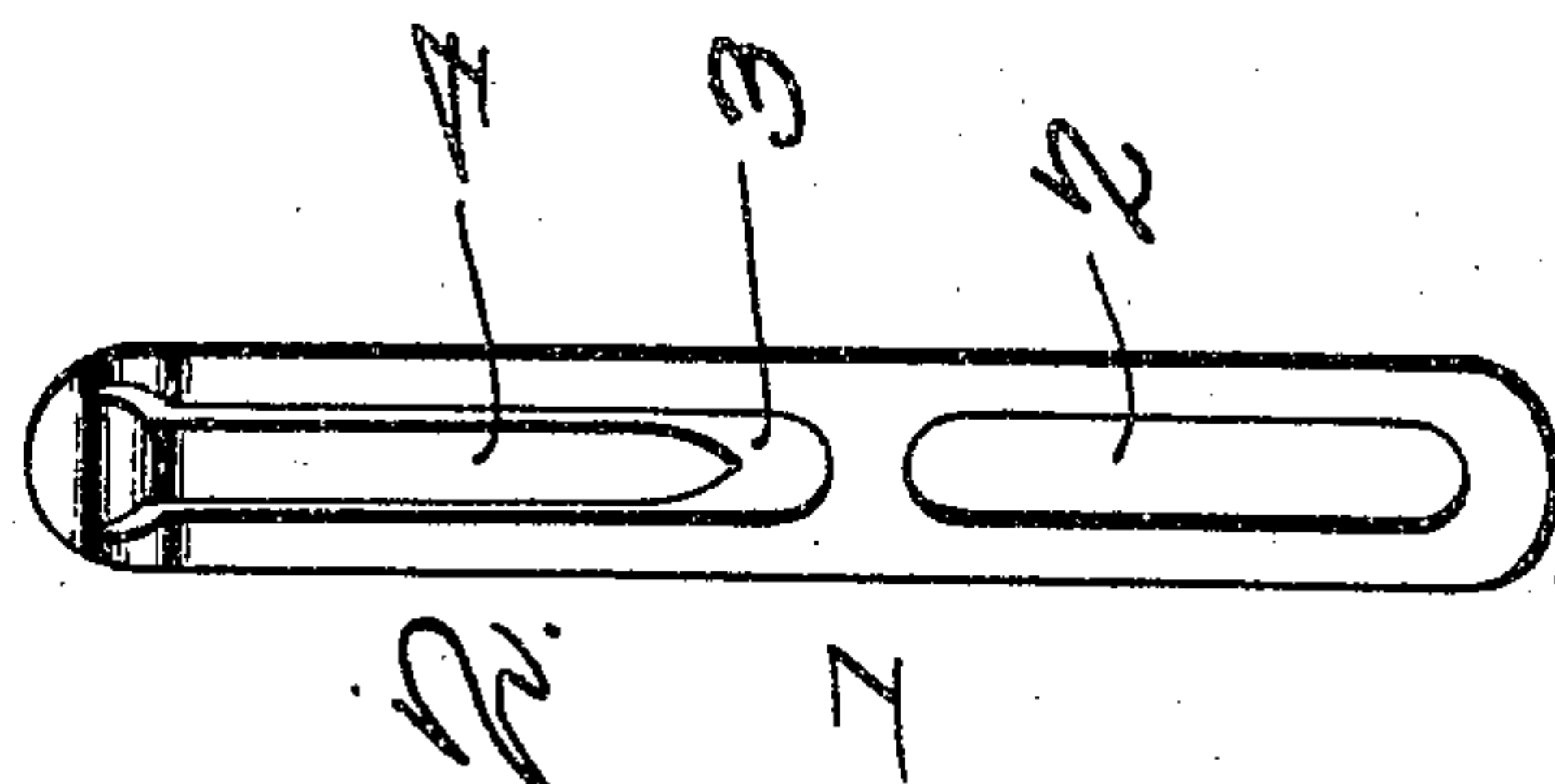
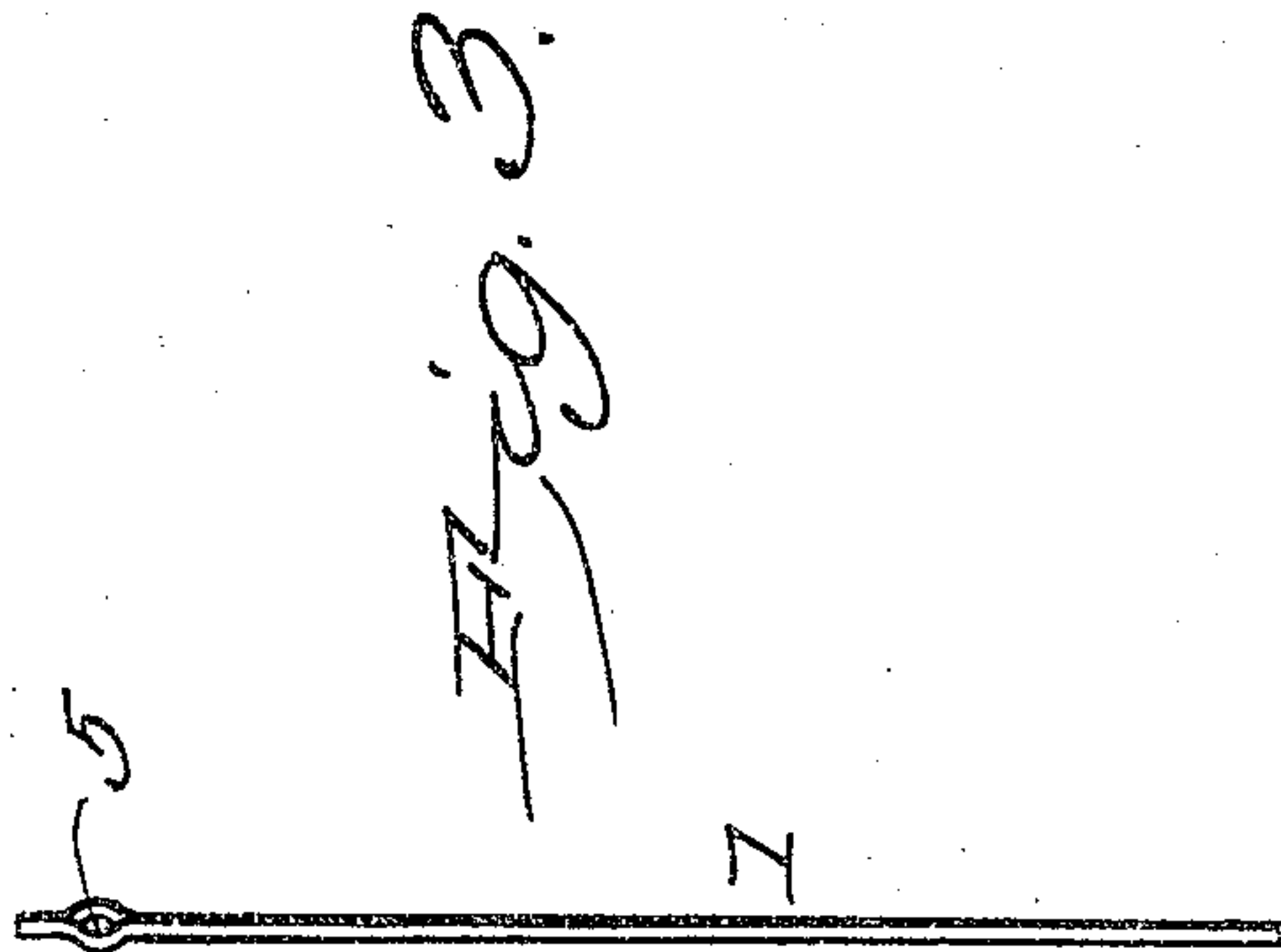
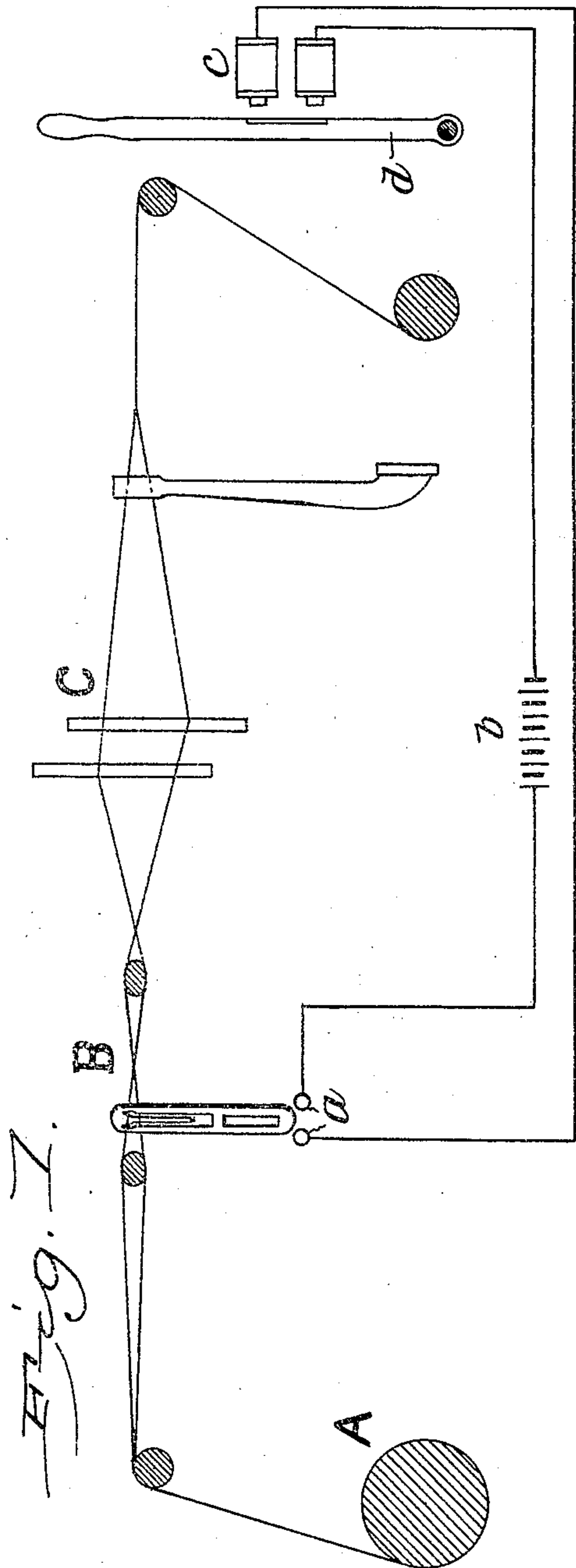


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J. H. FOSTER.  
WARP STOP MOTION FOR LOOMS.  
APPLICATION FILED NOV. 2, 1903.

NO MODEL.



Witnesses  
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## UNITED STATES PATENT OFFICE.

JOHN HENRY FOSTER, OF FALL RIVER, MASSACHUSETTS.

## WARP STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 774,316, dated November 8, 1904.

Application filed November 2, 1903. Serial No. 179,607. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HENRY FOSTER, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented a new and useful Warp Stop-Motion for Looms, of which the following is a specification.

This invention relates to certain improvements in devices of that class employed for stopping a loom when the warp-thread breaks or is unduly slack.

The principal object of the invention is to provide a device of that class generally known as "detectors," which are hung on the warp-threads and normally maintained in an elevated position by such threads, the detectors falling to a limited extent should the thread break or become slack.

A further object of the invention is to provide a device of this character in which the detector is provided with a peculiar form of thread-receiving eye that will not necessitate undue strain on the thread, and in this connection a further object is to provide a detector which may be hung on the thread and will properly retain its position without the necessity of threading the warp through the usual eye.

With these and other objects in view, as will hereinafter appear more fully, the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a sectional elevation, partly in the nature of a diagram, illustrating a detector constructed and arranged in accordance with the invention and showing in diagram sufficient of a loom to illustrate the application of my invention thereto. Fig. 2 is a detail perspective view of the detector on an enlarged scale. Fig. 3 is an elevation of the same looking from one edge.

Similar numerals and letters of reference

are employed to indicate corresponding parts throughout the several figures of the drawings.

One of the commonest forms of warp stop-motions for looms includes detectors that are hung upon the warp-threads and supported thereby in elevated position so long as the threads remain in proper position. On the slacking or breakage of a thread the detector instantly falls and through suitable mechanism, either mechanical or electrical, effects the stoppage of the loom.

The present invention resides more especially in the construction of a detector which may be applied to a warp-thread without the necessity of threading the latter through the usual eye and without moving the thread out of a straight line in its passage to the harness.

In Fig. 1 of the drawings, A represents the warp-beam; B, the lease-rods; C, the harness, and D the breast-beam of an ordinary loom. On each of the warp-threads is hung a detector 1, of the construction more clearly shown in Figs. 2 and 3, and comprising a thin strip of suitable metal provided at its lower end with a slot 2, through which may pass a suitable guiding-rod extending between the side frames of the loom, although this is not considered necessary in all cases. The upper portion of the detector is slotted, as indicated at 3, the metal being cut away in such manner as to form a pendent tongue 4, somewhat wider at its upper than at its lower end, and the slot 3 being similarly widened, so that the space between the root of the tongue and the upper portion of the slot will be of crescentic form. The body of the tongue is arranged in the same plane as the body of the strip, while at the root of the tongue the metal is curved outward, being bent in one direction in the tongue proper and in the opposite direction in the body of the strip, so that there is formed an eye 5 for the passage of the warp. This eye differs from those ordinarily found in detectors of the class, inasmuch as it extends in a plane parallel with the width of the strip and not in a plane parallel with the thickness thereof, so that the warp is not thrown out of alignment and there is no danger of presenting a sharp edge that would tend to cut or otherwise injure the thread. One of these detec-



tors is arranged on each of the warp-threads at a point adjacent to the lease-rods and is normally maintained in proper position so long as the threads follow the prescribed course; but should any one of the threads fail or become slack the detector which it carries will fall a slight distance and will operate suitable mechanical or electromagnetic mechanism for stopping the loom.

One of the principal advantages resulting from the use of a detector of the character described is that the tongue may be sprung slightly outward in order to form a clear passage for the thread, or the latter may be bent in the form of a half-loop, so as to be placed around the tongue, and the latter allowed to fall until the thread is properly received in the eye, so that it becomes unnecessary to separately thread each detector in the manner ordinarily practiced in introducing the warps through the eyes of detectors or heddles.

The mechanism for stopping the loom may be of any ordinary character and forms no part of the invention; but in Fig. 1 there is shown, partly in diagrammatic form, an electrical stop-motion mechanism in which the falling detector acts as a circuit-closer between two rods *a*, forming the terminals of a circuit that includes a battery *b* and an electromagnetic *c*, the latter being disposed at a point adjacent to the shipper-rod *d* of the loom.

Having thus described the invention, what is claimed is—

1. In warp stop-motions, a detector comprising a strip of metal having a pair of incisions forming a tongue, the metal adjacent to the root of the tongue being bent outward beyond the general plane of said strip to form a warp-receiving eye parallel with the width of the strip.

2. In warp stop-motions, a detector formed of a strip of metal of which an intermediate portion is cut away to form a tongue, there being a warp-receiving eye adjacent to the root of the tongue.

3. In warp stop-motions, a strip of metal having an intermediate portion cut away to form a tongue disposed in the plane of the strip, the root of the tongue and the metal of the strip adjacent thereto being bent respectively in opposite directions to form a thread-receiving eye.

4. In warp stop-motions, a detector formed of a strip of metal having an intermediate portion cut away to form a tongue of which the root is of greater width than the point, the metal adjacent to the root of the tongue being bent to form a warp-receiving eye.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN HENRY FOSTER. [L. s.]

Witnesses:

ALPHONSE BESSETTE,  
ARTHUR POULIN.