Nov. 17, 1931. J. G. AHLIN 1,832,522

DEVICE FOR LOCATING FALLEN DROP WIRES

Filed March 4, 1931

FIG. 1

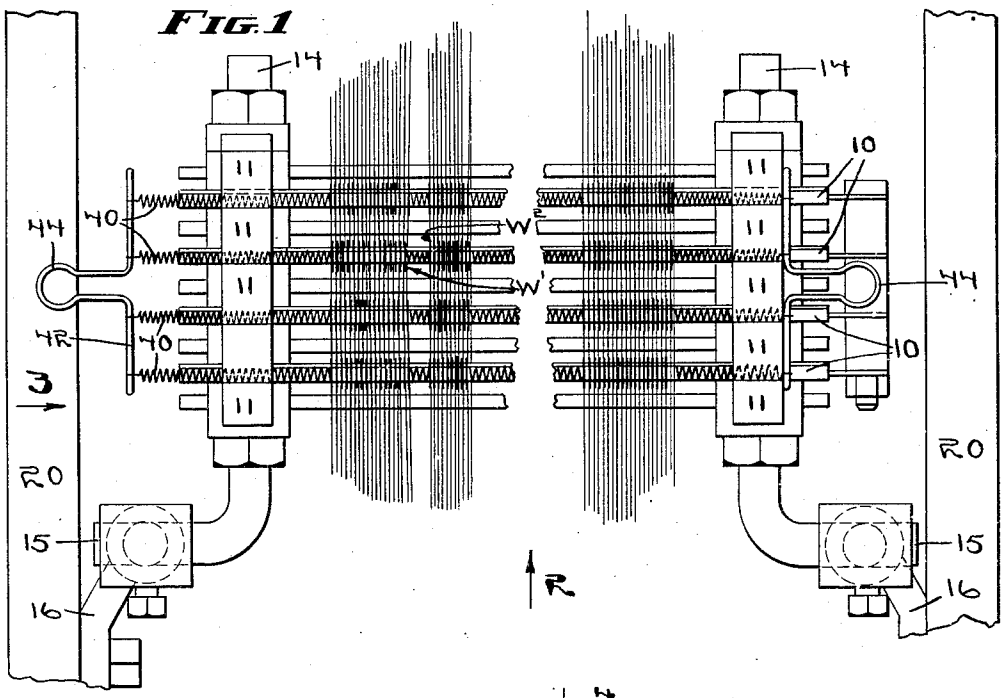
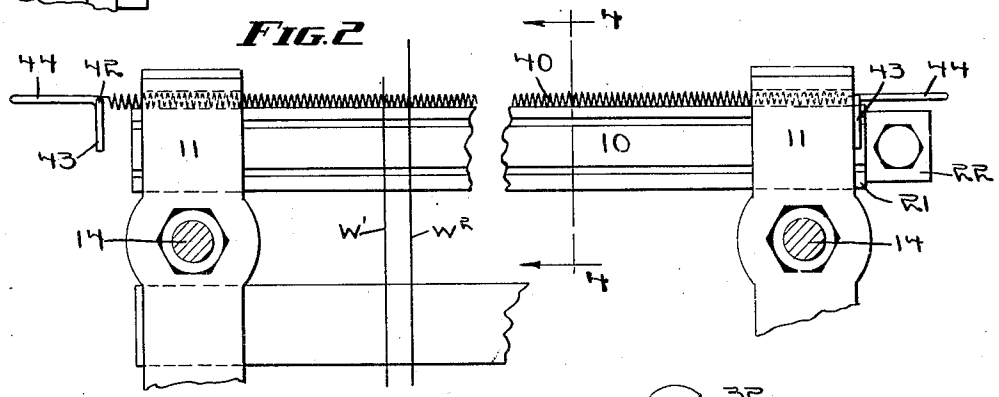


FIG. 2



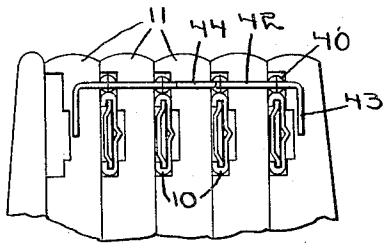


FIG. 3

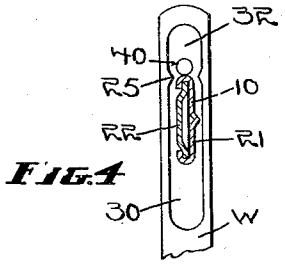


FIG. 4

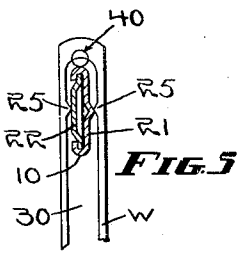


FIG. 5

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DEVICE FOR LOCATING FALLEN DROP WIRES

Application filed March 4, 1931. Serial No. 520,068.

This invention relates to warp stop motions used in looms for weaving textile fabrics. When such stop motions are used with warps having a large number of fine warp threads, it is frequently difficult to locate a fallen drop wire, as the wire is concealed by the raised drop wires which crowd closely against it at both sides thereof.

It is the object of my invention to provide a simple device by which a fallen drop wire may be moved on its support to clearly indicate its position.

A more specific object of my invention is to provide a coil spring extending longitudinally through openings in a plurality of drop wires, together with means for stretching the spring, whereby causing a fallen drop wire engaged by the spring to be moved sideways sufficiently to indicate its position.

My invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly pointed out in the appended claims.

A preferred form of the invention is shown in the drawings, in which

Fig. 1 is a plan view of a warp stop motion embodying my improvements;

Fig. 2 is a front elevation thereof, looking in the direction of the arrow 2 in Fig. 1;

Fig. 3 is an end elevation, looking in the direction of the arrow 3 in Fig. 1;

Fig. 4 is a detail sectional elevation taken along the line 4—4 in Fig. 3, and

Fig. 5 is a view similar to Fig. 4 but showing the parts in a different relation.

Referring to the drawings, I have shown a stop motion of a commercial type, adapted to be electrically operated. Supporting bars 10 are mounted in end frame members 11 which are assembled on rods 14 having offset end portions 15 secured in brackets 16 mounted on the loom frame 20.

The supporting bars 10 are preferably formed of inner and outer contact plates 21 and 22 (Fig. 4) adapted to be engaged by lugs 25 (Fig. 5) on the drop wires W when a warp thread breaks and the wire drops. The wires W are provided with elongated slots 30 (Fig. 4) which extend substantially above the bar 10 when suspended on unbroken warp threads. This leaves an open space 32 (Fig. 4) within the raised drop wires and above the supporting bar 10.

The construction thus far described is of a common commercial form and is used for purposes of illustration only, as my invention is applicable also to other similar stop motions.

For the purpose of locating fallen drop wires I place coil springs 40 in the spaces 32 and resting upon the upper edges of the supporting bars 10. A separate spring 40 is provided for each bar 10 of the stop motion, but the ends of all of the springs 40 are preferably attached to handle members 42, each formed with down-turned ends 43 (Fig. 3) and with an outwardly projecting handle loop 44. The tension of the springs 40 normally holds these handle members 42 against the outer faces of the frame members 11 for the bars 10.

When all of the drop wires are raised to the position shown in Fig. 4, the springs 40 extend freely through the aligned spaces 32 in the drop wires. When a warp thread breaks, however, the associated drop wire falls to the position indicated in Fig. 5, making contact between the plates 21 and 22 and causing the loom to be stopped. At the same time, that portion of the drop wire at the upper end of the slot 30 enters between two of the coils of the associated spring 40.

If the handle member 42 at one side or the other of the loom is then pulled outward, the fallen drop wire caught between the spring coils will be moved along its supporting bar 10 sufficiently to separate it from the adjacent drop wires on one side thereof. This result is illustrated in Figs. 1 and 2, where the fallen drop wire W' is shown separated from the next adjacent raised drop wire W^2.

In this way a fallen drop wire in any one of the banks of drop wires may be quickly and easily located, so that the broken warp may be pieced up and the loom again placed in operation.

My improved indicating mechanism is extremely simple in construction, inexpensive to manufacture and easily applied to stop

motions already built, without making any substantial change in the construction thereof.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed otherwise than as set forth in the claims, but what I claim is:—

1. In a warp stop motion having a supporting bar and a plurality of slotted drop wires, an indicator for a fallen drop wire comprising a coiled spring extending along the upper edge of the drop wire supporting bar and extending freely through the slots of the raised drop wires but located in the path of a falling drop wire, and means to stretch said spring beyond its normal condition to indicate the location of a fallen drop wire.

2. In a warp stop motion having a supporting bar and a plurality of slotted drop wires, an indicator for a fallen drop wire comprising a coiled spring extending along the upper edge of the drop wire supporting bar and extending freely through the slots of the raised drop wires but located in the path of a falling drop wire, and means to stretch said spring beyond its normal condition to indicate the location of a fallen drop wire, the coils of said spring when in normal position in said stop motion being spaced apart sufficiently to admit an edge of a fallen drop wire between adjacent coils.

3. In a warp stop motion having a supporting bar and a plurality of slotted drop wires, an indicator for a fallen drop wire comprising a coiled spring extending along the upper edge of the drop wire supporting bar and extending freely through the slots of the raised drop wires but located in the path of a falling drop wire, and a handle member to which an end of said spring is attached and by which said spring may be stretched beyond its normal condition to indicate the location of a fallen drop wire.

4. In a warp stop motion having a supporting bar and a plurality of slotted drop wires, an indicator for a fallen drop wire comprising a coiled spring extending along the upper edge of the drop wire supporting bar and extending freely through the slots of the raised drop wires but located in the path of a falling drop wire, and a handle member at each side of the loom to which the adjacent end of said spring is attached and by which said spring may be stretched beyond its normal condition to indicate the location of a fallen drop wire.

5. In a warp stop motion having a plurality of slotted drop wires arranged in parallel banks and a supporting bar for each bank, an indicator for a fallen drop wire comprising a plurality of coil springs corresponding in number to said banks and bars, with each of said springs extending along the upper edge of one of said supporting bars and extending freely through the slots of the raised drop wires but located in the path of a falling drop wire, and a single operating device effective to stretch all of said springs simultaneously beyond their normal condition to indicate the location of a fallen drop wire.

6. In a warp stop motion having a plurality of slotted drop wires arranged in parallel banks and a supporting bar for each bank, an indicator for a fallen drop wire comprising a plurality of coil springs corresponding in number to said banks and bars with each of said springs extending along the upper edge of one of said supporting bars and extending freely through the slots of the raised drop wires but located in the path of a falling drop wire, and a handle member to which one end of each spring is attached and by means of which all of said springs may be stretched simultaneously beyond their normal condition to indicate the location of a fallen drop wire.

7. In a warp stop motion having a plurality of slotted drop wires arranged in parallel banks and a supporting bar for each bank, an indicator for a fallen drop wire comprising a plurality of coil springs corresponding in number to said banks and bars with each of said springs extending along the upper edge of one of said supporting bars and extending freely through the slots of the raised drop wires but located in the path of a falling drop wire, and a pair of handle members, one at each end of said supporting bars and to which the adjacent ends of all of said springs are attached, each of said handle members constituting means by which all of said springs may be stretched from either side of the loom simultaneously beyond their normal condition to indicate the location of a fallen drop wire.

In testimony whereof I have hereunto affixed my signature.

JOHN G. AHLIN.