J. M. LINSCOTT.

FILLING STOP-MOTIONS FOR LOOMS.

No. 191,062. Patented May 22, 1877.

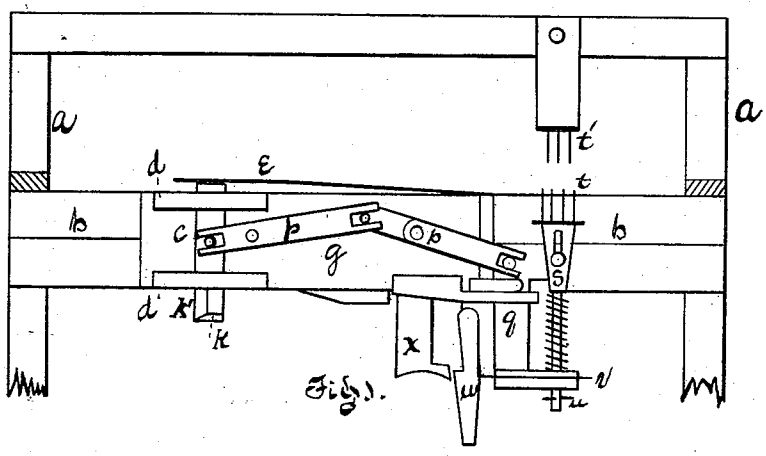


Fig. 1.

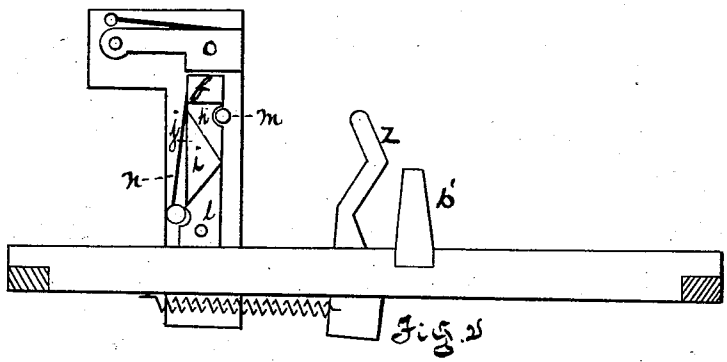


Fig. 2

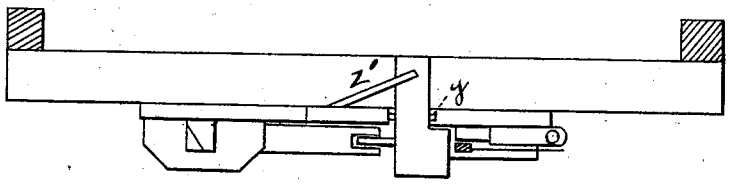


Fig. 3

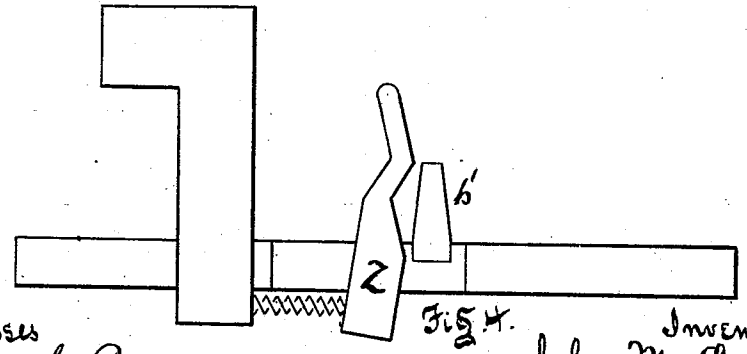


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN M. LINSCOTT, OF WEST BUXTON, MAINE.

IMPROVEMENT IN FILLING STOP-MOTIONS FOR LOOMS.

Specification forming part of Letters Patent No. **191,062**, dated May 22, 1877; application filed February 6, 1877.

To all whom it may concern:

Be it known that I, JOHN M. LINSCOTT, of West Buxton, in the county of York and State of Maine, have invented certain new and useful Improvements in Filling Stop-Motion for Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a front view of the lay. Fig. 2 is a top plan of the frame, showing the breast-beam and parts attached thereto. Fig. 3 is a bottom plan of the lay. Fig. 4 is a bottom plan of the frame or breast-beam, showing the knocking-off lever.

Same letters show like parts.

The object of this invention is to produce an improved filling stop-motion for looms. It is more particularly applicable to what are known as "fancy-looms."

The general method by which the stop is effected may be thus described: When the filling at each throw of the lay is carried entirely across the web, the stop-motion does not come into operation; but if the filling breaks or fails from any reason to reach the other side, then the loom is stopped.

a shows the lay. Upon the front of the cross-beam *b* are attached the devices which constitute the motion. *c* is a vertical rod or slide, moving in guides *d*; it is kept pressed downward by the spring *e*. This vertical rod has inclined surfaces *k k'* at its lower end. As the lay is thrown forward, the lower inclined face moves up the inclined plane *f*. The rod or slide then drops into the recess *h*, and passes along the V-shaped projection *i* on the vibrating spring-arm *j*. The movement of the arm *j* is produced by the contact of the inclined side surface *k'* on the vertical arm *c* with the projection *i*. *j* is pivoted at *l*, and is forced back into position against the stud *m* by the spring *n*.

When the vertical arm *c* has, by passing along the face of the V-shaped projection *i*, pushed the arm *j* backwardly somewhat, the spring-hook *o* immediately catches the end of the arm *j*, and holds it in that position until the vertical arm *c* is brought back again by the lay-motion, and pushes back again the hook *o*, and holds it back. This contrivance allows of the return of the lay and the arm *c*, which would otherwise strike against the vertical edge of the inclined plane *f*.

I will now describe the effect of the vertical motions of the arm *c*. It operates the toggle-joint *p*, the outer end of which is pivoted to the top of the frame *q*. This frame moves on proper guides *r*. Attached to this frame is a slotted carrier, *s*, having at its top fingers *t*, and at its lower end a rod surrounded by a coil-spring resting upon a base-piece.

Through the slot of the carrier is inserted a bolt or screw fastened into the frame *q*. Directly over the fingers *t* are arranged another set of fingers, *t'*, in such manner as to pass when the carrier *s* rises between the fingers on the carrier.

The filling goes across the top of the fingers *t*, and, when unbroken and extending from one to the other side of the warp, the last thread thereof prevents the fingers *t* from passing between the fingers *t'*.

In such case, when the filling is unbroken, there is no occasion to stop the motion of the loom, and the regular beats of the lay continue; but if the filling breaks, the fingers *t'* pass between the fingers *t*, and the motion of the loom is thereby discontinued, and it remains to describe how this is effected.

When the fingers *t'* pass between the fingers *t*, or, in other words, when the carrier *s* is raised by the spring, so as to permit of the two sets of fingers interlocking, the pin *u* is correspondingly lifted, and strikes the arm *v* on the pivoted hook *w*, and thus allows the spring catch or button *x'*, to drop down by reason of the pressure upwardly exerted upon its rear end by a spring, *x'*. The pivot of the button is seen at *y*. *z* shows a bent pivoted spring-arm, which, at its forward end, is intended to operate an arm or lever, which, operating upon another lever, slips the belt from the loom-shaft.

When the hook *w* allows the spring-catch *x* to drop, as the lay moves forward, the catch strikes the bent part of the spring-arm *z*, thus operating the arm as described, and stop-

ping the loom. At the same time that the button or catch *x* strikes the arm *z*, it immediately begins to pass up the incline plane *b'*, until it is lifted so high that it is again caught and held by the pivoted hook *u*, and is so retained until again released, as before described.

It will thus be seen that when the filling is whole, and no necessity exists of stopping the loom, the beats of the lay go on; but when the filling is imperfect, or is not carried across the warp, the machine is stopped, as herein described.

It will be perceived, when the thread of the filling is over the fingers *t*, that although the frame rises, as when the two sets of fingers interlock, yet the button *x* is not released. In such case the stud in the top part of the frame *q* moves through the slot of the carrier *s;* but the rod within the coil-spring rises, when the filling is perfect, only as far as the thread of the filling will permit the carriers to rise, to the bottom of which the rod is attached. The frame *q* still continues to rise; but it leaves the carrier where it is held by the thread of the filling, and then continues its upward movement contracting the coil-spring, the stud on the upper part of the frame moving in the slot of the carrier.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the lay *a*, of the vertical spring rod or bar *c*, having faces *k* and *k'*, vibrating spring-arm *j*, toggle *p*, frame *q*, carrier *s*, pin *u*, arm *v*, hook *w*, catch or button *x*, and bent spring-arm *z*, as and for the purposes herein described.

2. The combination of the frame *q*, and mechanism for operating the same, with slotted carrier *s* and fingers *t* and *t'*, substantially as herein described.

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

JOHN M. LINSCOTT.

Witnesses:

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H. G. BRIGGS.