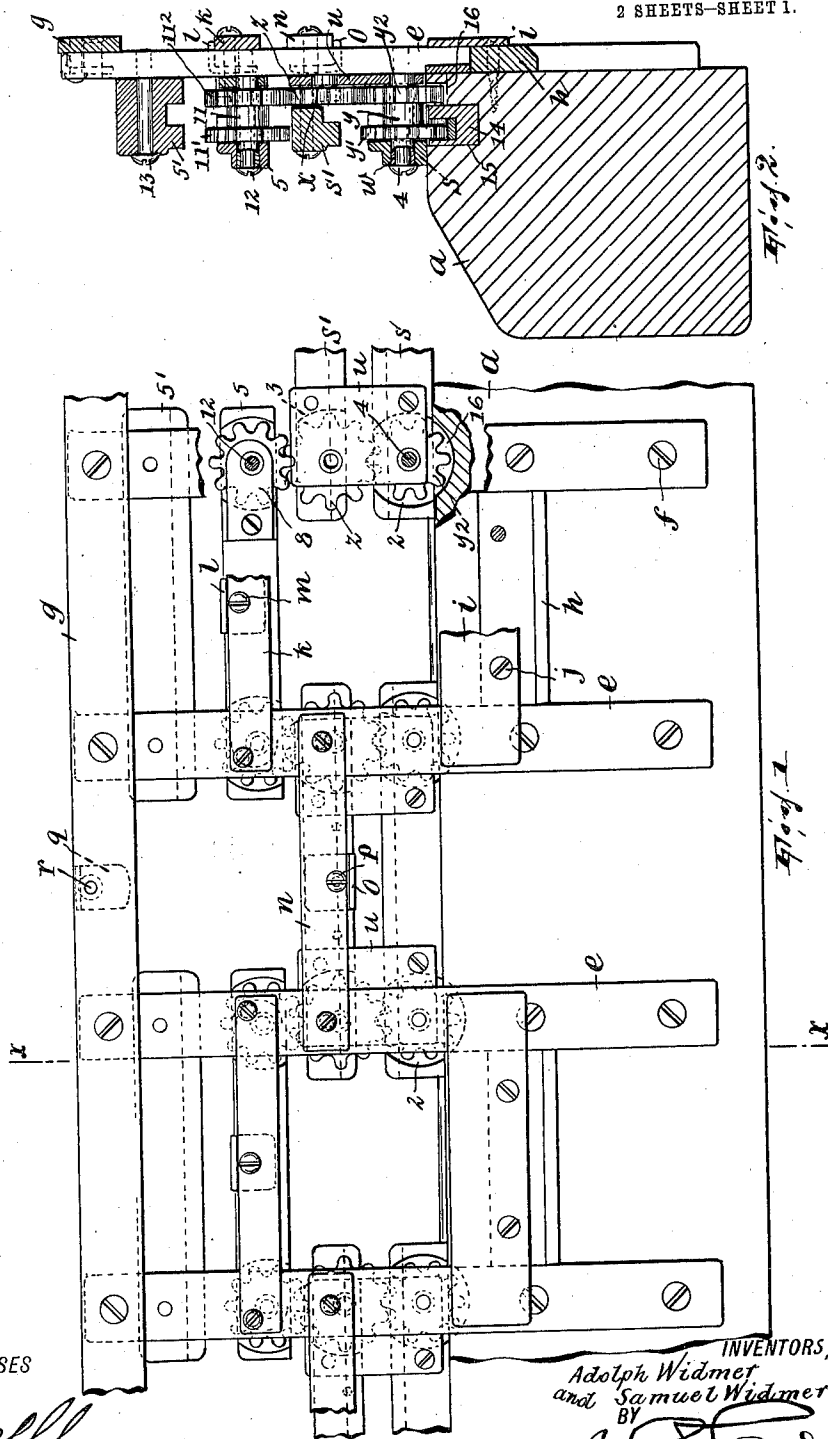


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BATTEN STRUCTURE FOR NARROW WARE LOOMS.
APPLICATION FILED MAR. 3, 1911.

1,032,574.

Patented July 16, 1912.

2 SHEETS—SHEET 1.



WITNESSES

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Elie Kaufmann.

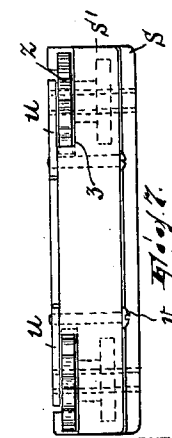
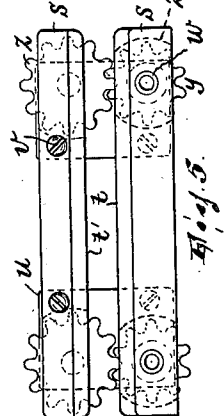
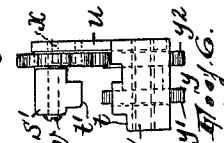
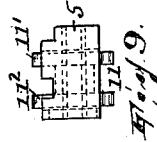
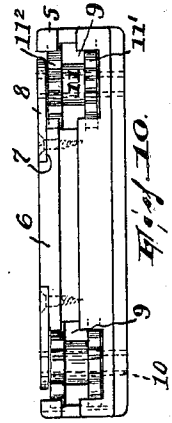
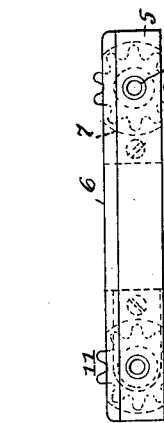
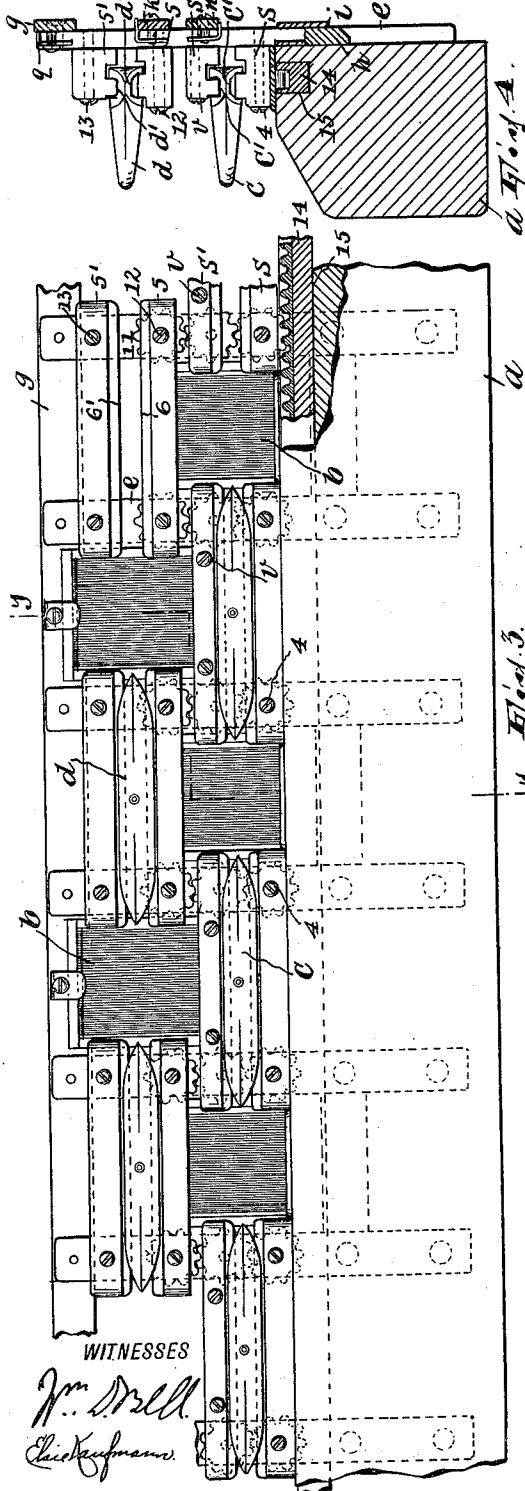
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2 SHEETS—SHEET 2.

1,032,574.



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BATTEN STRUCTURE FOR NARROW-WARE LOOMS.

1,032,574.

Specification of Letters Patent.

Patented July 16, 1912.

Application filed March 3, 1911. Serial No. 612,069.

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.

10 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. 807,524 in such batten structures the two racks for operating the shuttles were arranged one above and 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.

20 In accordance with our present invention, there is but one rack employed, that being below both 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,

45 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 $x-x$ of Fig. 1; Fig. 3 is a front elevation of said batten structure, certain parts appearing in section; Fig. 4 is 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 c 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 f , 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 upright 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 g by a screw r . Each shuttle-block in each set (upper and lower) comprises two parts or sections.

Referring, now, to Figs. 1 to 4 and 5, 6, 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 u (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 forwardly from the plates u above the bushings w are the bushings x . On the bushings w and x are journaled the pinions y and

2, 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 y^2 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 occupied by two reeds in the lower set of reeds by screws 4 passed through said bushings into the uprights.

Referring now to Figs. 1 to 4 and 8, 9 and 10, 5 and 5' designate the lower and upper parts or sections of one of the upper shuttle-blocks, the same having the grooved bearing surfaces 6 and 6' for the shuttles d which are provided with corresponding grooved bearing surfaces d' . The section 5 is recessed at the back, as at 7, to receive a plate 8 secured thereto, the plate overlapping a recess 9 in which is disposed a bushing 10 fixed at its ends in said plate and the front wall of the section. On this bushing is journaled a pinion 11 comprising two pinion members 11' and 11². The section 5 is secured to the front faces of the uprights e between the spaces for two reeds b of the upper set by screws 12 penetrating its bushings 10, and the section 5' is secured above the section 5 by the screws 13. Each pinion member 11² meshes with the pinion z , and said pinion z meshes with the pinion member y^2 . The pinion members 11' and y' are adapted to engage the racks d^2 and c^2 , respectively, of the shuttles d and c . Thus, when the pinions y are rotated by the usual rack in the manner to be described, the pinion members y' and 11' will cause the shuttles c and d all to move in the same direction at once. A single rack for driving the trains of pinions and corresponding shuttles is employed, the same being marked 14 and arranged to travel in a groove 15 in the top of the batten structure, its teeth engaging the teeth of the pinion members y' . Back of the groove 15 the top of the batten-proper is recessed, as at 16, to accommodate the pinion members y^2 .

It will be observed that the forward pinion members y' and 11' are arranged in the same vertical plane (Fig. 2) and that the power is received by each set of pinions from the rack and transmitted to the shuttles in such plane, the transmission from member y' to member 11' being effected through parts (y^2 , z and 11²) rearwardly offset relatively to the rack and members y' and 11'. In this way, the fell of the goods appertaining to the upper shuttles is vertically alined with that of the goods appertaining to the lower shuttles, 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 affix our signatures in presence of two witnesses.

ADOLPH WIDMER.
SAMUEL WIDMER.

Witnesses:

JOHN W. LEONARD,
WM. D. BELL.