

No. 853,641.

PATENTED MAY 14, 1907.

J. LAPALME.

LOOM.

APPLICATION FILED SEPT. 11, 1906.

Fig. 1.

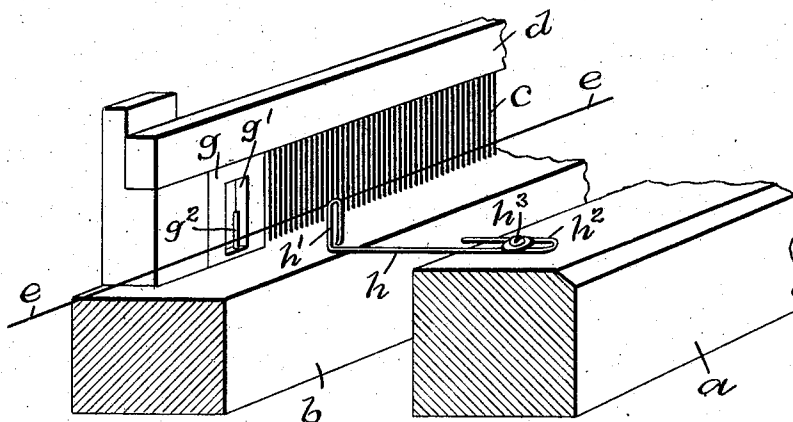


Fig. 2.

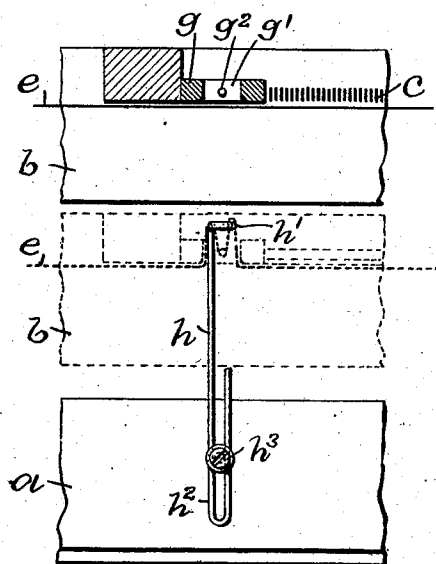
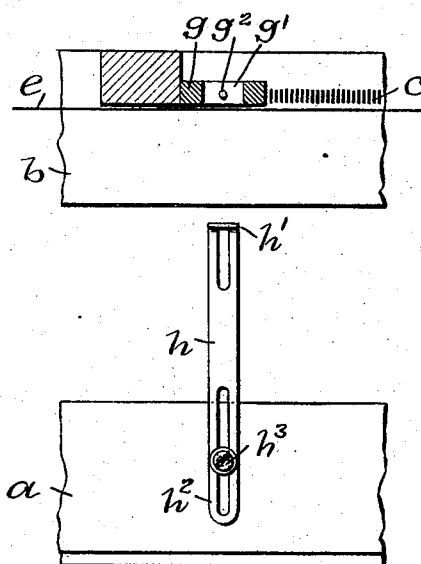


Fig. 3.



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LOOM.

No. 853,641.

Specification of Letters Patent.

Patented May 14, 1907.

Application filed September 11, 1905. Serial No. 277,925.

To all whom it may concern:

Be it known that I, JOHN LAPALME, a citizen of the United States, residing at Central Falls, in the county of Providence and State of Rhode Island, have invented a new and useful Improvement in Looms, of which the following is a specification.

This invention has reference to an improvement in looms and more particularly to an improvement in weft thread tension mechanisms for looms.

Weft thread tension mechanisms as heretofore constructed are usually applied to the shuttle of the loom. In practice I find that this method gives a variable tension to the weft thread; that is to say, by the force with which the shuttle is thrown the weft thread is given a greater tension at the beginning of the throw which diminishes toward the end of the throw of the shuttle. This variable tension also causes a tendency of the weft thread to break adjacent the selvage, or at a point where the weft thread is given the greatest tension.

The object of my invention is to improve the construction of a loom, whereby a uniform tension is given to the weft thread after the thread has been laid by the shuttle, and I accomplish this object by the use of a weft thread tension mechanism operatively connected with the lay and breast beam of the loom.

My invention consists in the peculiar and novel construction of a weft thread tension mechanism for looms consisting of a frame secured between the lay and the reed cap at the end of the reed, a pin secured centrally to the bottom of the frame and extending vertically in the opening of the frame, and an arm having an open L-shaped end adapted to enter the opening in the frame and adjustably secured to the breast beam of the loom, whereby on the forward beat of the lay the end of the arm engages with the weft thread, forcing the same around the pin and into the opening in the frame, thereby drawing the weft thread up to its required tension, as will be more fully set forth hereinafter.

Figure 1 is a detail perspective view of part of the lay and breast beam of a loom, showing the same provided with my improved weft thread tension mechanism. Fig. 2 is a sectional plan view of Fig. 1, showing the lay in approximately its rearward position in full lines and in its forward position in broken

lines, to illustrate the operation of the tension mechanism, and Fig. 3 is a sectional plan view of a modified form of tension mechanism.

In the drawings, *a* indicates the breast beam, *b* the lay, *c* the reed, and *d* the reed cap of a loom, all constructed in the usual way.

My improved weft thread tension mechanism consists of vertical frames *g* having the openings *g'* and secured to the lay *b* between the lay and the reed cap *d*, one at each end of the reed *c*. A vertical pin *g²* is secured in the bottom of each of the frames and extends centrally into the opening *g'* approximately half the height of the opening, as shown in Fig. 1. An arm *h* constructed preferably of wire bent to form the open L-shaped end *h'* and the loop end *h²* is adjustably secured to the top of the breast beam *a* by the screw *h³* through the end *h²* (one at each end of the breast beam) in a position for the end *h'* to enter the opening *g'* in the frame *g* on the forward beat of the lay. The arm *h* may be stamped from sheet metal, as shown in Fig. 3.

In the operation of my improved weft thread tension mechanism the weft thread *e* is laid by the loom shuttle in the usual way. On the beat up or forward beat of the lay *b* the weft thread *e* is caught by the open L-shaped end *h'* of the arm *h* and forced into the opening *g'* in the frame *g*. This brings the weft thread around the pin *g²*, around the end *h'* of the arm *h* and over the edges of the opening *g'*, as shown in broken lines in Fig. 2, thereby drawing the weft thread up to its required tension. By adjusting the arm *h* on the breast beam *a* toward or away from the lay *b* any tension required may be given to the weft thread.

By the use of my improved weft thread tension mechanism in looms, there is less liability of breaking the weft thread and a more uniform tension is given to the weft thread in weaving than has heretofore been done.

Having thus described my invention, I claim as new and desire to secure by Letters Patent;—

1. In a loom, a weft thread tension mechanism comprising a frame having an opening and secured to the lay, a vertical pin secured centrally in the opening in the frame, an arm having an end adapted to enter the opening in the frame on each side of the pin, and means for adjustably securing the arm to the breast

beam in a position for the end of the arm to engage with the weft thread and the opening in the frame, as described.

2. The combination with the breast beam
5 *a*, the lay *b*, the reed *c*, and the reed cap *d* of a loom, of a vertical frame *g* secured to the lay *b* between the lay and the reed cap *d* and having the opening *g'* and the vertical pin *g²* secured centrally in the opening *g'*, and an arm *h* constructed preferably of wire bent to form the
10 open L-shaped end *h'* and the looped end *h²*, and means for adjustably securing the end *h³*

of the arm *h* to the breast beam *a* in a position for the end *h'* of the arm to engage with the weft thread *e* and the opening *g'* in the frame *g*, as described. 15

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN LAPALME.

Witnesses:

ADA E. HAGERTY,
J. A. MILLER.