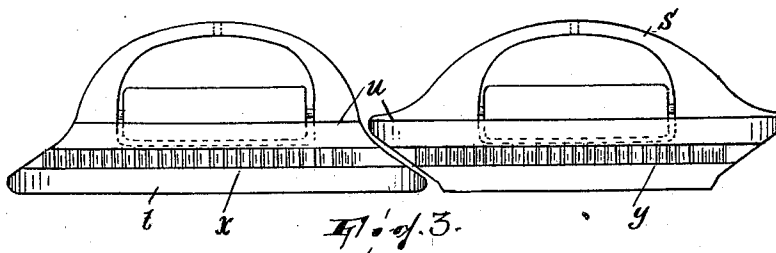
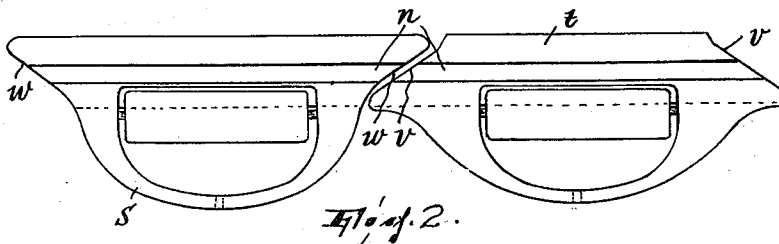
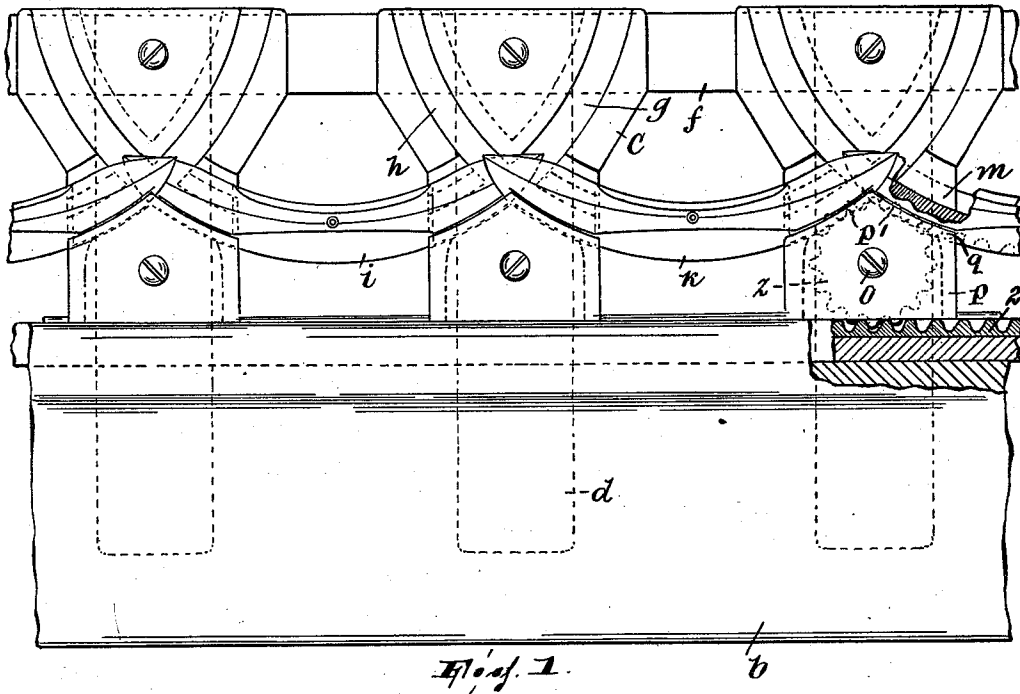


F. BENZ, JR.
 BATTEN STRUCTURE FOR NARROW WARE LOOMS.
 APPLICATION FILED JUNE 28, 1911.

1,013,365.

Patented Jan. 2, 1912.



WITNESSES

Wm. Bell.
Elsie Kaufmann.

INVENTOR,
Frederick Benz, Jr.,
 BY *John Surand.*
 ATTORNEY.

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.

1,013,365.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed June 28, 1911. Serial No. 635,730.

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.

My present invention relates to certain improvements in batten structures for narrow ware looms of the kind illustrated in the U. S. Patent to Joseph Frank, No. 980236, wherein the shuttles are arranged in two series in which those of one series overlap those of the other, and it consists in certain improvements in such batten structures having for their objects to make the batten structure more compact and space-saving.

In the accompanying drawings, Figure 1 is a front elevation of a fragment of the improved batten-structure, parts of which are shown broken away; and Figs. 2 and 3 are top plan and underneath plan views of two shuttles.

b is the batten proper and c the shuttle blocks, each backed by an upright d (the several uprights being connected by a horizontal strip f). For reasons explained in my application Serial No. 601065 each shuttle block appears in front elevation as having its lower portion cut away at the sides. Since this feature has been claimed in the applications referred to I make no claim to the same in this application.

In each two adjoining shuttle blocks a downwardly curved groove g (h) is formed, the same affording a race for a shuttle i (k). Each groove has a fin or tongue m to fit a corresponding groove n in the shuttle and secured to the front face of each shuttle block, as by screws o , is a plate p whose top edge, as at p' , coincides with two curved converging lines struck about the same centers as those of the curved grooves g and h , so that an abutment or lip q is formed, over-

lapping the concave side of each groove, and affording a shoulder against the back of which the shuttles wipe in their movements.

Referring to Figs. 2 and 3 it will be observed that the shuttles of the two series not only overlap but that the adjoining ends of adjoining shuttle bodies are reversely beveled; preferably the ends of the body of each shuttle k are beveled to converge rearwardly, as at v , and the ends of the body of each shuttle i forwardly, as at w . Thus I not only make it possible to accommodate more shuttles in a given length of batten than is possible where the shuttles do not overlap but bring all of the corresponding parts of all the shuttles in perfect alinement with each other (for instance, the rack x of a shuttle i in alinement with the rack y of a shuttle k ; such racks of course affording with the usual pinions z and moving rack 2, the usual means for reciprocating the shuttles); in addition, compactness and less front-to-rear dimension of the entire structure are attained and the parts are made to coöperate with each other with a high degree of precision and regularity.

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

A batten structure for narrow-ware looms comprising a plurality of upright spaced shuttle-supporting and guiding portions each having two curved races intersecting each other and a plurality of shuttles arranged to move in said races and alined with each other, the adjoining ends of said shuttles being reversely beveled in plan and overlapping each other, substantially as described.

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

FREDERICK BENZ, JR.

Witnesses:

JOHN W. STEWARD,
WM. D. BELL.