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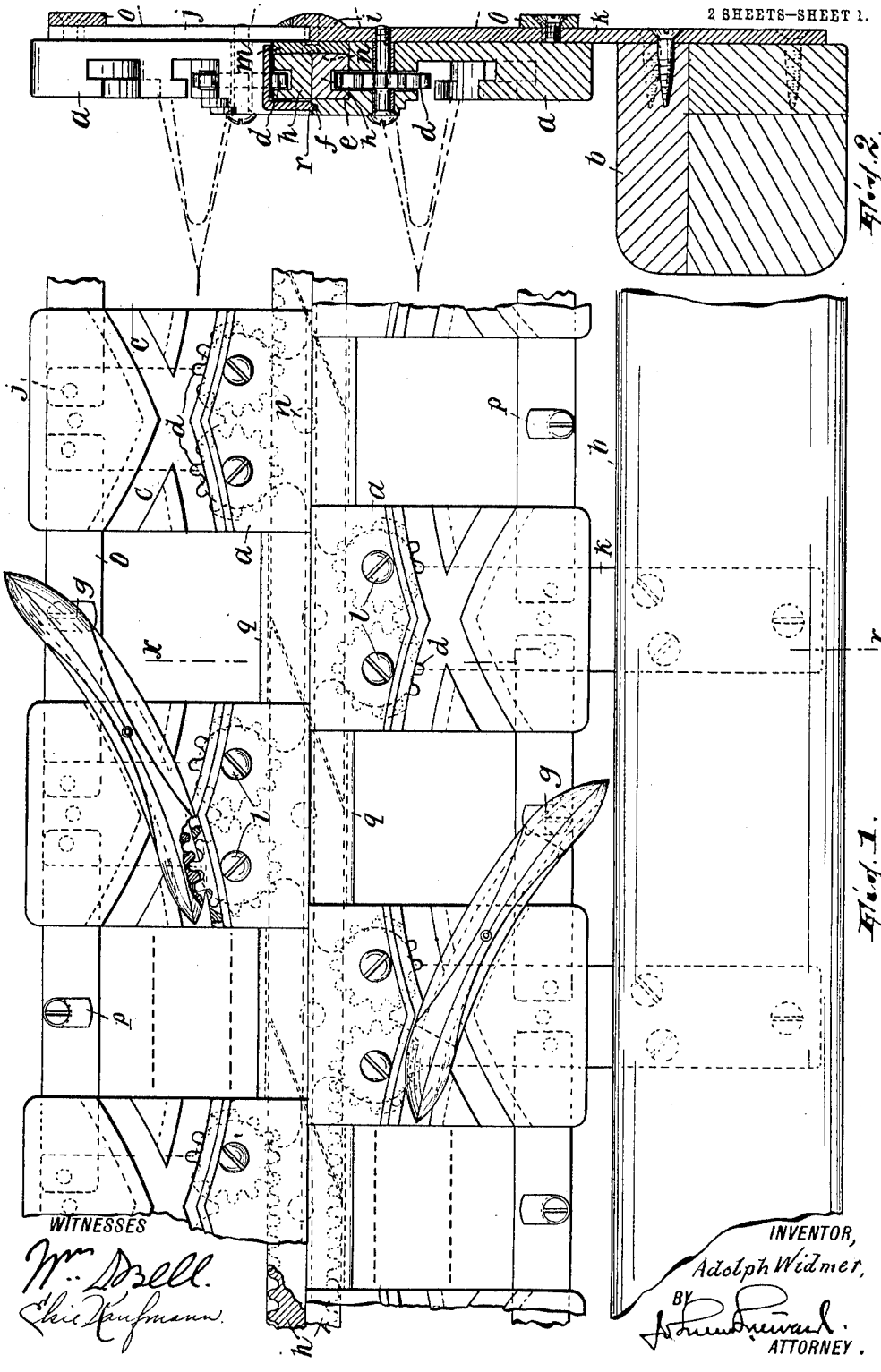
BATTEN STRUCTURE FOR NARROW WARE LOOMS.

APPLICATION FILED NOV. 11, 1912.

1,066,771.

Patented July 8, 1913.

2 SHEETS—SHEET 1.



WITNESSES

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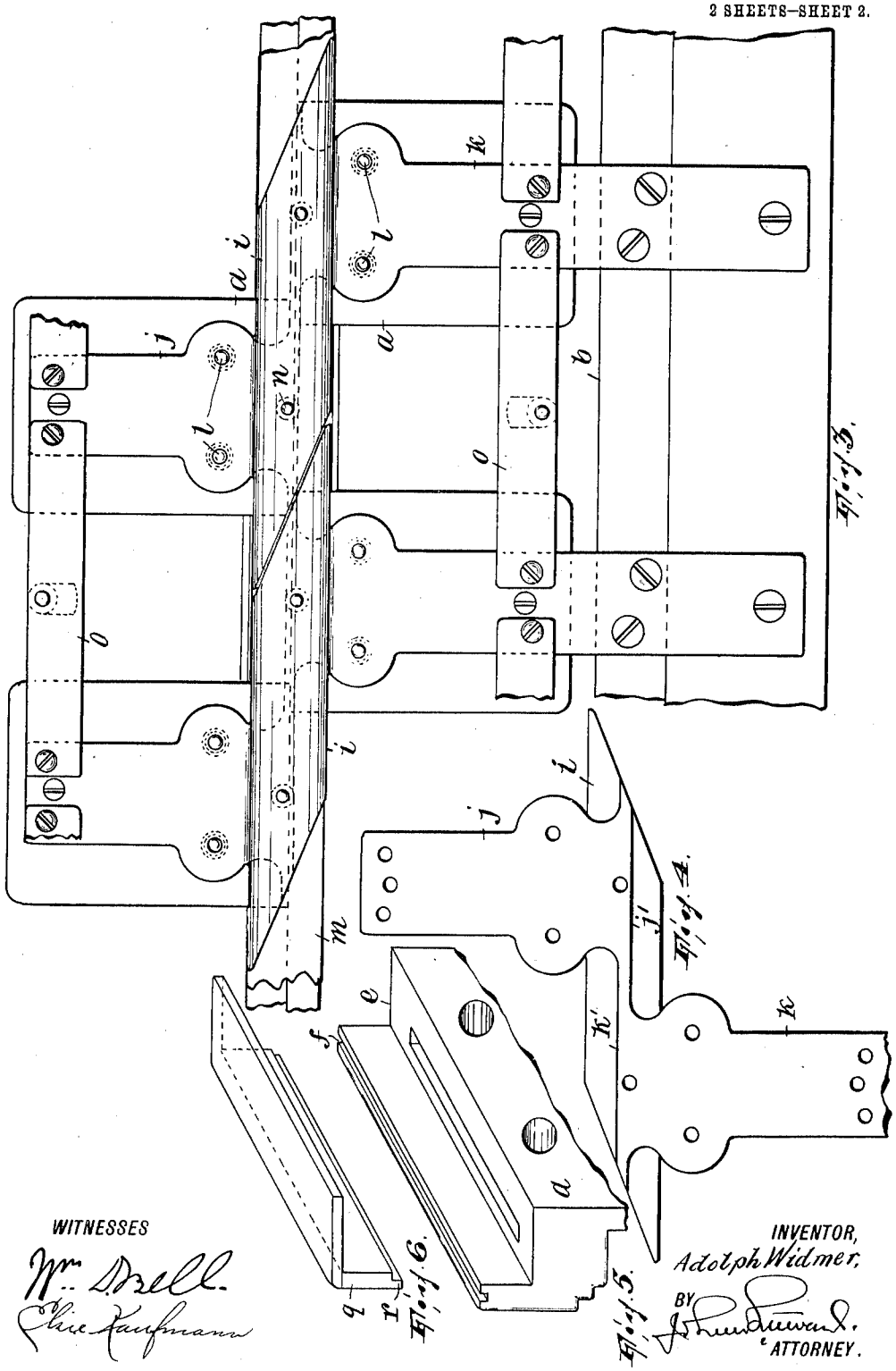


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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BATTEN STRUCTURE FOR NARROW-WARE LOOMS.

1,066,771. Specification of Letters Patent. Patented July 8, 1913.

Application filed November 11, 1912. Serial No. 730,542.

To all whom it may concern:

Be it known that I, ADOLPH WIDMER, a citizen 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 looms and particularly to batten structures for narrow ware looms of the so-called double-deck type.

The principal objects of the invention are to increase materially the capacity of the structure, make it more durable and substantial and at the same time less expensive in construction than heretofore, facilitate the assembling of its various parts, render its shuttle guiding blocks interchangeable, and permit the ready removal of any block of the lower as well as of the upper series, as occasion requires.

The invention will be found fully illustrated in the accompanying drawings, wherein,

Figure 1 is a front elevation of a fragment of the improved batten structure; Fig. 2 is a sectional view on the line *x*—*x* of Fig. 1; Fig. 3 is a rear elevation of a fragment of said structure; Fig. 4 is a front elevation of one unit of the framework to which the shuttle blocks are attached; Fig. 5 is a rear perspective view of the upper part of a lower shuttle block; and Fig. 6 is a perspective view of an angular plate which is fitted between shuttle blocks in each row, covering the rack.

The shuttle blocks *a*, arranged above the batten proper *b* in upper and lower rows and supported in the way to be described, are substantial counterparts of each other, those of one row being inverted relatively to those of the other. The upper row is provided with the downwardly curved, and the lower row with the upwardly curved, crossed shuttle guiding grooves *c*, two grooves crossing midway between the sides of each block and each block being provided with two shuttle-driving pinions *d*. The bottom of each upper block and top of each lower block has a rabbet-like channel *e* cut clear across the same, the same extending from the back materially forward of the block, as shown in Fig. 2, and forward of this channel is the narrow groove *f*; the said channel exposes the toothed peripheries of the pinions, which thus protrude from the block. The blocks in the two rows are preferably uniformly spaced, as shown. The bottoms of the upper row of blocks, which are staggered relatively to those of the lower row, abut against the tops of the latter, as shown.

g designates the shuttles.

The rack for driving the pinions comprises upper and lower rack members *h h* having countersunk rack teeth on their upper and lower sides, respectively, and suitably secured together so as to move as one. It reciprocates in a housing which is formed by the channels aforementioned. The sectional form of the rack permits an interlining strip to be interposed between its members to thicken it to the proper extent when it wears away on the bottom, and each of its members being a counterpart of the other, as shown, the rack may be inverted when either row of teeth wears away more than the other.

A series of brackets like that shown in Fig. 4 is attached to the back of the batten proper. Each bracket has a horizontally elongated body part *i* formed with parallel beveled ends and an upwardly and a downwardly projecting portion or member *j* and *k*, standing staggered or offset relatively to each other and each forming at the back of the body part a shoulder *j' k'*. The member *k* is sufficiently longer than the member *j* so that when the bracket is secured to the back of the batten-proper in the manner shown in Fig. 3, where its body part is horizontal and its ends are abutted (or substantially so) by the ends of the body parts of adjoining brackets, about as much of the length of said member will be exposed above the batten proper as somewhat exceeds the length of member *j*. Against the members *j* and *k* of the brackets the upper and lower rows, respectively, of blocks are secured by the screws *l*, which are preferably the axes of the pinions; previously, however, a hardwood strip *m* is secured to the body parts of the brackets by screws *n*, thus bracing the several brackets and affording a continuous smooth bearing surface for the back of the rack when all the parts have been assembled. The line where the upper and lower rows of blocks meet being substantially central of the several body parts of the brackets and the exposed portions of the members *k* of the brackets being somewhat longer than their members *j*, clearance is left

between the bottom of each lower block and the batten proper, as shown in Fig. 1. Thus, each lower block is capable of the necessary downward movement to clear its pinions from the rack teeth in removing it from its supporting means. The shoulders *j' k'* afford abutments for the reeds (not shown) which overlap the backs of the shuttle-blocks, being backed by the cross-pieces *o*, connecting the block-supporting brackets, and clamped to said cross-pieces by the usual clips or catches *p*.

To cover the rack above each lower block and below each upper block I provide the angular cover plates *q* which have tongues *r* fitting the grooves *f* in the blocks and may be secured to the blocks by glue, brads or other suitable means.

The improved batten structure is peculiarly strong and durable, and yet light, in construction; its parts are readily assembled and are so related to each other as to permit the easy removal of more or less of its blocks without disturbing the rest of the mechanism, as when the pinions of any block become worn or out of order or the rack requires repairs or renewing. And, what is of more importance, it possesses the maximum capacity of weaving space, allowing each woven fabric to be so wide that in elevation no spacing appears between any fabric in the upper plane and the adjoining one in the lower plane, and yet the height of the structure need not be increased. The increased capacity, without increase in height of the structure, is due to the employment of the angular brackets supporting the blocks instead of the usual straight upright or bracket (which, being used as a support for one block in each row, necessitates the blocks overlapping very considerably in order to afford sufficient material for securing them to the upright) and to the convex sides of the shuttle guiding grooves in the two rows, instead of their concave sides, being presented toward each other, it being obvious that where the concave sides are presented toward each other the lengthening of the shuttles necessarily incident to the widening of the weaving spaces cannot follow, unless the structure be increased in height, because then the shuttles in one row would collide with those in the other.

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

1. A batten structure for looms including, in combination, upper and lower rows of spaced shuttle blocks, the blocks of one row being staggered relatively to those of the other and the blocks of the upper row having crossing downwardly curved and the blocks of the lower row crossing upwardly curved shuttle guiding grooves, shuttles arranged in said grooves, means to actuate the shuttles, and means to which to secure the blocks including a series of upright supports having upper and lower portions staggered relatively to each other and respectively coinciding with and having attached to them the upper and lower blocks, substantially as described.

2. In combination, the batten-proper, a series of brackets arranged side by side and projecting upwardly therefrom, each bracket having a horizontally extending body portion and upwardly and downwardly extending offset members, a horizontal strip disposed against the front faces of the several body parts, a horizontal rack disposed against the front face of said strip, recessed shuttle blocks housing the rack and secured to the front faces of said upper and lower members, shuttles guided in said blocks and means to transmit motion to the shuttles from the rack, substantially as described.

3. In combination, the batten-proper and a supporting means projecting upwardly therefrom, shuttle blocks each removably attached to said means over the batten proper, shuttles guided in said blocks, shuttle-driving pinions journaled in and protruding upwardly from said blocks, and a shuttle-driving rack overlying the blocks and engaging the pinions, said blocks having clearance between them and the batten-proper, whereby, when released from said structure, each may be lowered to clear the pinions from the rack, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ADOLPH WIDMER.

Witnesses:
JOHN W. STEWARD,
WM. D. BELL.

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