

(No Model.)

2 Sheets—Sheet 1.

J. W. GAUNT.

AUTOMATIC STOP MECHANISM FOR DRAWING FRAMES, &c.

No. 472,043.

Patented Apr. 5, 1892.

Fig. 1.

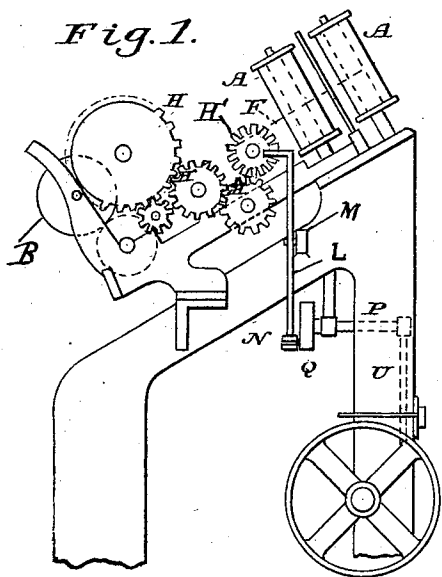


Fig. 3.

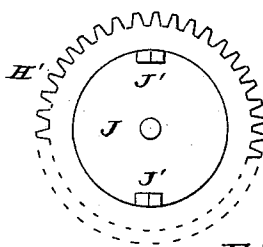
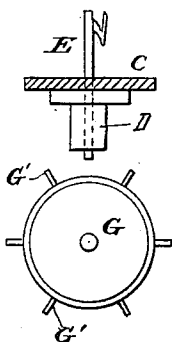


Fig. 4.

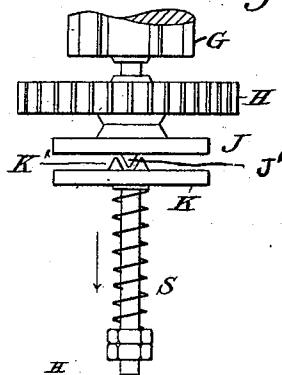
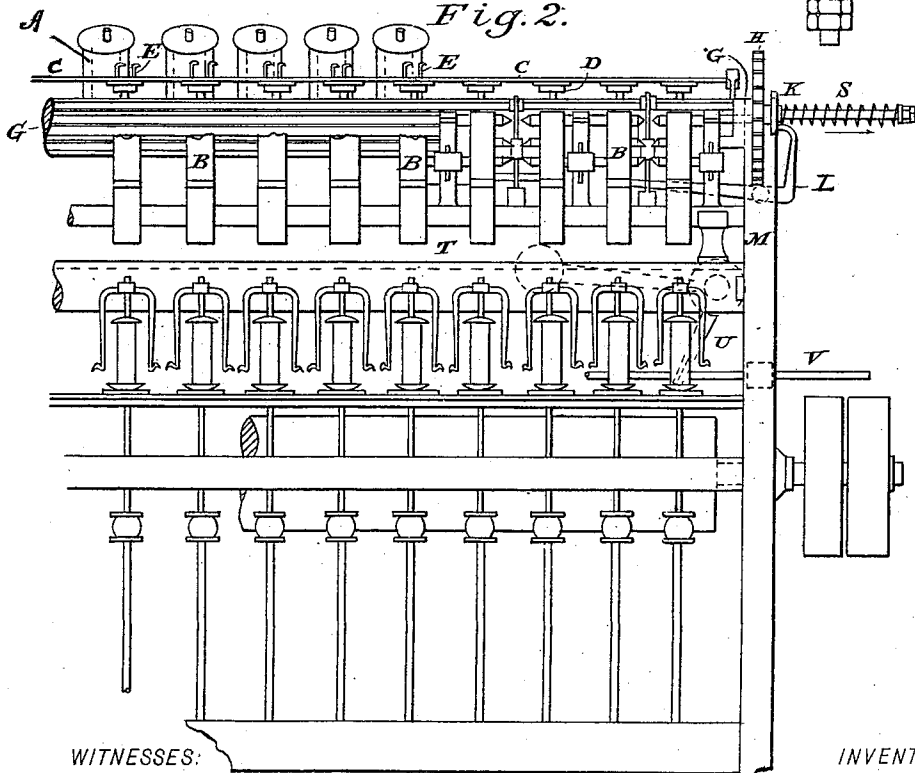


Fig. 2.



WITNESSES:

E. R. Bolton
H. A. Walsh

INVENTOR

John William Gaunt
BY *Richard P. [Signature]*
ATTORNEYS

J. W. GAUNT.

AUTOMATIC STOP MECHANISM FOR DRAWING FRAMES, &c.

No. 472,043.

Patented Apr. 5, 1892.

Fig. 5.

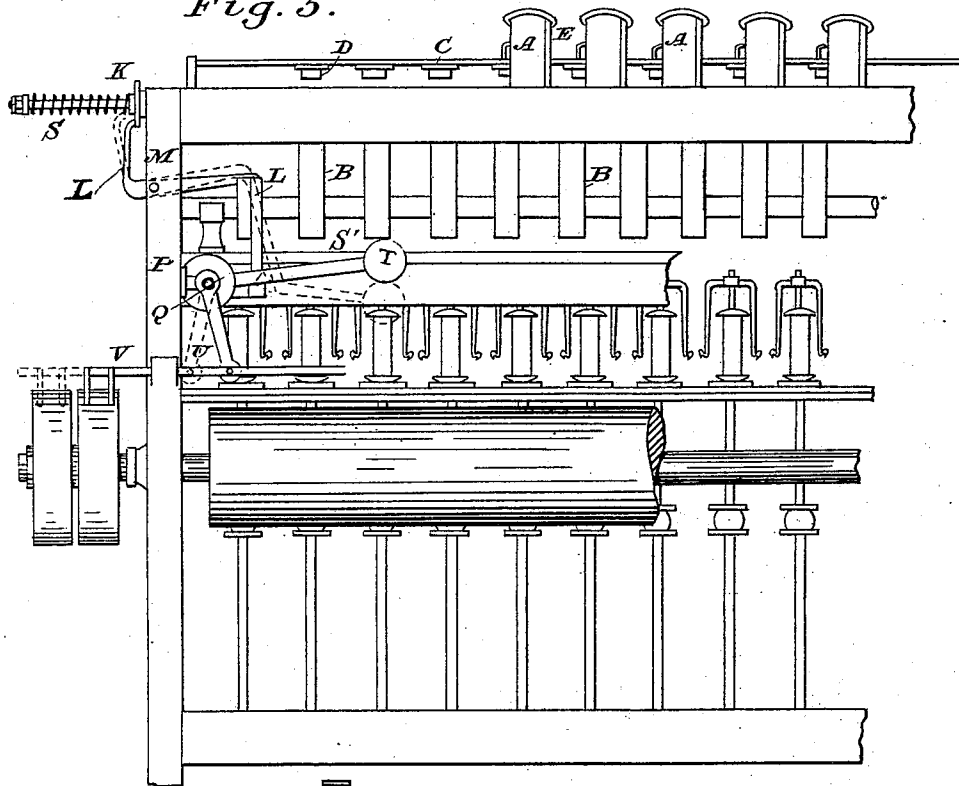
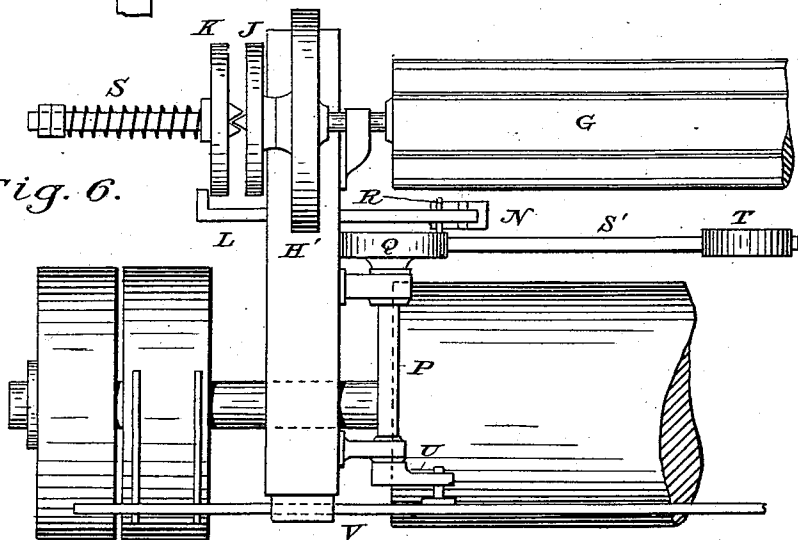


Fig. 6.



WITNESSES:

E. B. Bolton
M. A. Hatch

INVENTOR

John William Gaunt
BY
Attorneys

UNITED STATES PATENT OFFICE.

JOHN WILLIAM GAUNT, OF BRAMLEY, ENGLAND.

AUTOMATIC STOP MECHANISM FOR DRAWING-FRAMES, &c.

SPECIFICATION forming part of Letters Patent No. 472,043, dated April 5, 1892.

Application filed May 16, 1891. Serial No. 393,055. (No model.) Patented in England February 3, 1891, No. 1,935.

To all whom it may concern:

Be it known that I, JOHN WILLIAM GAUNT, a subject of the Queen of Great Britain and Ireland, residing at Bramley, in the county of York, England, have invented certain new and useful Improvements in Automatic Stop Mechanism for Drawing-Frames, &c., (for which I have obtained Letters Patent in England, No. 1,935, dated February 3, 1891,) of which the following is a specification.

This invention relates to certain improvements in automatic apparatus for stopping machines used in the preparation of fibers for spinning into yarn, and has for its object the construction of the same in such a manner that whenever a thread or cord of fiber is broken or the supply exhausted the machine will be stopped before the end of the broken or exhausted thread arrives at the delivery-rollers, and thus to obtain a more uniform thickness in the thread or yarn produced when two or more threads or cords are combined for reduction in thickness by the operation of the machine through which the fiber is passing, and consequently to reduce the amount of waste produced by the machine when the threads are conducted to the rollers in the ordinary manner.

In the accompanying drawings, Figure 1 represents an end view of certain portions of a slubbing or drawing frame to which my improvements are added. Fig. 2 is a front view of a portion of the frame, certain parts being broken away; Fig. 3, a detail section through the stop-cylinder and detector-rail; Fig. 4, details of the operating clutch-plates; Fig. 5, a back elevation of a portion of the frame, and Fig. 6 a detached detail plan of my improvement.

The machine partly illustrated by Figs. 1, 2, and 5 is constructed and driven in the ordinary manner, and my improvement is placed in any convenient position between the supply-bobbins A, mounted in the usual position, and the ordinary carriers and rollers B, with suitable connections to the belt guide-bar.

To the additional longitudinal bar C, extending the length of the machine, is attached a number of bosses D, through which pass a series of detector-wires E, each suspended by a cord of fiber F, passing through an eye or opening formed at the top of each

detector. The tension of the respective cords of fiber keeps the detectors above and clear of a rotating cylinder G, having a number of radiating vanes G', secured to the circumference thereof, and which may be driven, preferably, at a slow rate of speed by gearing H, connected with some rotating shaft of the machine in the following manner.

The spur-wheel H' is free on the cylinder-shaft, and to the said spur-wheel is secured a clutch-plate J, having two or more angular projections J' on the face thereof. Another clutch-plate K is mounted on the said shaft in such a manner that it will slide thereon, and is kept in contact with clutch-plate J by the spiral spring S, the cylinder G being driven by the spur-wheel H' through the clutch-plates J and K.

So long as the detectors E are elevated by the tension of the cords of fiber F the cylinder continues to revolve; but should a cord of fiber F be broken or the supply exhausted the detector-wire E will drop onto the circumference of the cylinder G, and on one of the radiating vanes G' coming in contact with the detector the rotation of the cylinder G and clutch-plate K is stopped; but the spur-wheel H' and clutch-plate J continue to rotate, and by an angular projection J' on plate J pressing against an angular projection K' on clutch-plate K the latter is caused to slide on the cylinder-shaft in the direction of the arrow.

A lever L is mounted on a fulcrum-pin at M. One arm of the lever presses against the back of clutch-plate K, and on the other arm is an adjustable block N, having an inclined plane on one side, for the purpose as hereinafter described.

Mounted in suitable bearings is shaft P, on which is secured a disk Q, provided with a tongue R, projecting therefrom, which when the machine is in motion rests upon and is supported by the inclined plane on block N. Projecting from the disk Q is an arm S', with a weight T secured to the end thereof, and on the shaft P is secured a lever U, engaging with the sliding belt fork-bar V.

When a detector-wire E is allowed to drop onto the circumference of the cylinder G, the clutch-plate K is forced back in the direction of the arrow in the manner as hereinbefore described. Then the lever L is operated on

its fulcrum-pin and moved into a position somewhat as shown by dotted lines a distance sufficient to remove the inclined plane of block N clear of the tongue R, thus removing
5 the support, and thereby allowing the weight to descend and the lever U to operate the belt fork-bar V into the position shown by dotted lines, thus moving the belt from the fast to the loose pulley, by which the machine is
10 stopped automatically whenever a detector is allowed to come in contact with the cylinder G.

What I claim is—

The combination of the lever L, adjustable block N on one arm of said lever, disk Q, belt

fork-bar V, lever U, arm S', projecting from 15 disk Q, weight T on said arm, tongue R, engaging block N, the detector-wires, and mechanism intermediate the detector-wires and lever L, whereby the latter is actuated from the former on the breaking of a thread, substan- 20 tially as set forth.

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

JOHN WILLIAM GAUNT.

Witnesses:

JNO. GILL,

ERNEST H. BODEN.