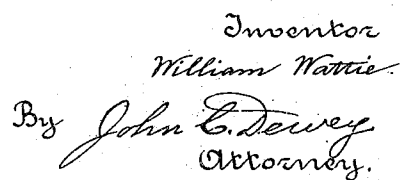


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UNITED STATES PATENT OFFICE.

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LAY FOR NARROW-WARE LOOMS.

962,183.

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To all whom it may concern:

Be it known that I, WILLIAM WATTIE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Lays for Narrow-Ware Looms, of which the following is a specification.

My invention relates to the lay of a narrow ware loom, and particularly to a lay of the type shown and described in my U. S. Letters Patent, No. 790,235.

The object of my invention is to improve upon the construction of the lay shown and described in my said Letters Patent, No. 790,235.

My invention consists in certain novel features of construction of my improvements in a lay for narrow ware looms, as will be hereinafter fully described.

In the construction of the lay shown and described in my said Patent, No. 790,235, I use an angle metal bar for the lay beam, and I attach to the vertically extending part of said metal bar, vertically extending stands, made separate from said angle bar and secured thereto by screws. To the vertically extending stands are secured the guide blocks for the shuttles.

In my present improvements, I do away with the vertically extending stands for the guide blocks for the shuttles, made separate from the angle metal bar, forming the lay beam, and I make a metal lay beam, having the vertically extending parts forming the individual stands for the guide blocks for the shuttles, so that the lay beam and the individual stands for the guide blocks are integral. By this construction I do away entirely with the separate stands for the guide blocks for the shuttles, which have to be separately secured to the vertically extending part of the lay beam, and are liable to work loose in the operation of the loom.

In my improved construction of the lay beam, I make the beam of metal, preferably of angle shape in cross section, and make the vertically extending part of greater length than the horizontal part, and cut out from said vertically extending part at regular intervals, openings which are preferably open at their upper ends, to form individual stands on each side of said openings for the guide blocks for the shuttles. I also prefer-

ably cut out the central portion of the stands, to reduce the weight of the beam.

I have only shown in the drawing a detached portion of one end of a lay and of a lay sword, embodying my improvements, with some additional parts, sufficient to illustrate the nature of my invention.

Referring to the drawing:—Figure 1 is a front view of the right hand end of a lay, and the upper part of a lay sword, embodying my improvements, looking in the direction of arrow *a*, Fig. 2. Fig. 2 is a section, on line 2, 2, Fig. 1, looking in the direction of arrow *b*, same figure. Fig. 3 shows the angle shaped metal bar shown in Fig. 1, detached, looking in the direction of arrow *c*, Fig. 4. Fig. 4 is a plan view of the parts shown in Fig. 3, looking in the direction of arrow *d*, same figure.

In the accompanying drawing, 1 is the upper part of a lay sword, which may be of the usual and well known construction in narrow ware looms. The upper part of the lay sword 1 has upon its upper front side an extension 1', preferably made integral with the lay sword, and forming a bracket or support to receive a metal bar 2, preferably of angle shape in cross section, which extends the full width of the loom, and forms the lay beam of the loom.

The angle metal bar 2 is rigidly secured to the bracket 1', on the upper end of the lay sword 1, (there are two or more lay swords, according to the width of the loom), in this instance by bolts 3 through the lower surface of the angle metal bar 2, and also bolts 4 through the rear side thereof.

The angle metal bar 2 has at regular intervals thereon, and extending up therefrom in a vertical plane, the parts 2', preferably having a central opening 2'' there-through to reduce the weight, which parts 2' form individual stands for the shuttle guiding blocks, and the hand-rail.

Extending upon the front side of the vertical portion of the angle metal bar 2, is in this instance a bar 5, preferably of wood, and which is preferably detachably and adjustably connected to the vertically extending portions of the angle metal bar 2, by vertically extending screws 6, and horizontally extending screws 7. The vertically extending screws 6 may be used to ad-

just the height of the bar 5, as described in my said Patent, No. 790,235.

The upper side of the bar 5 is in this instance cut out to receive the longitudinally moving rack 8, see Fig. 2, which is operated in the usual way by straps passing over rolls carried on the lay, not shown. The rack 8 engages with and drives a series of pinions 9, which pinions engage and operate swivel shuttles, not shown, in the usual way, to cause them to move in undercut tracks or ways 10' in the guide blocks 10.

The guide blocks 10 are secured at their upper and lower ends, in this instance by screws 10'', in the upwardly extending parts 2' on the angle metal bar 2.

A bar 11, preferably of metal, and made separate from the bar 2', is bent or offset at 11', as shown in Fig. 4, to form a recess or pocket for the upper end of the reed, not shown, which is secured thereon by the reed clips 12, see Fig. 1. The lower ends of the reeds may be held by separate bars 13, see Figs. 2, and 3, each forming a pocket; said bars 13 are secured to the vertically extending parts 2', by screws 13'. In place of separate bars 13, a single bar, corresponding to the bar 11, may be used if preferred.

The bar 11 forming the hand-rail, is preferably made in one length, as shown, but if preferred it may be made in separate sections like the bars 13, and said sections secured to the upwardly extending parts 2'.

It will be understood that the details of construction of my improvements may be varied if desired. Instead of making the openings between the vertically extending individual stands 2' open at their upper ends, I may leave a connection between the upper ends of said stands, to form the hand-rail, instead of a separate bar 11, as above described; said connections may be offset to form a recess or pocket for the upper end of the reeds. I may also leave the metal be-

tween the lower ends of the stands 2', forming a connection between said stands which may be offset to receive the lower end of the reeds, instead of having separate bars 13.

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

1. In a narrow ware loom, the combination with a bracket or extension on the lay sword, of an angle metal bar secured to said bracket or extension, and having a horizontal portion and a vertical portion, the vertical portion having individual, integral and separated upwardly extending parts, forming supports for the guide blocks for the shuttles, and said guide blocks, secured to said upwardly extending parts, and a bar secured to the upper ends of said upwardly extending parts, to hold the upper ends of the reeds, and a bar or bars secured to the lower part of said upwardly extending parts, to hold the lower ends of the reeds.

2. In a narrow ware loom, the combination with a bracket or extension on the lay sword, of an angle metal bar secured to said bracket or extension, and having a horizontal portion and a vertical portion, the vertical portion having individual integral and separated upwardly extending parts, forming supports for the guide blocks for the shuttles, and said guide blocks secured to said upwardly extending parts, and a bar also secured to the upper ends of said upwardly extending parts, said bar having offsets therein for the reeds, and bars secured to the lower part of said upwardly extending parts to form pockets for the lower ends of the reeds.

WILLIAM WATTIE.

Witnesses:

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