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A. L. REMINGTON ET AL

ATTACHMENT FOR LOOMS

Filed Aug. 7, 1920

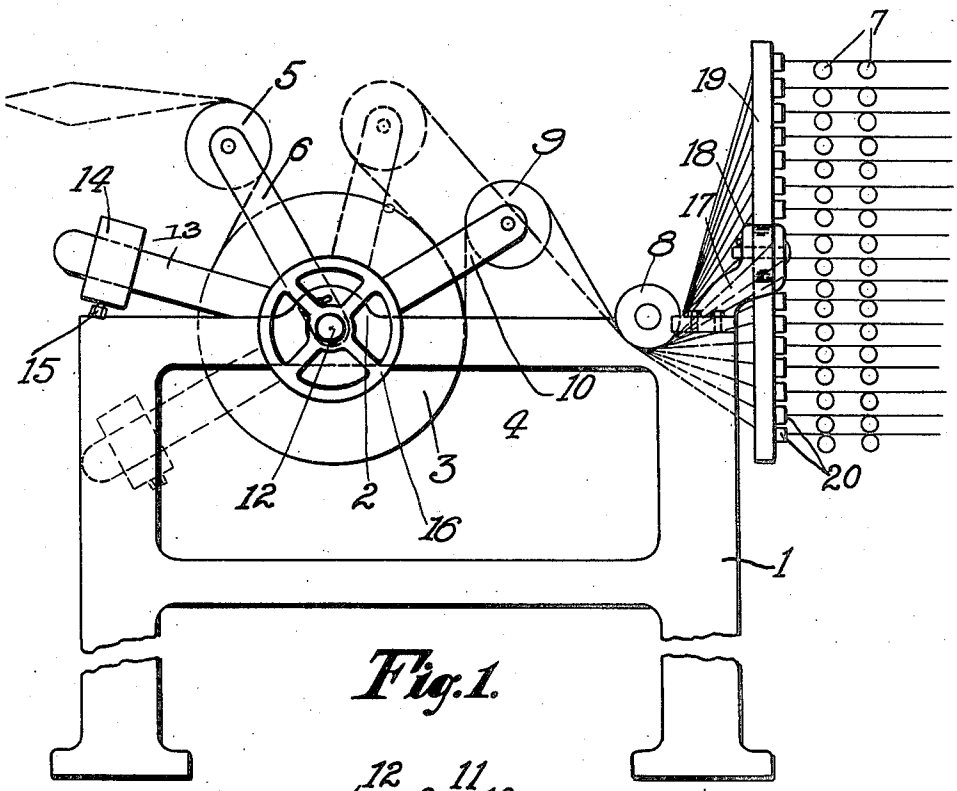


Fig. 1.

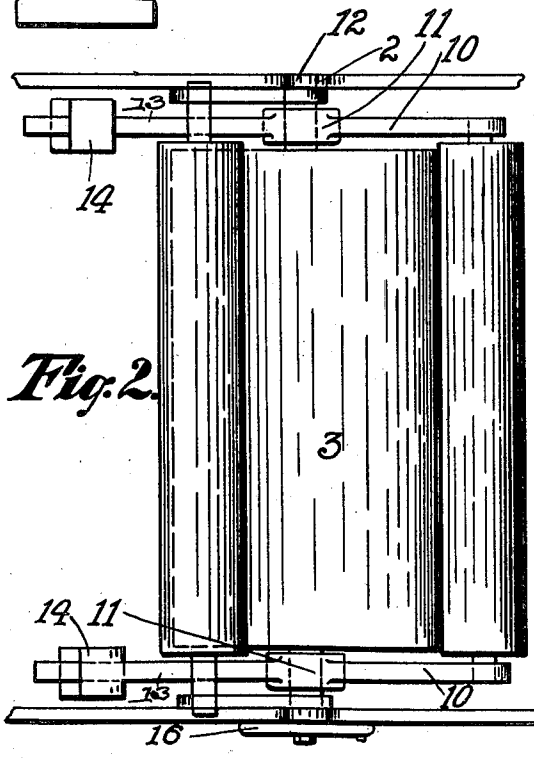


Fig. 2.

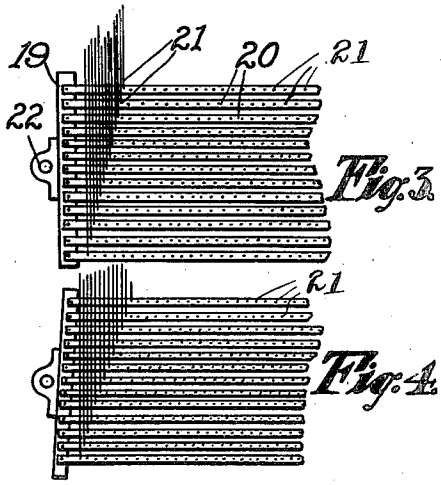


Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

ARTHUR L. REMINGTON AND FRED W. KIESSLING, OF WORCESTER, MASSACHUSETTS, ASSIGNORS TO WARP COMPRESSING MACHINE COMPANY, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

ATTACHMENT FOR LOOMS.

Application filed August 7, 1920. Serial No. 401,944.

To all whom it may concern:

Be it known that we, ARTHUR L. REMINGTON and FRED W. KIESSLING, both citizens of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in an Attachment for Looms, of which the following, together with the accompanying drawings, is a specification.

Our invention relates to looms and has for its object to provide a novel attachment therefor, by means of which the warp threads can be drawn directly from a creel to the loom without the necessity of first beaming the warp, in accordance with the usual practice.

In the production of loose fabric, such as is used in the manufacture of cord tires, it has been proposed to weave the relatively strong and heavy cords which comprise the warp directly from the spools of the creel, and by our invention we propose to provide a novel device which may be attached to the loom, by means of which the warp threads will always be held taut between the creel and the loom. We further propose to provide novel means by which the distance between the individual threads of the warp may readily be changed for varying the degree of tightness of the fabric.

In the accompanying drawings,

Fig. 1 is a view in side elevation of a loom attachment constructed in accordance with our invention.

Fig. 2 is a plan view of the parts shown in Fig. 1.

Figs. 3 and 4 are detail views showing the improved form of threadboard for the creel.

Referring to Figs. 1 and 2, a frame 1 is provided with a pair of projections 2, between which is rotatably mounted a drum 3. The drum 3 is covered with sandpaper, leather, or any other suitable frictional material, so that the warp threads 4, passing around the drum 3, will adhere closely to the periphery thereof. A guide roll 5 is rotatably supported above the drum 3 between a pair of upwardly extending arms 6 secured to the frame 1. The warp threads 4 pass over the roll 5 from the drum 3 to a loom, not shown, the shed of which is indicated by dotted lines. The loom may be of any usual type adapted for the production of a loose cord fabric, and as it forms no part of our invention need not be further described.

The warp threads 4 are drawn from a suitable creel, comprising a plurality of spools 7 arranged in series in the usual manner. The threads 4 pass from the creel beneath a guide roll 8 and from thence to the drum over a tension regulating roll 9. The regulating roll 9 is rotatably mounted between the arms 10 of a pair of bell crank levers, the hubs 11 of which are loosely mounted on the shaft 12 of the drum 3. The other arms 13 of the bell crank levers are respectively provided with a weight 14, which may be positioned on the arm 13 by a set screw 15, or any other suitable positioning means. It is apparent from an inspection of Fig. 1 that the bell crank levers are unbalanced, so that the roll 9 always tends to turn in a counterclockwise direction about the axis of the shaft 12. In this way, the warp threads between the creel and the drum 3 are always kept taut, regardless of the movements of the drum during the operation of the loom.

The shaft 12 of the drum 3 is provided with a hand wheel 16, by means of which the drum may be rotated in a counterclockwise direction in order to pull back the warp in case of a bad weave by the loom. When this occurs, the roll 9 also moves in a counterclockwise direction under the influence of the unbalanced weights 14, and in this way takes up the slack in the warp threads between the drum 3 and the creel, as indicated in dotted lines. When the operator has remedied the defect in the weave and turns back the drum 3 by means of the hand wheel 16, the roll 9 will also be returned to substantially its original position and will operate to keep the warp threads taut during the weaving, as before.

A pair rearwardly extending brackets 17 are mounted at one end of the frame 1, each bracket 17 terminating in a bifurcated portion, between the arms 18 of which a threadboard standard 19 is pivotally mounted. As best shown in Fig. 3, a plurality of threadboards 20 are pivotally supported at their ends by the standards 19, each threadboard 20 being provided with a plurality of openings 21 for the passage of the warp threads 4. When it is desired to

increase or decrease the space between the respective warp threads 4, the standards 19 are turned slightly on their pivot pins 22, as shown in Fig. 4, the warp threads 4 being shown as extending in a vertical plane rather than in a horizontal plane, in order to indicate more clearly the results obtained by this movement. In this way the degree of tightness of the fabric produced by the loom may be regulated very closely.

From the foregoing it is apparent that we have provided a novel device which may be attached readily to any type of loom upon which it is desired to weave loose cord fabric directly from the creel. Our device is adapted to operate so that the warp threads extending between the creel and the drum 3 will always have a uniform amount of tension during the operation of the loom, and that any slack in the threads will be automatically taken up should it be necessary to pull back the warp upon the occurence of a bad weave. Furthermore, our device makes possible a close regulation of the degree of tightness of the weave by means of the adjustment of the positions of the threadboards.

While we have shown our invention embodied in a particular arrangement of parts, it is not so limited but is susceptible of various modifications within the scope of the appended claims.

We claim,

1. An attachment for looms, comprising a rotatable drum for carrying the warp from a creel to a loom, and means acting in a direction away from the creel for holding the warp taut between the creel and the drum.

2. An attachment for looms, comprising a rotatable drum for carrying the warp from a creel to a loom, and means for automatically taking up slack in the warp between the creel and the drum by pulling the warp away from the creel.

3. An attachment for looms, comprising a rotatable drum for carrying the warp from a creel to a loom, and means tending to lay the warp around the drum in a direction opposite to the movement of the warp on the drum during the operation of the loom.

4. An attachment for looms, comprising a rotatable drum for carrying the warp from a creel to a loom, and a roll carrying the warp between the creel and the drum for holding the warp taut by pulling it away from the creel.

5. An attachment for looms, comprising a rotatable drum for carrying the warp from a creel to a loom, and a roll carrying the warp between the creel and the drum, the said roll always tending to move in a direction away from the creel.

6. An attachment for looms, comprising a rotatable drum carrying the warp from a creel to a loom, and a roll adapted for movement about the axis of the drum for holding the warp taut between the creel and the drum.

7. In an apparatus of the class described, the combination with a pivotally mounted support and a plurality of thread boards, each provided with openings for the passage of threads therethrough and each pivotally connected to said support, of means for turning said support whereby to shift the said thread boards longitudinally to vary the distance between the threads passing through the openings therein.

8. In an apparatus of the class described, the combination with a support carrying a plurality of thread boards respectively provided with openings for receiving threads, of means for turning said support and simultaneously shifting the said thread boards relatively to each other in a longitudinal direction to vary the distance between the threads passing through the openings therein.

Signed by ARTHUR L. REMINGTON this second day of August, 1920.

ARTHUR L. REMINGTON.

Signed by FRED W. KIESSLING this 26th day of July, 1920.

FRED W. KIESSLING.