

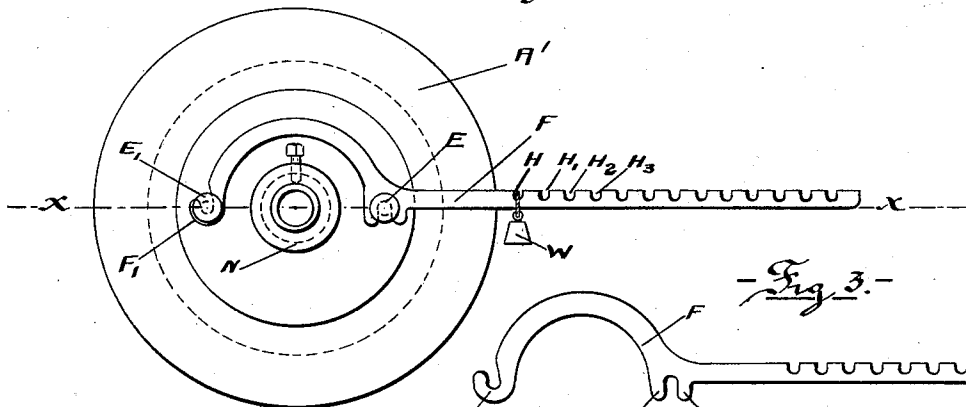
(No Model.)

F. F. PARSONS.
TENSION REGULATOR FOR WARP BEAMS.

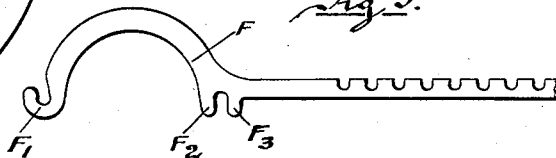
No. 593,686.

Patented Nov. 16, 1897.

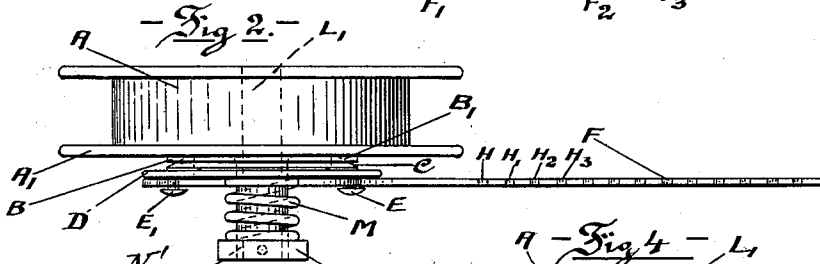
- Fig. 1.-



- Fig. 3.-



- Fig. 2.-



- Fig. 4.-

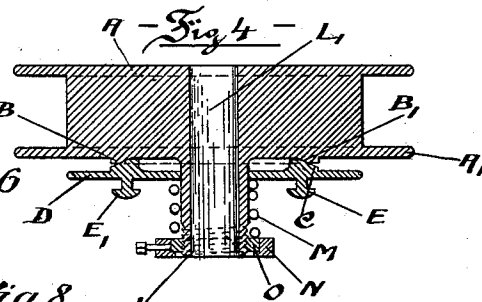


Fig. 5.

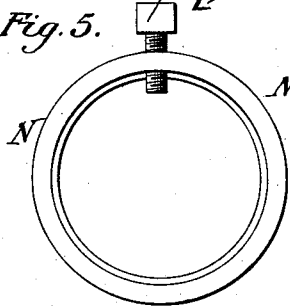


Fig. 6.

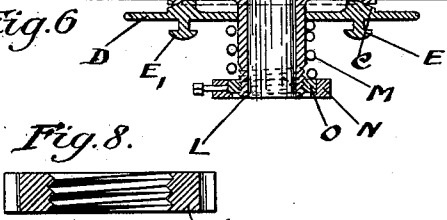


Fig. 8.



Fig. 7.

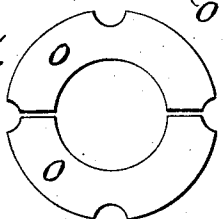
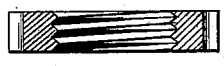


Fig. 9.



- Witnesses -

John Lamb
E. A. Becken

- Inventor -

Francis F. Parsons
by his Attorney
August M. Preschaw

UNITED STATES PATENT OFFICE.

FRANCIS F. PARSONS, OF PATERSON, NEW JERSEY, ASSIGNOR TO ALFRED SCHIFFER AND HERMAN SCHIFFER, OF SAME PLACE.

TENSION-REGULATOR FOR WARP-BEAMS.

SPECIFICATION forming part of Letters Patent No. 593,686, dated November 16, 1897.

Application filed January 6, 1897. Serial No. 618,163. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS F. PARSONS, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Tension-Regulators for Warp-Beams; 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.

My invention has for its object to provide a tension-regulating mechanism for any kind of reel, unwinding cord, silk warps, or thread, and although I am aware that various devices for this same purpose have been patented I believe that in the combination of the mechanical elements as set forth by me there will be found a very simple and practical *modus operandi* and a new combination of embodied means not hitherto known or patented for this purpose.

My device will be found applicable wherever any quantity of thread or silk threads have to be unwound, as stated above, but more especially in the warp-beam of a silk-loom, and the accompanying description and drawings will illustrate said device as being attached to such a warp-beam; and referring to the drawings, wherein like letters of reference indicate corresponding parts in the different views—

Figure 1 is a side view of my improved tension-regulator; Fig. 2, a top view of Fig. 1; Fig. 3, a side view of the brake-lever; Fig. 4, a section through the center line *x x* of Fig. 1. Fig. 5 is a front view of the bush N; Fig. 6, a side view of Fig. 5; Fig. 7, a front view of the split nut O, and Figs. 8 and 9 the two halves O' and O² composing said split nut.

A is an ordinary warp beam or spool used for having the warp wound on it, as used in a silk-loom, and as my device in its action does not go beyond the boundaries of said warp-beam it is unnecessary to follow the warp on its further course through the loom, as that has been described frequently heretofore in other patents. Cast on the flange A'

of said warp-beam or secured firmly thereto is a ring B, having a cone-shaped surface B'. Fitting into this is a similar cone-shaped surface C, cast on a disk D, having on the side opposite to said cone-shaped surface two pins E and E', secured to it, and attached to these is a brake-lever F, constructed at one end according to a semicircle, one end of which semicircle has a hook F', fitting around the pin E', and, further, having a seat or rest formed by two prongs F² and F³, which prongs embrace the pin E. The other end of the brake-lever F is notched with notches H H' H² H³ H⁴, &c., in order to support a weight W, which, according to the weight being placed in the notch nearest to the warp-beam or farthest away from it, will form one means of correspondingly decreasing or increasing the tension administered to the warps.

On the side of the warp-beam A having the flange A' is the hollow projection L, having a hole L', through which the pin that carries the warp-beam passes. Said projection is screw-cut externally at the end and has coiled around it a spring M, one end of which bears against the disk D, whereas the other is pressed against a stop-bush N, provided with a set-screw N'. Inside of this bush N is a split nut O, screw-cut to match the screw-cut end of projection L, and thus adjusted to the said projection can be screwed in and out, and thus allowing the spring M to be contracted or expanded, which presses the disk D, having conical surface C, in the similar conical surface B' on flange A' with greater or less force, thus producing a greater or smaller amount of friction, which was the desired object of the spring's action. The whole conceptive idea contained in the combined effect of the spring acting on the conical surfaces mutually acting on each other and the brake-lever with adjustable weight acting on disk D is this: that in accordance with the pull exerted on the warp in unwinding it from the warp-beam the friction created by two conical surfaces acting on each other regulated by the spring, combined with the effect of the weighted brake-lever, will give an even unbroken tension to the warps in process of being unwound.

What I consequently claim, and pray for

protection for as new and not devised for this purpose before, is—

In a tension device, the combination with a warp-beam, having a conical surface and a
5 screw-threaded projection extending from one of its flanges, a friction-disk having a conical surface which coöperates with the said conical surface of the beam, a spring acting on the said disk, a split nut fitting the screw-
10 cut projection of the warp-beam, a stop-ring inclosing said split nut and securing it to the screw-cut projection aforesaid, two pins attached to aforesaid friction-disk, a brake-lever one end of which is semicircular-shaped

and furnished with means for attaching it to 15
above pins, the other end of the brake-lever being fitted with notches, and a weight applied to any of said notches, all for the purposes and with the intents as set forth, substantially as it is illustrated and described. 20

In testimony that I claim the foregoing I have hereunto set my hand this 23d day of December, 1896.

FRANCIS F. PARSONS.

Witnesses:

LOUIS A. GRAEDEY,
AUGUST M. TRESCHOW.