

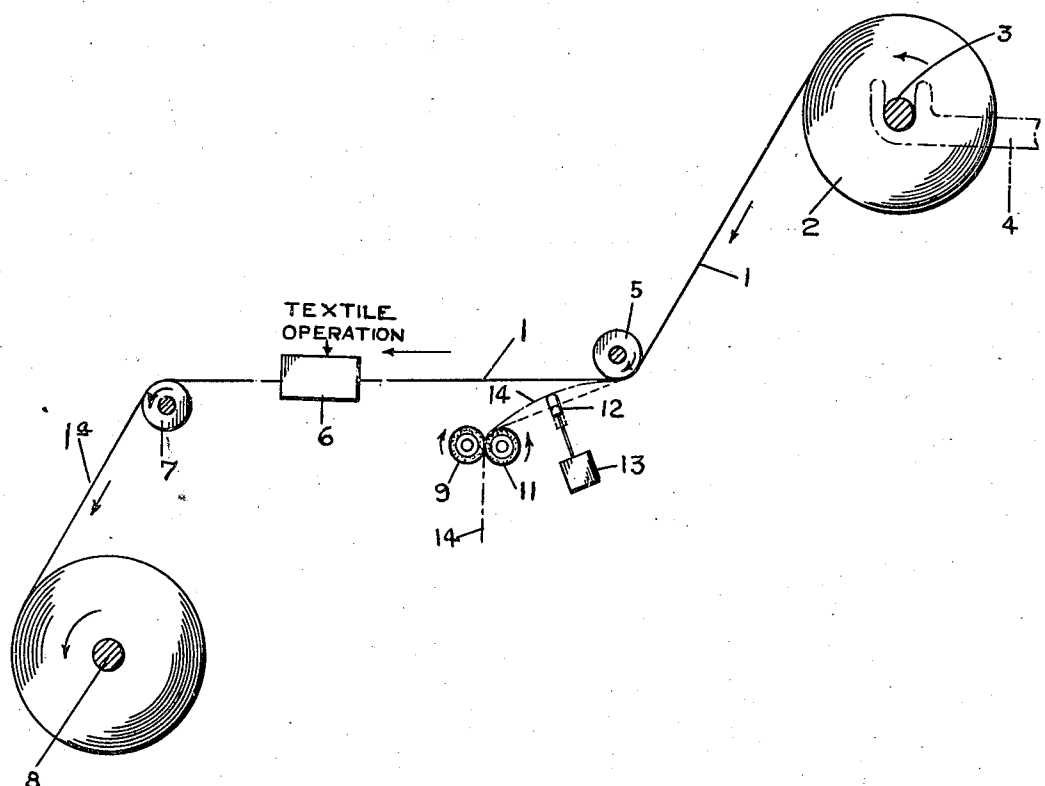
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TEXTILE DEVICE

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TEXTILE DEVICE

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This invention relates to textile machines wherein yarn is fed thereto in the form of a warp and wherein is employed an electrically operated warp stop motion, and relates more particularly to an attachment for use with such machines for closing the circuit of the warp stop motion, upon breakage of a warp yarn, to halt the operation of the machine.

It is an important object of this invention to provide a simple and efficient device which may be readily applied to a machine wherein yarn is fed in the form of a warp, which will activate the stop motion of the machine to halt the operation of the same upon breakage of a warp yarn.

Other objects of this invention, together with certain details of construction and combinations of parts, will appear from the following detailed description.

The drawing is a diagrammatic view showing the attachment of the present invention, particularly with relation to the warp of yarns being operated upon. While this invention may be employed with textile devices where the warp is knitted into a fabric, is sized, printed, dyed, or has any other textile operation performed thereon, the invention will be described in connection with its use with a warp knitting machine since it is particularly effective therewith.

Referring now to the drawing, reference numeral 1 indicates a warp of yarns which is fed from a warp beam 2 of the warp knitting machine, which warp beam is supported on a shaft 3 journaled in a suitable bracket 4. The shaft 3 may be driven by any suitable means (not shown). The warp of yarns 1 is passed under an idler guide roller 5, is knitted into a fabric web at 6, and the fabric web 1^a is then passed over an idler roller 7 and taken up on take-up roller or shaft 8 driven by any suitable means (not shown).

Placed underneath warp 1 and extending across the full width of the warp knitting machine are a pair of positively driven rollers 9 and 11 driven in the direction of the arrows shown in the drawing. Adjacent said rollers at a predetermined position is placed a dancing bar 12 also extending across the full width of the machine. This dancing bar 12 is connected to a sensitive micro switch, generally indicated by reference numeral 13, which is in any suitable stop motion circuit (not shown).

When a warp yarn breaks (the broken end being indicated by dot-dash line 14) the faster rate of let-off from the warp beam 2 as compared with the rate of rotation of the take-up roller 8 causes the broken end to sag and permits its being picked up by rollers 9 and 11. These rollers 9 and 11 are arranged to revolve faster than the yarn is fed from the warp, causing the broken end 14 to

tighten between said rollers 9 and 11 and the warp and to press down on the dancing bar 12. This pressure on the dancing bar depresses the same and causes it to operate the micro switch 13 effecting contact in a relay in the stop motion circuit to shut off the machine. The rollers 9 and 11 are preferably covered with rubber or similar substance in order to effect an adequate gripping on the broken end.

It is to be understood that the foregoing detailed description is given merely by way of illustration and that many variations may be made therein without departing from the spirit of my invention.

Having described my invention, what I desire to secure by Letters Patent is:

1. In a textile device for operating on a traveling warp of yarns, means for stopping the travel of said warp upon breakage of a yarn thereof, said means comprising a pair of cooperating rollers, a switch in a stop motion circuit and mechanical means for operating said switch; said rollers being adapted to catch the broken yarn and to cause the same to come in contact with said means for operating the switch whereby the stop motion circuit is closed and the operation of the device is discontinued.

2. In a textile device for operating on a traveling warp of yarns, means for stopping the travel of said warp upon breakage of a yarn thereof, said means comprising a pair of cooperating positively driven rollers extending across the full width of said warp, a switch in a stop motion circuit, adjacent to said rollers and coextensive therewith, and mechanical means for operating said switch, said rollers being adapted to catch the broken yarn and to cause the same to come in contact with said means for operating the switch whereby the stop motion circuit is closed and the operation of the device is discontinued.

3. In a warp knitting machine wherein a warp of yarns is fed at a rate less than the rate at which the knitted fabric is taken up, means for stopping the operation of said warp knitting machine upon breakage of a yarn of the warp, said means comprising a pair of positively driven cooperating rollers extending across substantially the full width of the machine, and a dancing bar adjacent to said rollers and coextensive therewith, and a switch in a stop motion circuit positively connected to said dancing bar, said rollers being adapted to catch the broken yarn therebetween and to cause the same to come in contact with said dancing bar to actuate said switch whereby the stop motion circuit is closed and the operation of the warp knitting machine is discontinued.

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