O. EILHAUER.

LAY MOTION.

APPLICATION FILED AUG. 3, 1908.

972,835.

Patented Oct. 18, 1910.

2 SHEETS—SHEET 1.

FIG. 1.

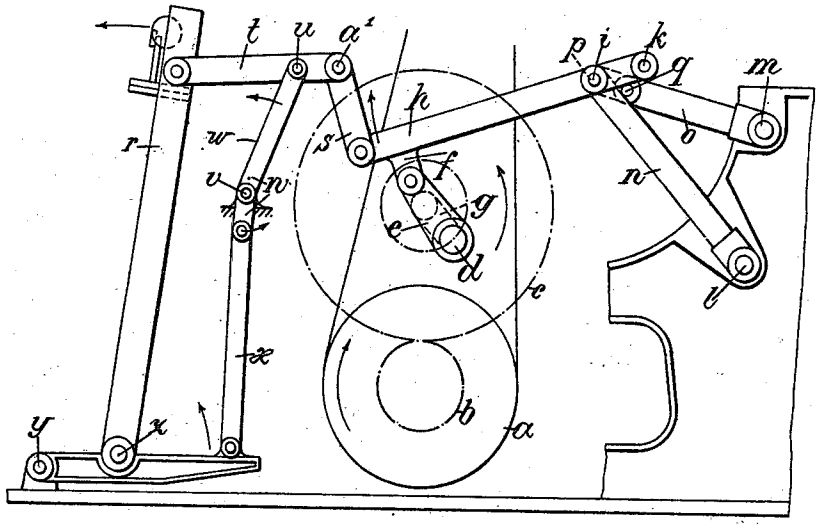
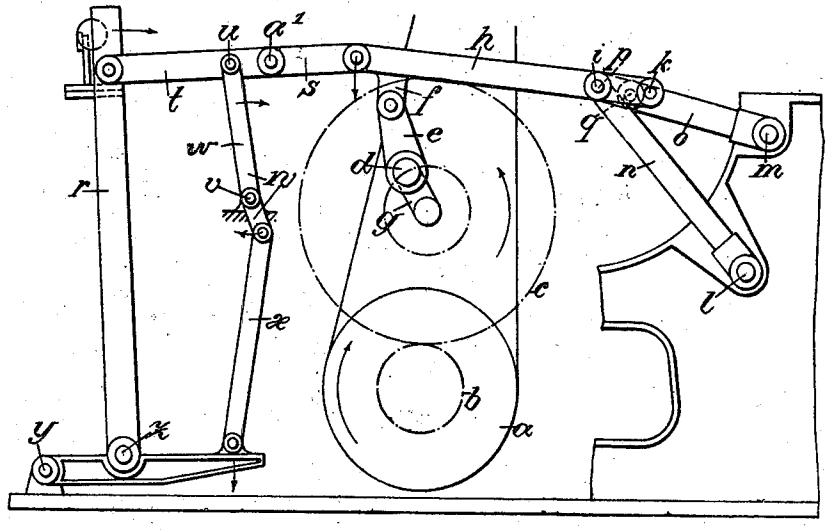


FIG. 2.



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2 SHEETS—SHEET 2.

FIG. 3.

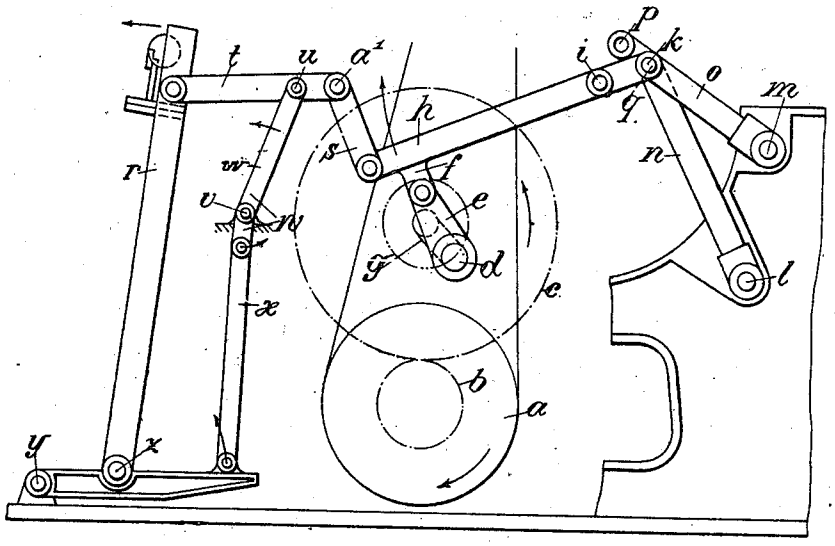
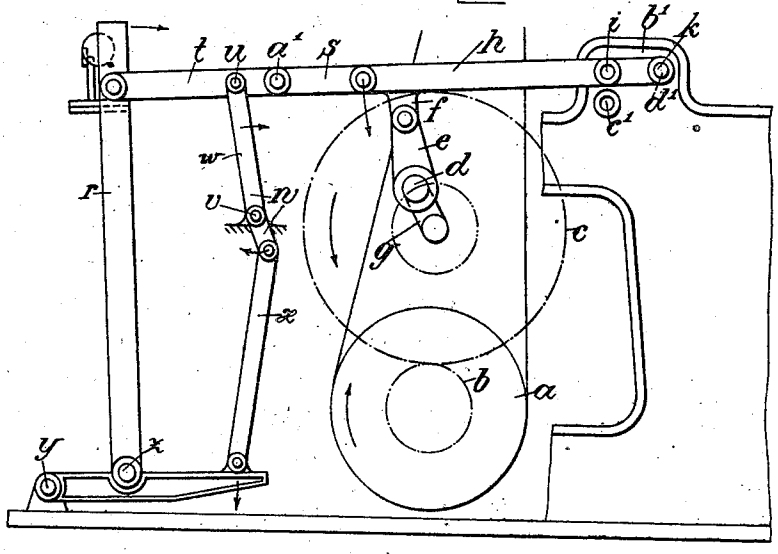


FIG. 4.



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UNITED STATES PATENT OFFICE.

OSKAR EILHAUER, OF NEUSTADT-ON-THE-ORLA, GERMANY.

LAY-MOTION.

972,835. Specification of Letters Patent. Patented Oct. 18, 1910.

Application filed August 3, 1908. Serial No. 446,809.

To all whom it may concern:

Be it known that I, OSKAR EILHAUER, a subject of the Emperor of Germany, residing at Neustadt-on-the-Orla, Germany, have invented certain new and useful Improvements in Lay-Motions, of which the following is a full, clear, and exact specification.

This invention relates to a device for moving a double and single blow batten for looms with high speed of revolution in which the movement of the shuttle is not very rapid, as the movement of the batten by a suitable arrangement of levers is regulated in such a way that after the rapid beat of the batten and its return, considerable time is left for the passage of the shuttle.

The loom is especially adapted for the manufacture of fine but strong fabrics as the batten executes a slight vertical movement by which the warp during the beat of the batten is moved to the lower end of the reed which is of special advantage in as much as the reed bars close to their place of clamping can better prevent a sidewise displacement of the warp than in the center of the reed.

For the purpose of using the loom without material changes for single and double stroke, a longitudinally adjustable bar is provided in connection with the levers, so that according to the height of the pivot of the bar, single or double strokes are obtained.

The drawing represents the parts of a loom essential for the understanding of the invention in two forms.

Figures 1 and 2 are side views of the first form with the batten adjusted for double stroke. Figs. 3 and 4 are the corresponding views, the batten being adjusted for single stroke, Fig. 4 showing a second form.

The loom is actuated from the pulley *a*, the motion of which is transmitted by means of the gear wheels *b* and *c* in the well known manner by means of a crank *g*, to the toggle-joint *e f*, the toggle *e* being connected to the crank *g* by a pivot as at *d*. The lug *f* is rigidly connected to a bar *h* one end of which is provided with two holes *i* and *k* and is connected to a triangle consisting of two bars *n* and *o* swinging around the points *l* and *m*, the bar *o* being also provided with two holes *p* and *q*. The connection of the bar *h* with the batten *r* is effected by two bars *s* and *t*, of which the second is connected by the bolt *u* with a bell-crank lever *w* turning around the stationary point *v*, the free leg of which by means of the rod *x* is connected to the bearing *z* of the batten *r* turning around the pivot *y*.

To adjust the loom for double beat of the batten, the free end of the attaching link *n* is connected by a bolt inserted into the holes *i* and *p* of the bar *h* and the attaching link *o* respectively (Figs. 1 and 2). If the crank then turns in the direction of the arrow, the batten is moved to the left and at its first beat is in the position whereby the movable bearing *z* is raised through the movement of the bell crank lever *w* so that the warp rests upon the base of the reed. If the crank *g* continues to turn, the batten retreats a little and beats shortly thereafter once more against the fell, as soon as the left end of the bar *h* is so much under the connecting line of the points a^1 and *i*, as it was above this line at the first beat of the batten and the double beat is thereby accomplished.

The adjustment for single beat differs from that for double beat only in that the bolt in the free end of the attaching link *n* is not inserted in the holes *i* and *p* but into the holes *k* and *q* of the bar *h* and the attaching link *o* respectively whereby only a single beat of the batten is effected as in this case the left end of the bar *h* never goes over the line of connection between the points a^1 and *k* (Fig. 3). The attaching links *n*, *o* may also be replaced by a fixed bearing b^1, having two bearing places c^1 and d^1, so that at the double beat the hole *i* of the bar *h* corresponds to the bearing place c^1, while at the single beat the hole *k* is connected with the bearing place d^1 by a bolt (Fig. 4).

Having thus described my invention, what I claim is:

1. A device for moving a loom batten, comprising at each end of the batten a link pivoted to said batten, a second link supporting the first-mentioned link, an intermediate crank-actuated toggle attached to the rear end of said first-mentioned link, means for pivotally connecting the end of the rear arm of said toggle to the loom frame, and means for adjusting said first-mentioned means to obtain a single beat of the batten or a double beat of the batten.

2. A device for moving a loom batten, comprising at each end a crank-actuated link with two eyes at the rear end, a pivot,

means for supporting said pivot in positions for engagement with said eyes respectively, the rear position being approximately at the same height as the middle of the reed and the other position being about level with the foot of the reed, a second link attached to the batten at one end, a bell crank lever one arm of which supports the second link near its rear end, a stationary pivot for said bell crank lever, a lever having a fixed fulcrum and a bearing for the foot end of the batten, a third link connecting the last-mentioned lever with the other arm of the bell crank lever, and an intermediate link connecting the first and second links.

In testimony whereof I affix my signature.

OSKAR EILHAUER.

In the presence of—

F. HEPHAN,

CHARLES NEUER.