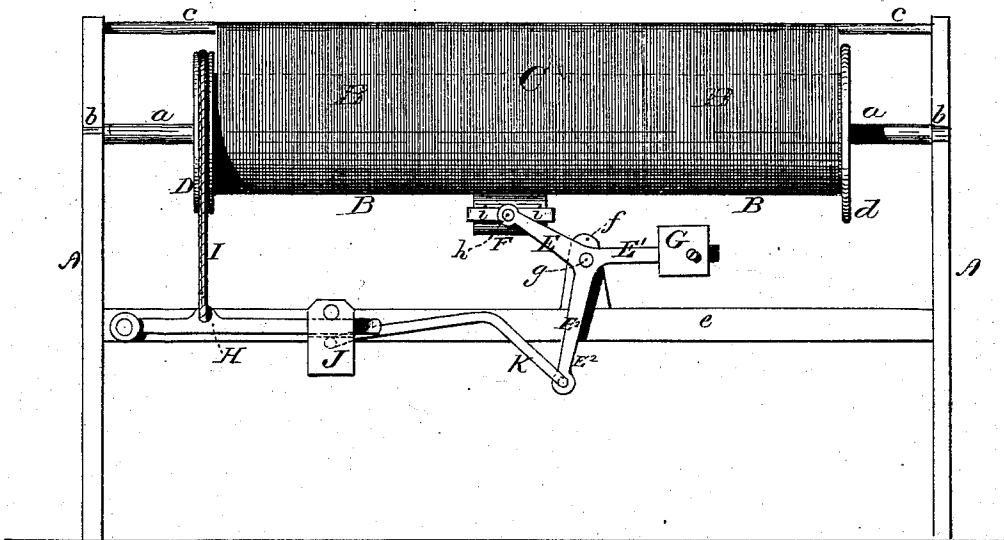


J. H. MOORE.

LET OFF MECHANISM FOR LOOMS.

No. 170,011.

Patented Nov. 16, 1875.



WITNESSES.

E. B. Johnson,
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UNITED STATES PATENT OFFICE.

JOHN H. MOORE, OF FISHERVILLE, NEW HAMPSHIRE.

IMPROVEMENT IN LET-OFF MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. **170,011**, dated November 16, 1875; application filed August 11, 1875.

To all whom it may concern:

Be it known that I, JOHN H. MOORE, of Fisherville, Merrimack county, New Hampshire, have invented certain Improvements in Looms, of which the following is a specification:

My invention relates to devices for producing tension of the warp-threads; and it consists in a novel construction, combination, and arrangement of parts, which have for their object to render the tension on the warp-threads uniform, and thus improve the operation of the loom, as will be fully hereafter set forth.

The drawing is an elevation of the rear end of a loom.

A represents the side frames; B, the warp-beam, secured on the shaft *a*, which has bearings at *b* in the side frames. C represents the warp, which is wound around the warp-beam. It passes over the rod *c*, and thence to the other mechanism of the loom. The warp-beam is provided at one extremity with the flange *d*, and at the other end with a grooved head, D. *e* is a cross-beam, connecting the two side frames, situated immediately under and parallel with the warp-beam. *f* is a standard rising from the cross-beam *e*. From this standard projects a pin or stud, *g*, on which turns the triple-armed lever E E¹ E². The arms of this lever stand very nearly at equal angles to each other. From the extremity of the arm E projects a pin, *h*, on which is pivoted a -shaped frame, *i*, in which frame the roll F is pivoted. The arm E carries at its extremity a weight, G, for keeping the roll F pressed against the warp-beam. H is a lever, pivoted near the extremity of the cross-beam *e*, under the head D of the warp-beam, and I is a cord secured at one end to the lever H, and, passing around the head D, is secured at its other end to the cross-beam *e*. J is a weight, which slides upon the lever H, and is connected with the lower extremity of the arm E by the rod K. But little explanation is necessary to render it apparent that as the warp

is unwound from the warp-beam the roller F will rise, being pressed against the warp on the beam by the weight G, and that in rising the arm E will, through the rod K, connecting it with the weight J, move this weight toward the fulcrum of the lever, thus diminishing the tension on the cord I, and reducing the friction of this cord on the head D of the warp-beam, thus compensating for the diminishing diameter of the roll of warp on the warp-beam, and retaining an equal tension on the warp-threads. Thus, when the beam is full, the weight J is at the extremity of the lever, exerting the greatest pull on the cord I, and creating most friction on the head D, and as the warp is unwound the weight travels inwardly, and diminishes the friction on the thread.

It is obvious that various modifications of my invention may be made.

The arm E¹ and its weight may be dispensed with and a spring employed to press against the arm E².

A metal band may be substituted for the cord I, or a rigid brake may be employed.

With a slightly-different construction and arrangement of parts the rod K may be dispensed with, and the arm E² pivoted directly to the block J.

Indeed, so many modifications and alterations may be made by an ordinary mechanic that it would render this description prolix to recite them all herein.

I claim—

The combination, with the warp-beam B, of the grooved frictional head D, frictional cord I, lever H, sliding weight J, rod K, triple-armed lever E E¹ E², roll F, and weight G, constructed and operating substantially in the manner described and specified.

JOHN H. MOORE.

Witnesses:

H. F. BROWN,
E. E. FLANDERS.