

F. BENZ, JR.

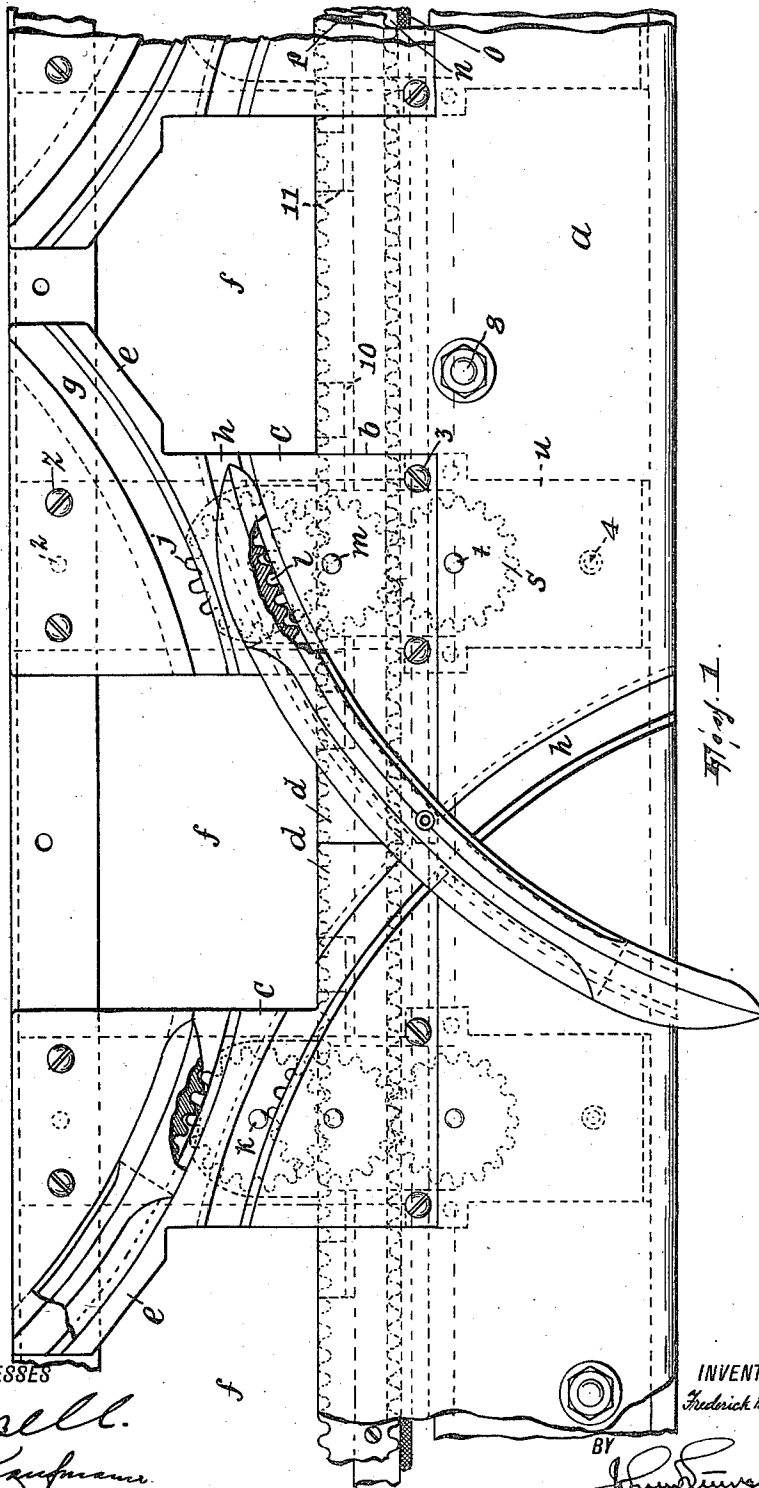
BATTEN STRUCTURE FOR NARROW WARE LOOMS.

APPLICATION FILED SEPT. 6, 1912.

Patented Apr. 29, 1913.

2 SHEETS-SHEET 1.

1,059,972.



WITNESSES  
Wm. M. Bell.  
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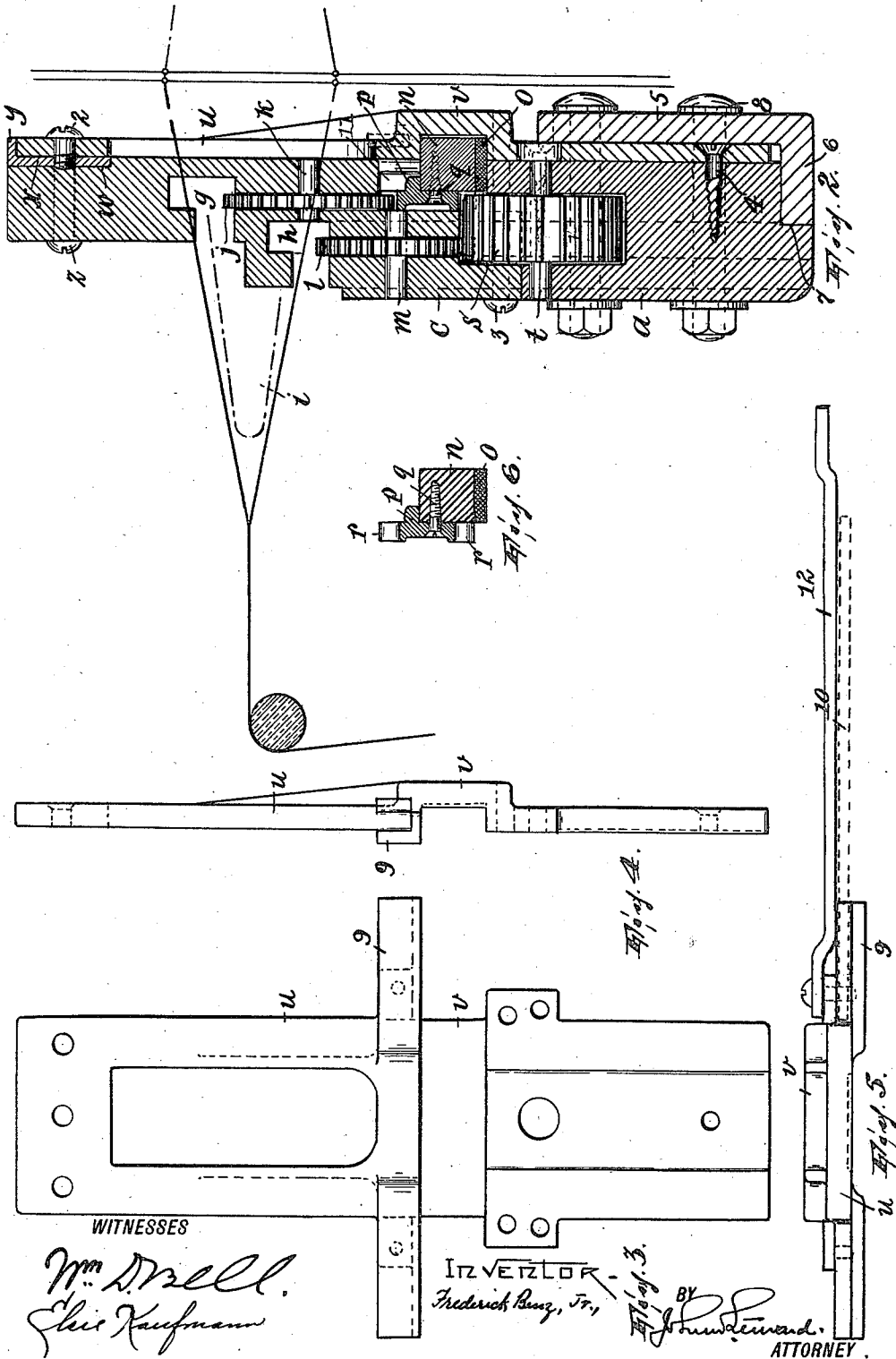
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# UNITED STATES PATENT OFFICE.

FREDERICK BENZ, JR., OF HALEDON, NEW JERSEY, ASSIGNOR TO JOSEPH FRANK, OF NEW YORK, N. Y.

## BATTEN STRUCTURE FOR NARROW-WARE LOOMS.

1,059,972.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed September 6, 1912. Serial No. 718,818.

*To all whom it may concern:*

Be it known that I, FREDERICK BENZ, JR., a citizen of the United States, residing at Haledon, 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 it has for its principal object so to construct a structure of this kind as to produce increased compactness, strength and durability.

The invention consists in the improved batten structure and in certain novel combinations of the parts thereof substantially as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a front elevation, partly in section; Fig. 2 is a vertical sectional view in the plane of the axes of one of the sets of pinions, the shuttle shown in Fig. 1 being removed; Figs. 3, 4, and 5 are front, side and plan views of one of the uprights *u*; and, Fig. 6 is a cross-section of the rack.

*a* is the batten-proper, the same being formed preferably of wood. Set into the elongated rectangular recesses *b* entering the top of the batten and disposed at regular intervals are the shuttle blocks *c*. The batten structure being of the so-called "double-decker" type, has its upper series of shuttles arranged to travel in downwardly curved grooves and its lower series of shuttles arranged to travel in upwardly curved grooves, the grooves (or races) of one series alternating with those of the other.

Each recess *b* receives therein two shuttle blocks *c* from the lower end of the body part of each of which there projects toward the other a lateral extension *d* and from the upper end of the body part of each of which projects outwardly a lateral extension *e*. The projections *d* are rectangular and abut face to face with each other, their upper surfaces being coincident with the top surface of the batten proper *a*. The blocks *c* of each pair of blocks are spaced from each other the same as the pairs of blocks are spaced from each other, so that the weaving spaces, *f*, are all of uniform width.

Each upper groove *g* is formed in the blocks *c* of a pair, its extremities projecting

into the extensions *e* of said blocks. Each lower groove *h* is formed partly in a block of one pair and partly in the block of the next adjoining pair, its extremities projecting into the extensions *d* of said blocks and (in the present instance, since the front face of the batten *a* is flush with the front faces of the shuttle blocks) into the front face of the batten.

By establishing two blocks in each recess *b*, making them snugly fit the same and abut in their portions *d* square against each other, and by providing the lateral extensions *d*, integral with the blocks, I obtain simplicity, compactness and durability of construction and at the same time reduce the width of the body part of each block (allowing more blocks to a given length of batten), and yet the shuttles *i* are properly supported when at the ends of their races; it will be noted that since that portion of each lower race *h* which is beyond the body part of the block is within an integral part of the block I avoid any possibility of disalignment of such portion of the groove relatively to the part thereof which is in the body part of the block.

The upper shuttles are driven by the pinions *j* journaled on the pins *k*; the lower shuttles are driven by the pinions *l* journaled on the pins *m*. The pinions *j* and *l* are driven as follows: On the back of the batten (the shuttle blocks being cut away as shown in Fig. 3 to receive it) slides a rack preferably consisting of a wooden strip *n* having a leather shoe *o* affixed thereto affording its underneath or supporting surface, and having the cross-sectionally angular metallic strip *p* fitted over its forward upper edge and secured thereto by the screws *q*, said strip *p* having upper and lower rack teeth *r*. The upper rack teeth mesh with the pinions *j* for the upper series of shuttles. The lower rack teeth mesh with the broad pinion *s* journaled on a pin *t* and meshing with the pinion *l*.

The blocks are secured to the batten proper and the whole structure given strength and rigidity by parts now to be described.

*u* designates uprights disposed flatwise against the backs of the batten proper and shuttle blocks. Each upright is a casting substantially flat except in the part thereof

coinciding with the rack, where it has a rectangular bend *v*. By virtue of the bends in the uprights housings are formed therein to receive the rack and afford additional support therefor, allowing the rack to be made wider, and therefore wear longer, than otherwise. In a recess *w* extending crosswise of the back of each shuttle block at the top thereof is fitted a bracing strip *x* of angle iron, its flange *y* overhanging. Each upright bears at its upper end against the back of this strip, the same being cut off square and abutting against the under side of the flange thereof, the strip being secured to the uprights by the screws *z* and each upright being secured to the strip by a screw 2. Each upright is secured to the lower portion of the shuttle block by the screws 3, and at its lower end it may be secured to the batten proper by the screws 4.

Against the back of the lower end of each upright bears the body part of an angle iron rail 5 whose flange 6 is fitted into a rabbet 7 in the lower surface of the batten proper *a*, the parts *a*, 5 and *u* being securely clamped together by means of the bolts 8. The rails 5 not only allow the batten proper to have a front to rear thickness not greater than the superstructure but give strength, with lightness and compactness, to the batten proper which would otherwise be lost due to the forming of the grooves *h* therein.

Each upright *u* has the oppositely projecting recessed wings 9 forming seats in which the reeds 10 (dotted lines, Fig. 5) may be supported, the same being fitted into recesses 11 in the backs of the shuttle block so as to bring the front face of the reed flush with the back faces of the shuttle blocks; the backs of the wings 9 are preferably connected by the strips 12 which afford back-supports for the lower ends of the reeds.

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

1. The combination of the batten-proper having downwardly entering recesses therein, a pair of shuttle blocks arranged in each recess, the recess-received portions of each pair of blocks having lateral projections extending toward each other, shuttles movable in the blocks and means for reciprocating the shuttles, substantially as described.

2. The combination of the batten-proper having downwardly entering recesses therein, a pair of shuttle blocks arranged in each recess and having grooves, the recess-received portions of each pair of blocks having lateral projections extending toward each other and including parts of said grooves, shuttles movable in said grooves,

and means for reciprocating the shuttles, substantially as described.

3. The combination of the batten-proper having downwardly entering recesses therein, a pair of shuttle blocks arranged in each recess, the recess-received portions of each pair of blocks having lateral projections extending toward and abutting against each other, shuttles movable in the blocks and means for reciprocating the shuttles, substantially as described.

4. The combination of a batten-proper, shuttle-blocks arranged thereon, shuttles movable in the blocks, means for reciprocating the shuttles including a rack slidable on and overhanging the back portion of the batten-proper and means for securing the shuttle-blocks on the batten-proper including uprights bearing against the backs of said shuttle-blocks and batten-proper and having recesses coinciding with and receiving and supporting the rack, substantially as described.

5. The combination of the batten-proper, shuttle blocks arranged thereon, a bracing strip connecting and recessed into the backs of the several shuttle-blocks and having an overhanging rearward flange, and an upright secured to the backs of each shuttle-block and the batten-proper and having its upper end cut off square and bearing against the back of said strip and the flange thereof, substantially as described.

6. The combination of the batten-proper, shuttle blocks arranged thereon, uprights secured against the backs of the batten-proper and shuttle-blocks and securing the latter on the batten-proper, an angle-iron rail receiving the lower ends of the uprights and the rear lower edge portion of the batten proper and having its sides bearing against the bottom and back of the batten proper, and means for clamping said batten-proper, uprights and rail together, substantially as described.

7. The combination of the batten-proper, shuttle blocks arranged thereon, a bracing strip connecting the backs of the several shuttle-blocks and having an overhanging rearward flange, and an upright secured to the backs of each shuttle-block and the batten-proper and having its upper end cut off square and bearing against the back of said strip and the flange thereof, substantially as described.

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

FREDERICK BENZ, JR.

Witnesses:

JOHN W. STEWARD,  
BARTON H. WALKER.