J. F. RANDALL,

WARP TENSION MECHANISM FOR LOOMS.

No. 108,826, Patented Nov. 1, 1870.

Fig. 1.

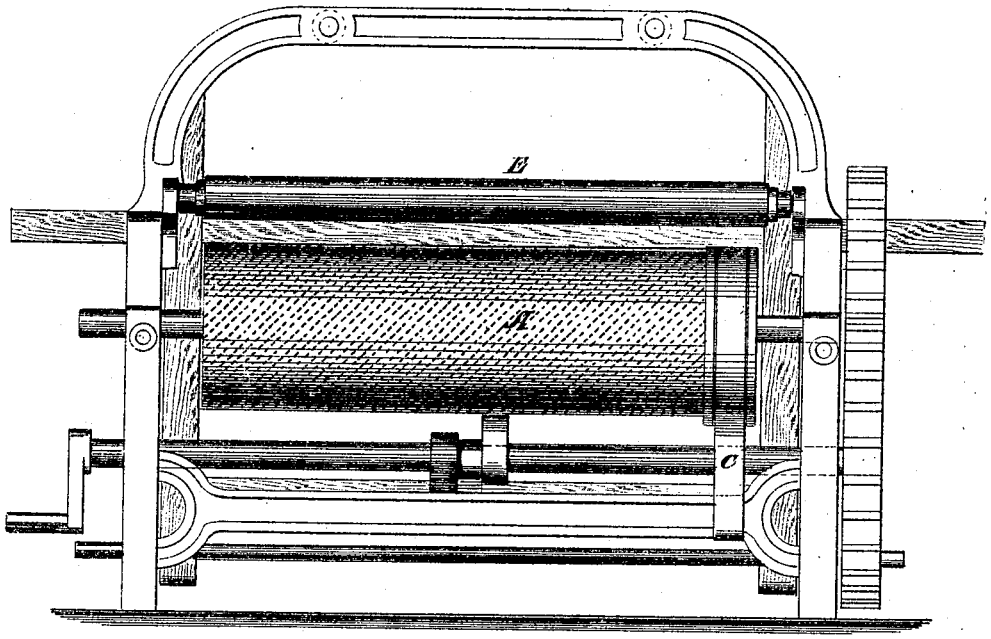
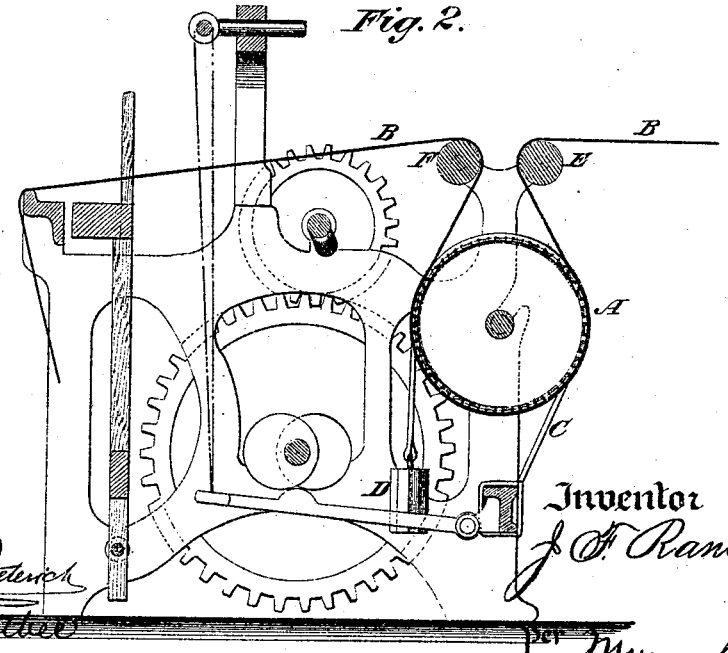


Fig. 2.



Witnesses.

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JOSEPH F. RANDALL, OF WARREN, OHIO.

Letters Patent No. 108,826, dated November 1, 1870.

IMPROVEMENT IN WARP-TENSION 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 I, JOSEPH F. RANDALL, of Warren, in the county of Trumbull and State of Ohio, have invented a new and useful Improvement in Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

My invention relates to looms, and my object is to combine with the tension-roll certain other elements, separately well known, but brought together in a new manner, to especially adapt the loom to weave bagging for gunny-cloth or cotton baling.

I will first describe my invention, in connection with all that is necessary to a full understanding thereof, and then clearly point it out in the claim.

In the accompanying drawing—

Figure 1 represents a view of the back side of the loom, giving a longitudinal view of the tension-cylinder.

Figure 2 is a vertical cross-section of the loom, showing the threads representing the warp as it is taken from the spools, and the mode of giving it the proper tension.

Similar letters of reference indicate corresponding parts.

My present improvement in looms relates exclusively to the mode of giving tension to the threads, and affording an uninterrupted motion to the loom by the use of the tension-cylinder; it is, therefore, not deemed necessary to particularly describe the loom itself, as the loom is of the kind ordinarily used, with the exception of my tension-cylinder, which takes the place of the common yarn-beam.

In weaving bagging for various purposes, especially that which is known as "gunny-cloth," (used for baling cotton,) great difficulty has been experienced in giving the large and strong thread or yarn used as warp the proper degree of tension. The liability of the warp to slip is very great, and its slipping causes an unevenness in the fabric, which is very objectionable.

Heretofore this class of goods has been woven by winding the warp onto the yarn-beam. Here another difficulty is met with; the thread or yarn is so coarse that the beam can contain but a small amount, the constant renewal of which requires a great deal of time and labor, leaving the loom idle much of the time.

In carrying out my invention, I dispense with the yarn-beam altogether, and substitute the cylinder A therefor.

B is the thread which represents the warp. The warp is taken directly from the spools or bobbins, which are placed on a suitable frame back of the loom.

The surface of the cylinder A is made rough by being covered with perforated sheet metal, (of the grater kind,) or by means of sand or emery-paper, or in any other manner, the object being to prevent the thread from slipping thereon. The cylinder rests on pivots in the common yarn-beam boxes.

C is the common friction-band, and

D, the weight, arranged here on the end of the cylinder, to regulate the rotary movement thereof, and operating in the same manner as it would on the old yarn-beam.

The warp is taken from the bobbin and carried over the roller E and down under the cylinder A, and then up over the roller F, from thence through the harness and reed, in the usual manner.

By this arrangement the thread or warp never slips, and its tension is kept perfectly uniform and the cloth woven is of even texture throughout.

Another very great advantage is, the loom may be kept in constant motion. The attendance of a little girl to renew the bobbins and splice the threads is all that is required to give a constant supply of warp to the loom, thus effecting a great saving in time by the use of the tension cylinder, as well as producing a superior quality of goods.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The tension-roll A, having perforated sheet-metal cover, rolls E F, weight D, and friction-band C, all combined in a loom as described.

JOSEPH F. RANDALL.

Witnesses:

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