S. D. EUBANKS.

THIN PLACE DETECTING MECHANISM FOR LOOMS.

APPLICATION FILED APR. 1, 1909.

956,574. **Patented May 3, 1910.**

Fig. 1.

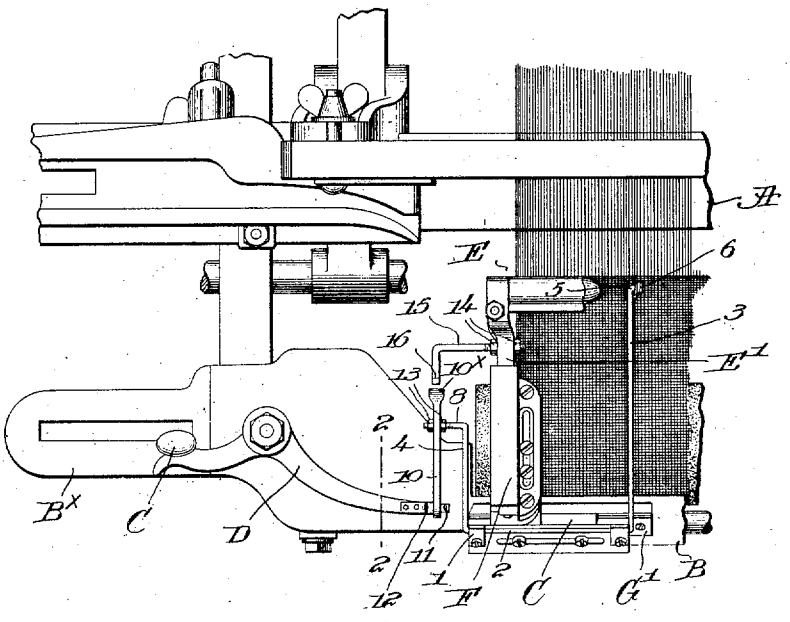
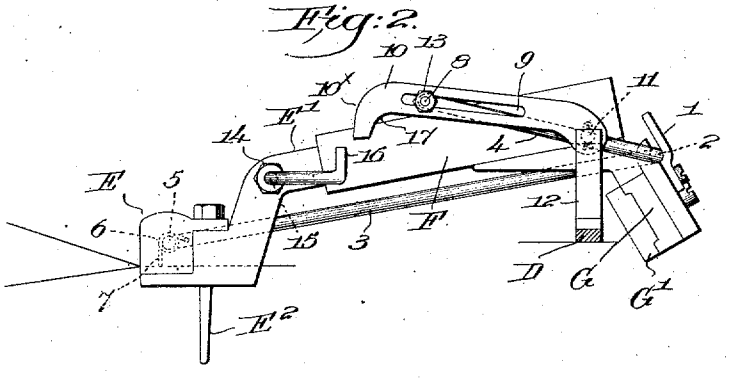


Fig. 2.



Witnesses,
Edward G. Allen.
Joseph M. Ward.

Inventor:
Sayers D. Eubanks,
by Crosby Gregory.
Attys.

UNITED STATES PATENT OFFICE.

SAYERS DRURY EUBANKS, OF WEST DURHAM, NORTH CAROLINA, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

THIN-PLACE-DETECTING MECHANISM FOR LOOMS.

956,574. Specification of Letters Patent. Patented May 3, 1910.

Application filed April 1, 1909. Serial No. 487,308.

To all whom it may concern:

Be it known that I, SAYERS D. EUBANKS, a citizen of the United States, and resident of West Durham, county of Durham, State of North Carolina, have invented an Improvement in Thin-Place-Detecting Mechanism for Looms, 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 and simple mechanism for detecting thin places or streaks in the cloth being woven on a loom, the mechanism being so constructed that when such a thin place is detected the loom is stopped automatically.

The various 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 top plan view of a portion of a loom with one practical embodiment of my present invention applied thereto; Fig. 2 is an enlarged side elevation and section, on the line 2—2, Fig. 1, looking toward the right.

Referring to the drawings the lay A, breast-beam B, shipper C, knock-off lever D to release the shipper from its usual holding notch in the plate B^x, the temple E having a shank E′ slidably mounted in a stand F and projected by the usual spring (not shown) and the bracket G for the temple-stand, adjustably mounted on a guide-plate G′ fixed on the breast-beam, may be and are all of well known and usual construction and operate in a manner familiar to those skilled in the art.

The temple has the usual depending heel E^2, Fig. 2, which is struck by the lay on its forward beat, moving the temple forward, the spring in the stand F projecting the temple as the lay springs back, as is common in loom structures.

In my present invention I mount bearings 1 on the bracket G, for a rock-shaft 2 having rearwardly extended arms 3, 4 at its inner and outer ends, respectively, the arm 3 having at its extremity a lateral bend 5 to receive the coils 6 of a piece of spring wire. One end of the wire is fixedly attached to the arm 3 and its other end 7 depends and constitutes a feeler or detecting finger, arranged to rest upon the cloth as close as possible to the fell, see dotted lines Fig. 2, but upon the occurrence of a thin place or streak in the cloth the finger drops between the warps and allows rock-shaft 2 to turn and lower the arm 4.

The rear end of the arm 4, which latter is at the outer side of the temple stand F, is bent outward at 8 and is extended loosely through a longitudinal slot 9 in a dog 10 pivotally mounted at 11 on an upright bracket 12 fixedly secured to the inner end of the knock off lever D. Nuts 13 screwed onto the bent end 8 of the arm 4, on each side of the slotted dog, prevent improper lateral movement of the latter.

Fixedly secured to the temple shank E′ by suitable nuts 14 is a bar 15, extended laterally therefrom and shown as upturned at its free end at 16 to form a bunter, said bunter moving back and forth with each reciprocation of the temple and its shank, as will be apparent.

So long as the cloth passing beneath the detecting finger 7 is perfect the finger will be held up and the arm 4 will thereby be maintained elevated in the position shown in Fig. 2, holding the dog 10 above and out of the path of the bunter 16. If the filling fails, however, and a thin place is formed the detecting finger 7 will at once sink between the warp threads and the turning of the shaft 2 lowers the dog 10 into the path of the bunter 16, so that on the next forward beat of the lay the bunter will hit the broadened end 10^x of the dog, Fig. 1, and push the dog forward, rocking the lever D to release the shipper C and thereby effect stoppage of the loom.

Referring to Fig. 2 it will be seen that the lower front portion of the end 10^x of the dog is curved at 17, so that if the dog should drop into operative position while the lay is forward the bunter 16 will act upon the curved part 17 and temporarily lift the dog as the temple is projected on the back stroke of the lay.

I make no claim to the particular form of detecting finger herein shown as the same forms a part of the subject-matter of United States Patent No. 908,459 granted January 5, 1909 to myself and another.

The structure is simple and efficient, the operation is practically instantaneous after detection of a thin place, and by mounting the detecting mechanism on the temple-

stand bracket such mechanism is adjusted when such bracket is adjusted. At such time the nuts 13 can be adjusted when necessary, and the bunter 16 can also be adjusted laterally by means of the nuts 14.

It will be observed that when the dog is engaged and moved forward by the actuator or bunter the slot in the dog permits such forward movement of the dog relative to the coöperating end of the arm 4.

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

1. In a loom, a reciprocating temple, a thin-place detector, a shipper, releasing means therefor, including a rearwardly extended, pivoted dog, a bunter fixedly mounted on and movable with the temple, and having its forward end upturned, and means controlled by the detector to normally maintain the dog elevated above the path of the upturned end of the bunter, detection of a thin place by the detector acting through said latter means to lower the dog into the path of and to be moved by the bunter on the forward movement of the temple, to effect shipper release.

2. In a loom, in combination, a reciprocating temple, a bunter movable therewith, means to permit lateral adjustment of the bunter upon the temple and to hold said bunter from movement relatively to the temple when lateral adjustment has been effected, a shipper, releasing means therefor including a longitudinally slotted, pivotally mounted dog, a rock-shaft having attached rearwardly extended arms, a detecting finger depending from one of said arms and normally resting upon the cloth adjacent the fell, the other arm being out-turned and extended loosely through the slot in the dog and maintaining the latter out of the path of the bunter, and means on and adjustable lengthwise of said arm and coöperating with opposite sides of the dog, to prevent lateral movement thereof, turning of the rock-shaft upon detection of a thin place in the cloth acting through the second-named arm to move the dog into the path of the bunter, to thereby effect the actuation of the shipper releasing means.

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

SAYERS DRURY EUBANKS.

Witnesses:

CHAS. SCARLETT,

W. C. LINDSEY.