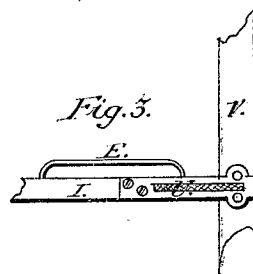
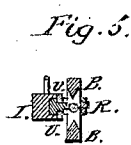
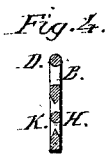
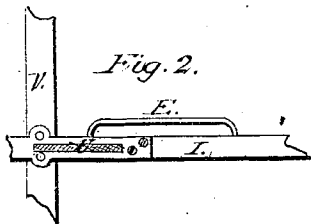
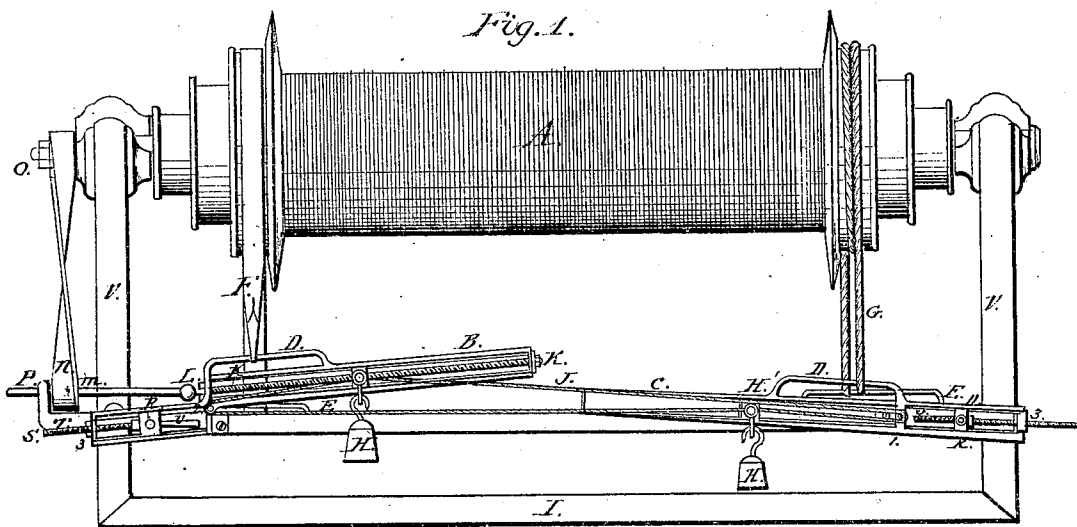


D. Long & J. Preston.
Loom Let-Off Mechanism.

Nº 99,044.

Patented Jan. 18. 1870.



Witnesses:
Chas. C. Wilson.
J. F. Beale.

Inventor:
Daniel Long.
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Per. Jno. R. Hallock.
att'y.

United States Patent Office.

DANIEL LONG AND JOHN PRESTON, OF FAIRVIEW, PENNSYLVANIA.

Letters Patent No. 99,044, dated January 18, 1870.

IMPROVEMENT IN LET-OFF MECHANISM FOR LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, DANIEL LONG and JOHN PRESTON, of Fairview, in the county of Erie, and State of Pennsylvania, do hereby declare that we have invented new and improved Automatic Tension-Levers for Looms, and that the following is a true and exact description of the same.

The nature of our invention consists in providing tension-levers for looms, so constructed that the weights on the same are automatically moved by the action of the beam, so as to regulate the tension, as the warp is unwound from the beam.

Our invention is shown in the accompanying drawings as follows, like letters referring to like parts:

Figure 1 represents our invention as it appears in the loom.

Figures 2 and 3 are detached portions of a loom-frame, showing the points and manner in which our invention is attached.

Figure 4 is a sectional end view of one of the levers.

Figure 5 is a sectional view of one of the levers at the point where it is attached to the loom-frame.

In fig. 1, the brakes F and G pass around the beam-roller A, and are attached, respectively, to the loops or bows D D and E E, on the levers B and C, and the cross-bar I.

Attached to the levers B and C, and working in slots, are the slides H' H', to which are suspended the weights H H, which increase or diminish the friction upon the beam A by their tension upon the bands F and G, which tension is regulated through the movement of the levers B and C, resulting through the movements of the screw S and the slides R R, the latter acting as fulcras for the levers B and C.

The screw K is automatically operated by the pulley attached to shaft m, which is connected to it by means of the joint L, attached to the shaft m, which is journaled, at the point P, upon the lug T.

This screw operates the slide H', weight H, and lever B, and also the slide H', weight H, and lever C, on the opposite end of the loom, which latter are connected with the lever B and pulley and shaft m, above

mentioned by the cord or belt J, and worked by the same.

The method of operation is as follows:

The beam A being empty, the weights H H are moved to the outer ends of the slots in the levers B and C, thereby relieving the beam A from the pressure of the brakes F and G; but, as the operator winds the yarn upon the beam or roller, the action of the pulleys and shaft m causes the screw K to be revolved, so that slide H' slips inward with the weight H, thereby producing the proper tension upon the beam or roller A.

When the operator begins weaving, the pulley attached to the shaft m revolves the screw K, carrying the weights H H downward and outward, thereby automatically decreasing the tension upon the beam or roller A as the yarn is rolled off.

By these devices, we secure a uniformity in the number of picks per inch in the cloth woven. This motion of the weights is certain and accurate, and, if the levers B and C are graduated, the operator can, at any time, tell exactly how many yards of cloth have been woven.

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

1. The screws S S, in combination with the slides R R and levers B and C, when operated in the manner substantially as described, and for the purpose specified.

2. In combination with the tension-bands F and G, the levers B and C, slides R R and H' H', and weights H H, and screws S S, the whole arranged and operated in the manner and for the purpose specified.

3. The levers B and C, loops or bows D D and E E, slides R R, screws S S, and slides H' H', when applied to looms in the manner and for the purpose specified:

DANIEL LONG.
JOHN PRESTON.

Witnesses:

JNO. K. HALLOCK,
CHAS. P. BIDDLE.