No. 642,457. Patented Jan. 30, 1900.

G. F. IVEY.

BREAK INDICATOR FOR TWISTING MACHINES.

(Application filed Aug. 11, 1899.)

(No Model.)

Fig. 1.

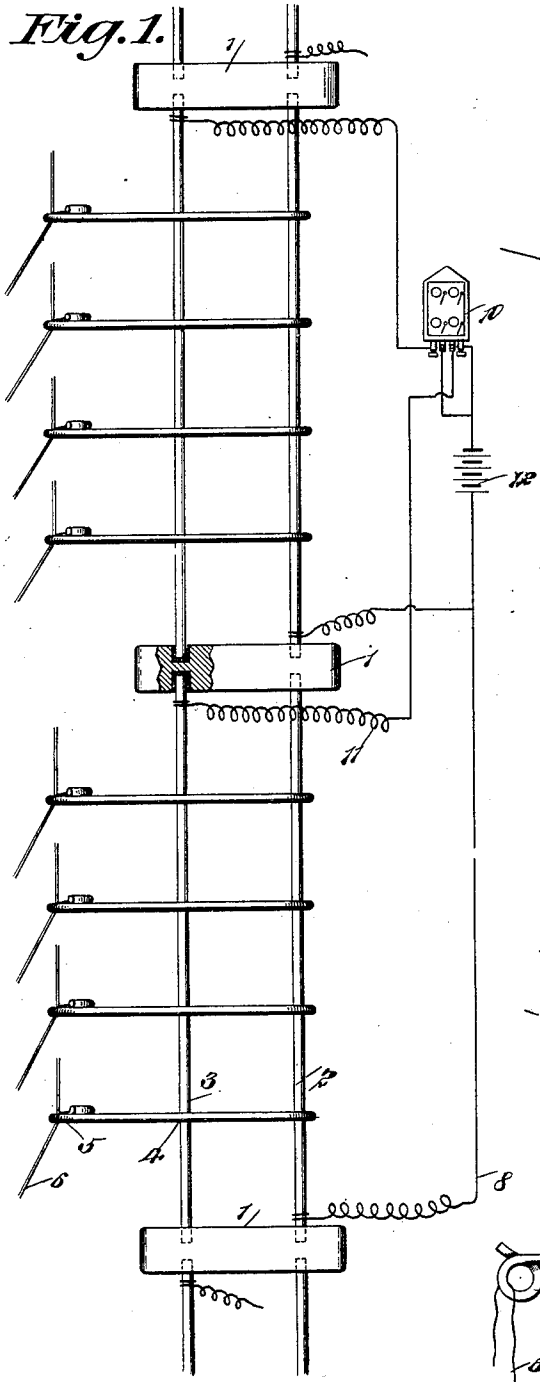


Fig. 2.

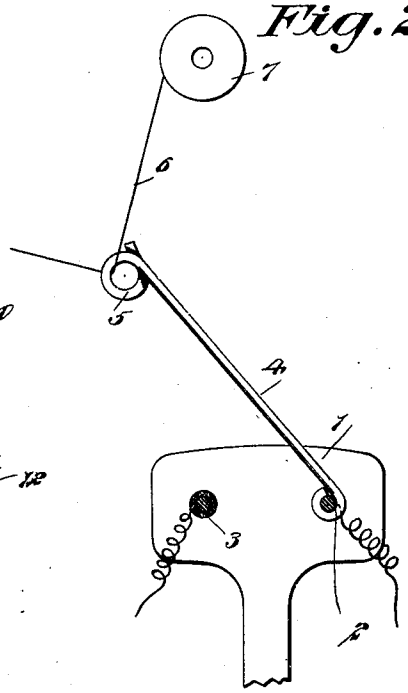
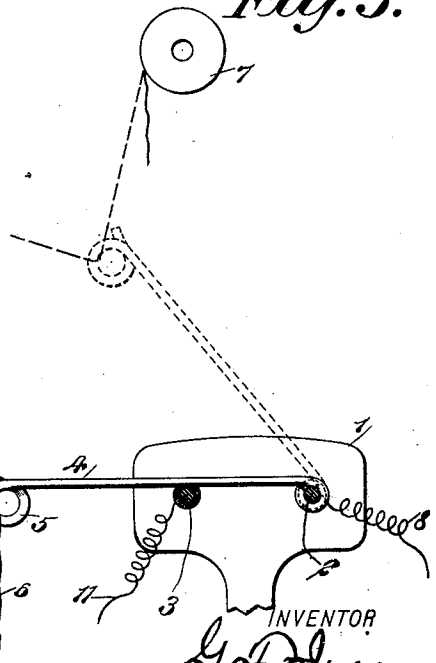


Fig. 3.



WITNESSES:

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GEORGE FRANKS IVEY, OF FOREST CITY, NORTH CAROLINA.

BREAK-INDICATOR FOR TWISTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 642,457, dated January 30, 1900.

Application filed August 11, 1899. Serial No. 726,912. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRANKS IVEY, of Forest City, in the county of Rutherford and State of North Carolina, have invented a new and Improved Break-Indicator for Twisting-Machines, of which the following is a full, clear, and exact description.

This invention relates to improvements in devices for indicating when a break occurs in one of a number of strands or threads being twisted together in a twisting-machine. In twisting a number of strands or threads together for forming a single strand or the like, should one of the strands or threads break, the others go on and must be pulled off before the missing strand or thread can be properly pieced up. This makes a considerable waste, as it is impossible for the operator attending two or more machines to stop the end as soon as it begins to run single. The object of my invention, therefore, is to provide a simple electrically-controlled mechanism for indicating when and where a break takes place.

I will describe a break-indicator for twisting-machines embodying my invention and then point out the novel features in the appended claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a device embodying my invention. Fig. 2 is a partial side view and partial section showing a circuit-closer in one position, and Fig. 3 is a similar view showing the circuit-closer in its closed position.

In carrying out my invention I divide each side of the twister into two or more sections, each section comprising a series of threads or strands to be twisted into a single strand, the circuit-controlling devices of the strands in a section being in electrical connection with a needle or other indicator, so that an operator may quickly ascertain in which section a break occurs.

Referring to the drawings, 1 designates standards of wood or other suitable material arranged along one side of a twisting-machine. Metal rods 2 and 3 are connected to the standards in each section, and if the standards be of metal the rods must be insulated therefrom. Mounted to swing on the rod 2 between adjacent standards is a series of circuit-closers, each comprising a rod 4, having an eye 5 at its free end, through which the thread 6 is designed to pass as it leaves the spindle 7. A series of the controllers 4 will be located in each section, the number depending upon the number of strands or threads designed to be twisted together.

I have here shown four of the devices as having electrical connection through the rod 2 and the wire 8, which leads to an indicator 10. This indicator is connected by means of the wire 11 with the rod 3, and opposite the rod 2 and arranged in the circuit is a battery 12.

In operation the circuit-closers 4 are held out of contact with the rod 3 by means of the strand or thread 6, as indicated in Fig. 2. Should either one of the strands or threads comprised in the series be broken, its circuit-closer will fall into engagement with the rod 3, and consequently close the circuit and operate the indicator 10, and as this indicator is in a convenient place to be seen by an operator attending two or more machines the operator may readily ascertain in which section the break occurs and then piece it up.

While I have shown four threads in a section, it is obvious that a greater or less number may be employed, it being understood, however, that the circuit-closing devices for all the threads in each section will have connection with the one indicator 10, thus resulting not only in economy of space for an indicator, but also in economy of construction over that in which each thread has a controlling device or circuit-closer connecting with an independent indicator.

I am aware that it is not new to provide means electrically controlled and otherwise for stopping twisting and knitting machines upon the breaking of a thread; but such I do not claim broadly, as it is not my intention to stop the machine upon the breaking of a thread, as such would result in considerable loss of time.

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

A break-indicator for a twisting-machine,

in which the strands or threads to be twisted into a single strand, are arranged in sections, a circuit-closer for each strand or thread and normally held open thereby, and an alarm device having an independent indicator for each section and in electrical connection therewith, whereby should a break occur in any section, the location of said section will be indicated, without causing a stopping of the machine, substantially as specified.

GEORGE FRANKS IVEY.

Witnesses:
LEE KERR,
EUGENE C. IVEY.