No. 890,738. PATENTED JUNE 16, 1908.

J. P. WEBBER.

DETECTOR FOR WARP STOP MOTIONS.

APPLICATION FILED APR. 20, 1907.

Fig. 1.

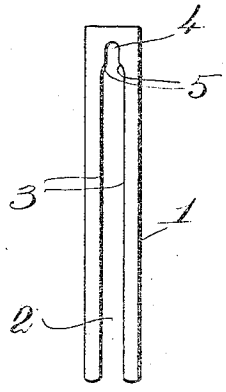
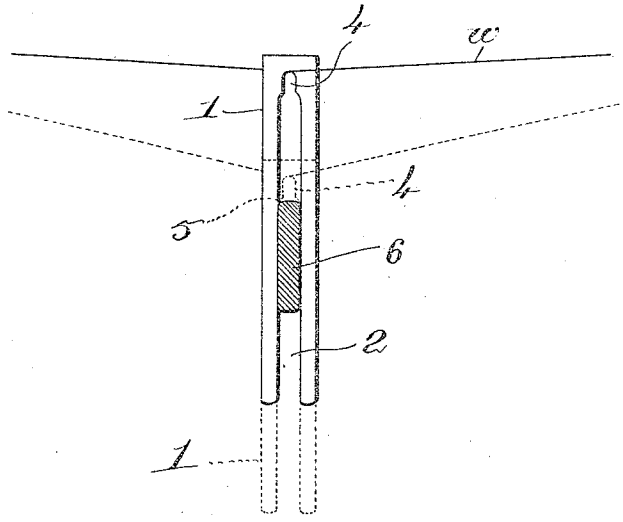


Fig. 2.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN P. WEBBER, OF LAWRENCE, MASSACHUSETTS, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

DETECTOR FOR WARP STOP-MOTIONS.

No. 890,738. Specification of Letters Patent. Patented June 16, 1908.

Application filed April 20, 1907. Serial No. 369,190.

To all whom it may concern:

Be it known that I, JOHN P. WEBBER, a citizen of the United States, and resident of Lawrence, county of Essex, State of Massachusetts, have invented an Improvement in Detectors for Warp Stop-Motions, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

This invention relates to detectors for warp-stop-motions of the type wherein a series of longitudinally movable detectors are maintained in inoperative position by normal warp-threads, a detector being permitted to move into operative or active position by failure or undue slackness of its warp-thread. In such apparatus the detectors are frequently arranged in series and have each a longitudinal, elongated opening or slot through which is extended a guide or support, relatively to which the detectors are movable vertically, the warp-threads passing through the openings or slots between their closed upper ends and the top of the guide or support. When using detectors or drop devices of this character on worsted looms it has been found that when the take-up was let back, and the warp loosened for the weaver to pick out a bad place in the cloth, the shaking of the warp-threads by the weaver in picking out such a bad place caused the detectors to jump up and down on the guide or supporting bar. Such jumping of the detectors brought the upper ends of their slots down upon the top of the guide, pinching or nipping the warp-threads and cutting them between the two hard edges, resulting in much annoyance and delay and loss of production.

The present invention has for its object the production of a novel and simple form of detector or drop-device to completely obviate the cutting of the warp threads by the jumping action referred to.

Figure 1 is a side elevation of a detector embodying one form of the present invention; Fig. 2 is a view of one of the novel detectors mounted on its guide or support, in normal position, and in dotted lines a detector is shown as in abnormal position, illustrating the use at such time of the novel structure.

In practice the detectors 1 are preferably made of thin, flat sheet-metal, of the requisite length and width, herein shown as substantially rectangular in outline, with straight longitudinal edges, each detector having an elongated longitudinal opening or slot 2, open at its lower end and having parallel sides 3.

In accordance with the present invention the slot or opening terminates at its closed upper end in a short, straight prolongation 4, symmetrically disposed with relation to the opening 2, that is, centrally located between the parallel sides 3 thereof. The said sides are incurved at their upper ends at 5 to present shoulders at the junction of the wide slot 2 and the narrow prolongation 4 thereof, the entrance to the latter being between the shoulders, as clearly shown in Fig. 1, the sides of the prolongation being parallel to each other and to the sides 3 of the wide slot.

As shown in Fig. 2 the detectors are strung on the warp-threads w, which pass through the prolongations 4, the main opening or slot 2 loosely receiving and embracing the upright guide or supporting bar 6.

Normal warp-threads maintain the detectors elevated, as shown in full lines, Fig. 2, and if the warp-threads are slackened so that the detectors can descend to the maximum amount the shoulders 5 engage the top of the bar 6, while the warp-thread remains free and unpinched in the prolongation 5, as shown at $w^{\times}$, Fig. 2.

No matter how much a detector may be made to jump up and down its descent is limited by engagement of the shoulders 5 with the supporting bar, and a clear and open warp-receiving opening will at such times be always provided by the prolongation 4, so that there is practically no possibility of the thread being caught and cut.

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

As an article of manufacture, a thin, flat sheet-metal warp-stop-motion detector having straight longitudinal edges from end to

end and provided with an elongated slot open at its lower end and having parallel sides incurved at their upper ends at the entrance to a narrow, straight and central prolongation of the slot, said prolongation also having parallel sides.

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

JOHN P. WEBBER.

Witnesses:
THEOPHILUS COUPE,
JOSEPH E. KENNY.