

J. D. COTTRELL.

Weft-Stop Mechanisms for Looms.

No. 149,447.

Patented April 7, 1874.

Fig. 1.

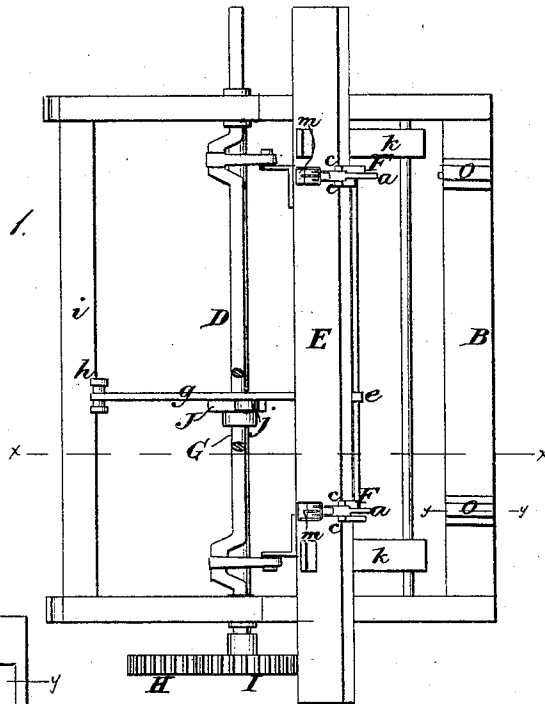


Fig. 4.

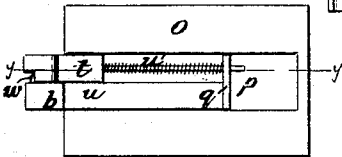


Fig. 5.



Fig. 2.

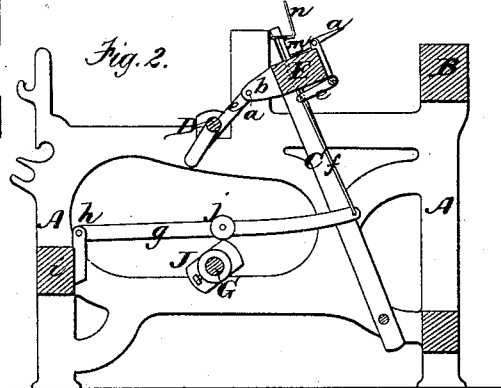


Fig. 3.

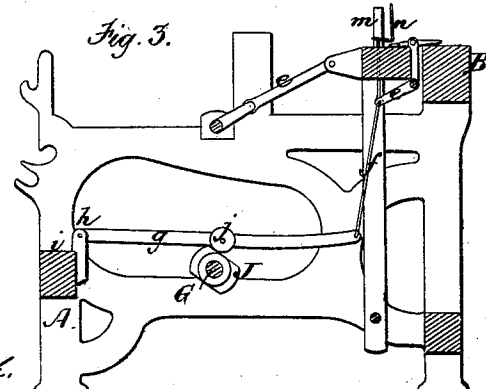
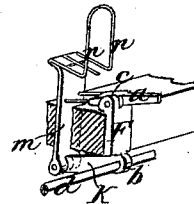


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

JESSE D. COTTRELL, OF HOPEDALE, MASSACHUSETTS.

IMPROVEMENT IN WEFT-STOP MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. **149,447**, dated April 7, 1874; application filed March 28, 1874.

CASE B.

To all whom it may concern:

Be it known that I, JESSE D. COTTRELL, of Hopedale, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Looms; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a top-plan view of my improved loom. Fig. 2 is a sectional view through the line *x x*, Fig. 1, the lay being thrown back. Fig. 3 is a similar sectional view, the lay being thrown forward; and Figs. 4, 5, and 6 are views of parts shown in detail.

Similar letters of reference in the accompanying drawings indicate the same parts.

My invention relates to devices, which, in combination with devices described in another application now pending, are employed to control the take-up mechanism; and also stop the loom when the weft-thread breaks or is absent.

In the accompanying drawing, A A are the standards or uprights of the loom-frame; and B is the breast-beam, constructed in the ordinary manner. C is the lay, pivoted in the loom-frame, and operated by the crank-shaft D, in the usual manner. On the front face of the race E are attached brackets F F, the upper ends of which are provided with lugs or projections *c c*, in which are pivoted the levers *a a*, the front ends of which project beyond the race, and the rear ends of said levers being provided with prongs or tines. In the lower ends of the brackets F F, attached to the race, is journaled, in suitable bearings *b b*, the rock-shaft *d*, on which is hung the short arm *e*, which is connected, by a rod, *f*, with a lever, *g*, pivoted at *h* to the cross-beam *i* of the loom-frame. *j* is a roller, attached to a stud projecting from the side of the lever *g*, and freely turning thereon. G is the driving-shaft of the loom, provided with a gear-wheel, H, which meshes with a gear-wheel, I, on the crank-shaft. J is a cam, on the driving-shaft G of the loom, and directly under the roller *j* on the lever *g*, so that the latter will be elevated or depressed by the revolution of the

driving-shaft. K K are arms, hung on the rock-shaft *d*, near its extremities, the opposite ends of said arms being pivoted to the plates *m m*, which slide in slots made through the race. To the upper ends of the plates *m m* are attached the right-angled rods *n n*, which form the grids.

It will be seen from this construction that, as the lay is moved backward and the shuttle passes over the race, the grids are raised, allowing the free passage of the shuttle under them, the shuttle-thread lying on the tines of the lever *a*. When the grids descend, they press the shuttle-thread upon the tines of the lever *a*, thus elevating the rear end of said lever.

O is a plate, attached to the breast-beam opposite the levers *a a*, and provided with a recess, *p*, having a partition, *q*, across it. The partition is provided with a perforation, *r*, for the reception of the rounded end *s* of a latch, *t*, surrounded by a spring, *u'*, one end of which bears against the partition *q*, and the other against a shoulder in the latch *t*. The upper face of the shoulder of the latch *t* is horizontal, and made flush with the rear part of the lever *u*, attached to the partition *q*. The face of the latch is then inclined, to allow the projection *v* on the lever *u* to ride over it. *w* is a pin, attached to the side of the lever *u*, which engages in a recess in the front part of the latch to hold the latter in place.

By this construction, when there is no breakage or absence of a weft-thread, the rear end of the lever *a* is raised, and strikes in a groove, *u'*, in the outer end of the latch *t*, driving it in the recess *p* of the plate, and throwing down the lever *u*, which I connect with devices for stopping the loom, and also for controlling the take-up, as shown in an application now pending, and heretofore referred to.

In case of breakage or absence of a weft-thread, the front end of the lever *a* is not raised, and the lever passes under the latch *t*, and the loom ceases to operate.

Having thus described my invention, what I claim is—

1. The recessed plate *o*, constructed as set forth, in combination with the lever *g*, driv-

ing-shaft *G*, provided with the cam *J*, connecting-rod *f*, rock-shaft *d*, grids *m m*, and lever *a*, substantially as described, and for the purpose set forth.

2. In combination with the pronged lever *a* upon the lay, the recessed plate *o*, provided with the latch *t*, spring *w*, and lever *u*, the

whole constructed and operating in the manner and for the purpose set forth.

JESSE D. COTTRELL.

Witnesses:

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