

No. 650,140.

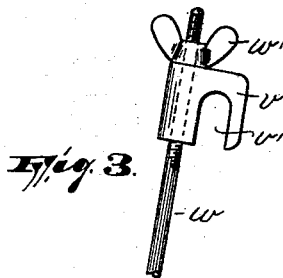
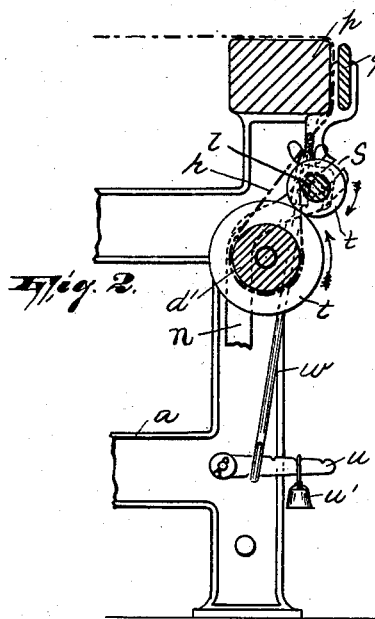
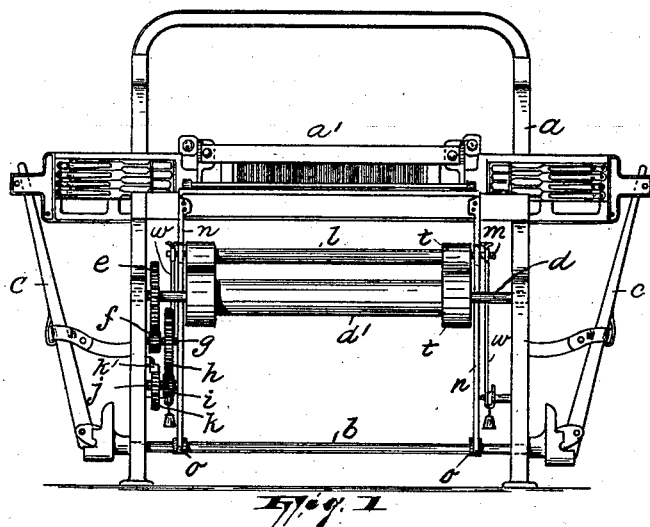
Patented May 22, 1900.

W. TODD.

LOOM.

(Application filed July 18, 1899.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

WALTER TODD, OF SLOATSBURG, NEW YORK, ASSIGNOR OF FIVE-EIGHTHS  
TO NATHAN HIRSCH, OF NEW YORK, N. Y.

## LOOM.

SPECIFICATION forming part of Letters Patent No. 650,140, dated May 22, 1900.

Application filed July 18, 1899. Serial No. 724,299. (No model.)

*To all whom it may concern:*

Be it known that I, WALTER TODD, a citizen of the United States, residing in Sloatsburg, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to looms, and it has reference particularly to that portion of a loom which is involved in its take-up mechanism.

The object of the invention is to provide a take-up mechanism which will be very simple in construction and which at the same time will be adapted to automatically adjust some of its parts so as to constantly maintain a perfectly uniform tension upon the warp.

The invention is fully illustrated in the accompanying drawings, wherein corresponding letters of reference indicate like parts in the several figures, and wherein—

Figure 1 is a front view of a loom provided with my improved take-up mechanism. Fig. 2 is a vertical sectional view, somewhat enlarged, of the front portion of the loom shown in Fig. 1; and Fig. 3 is an enlarged view of a certain detail involved in the invention.

In said drawings, *a* designates the loom-frame, in which are mounted the usual batten structure *a'* and accessory parts, and in which is journaled beneath said batten structure a rock-shaft *b*, said rock-shaft carrying the picker-sticks *c* at its ends, in which said picker-sticks are fulcrumed.

Above the shaft *b* is journaled a revoluble shaft *d*. This shaft carries at one end a gear *e*, which meshes with a pinion *f*, said pinion being secured upon a short shaft *g*, upon which is also secured a gear *h*. The gear *h* receives rotary movement from a pinion *i*, carried on another short shaft *j*, said shaft also carrying a ratchet-wheel *k*, that is controlled by a pawl *k'*. The train of gearing

above described may receive power from any suitable source. The shaft *d* carries a beam *d'*, which is preferably composed of wood or some other analogous material which will present to the cloth a surface against which the latter will readily take.

Above the shaft *d* and the beam which it carries is another beam *l*, that is provided at its ends with trunnions *m*, said trunnions having bearings in a pair of uprights *n*, that are provided with collars *o*, which receive the shaft *b* and in which said shaft is freely movable. Said uprights are therefore supported upon the shaft *b* and at their upper ends they are bent outwardly and then upwardly again, projecting in front of the breast-beam *p* and carrying a guard-rail *q*, between which and said breast-beam the cloth *r* is adapted to extend.

The bearings for the trunnions *m* of the beam *l* consist of inclined slots *s* in uprights *n*, which are open at their upper or outer ends, so that the trunnions may be removed from their bearings in order to dismount said beam *l*.

Each beam *l* *d'* carries a pair of friction-collars *t*, the friction-collars of each beam being in contact of course with those of the other beam. Said collars should by preference be composed of leather or some other similar substance which will produce an effective engagement between the two beams sufficient for the transmission of rotary movement from the one to the other. This engagement will be considerably increased, moreover, by the action of a pair of weighted levers *u*, said levers being connected to the extremities of the trunnions *m* by means of blocks *v*, each having a recess *v'* for the reception of the trunnion, and being secured at the upper threaded end of a pitman *w* by means of a nut *w'* on said pitman, the lower end of said pitman being hook-shaped and engaging the lever *u*. The weight *u'* on said lever may of course be adjustable to and from the fulcrum thereof, so as to exert greater or less power on the pitman.

The cloth *r* extends over the breast-beam, thence down behind and around the beam *d'*, and then up back of the beam *l* upon which it is wound. It should be remarked that the

collars *t* of the beam *d'* should be larger in diameter than those of the beam *l*, so that the beam *l* will revolve the faster of the two.

It will be seen that by virtue of the construction above described, although the beam *l* revolves faster than the beam *d'* and the tendency therefore is to constantly wind the cloth more and more tightly, this tendency is at all times being overcome and the cloth therefore maintained at a continual uniform tension, because the engagement between the two beams is such that the one, when the action of the cloth upon it is sufficient, can momentarily slip upon the other. Thus the mechanism automatically adjusts itself to the action of the cloth, and in order to control it, so as to increase or diminish the tension upon the cloth, it is only necessary to alter the position of the weights *u'* on the levers *u* or substitute for said weights others of different size. It should further be remarked that although the leverage in the beam *l* is constantly increasing from its center outwardly as the diameter of the roll of cloth increases in size, the mechanism is still able to adjust itself to all conditions. As soon as the beam *l* is filled with a roll of cloth of the desired size said beam may be readily removed after cutting out the cloth by slipping its trunnions out of their bearings in the uprights *n*. It will be seen that such is the capacity of the beam *l* that the cloth may even be wound upon it until the thickness of its roll approximates the width of the space between the beams. Furthermore, in view of the peculiar construction

of my take-up mechanism and the arrangement of its various parts, particularly with reference to the collars *t*, it will be apparent that any objectionable contact between the cloth and the parts of the mechanism is entirely obviated; in fact, the only contact which the cloth has with the mechanism, excepting the take-up roll, is upon the surface of the beam *d'*, upon which it lies without friction.

I claim—

In a loom, a take-up mechanism consisting of a suitably-rotated driving-beam, another revoluble beam constituting the take-up roll and disposed above and sustained by said driving-beam, contacting frictional collars carried by said beams and adapted to transmit rotary movement from the driving-beam to the other beam, the collars on the driving-beam being of the larger diameter and the cloth being adapted to extend around said driving-beam onto the other beam, weighted levers fulcrumed in said frame beneath said beams, hook-shaped rods engaging said levers, and notched blocks adjustably secured to said rods and engaging said last-named beam, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of July, 1899.

WALTER TODD.

Witnesses:

JOHN W. STEWARD,  
ROBERT J. POLLITT.