

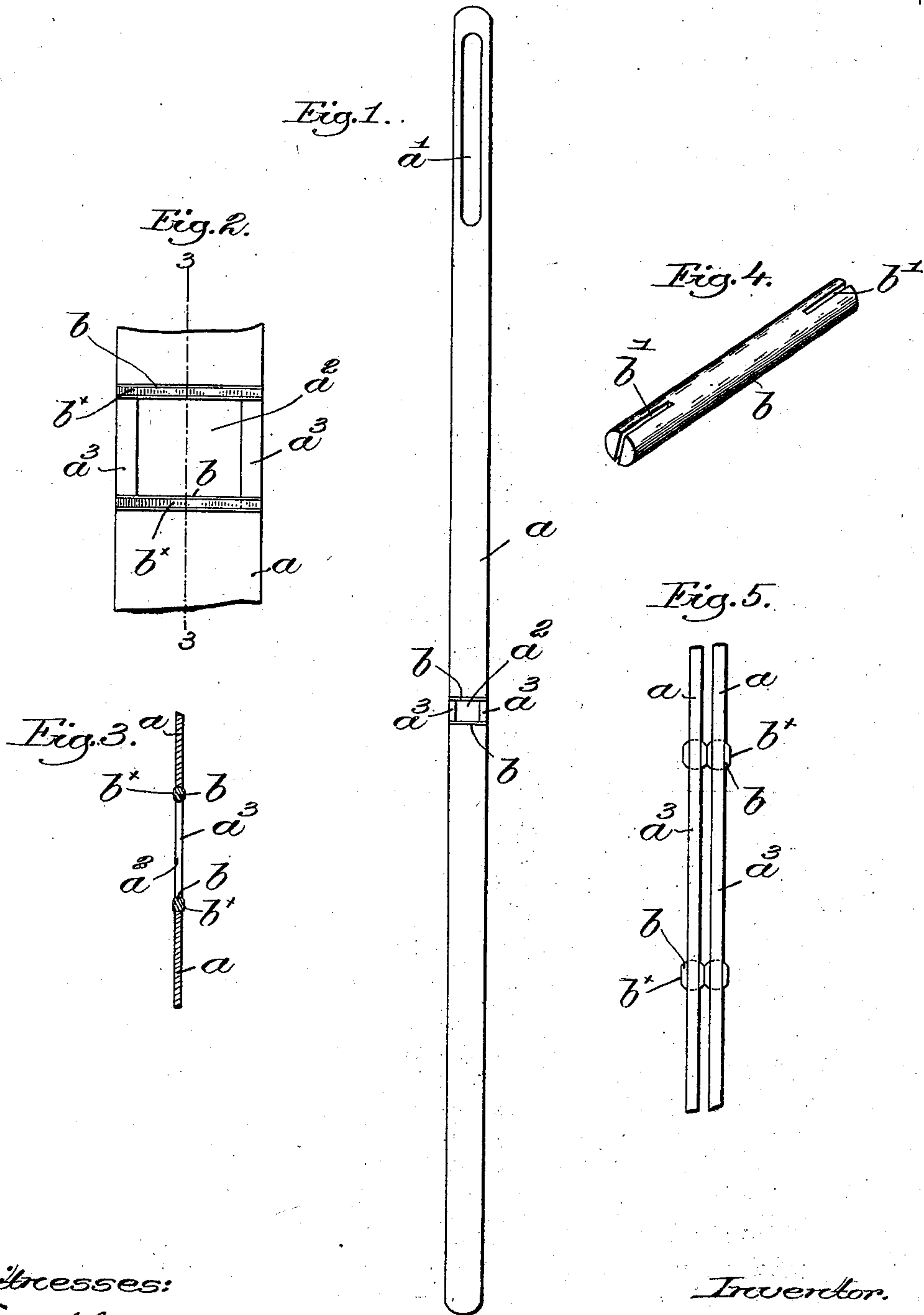
No. 698,123.

Patented Apr. 22, 1902.

D. D. MAHONEY.
WARP STOP MOTION DETECTOR.

(Application filed Dec. 9, 1901.)

(No Model.)



Witnesses:

Fred L. Grunhof.
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UNITED STATES PATENT OFFICE.

DENIS D. MAHONEY, OF HOPKINTON, MASSACHUSETTS, ASSIGNOR TO
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WARP-STOP-MOTION DETECTOR.

SPECIFICATION forming part of Letters Patent No. 698,123, dated April 22, 1902.

Application filed December 9, 1901. Serial No. 85,123. (No model.)

To all whom it may concern:

Be it known that I, DENIS D. MAHONEY, a citizen of the United States, residing at Hopkinton, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Warp-Stop-Motion Detectors, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a novel and efficient detector for warp-stop-motion apparatus of the type wherein the stopping means is governed as to its operation by or through controlling-detectors which are normally maintained in inoperative position by the warp-threads.

As will more fully appear hereinafter, the detector may be used as a detector only in a warp-stop-motion apparatus, or it may with equal readiness be employed in a loom as a detector-heddle, performing the functions of a heddle and a detector for the warp stop-motion.

The various novel features of my invention will be hereinafter fully described, and particularly pointed out in the following claims.

Figure 1 is a side elevation of a detector embodying one form of my invention. Fig. 2 is a greatly-enlarged detail, also in side elevation, of the warp-receiving portion of the detectors to more clearly show the wear members. Fig. 3 is a longitudinal section on the line 3-3, Fig. 2. Fig. 4 is an enlarged perspective view of one of the wear members detached; and Fig. 5 is an edge view, on an exaggerated scale, of parts of two adjacent detectors, showing the separation thereof adjacent their warp-receiving openings.

I shall hereinafter by the term "detector" include a detector-heddle, as well as a detector pure and simple, for warp-stop-motion apparatus.

Referring to Fig. 1, I have shown a well-known form of detector, preferably made as an elongated narrow strip a of thin flat sheet metal, preferably steel, and herein shown as having a longitudinal slot a' at or near one end to receive a supporting-bar (not shown)

and relatively to which the detector has a limited vertical movement when in use. The warp-receiving opening a^2 is shown as substantially rectangular in shape and quite large, the upright sides being formed by the narrow portions a^3 of the detector-body, these openings being commonly stamped or punched out when the detector is made or thereafter, as desired.

In order to present smooth and easy bearing-surfaces for the warp-yarn to run over, I have herein applied transverse wear members to the upper and lower edges of the opening a^2 , and in Fig. 4 one of these members or struts b is shown on a greatly-enlarged scale of substantially circular cross-section and having longitudinal slots b' at its ends. These members, made of brass or other suitable material, are let into the warp-receiving opening, the slotted ends embracing the upright side portions a^3 , and when said members are in place at the top and bottom of the opening adjacent its edges they are rigidly secured in place by compression in suitable dies and by brazing or soldering, if desired. The pressure somewhat flattens the outer faces of the wear members, as at b^x ; but the portions within the sides of the opening present convex bearing-surfaces, over which the warp-yarn can run easily and without undue friction. When such detectors are in use, they are arranged in series side by side, substantially parallel to the direction of warp travel, in well-known manner, and the wear members b at such time serve to protect the yarn from contact with adjacent detectors.

By reference to Fig. 5 it will be seen that the diameter of the members or struts b is greater than the thickness of the detector, so that they project beyond the flat faces of the detector, and the projecting portions of the wear members of one detector bear against those of the adjacent detectors or against the flat faces thereof, and so maintain sufficient lateral separation between the detectors to prevent the warps led through one from coming in contact with its adjacent fellows.

My invention is not restricted to the precise construction and arrangement shown, as

the same may be modified in various particulars without departing from the spirit and scope of the invention.

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

1. As a new article of manufacture, a detector-heddle for looms, made of an elongated, narrow strip of sheet metal having a longitudinal slot and a warp-receiving opening, and transverse, rounded wear members of greater thickness than the strip, secured in place at the top and bottom of the warp-receiving opening, to present convex bearing-surfaces for the warp and laterally extended beyond the flat faces of the heddle.

2. As a new article of manufacture, a warp-stop-motion detector made of an elongated, narrow strip of sheet metal having a substantially rectangular warp-receiving opening, and wear members substantially round in

cross-section and having slotted ends, let into the said opening at the top and bottom thereof to present convex bearing-surfaces for the warp, the slotted ends embracing the sides of the opening.

3. As a new article of manufacture, a warp-stop-motion detector made of an elongated, narrow strip of sheet metal having a substantially rectangular warp-receiving opening, and means secured within said warp-receiving opening to present convex bearing-surfaces for the warp, said means projecting beyond the flat faces of the detector, substantially as and for the purpose set forth.

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

DENIS D. MAHONEY.

Witnesses:

GEORGE OTIS DRAPER,
ERNEST WARREN WOOD.