

No. 784,310.

PATENTED MAR. 7, 1905.

C. H. DRAPER.
WARP GUIDING MEANS FOR LOOMS.
APPLICATION FILED NOV. 18, 1904.

Fig. 1.

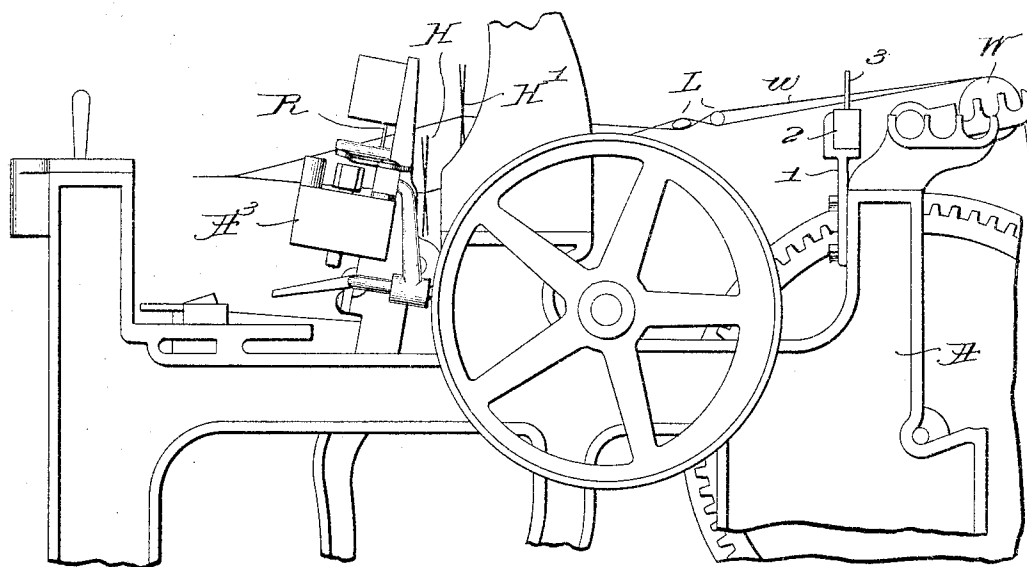


Fig. 2.

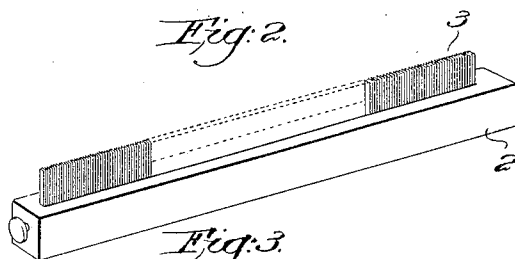
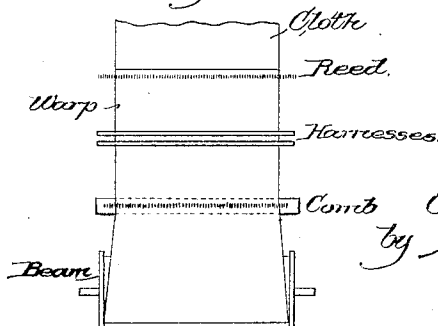


Fig. 3.



Witnesses,
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UNITED STATES PATENT OFFICE.

CLARE H. DRAPER, OF HOPEDALE, MASSACHUSETTS, ASSIGNOR TO
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WARP-GUIDING MEANS FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 784,310, dated March 7, 1905.

Application filed November 18, 1904. Serial No. 233,261.

To all whom it may concern:

Be it known that I, CLARE H. DRAPER, a citizen of the United States, and a resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Warp-Guiding Means for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing
10 like parts.

It is very general practice in weaving textile fabric to use a warp-beam on which the mass of warp is wider than the cloth at the fell, because it contains more yarn, and thus
15 saves in expense of frequent drawing in. As a result of such practice, the longitudinal edges of the sheet of warp converge from the beam to the reed, passing through the harnesses, and as the lay swings back and forth
20 the angles of many of the warp-threads change, particularly those threads nearer the edges of the warp. The reed-dents thus exert a sawing or rubbing action on the warp-threads as the threads are moved in and out laterally,
25 and a great deal of undesirable wear is produced, causing numerous warp breakages and acting with objectionable results on the harnesses. When the steel heddles or harnesses are used, the lateral movement of the
30 warp-threads imparts a corresponding movement to the cooperating portions of the harnesses, causing undue wear and frequent breakages. It will be manifest that if the warp-threads are properly alined relatively to the
35 paths of movement of the reed-dents the back-and-forth movement of the lay will move the dents parallel to the threads, whereas if the threads are not so alined the adjacent dents must rub or saw across them with the results
40 set forth.

My present invention has for its object the production of means to overcome the objections stated, and accordingly I have provided warp-guiding means located behind the harnesses to positively act upon and guide the
45 warp-threads in parallelism with the paths of movement of the reed-dents.

The warp-guiding means employed by me

is a comb having upright teeth, the use of a comb obviating the necessity of drawing in
50 the warps, as the latter are easily and quickly introduced between the teeth of the comb after the new beam is placed in the loom. I also use a comb having laterally-adjustable teeth, as thereby the arrangement of the warps
55 is facilitated, as will be explained more fully hereinafter.

The various novel features of my invention will be fully described in the subjoined specification, and particularly pointed out in the following claims.

Figure 1 is a side elevation of a sufficient portion of a loom to be understood with one embodiment of my invention applied thereto. Fig. 2 is a perspective view of a convenient
65 form of warp-guide, and Fig. 3 is a diagrammatic plan view showing the operation in a loom embodying my invention.

Referring to Fig. 1, the reciprocating lay A^3 , the reed R carried thereby, harnesses
70 $H H'$, lease-rods L , and whip roll or bar W may be and are all of well-known construction and operate in usual manner. At a convenient place behind the harnesses I introduce
75 means to guide and aline the warp-threads into substantial parallelism with the paths of movement of the reed-dents, and, referring to Fig. 1, I have shown suitable brackets 1, secured to the loom sides A , one at each side, and said brackets support a comb. This comb
80 may be conveniently such as shown in Fig. 2, comprising a box 2 and upright laterally-adjustable teeth 3, mounted therein, substantially a well-known form of comb used in warping-machines. I use such a form of comb because
85 the teeth thereof can be spread in the first instance to as nearly as possible accommodate the width of the beam, after which the warp-threads are introduced between the teeth. Then the comb is adjusted to contract the teeth,
90 thereby decreasing the spaces between them and reducing the width of the sheet of warp to that of the reed and harnesses. I am thus enabled to obviate the step of drawing in the warp through an additional reed, and I am further
95 enabled to quickly and accurately contract

the width of the sheet of warp to the proper extent between the beam and the harnesses. The teeth or guide members project upward through the warp *w*, and the series of teeth 5 are arranged transversely thereof, herein being shown between the whip-roll and the release-rods. The teeth 3 are so positioned that they will engage and draw in and positively position the warp-threads, particularly those 10 nearer the edges of the warp in parallelism with the paths of movement of the reed-dents. The operation of the comb is clearly shown in Fig. 3, the width of the warp being reduced thereby from the width of the yarn 15 mass on the beam to substantially the width of the cloth. With this arrangement any lateral derangement of the warp-threads as they pass from the beam will be corrected, and the motion of the harnesses in the formation of 20 the shed cannot throw the threads out of the proper alinement, while conversely the harnesses are not subjected to any undesirable lateral displacement.

As the threads are led in parallelism with 25 the path of movement of the reed-dents there can be no cross rubbing or sawing, and hence the wear of the reed-dents upon the warps is reduced to a minimum. The warper-comb is very convenient as the guiding means, as the 30 teeth can be spread when the comb is applied and then drawn in by reducing the spaces between them to reduce the width of the warp to the desired extent.

Having fully described my invention, what

I claim as new, and desire to secure by Letters 35 Patent, is—

1. In a loom, a reciprocating lay provided with a reed, harnesses, and a comb fixedly mounted on the loom behind the harnesses, transversely of the warp and having later- 40 ally-adjustable teeth, the teeth of the comb passing through the warp and guiding the threads in parallelism with the paths of movement of the reed-dents, whereby the sheet of warp can be reduced to the desired width af- 45 ter the warp-threads have been introduced between the laterally expanded or separated teeth of the comb.

2. In a loom, a reciprocating lay provided with a reed, harnesses, a warp-beam adapted 50 to sustain a yarn mass wider than the reed, and a comb having laterally adjustable or contractible upright guide-teeth located intermediate the beam and the harnesses, to pass be- 55 tween the warp-threads and contract the width of the sheet of warp, and substantially aline the warp-threads with the reed-dents and the heddle members of the harnesses, to prevent wear on the warp-threads and lateral displace- 60 ment of the heddle members.

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

CLARE H. DRAPER.

Witnesses:

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ERNEST W. WOOD.