BATTEN STRUCTURE FOR NARROW WARE LOOMS.
APPLICATION FILED MAR. 3, 1911.

Patented July 16, 1912.

INVENTORS,
Adolph Widmer
and Samuel Widmer.

ATTORNEY

WITNESSES

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2 SHEETS-SHEET 2.

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COLUMBIA PLOUGH CO., WASHINGTON, D. C.
To all whom it may concern:

Be it known that we, ADOLPH WIDMER and SAMUEL WIDMER, citizens of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful improvements in Batten Structures for Narrow-Ware Looms, of which the following is a specification.

This invention relates to batten structures for narrow ware looms and particularly to that class of such batten structures which are adapted for "double-deck" looms, to wit, looms in which the goods are woven in planes one above the other. Prior to the issue of our U. S. Patent No. 607,524 in such batten structures the two racks for operating the shuttles were arranged one above the other below the shuttles, the result of which was that the work was obscured by an undesirable shadow caused by the upper rack and its accessories. Our patented construction remedied this difficulty in that the upper rack was placed between the two shuttle planes, but it did not entirely avoid it because still a shadow is cast upon the lower row of shuttles.

In accordance with our present invention, there is but one rack employed, that being below the rows of shuttles and therefore making unnecessary any elevated rack-carrying structure to darken the area of the goods being woven. In this and other respects which will be apparent to those skilled in the art in view of this specification and accompanying drawings, notably that a lighter, less expensive and more substantial and durable construction is produced, our present invention is an improvement upon the aforesaid patented construction.

Our invention is fully illustrated in the accompanying drawings, wherein:

Figure 1 is a rear elevation of the improved batten structure, certain parts appearing in section; Fig. 2 is a sectional view on the line a—a of Fig. 1; Fig. 3 is a front elevation of said batten structure, certain parts appearing in section; Fig. 4 a sectional view on the line y—y of Fig. 3; Figs. 5, 6 and 7 are a front elevation, an end elevation, and a top plan view showing the construction of the shuttle-block structures of the lower set; and, Figs. 8, 9 and 10 are a front elevation, an end elevation, and a top plan view showing the construction of the shuttle-block structures of the upper set.

To the back of the batten-proper a is attached a frame for supporting the reeds b and the two sets of shuttle-blocks affording lower and upper races for the shuttles e and d. Describing the said frame, e denotes a series of uprights which are secured to the back of the batten-proper by the screws j, or otherwise, the tops of the said uprights being connected and braced by the usual light metallic strip g. In the alternating spaces between the uprights e are arranged the reeds b corresponding to the lower set of shuttles c, and in the remaining spaces are arranged the reeds b for the upper set of shuttles d, the two sets of shuttles being disposed at different elevations. In the spaces for the lower set of reeds, and fitted between the uprights e, are secured the plates h overlapped by the plates i which form therewith pockets or seats for the reeds, the plates h and i being secured in place by the screws j. Above the plates i are secured to the backs of the uprights e the strips k against the front face of each of which the upper edge of the corresponding reed is held by the clip l having a screw m securing it to the plate. Traversing the spaces for the upper set of reeds, and secured to the backs of the uprights e, are the strips n, each strip having a clip o secured thereto by a screw p, the said clip receiving the base of the corresponding reed; the top of said reed is held in place by a clip q secured to the rail r by a screw s. Each shuttle-block in each set (upper and lower) comprises two parts or sections.

Referring now, to Figs. 1 to 4 and 5, 6, 95 and 7, s and s' designate the lower and upper parts or sections of one of the lower shuttle-blocks, the same having the grooved bearing surfaces t and t' for the shuttles c which are provided with corresponding grooved bearing surfaces c'. The section s is recessed at the back and near each edge to receive plates u, screws v passing through the two sections s and s' and the plates which bear against the back of the section s' so that the said sections and the plates form a unitary structure. Penetrating each end of the lower section s and the plates u are the bushings w, and projecting forward from the plates u above the bushings w are the bushings w. On the bushings w and w are journaled the pinions y and
s, respectively, each pinion y being received by a recess 2 cut into the section s from the back thereof and comprising two pinion members y' and y² fixed to rotate together, and each pinion z being received by a recess 3 at the back of the section s'. The shuttle-block structure just described, thus assembled, is readily secured in place to the front faces of the uprights e between spaces 5 and each pinion y being received by a recess 2 cut into the sections of the pins 5. Each pinion member 11 meshes with the pinion 2, and said 35 pinion 2 meshes with the pinion member y°. The pinion members 11 and y° are adapted to engage the racks d and c', and the transmission of power is effected in such a way that a more compact structure, measured vertically, results, the top of the batten structure being therefore lower with the effect of facilitating the weaver's access to mechanism of the loom back of the batten.

Having thus fully described our invention, what we claim and desire to secure by Letters Patent is:

1. In combination, with the batten-proper, a skeleton frame projecting above the same and consisting of relatively narrow uprights and a relatively narrow horizontal strip connecting said uprights and disposed above and spaced from the batten-proper, a set of upper shuttle-blocks traversing alternating spaces between and connecting the uprights, a set of lower shuttle-blocks traversing the remaining spaces between and connecting the shuttle-blocks, sets of intermeshing pinions, each set coinciding with an upright and comprising three vertically arranged pinions, each of substantially no greater diameter than the width of the upright, a rack arranged in the batten proper, and upper and lower shuttles movable in the upper and lower blocks, respectively, each set of pinions including a lower pinion meshing with the rack and engageable with lower shuttles, an upper pinion engageable with upper shuttles and an intermediate pinion meshing with said upper and lower pinions, substantially as described.

2. In combination, with the batten-proper, a skeleton frame projecting above the same, and consisting of relatively narrow uprights and a relatively narrow horizontal strip connecting said uprights and disposed above and spaced from the batten-proper, a set of upper shuttle-blocks traversing alternating spaces between and connecting the uprights, a set of lower shuttle-blocks traversing the remaining spaces between and connecting the shuttle-blocks, sets of three vertically arranged intermeshing pinions, each set coinciding with an upright, a rack arranged in the batten proper, and upper and lower shuttles movable in the upper and lower blocks, respectively, the lower pinion in each set comprising a forward pinion member meshing with the rack and a rear pinion member, the upper pinion in each set also comprising a forward pinion member engageable with upper shuttles and a rear pinion member, and the intermediate pinion meshing with the said rear pinion members, substantially as described.

In testimony whereof we have set our signatures in the presence of two witnesses.

ADOLPH WIDMER.
SAMUEL WIDMER.

Witnesses:

JOHN W. LEONARD,
W. M. D. BELL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D.C."