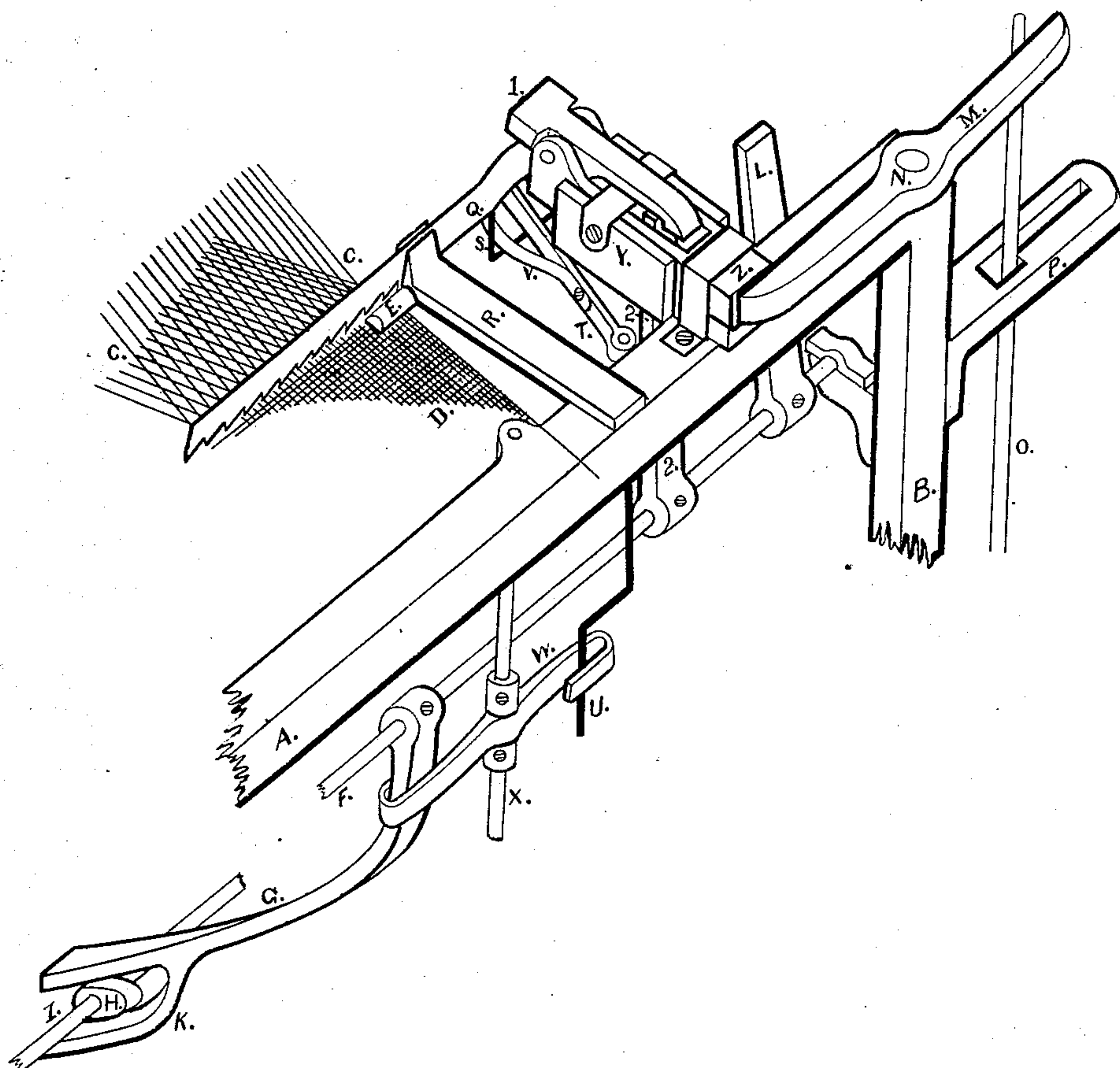


S. GREENWOOD & J. TEMPLETON.

Stop-Motion for Looms.

No. 162,471.

Patented April 27, 1875.



Witnesses.
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UNITED STATES PATENT OFFICE.

SAMUEL GREENWOOD AND JAMES TEMPLETON, OF LOWELL, MASS.

IMPROVEMENT IN STOP-MOTIONS FOR LOOMS.

Specification forming part of Letters Patent No. **162,471**, dated April 27, 1875; application filed June 24, 1874.

To all whom it may concern:

Be it known that we, SAMUEL GREENWOOD and JAMES TEMPLETON, both of Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain Improvements in Stop-Motions for Looms, of which the following is a specification:

Our invention consists, mainly, of a reciprocating notched plate, in combination with a weighted and hooked lever having a movable fulcrum, together with certain well-known parts, as hereinafter described.

The accompanying drawing represents our invention attached to the right end of a loom, at the front of the same.

A is part of the breast-beam of a loom. B is part of the frame of the loom supporting the breast-beam. C is the shed of warp-threads. D is the newly-woven cloth. E is one of the temples, in its usual position at the selvage of the cloth, and just in front of the "making" end of the cloth. F is the rocking shaft, actuated by the curved rod G, which is raised by the cam H on the lower roller I, and falls by its own weight, or is thrown down by said cam H acting on an arm, K. Q is a narrow thin plate, (straight, except at its extreme left end, where it is arched up,) touching the cloth all the way across in front of the temples E, at right angles to the selvage. The plate Q slides on its edge in thin slots at the ends of two brackets, one on each side of the cloth. One of the brackets is shown at R. Both brackets are alike, and are screwed to the top of the breast-beam. The plate Q is notched on its under edge, between the brackets R, but not in such a way as to form teeth like a saw, as the notches, taken at the edge of the plate, are about a sixteenth of an inch apart, and both sides of the notch are cut upward to the right, so that, in case of any inequality in the surface of the cloth, the teeth can catch only when the plate Q is sliding to the left. The plate Q projects about six inches to the right of the right-hand bracket R, and has on its under edge, at about half an inch from its end, a broad wire staple, S. Through this staple projects the back end of the stiff horizontal rod T, the other end of said rod T being secured to the top of the vertical crank U. The rod T has a straight horizontal spring, V, secured to its left side, near

its front end, at such an angle that the said rod and spring touch the opposite arms of the staple S when the spring is not bent. The crank U is supported by the breast-beam. One end of the lever W embraces the lower end of the crank U, and the other end of said lever is bent around the rod G, said lever turning upon the vertical rod X, fixed in the breast-beam.

It is evident that when the cam H lifts the rod G the spring-rod V T turns on the crank U to the left, and pushes the plate Q to the left. Upon the top of the breast-beam, at the right of the bracket R, is secured a trough, Y, which stands at right angles to said beam. Within this trough slides backward and forward a frame, Z, which is also in the shape of a trough. At the front end of said frame Z, upon a rod which runs across said frame Z, is hung the lever 1, near the back end of said lever. This lever 1 is so much heavier at its back end that this end falls when unsupported, thereby raising the forward end of said lever enough to allow the rod 2 on the rocking shaft F to swing under it without touching it.

It will be seen that when the back end of the spring-rod V T is turned to the left, the spring V presses against the left arm of the staple S, throwing the plate Q to the left and allowing the back end of the lever 1 to fall, thereby raising the hook upon the forward end of said lever enough to clear the upper end of the rod 2, which is also moving forward. Now, if one of the warp-threads is broken and tangled in such a way as to form a bunch in the cloth, or if there is any other "mismaking" in the cloth which would necessitate picking out, the teeth of the plate Q will catch in said bunch or other defect, and the spring V will be bent against the rod T without moving the plate Q to the left, thus preventing the hooked forward end of the lever 1 from rising. This hooked end of said lever 1, being caught by the upper end of said rod 2, will be drawn forward, and with it the frame Z, striking the left end of the lever M, and pushing it forward, thereby releasing the shipper-lever O and stopping the loom.

A small bracket may be cast on the temple and slotted for the plate Q to slide in, when the temples must be kept very near to the making end of the cloth, as in the manufacture of silks,

alpacas, delaines, and other similar fabrics; but on cotton goods, where the temples need not be so near said making end, the plate may be run in the manner hereinbefore described.

The lever M may be operated by the end of the hooked lever 1 stopping it, instead of the frame Z striking it.

We claim as our invention—

1. In combination with the stopping mechanism of a loom, the lever 1 and the sliding notched plate Q, adapted to reciprocate on

the surface of the fabric, as and for the purpose set forth.

2. The combination of the lever W, the crank U, spring-rod V T, the plate Q, the lever 1, the lever M, and the shipper O, as and for the purpose herein described.

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Witnesses:

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