

No. 651,704.

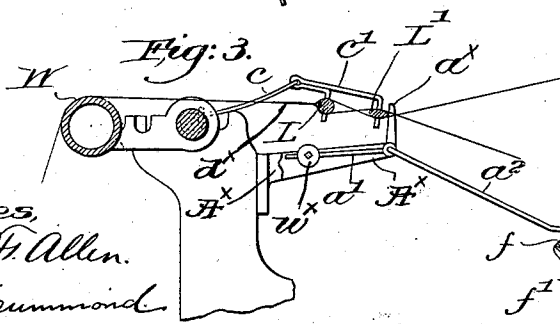
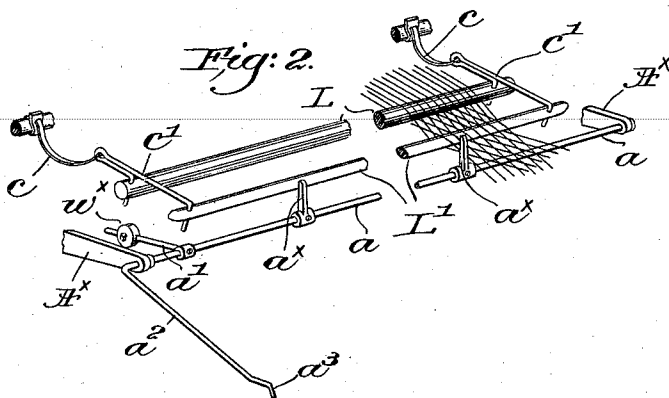
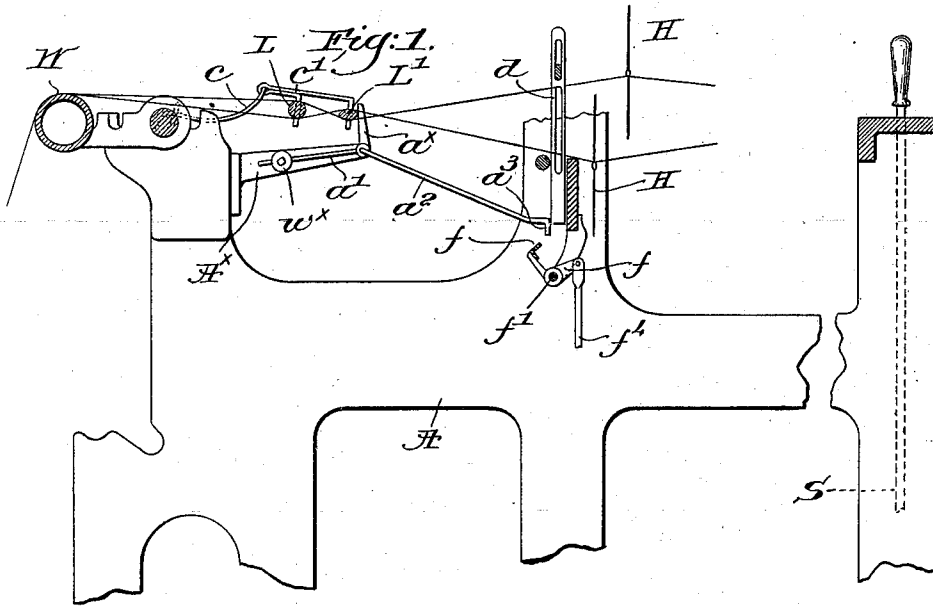
Patented June 12, 1900.

W. G. EATON.

DRAW DETECTING MECHANISM FOR LOOMS.

(Application filed Mar. 10, 1900.)

(No Model.)



Witnesses,
 Edward F. Allen.
 Thomas Drummond.

Inventor,
 Willie G. Eaton,
 by Lewis Gregory,
 atty.

UNITED STATES PATENT OFFICE.

WILLIE G. EATON, OF NASHUA, NEW HAMPSHIRE, ASSIGNOR TO THE DRAPER COMPANY, OF PORTLAND, MAINE, AND HOPEDALE, MASSACHUSETTS.

DRAW-DETECTING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 651,704, dated June 12, 1900.

Application filed March 10, 1900. Serial No. 8,176. (No model.)

To all whom it may concern:

Be it known that I, WILLIE G. EATON, a citizen of the United States, and a resident of Nashua, New Hampshire, have invented an
5 Improvement in Draw-Detecting Mechanism for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 In weaving cloth "draws" sometimes occur, the term "draw" being applied to the sticking together of warp-threads back of the leasing means by slashing material, a draw acting to tighten up the threads in such a
15 manner as to make a bad-looking place in the cloth.

My present invention has for its object the production of means for stopping automatically a loom upon the occurrence of a draw.

20 As the formation of draws only occurs with poor warps, it is unnecessary to provide all looms with stopping means embodying my invention, but it is requisite that such stopping means be simple in construction and operation, so that it can be readily applied to
25 any loom on which the trouble occurs.

One practical embodiment of my invention is herein shown and described applied to a loom provided with warp-stop-motion mechanism.

30 Figure 1 is a longitudinal sectional view of a portion of a loom provided with warp-stop-motion mechanism with one embodiment of my invention applied to the loom. Fig. 2 is a
35 perspective view of the draw-detecting means, showing its cooperation with the lease-rods; and Fig. 3 is a sectional detail similar to Fig. 1, showing the draw-detecting means in abnormal or operative position.

40 Referring to Fig. 1, the loom-frame A, harnesses H, whip-roll W, warp-stop-motion detectors d , maintained in normal inoperative position by intact warp-threads, a normally-vibrating feeler f , mounted on a rock-shaft
45 f' , having a rigidly-attached arm f^2 , and the lease-rods L L' may be and are of any well-known or usual construction, a dropped detector engaging and arresting the feeler f and through suitable intermediate mechanism
50 (not shown) releasing the shipper-lever S from its holding-plate to stop the loom, as in

United States Patent No. 621,310, dated March 14, 1899, and the vibrating movement of the feeler may be conveniently effected by mechanism shown in said patent transmitted
55 through the link f^4 , the said mechanism forming part of stopping means for the loom, as in the patent referred to. The lease-rods are held in operative position by usual leather and wire connections $c c'$ and prevented from
60 being pulled by the warps toward the harnesses.

I have herein shown the draw-detecting means as comprising a rod or rock-shaft a , mounted in brackets A^x on the loom-frame
65 in front of and below the front lease-rod L', said shaft having fast thereon one or more detector-fingers a^x , upturned through the warps and held against the front lease-rod by a weight w^x on an arm a' , fast on the rock-
70 shaft a . As herein shown, one end of the shaft or rod a is bent forward and downward, as at a^2 , and turned down at its extremity at a^3 to form a detent, which is normally held out of the path of the feeler f by
75 the weight w^x , which latter also holds the detector-fingers a^x against the adjacent lease-rod L' and prevents forward motion of the latter. When, however, an abnormal pull
80 on the lease-rod occurs, due to the warp-threads not separating, forming a draw, as at d^x , Fig. 3, the lease-rods will be pulled forward, tipping the detector-fingers a^x and rocking the shaft a to move the detent a^3 into
85 the path of and to arrest the feeler f . Such engagement with and arrest of the feeler operates to effect the actuation of the stopping means for the loom precisely as if the feeler had been engaged by a dropped detector d , and the loom is stopped, enabling the weaver
90 to correct the error and start the loom up.

My invention is not restricted to the precise construction and arrangement herein shown and described, as the same may be varied or rearranged without departing from
95 the spirit and scope of my invention.

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

1. In a loom, stopping means therefor, including a normally-vibrating feeler, and "draw-detecting" means, including a rocking

detector-finger movable into abnormal position upon the occurrence of a "draw," and a feeler-detent movable into position to engage the feeler when the detector-finger is moved, 5 such engagement effecting the operation of the stopping means.

2. In a loom, lease-rods, a rock-shaft in front thereof and having one or more detector-fingers movable into operative position by abnormal forward movement of the 10 lease-rods, a detent controlled by the rock-shaft, and a normally-vibrating feeler forming part of stopping means for the loom, engagement of the feeler by the detent operating to effect stoppage of the loom. 15

3. In a loom, leasing means movable in the direction of warp travel upon the occurrence of a "draw," a detector movable into operative position by such movement of the leasing 20 means, a feeler-detent controlled by said

detector, and a normally-vibrating feeler forming part of stopping means for the loom, engagement of the feeler and detent operating to effect stoppage of the loom.

4. In a loom, warp-stop-motion mechanism, 25 including a normally-vibrating feeler and a series of detectors controlled by the warp-threads, and "draw-detecting" means, including a detent movable into position to engage the feeler upon the occurrence of a 30 draw, such engagement, or engagement of the feeler and a warp-controlled detector, operating to effect stoppage of the loom.

In testimony whereof I have signed my name to this specification in the presence of 35 two subscribing witnesses.

WILLIE G. EATON.

Witnesses:

L. I. MINARD,

W. E. KITTREDGE.