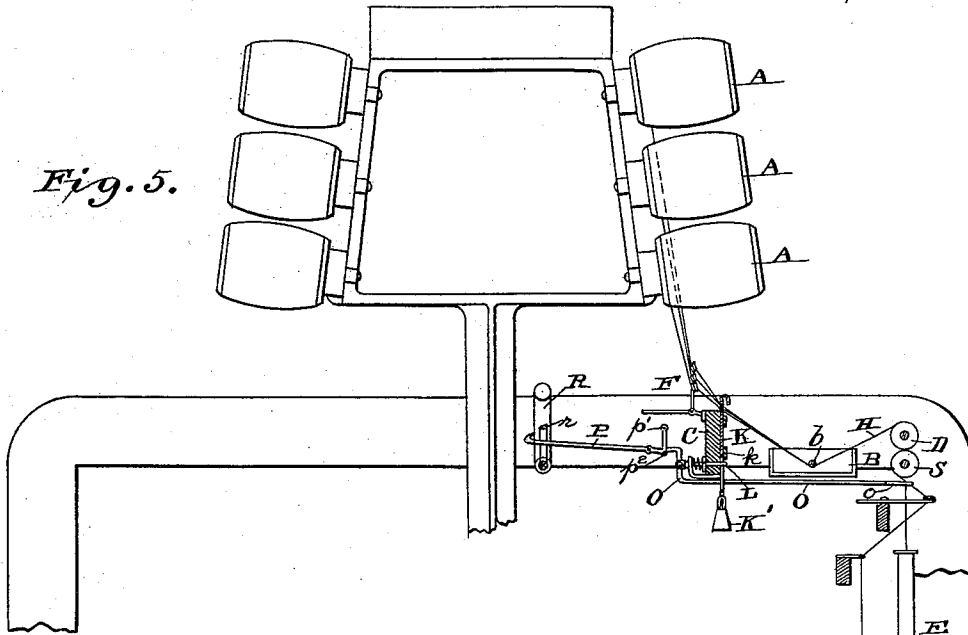
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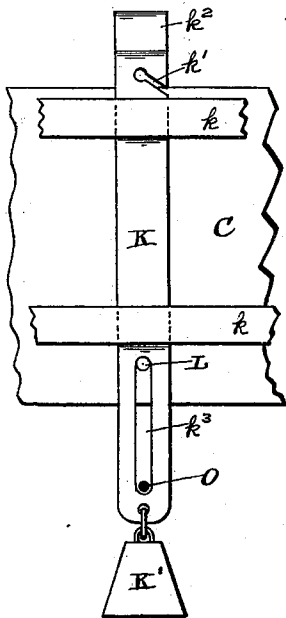
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*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

JOHN MEEHAN, OF FALL RIVER, MASSACHUSETTS.

## STOP-MOTION FOR TWISTERS.

SPECIFICATION forming part of Letters Patent No. 596,076, dated December 28, 1897.

Application filed April 30, 1897. Serial No. 634,553. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN MEEHAN, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Stop-Motions for Twist- 5  
ers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art 10 to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 My invention relates to twist-ers for twisting yarn; and its object is to stop the thread as soon as a strand breaks. In the operation of twisting yarn from two or more strands if one strand breaks the yarn is spoiled and 20 thread is wasted. Waste made at the twist-ers is both costly and worthless, because it cannot be worked over again, but is only fit for cleaning purposes.

25 Stop-motions for twist-ers have been invented and used and have been found most desirable, saving time and material.

My invention aims to improve upon previous devices and provide a stop-motion which will operate promptly upon the breaking of 30 either the entire yarn or any one or more of the strands, whether the break occurs between the spools and the rolls or between the rolls and the bobbins.

35 My invention consists in a combined guide and clamp through which the strands run, a detent holding the guide-clamp in place, and a system of levers and rocking drag-bar by which the detent is tripped and the guide-clamp is allowed to nip the strands whenever 40 one or more of the strands breaks.

45 In the accompanying drawings, Figure 1 is a plan view of one of my stop-motions. Fig. 2 is a sectional elevation with the parts in working order. Fig. 3 shows the operation of the device when the entire yarn breaks. Fig. 4 shows the operation when a strand breaks. Fig. 5 is a sectional end elevation of a twister, showing the location of my stop-motion. Fig. 6 is an enlarged view of the 50 guide-clamp.

Below the spools A and behind the sizing-trough B, I place a rigid beam C, running

lengthwise of the twister, parallel with the rolls D, and fastened to the end frames of the twister. On this beam are mounted the 55 stop-motions, only one of which need be described, it being understood that there is one for each spindle E.

At the back of the beam C a gang of elbow-levers F is fulcrumed, preferably on a bracket 60 G, secured to the upper part of the beam. The levers correspond in number to the strands  $h' h^2$  of the yarn H, the upright arm of each lever having an open twisted eye  $f'$  at its end, through which the strand passes. The ten- 65 sion on the strands keeps the upright arms  $f'$  against the horizontal stop-rod I, mounted in brackets  $i$  on the beam C. The horizontal arms  $f^2$  of the levers extend backwardly from the beam C and by their weight exert a con- 70 stant tension on the strands, compensating for any slight irregularities in the feed.

The guide-clamp K is an upright bar slid- 75 ing vertically in guides  $k$ , attached to the front of the beam C. The upper end of the guide-clamp has a perforation, preferably a diagonal slot  $k'$ , just above the upper edge of the beam C. Through this slot run all the strands 80  $h' h^2$ . The top of the guide-clamp is preferably hooked, as shown at  $k^2$ . The lower part of the guide-clamp has an abutment, such as the upper end of a slot or hole  $k^3$ , to permit the guide-clamp to be engaged by a suitable detent and held thereby in its normal position. A weight  $K'$  or its equivalent 85 exerts a constant downward pull on the guide-clamp. The preferred form of detent for the guide-clamp is a bolt L, sliding in a transverse hole in the beam C.

A spring M, preferably seated between a 90 collar  $l$  on the bolt L and a bracket N, supporting the rear end of the bolt, keeps the bolt normally engaged with the guide-clamp. In the rear end of the bolt is fulcrumed an arm O, preferably bent twice at right angles, as 95 shown, in order to permit one end to project forward under the beam C to a point below the rolls D where an eye or hook  $o$  encircles the yarn H. The other end of the arm O is shorter and extends rearwardly, having ful- 100 crumed to it a hook P, which has a bent arm  $p$  rising above the arm O and carrying a cross-bar  $p'$ . A pin  $p^2$ , catching under the arm O, maintains the hook in its normal position.

Suitably fulcrumed on the frame of the twister are rock-arms R, which carry a connecting drag-bar *r*, vibrating in the arc of a circle adjacent to the normal position of the hook P. The rock-arms are actuated preferably by an eccentric S, keyed on the shaft of one of the rollers D and connected with the rock-arm by a rod T.

The operation of my device is as follows:

10 The separate strands of thread are passed through the eyes *f* and the perforation *k'*, then under the glass rod *b* in the sizing-trough, and then around the rollers, through the hook or eye *o*, to the bobbin on the spindle E. If an entire yarn breaks, the arm O falls, raising the hook P into the path of the drag-bar *r*, which catches the hook and pulls it and the arm O and the bolt L backward, thus releasing the guide-clamp and allowing it to drop and nip the strands at the edge of the beam C. The hooked end of the guide-clamp shuts down over the guide *k* and assists in holding the strands. Should the arm O fail to fall when the yarn breaks back of the rollers, the elbow-levers F will fall, striking the cross-bar *p'* and tilting up the hook into the path of the drag-bar. If only one strand breaks, its lever F will similarly cause the tripping of the detent and the dropping of the guide-clamp.

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

1. A stop-motion for twisters, consisting of a guide-clamp, means for causing said guide-clamp to move when unrestrained to nip the yarn, a detent for said guide-clamp, movable transversely to the line of movement of said clamp, and tripping mechanism for the detent, comprising a rocking drag-bar, and a hook pivotally connected with the detent and adapted to be engaged by said drag-bar, and when so engaged to move the detent as aforesaid and thereby disengage it from the guide-clamp, substantially as described.

45 2. A stop-motion for twisters, consisting of a guide-clamp, means for actuating the same,

a detent for said guide-clamp, movable transversely to the line of movement of said clamp, a hook pivotally connected with the detent, a rocking drag-bar to engage with the hook, and one or more levers controlled by the yarn and adapted to tilt the hook into the path of the drag-bar, whereby the detent will be disengaged from the clamp, substantially as described.

3. A stop-motion for twisters, consisting of a guide-clamp, means for actuating the same, a detent for said guide-clamp, a hook connected with the detent, a rocking drag-bar to engage with the hook, a gang of levers one for each strand, and a single lever for the entire yarn, all of said levers controlling the relative positions of the hook and the drag-bar, substantially as described.

4. A stop-motion for twisters, consisting of a guide-clamp, means for actuating the same, a detent-bolt for said guide-clamp, movable transversely to the line of movement of said clamp, a lever fulcrumed in the head of said bolt, and engaging with the yarn, a hook carried by said lever, and a rocking drag-bar to engage with said hook and when so engaged to move the detent as aforesaid and thereby disengage it from the guide-clamp, substantially as described.

5. A stop-motion for twisters, consisting of a guide-clamp, means for actuating the same, a detent-bolt for said guide-clamp, a lever fulcrumed in the head of said bolt, and engaging with the yarn below the rolls of the twister, a hook hinged to said lever and having an upright arm, elbow-levers having eyes for the strands, and adapted to drop on the upright arm of the hook, and a rocking drag-bar to engage with said hook, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN MEEHAN.

Witnesses:

JAMES PRESTON,  
ARBA N. LINCOLN.