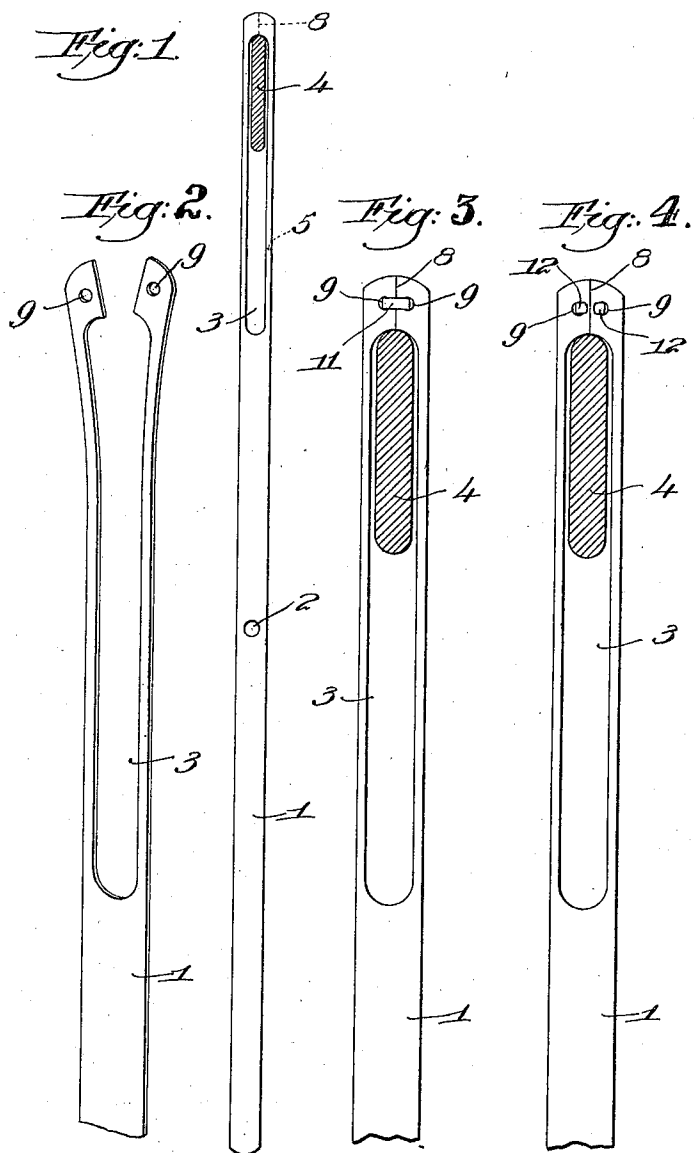


G. FREUDENTHAL.
 INSERTIBLE DETECTOR FOR WARP STOP MOTIONS.
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1,001,750.

Patented Aug. 29, 1911.



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UNITED STATES PATENT OFFICE.

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INSERTIBLE DETECTOR FOR WARP STOP-MOTIONS.

1,001,750.

Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed February 24, 1911. Serial No. 610,639.

To all whom it may concern:

Be it known that I, GOTTFRID FREUDENTHAL, a citizen of the United States, and resident of North Grosvenor Dale, county of Windham, State of Connecticut, have invented an Improvement in Insertible Detectors for Warp Stop-Motions, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention has for its object the production of a novel detector for warp stop-motions, more particularly adapted for use as a detector-heddle in so-called steel harnesses for looms, though it may be used as an ordinary drop-detector independent of the harness, the detector being so constructed that it can be inserted in a series of detectors in the loom without taking the warp out of the loom or so injuring the detector as to spoil it for future use.

Thin, flat steel detectors for warp stop-motions are often made with an elongated slot near one end for the reception of a supporting bar relatively to which the detectors have a limited longitudinal movement, the warp-threads being led through suitable eyes in the detectors below the slots. When the warp is drawn in it is drawn through the warp-eyes of the detectors, which latter may be in a single bank or series, or in a plurality of banks, and a supporting bar is passed through the elongated slots of the detectors in a bank, whether said detectors serve also as heddles in a loom-harness, as in United States Patent No. 536,968 granted April 2, 1895 to Roper, or whether they serve as drop devices independent of the harness. In either case it sometimes happens that one or more detectors in a bank break or become unfit for use after the warp is in the loom, and must be replaced, and at other times it is found necessary to insert a detector to remedy a fault in drawing-in. Heretofore this insertion has generally been accomplished by breaking the detector body at one side of the slot, and snapping the detector onto the supporting bar, thereby obviating removal of the warp from the loom. This is very objectionable, however, for the ends of the broken side of the slot are apt to catch in adjacent detectors, and interfere with the proper operation of the loom, and

furthermore such a broken detector is completely spoiled for any subsequent use.

By my present invention I avoid spoiling the detector and it will operate perfectly either as an insert in a bank of detectors, or it can be used as a proper detector in connection with ordinary ones in drawing-in warp for a new bank.

The novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a side elevation of a well known form of metallic warp stop-motion detector, shown as hung upon a supporting bar, the latter being in section; Fig. 2 is a similar view, also enlarged, of an insertible detector embodying my invention, ready to be applied to the supporting bar; Figs. 3 and 4 are obverse and reverse side elevations, enlarged, of the improved detector after it has been applied to the bar and its separated portions united to close the slot; Fig. 5 is a perspective view of the fastener, detached.

Referring to Fig. 1, the warp stop-motion detector comprises an elongated, thin and flat metal body 1, preferably of steel, having a warp-eye 2 and an elongated slot 3 near one end, above the warp-eye, for the reception of the supporting bar 4, the latter of less depth than the length of the slot, such detector being well known to those skilled in the art.

In accordance with my invention I slit the detector centrally and longitudinally at 8, from the outer end of the slot 3 to the adjacent end of the body, and two small holes or apertures 9 are punched out of the metal at opposite sides of the slit, Figs. 2, 3, and 4, by any suitable tool. The slit 8 opens the slot 3 at its outer end, and when it is necessary to insert a detector in a bank I spring apart in opposite directions the portions of the body separated by the slit, as shown in Fig. 2, so that the supporting bar can enter the slot 3 through the opening thus provided. When the detector is thus applied to the bar I apply a fastener to permanently unite the parts of the body separated by the slit and maintain them positively in the plane of the body. For this purpose I use a small staple-like fastener, preferably made of thin flat wire, having short legs 10 and a

connecting head 11, the legs being passed through the apertures 9 in the detector body and turned over or upset upon the opposite face of said body, as at 12, Fig. 4. This upsetting is conveniently effected by a suitable hand tool, so that the fastener is clamped in place, the head 11 being of such length that it bridges the slit 8 transversely on one face of the detector while the upset legs hold the edges of the slit firmly closed. Thus the slitted end of the slot 3 is permanently and securely united and maintained closed, the fastener being so thin that the slight increase in thickness of the detector due to said fastener is unobjectionable, it being located wholly above the warp-thread, and no interference with the proper operation of the loom or of the detectors is possible. Such an insertible detector can be used afterward with other and ordinary detectors when drawing-in a new warp, so that the temporary weakening of the body by the slit is cured when the separated parts are united by the fastener, as described.

My insertible detector can be used with equal facility as a detector-heddle in a steel harness, so called, for which it is particularly adapted, or as an ordinary drop-detector independent of the harness, and will perform its proper functions with entire satisfaction in either case.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. As an article of manufacture, an insertible warp stop-motion detector comprising

a thin, flat metal body having a warp-eye and an elongated slot between the eye and the upper end of the body and slitted longitudinally from the upper end of the slot to the adjacent end of the body, the latter having apertures at the opposite sides of the slit, whereby the slitted end of the body may be separated to open the slot temporarily for the reception of a supporting bar, and a metallic fastener bridging the slit and adapted to be secured at each side thereof in the apertures, to unite the slitted portions of the body and permanently close the slitted end of the slot to retain the detector upon the bar.

2. As an article of manufacture, an insertible warp stop-motion detector comprising a thin, flat metal body having an elongated slot near one end and centrally slitted longitudinally from the outer end of the slot to the adjacent end of the body, whereby the slitted end of the body may be separated to open the slot temporarily for the reception of a supporting bar, and a thin, flat metallic fastener adapted to bridge the slit transversely and unite the slitted portions of the body, to thereby close permanently the slitted end of the slot and retain the detector upon the bar.

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

GOTTFRID FREUDENTHAL.

Witnesses:

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PATRIK L. PETERSON.