J. SLADDIN.

Loom-Harness.

No. 164,777. Patented June 22, 1875.

FIG. 1.

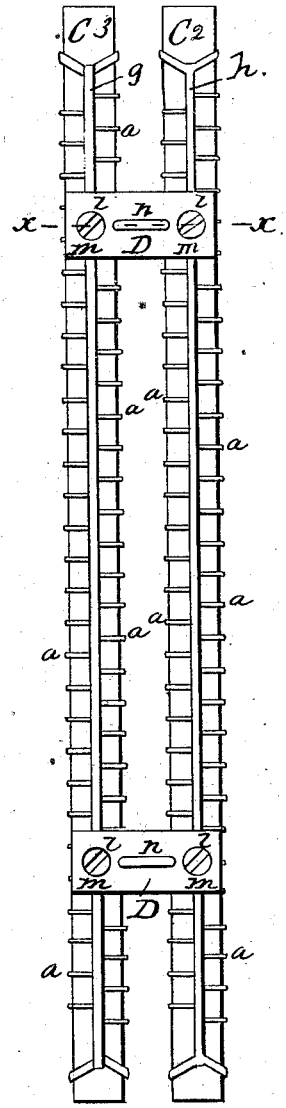


FIG. 2.

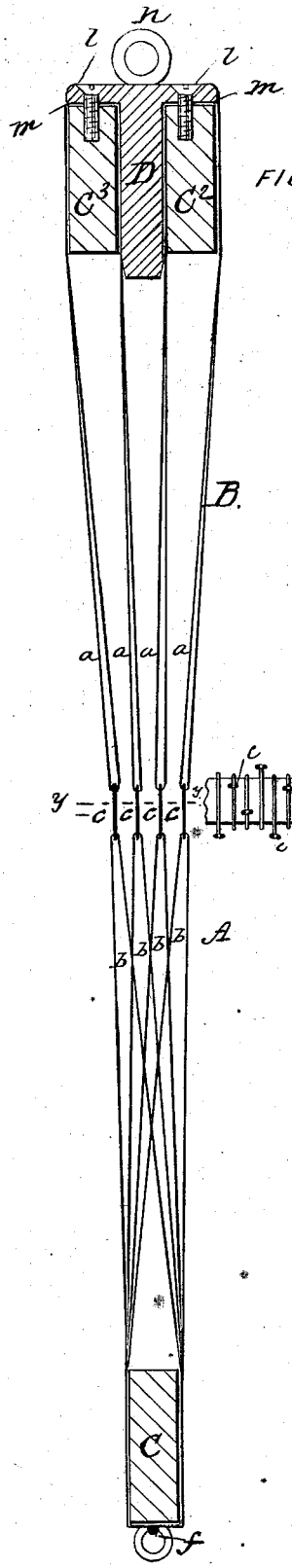
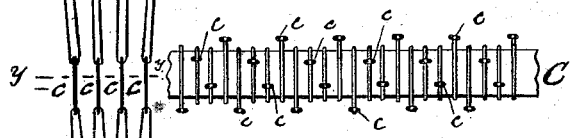


FIG. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JOSEPH SLADDIN, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN LOOM-HARNESS.

Specification forming part of Letters Patent No. **164,777**, dated June 22, 1875; application filed May 20, 1875.

To all whom it may concern:

Be it known that I, JOSEPH SLADDIN, of Lawrence, in the county of Essex and State of Massachusetts, have invented an Improved Loom-Harness, of which the following is a specification:

This invention relates to that class of loom-harness having its eyes made from lengths of yarns, which yarns are knit or otherwise secured to rig-bands, and, for illustration, see the several Letters Patent issued to me, dated August 4, 1868, No. 80,774, and reissued and dated August 8, 1871, in two divisions, A and B, Nos. 4,509 and 4,510, dated November 28, 1871, No. 121,258, and dated March 3, 1875, Nos. 148,252 and 148,253.

The invention particularly relates to such loom-harness as are made from four lengths of yarn, as, for instance, such as shown and described in the Letters Patent above referred to, dated March 3, 1875, Nos. 148,252 and 148,253; and the present improved harness is composed of yarns, from which heddle-eyes are made as in Letters Patent just above referred to, and all the yarns leading from and on one side of the heddle-eyes are secured to one and the same rig-band by knitting or sewing the same thereto in any of the well-known modes or otherwise, and all the yarns leading from and on the other and leese side of the heddle-eyes are secured by the yarns leading from one series of eyes to one rig-band, and the yarns leading from the other series of eyes to another and distinct rig-band, and to their respective rig-bands they are knit or sewed in any of the well-known modes or otherwise properly fastened. Thus is produced a harness having three distinct rig-bands, one on one side and two on the other and leese side of its eyes, so that if then a separate shaft be used for each rig-band, and the two shafts at the side of the harness, having two rig-bands, be held apart in any suitable manner, the eyes of the harness can and will be so separated as to secure a closer and freer movement of the harness-eyes through the warp-threads, as the harness rises and lowers, and without interference therewith; and, furthermore, this invention consists in the combination, with a harness of the form and construction above described, of novel-constructed blocks for holding the two shafts at the leese side of the harness, separated from each other, and for the suspension of the harness in a loom, all as hereinafter particularly described.

In the accompanying plate of drawings, Figure 1 is a plan view, showing the two shafts at the leese side of my improved harness, and the improved blocks separating the same; Fig. 2 is a sectional view at line *x x* from top to bottom of my improved harness and the shafts; and Fig. 3 is a horizontal section along line *y y*, Fig. 2.

In the drawings, *a a* and *b b* represent the yarns or twines, from which heddle-eyes are formed, all substantially as in Letters Patent hereinbefore referred to. The yarns *b* at one side, A, of the harness are secured by knitting, sewing, or otherwise to a common rig-band, *f*, and the two yarns *a* at the other side, B, of the harness, which side is the leese side thereof, are secured by knitting, sewing, or otherwise the one yarn to a rig-band, *g*, and the other yarn to a rig-band, *h*. Thus the harness is made, and into it at its rig-bands are inserted shafts C, C^2, and C^3, one shaft at each rig-band, in the usual manner, with harness having only a single rig-band at each and both of its sides, and these two shafts, C^2 and C^3, at the leese side of the rig-band are held apart by the insertion of blocks D between them, which blocks are secured in such position by fastening them to the two shafts with screws *l l*, or other suitable means, that pass through the shoulders *m* of the blocks, and thence screw into the top edge of each shaft C^2 C^3. (See Fig. 2 more particularly.) The blocks D are provided with eyes *n*, by which to suspend the harness in a loom.

My improved harness herein described possesses many features of advantage, and among them the following: That it can work the better and the freer through the warp, because by holding apart the two shafts at one side of the harness the heddle-eyes can and will be opened or separated from each other, and thus made to occupy the position of four distinct rows, (see Figs. 2 and 3,) whereas with only one rig-band in place of the two, as aforesaid, the heddle-eyes would be very close to each other, and substantially in only two rows;

that stronger and larger twine or yarn can be used, thus increasing the durability of the harness and greatly economizing in the expense of harness to manufacturers.

In the manufacture of the improved loom-harness herein described, I prefer to use continuous lengths of yarns, as particularly described in my said Letters Patent, dated March 3, 1874; but I do not intend to limit myself to the same, as separate lengths of yarn may be used for each heddle-eye formed.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A loom-harness, having its heddle-eyes made from lengths of yarn, and these yarns secured to three rig-bands, of which rig-bands one is at one side and two at the other side of the harness, whereby the eyes are arranged in four series in different vertical planes, all substantially as and for the purpose described.

2. The blocks D, provided with an eye, *n*, and applied and secured to the loom-harness shafts C^2 C^3, substantially as described, for the purpose specified.

The above specification signed by me this 10th day of May, A. D. 1875.

JOSEPH SLADDIN.

Witnesses:

EDWIN W. BROWN,

GEO. H. EARL.