

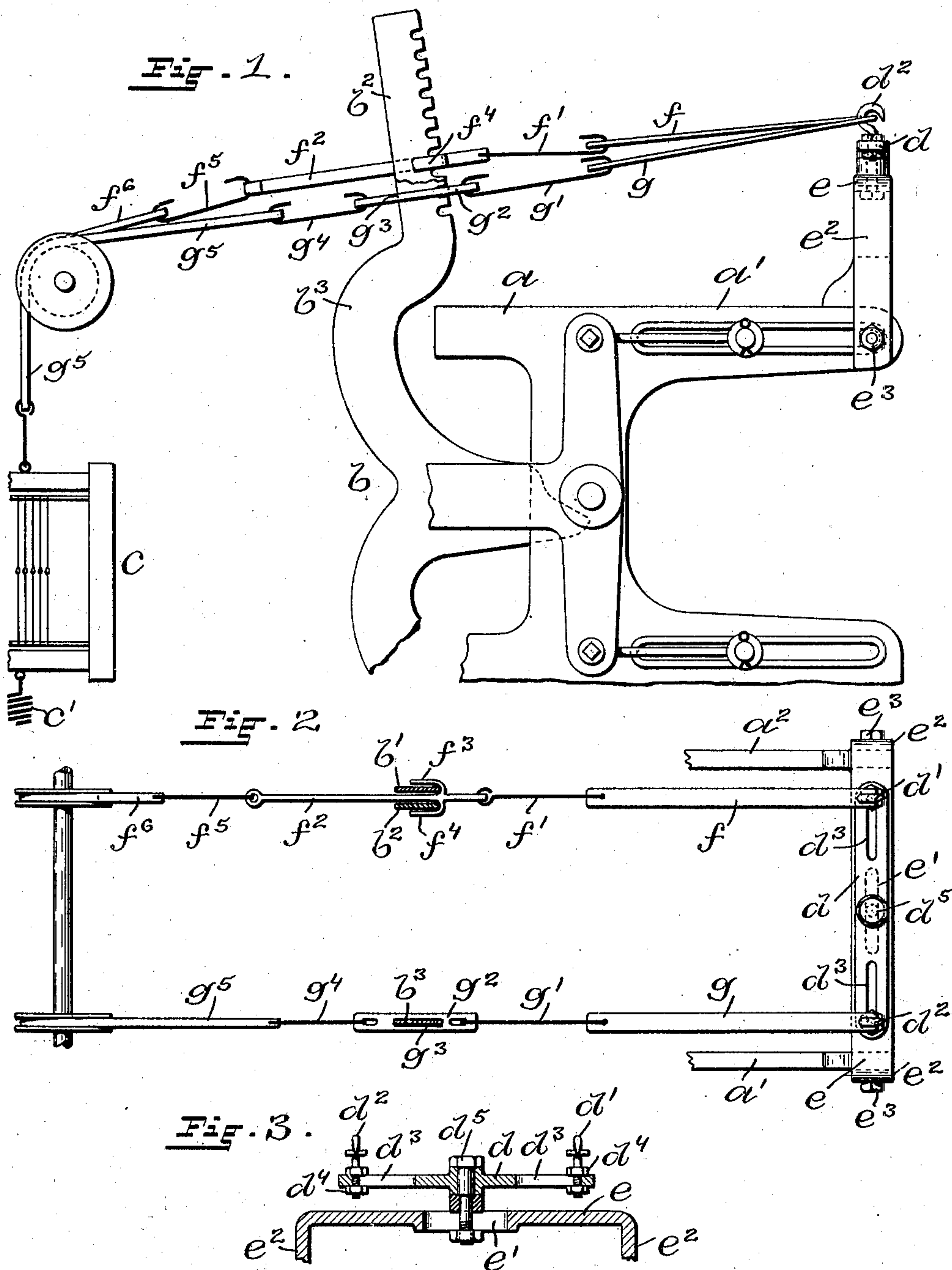
No. 757,085.

PATENTED APR. 12, 1904.

J. B. BOLTON.
LENO MOTION FOR LOOM DOBBIES.

APPLICATION FILED JULY 20, 1903.

NO MODEL.



WITNESSES:

Ada F. Hapert
Chas. H. Lutton Jr

INVENTOR:

John B. Bolton
Joseph A. Miller & Co.
ATTORNEYS:

UNITED STATES PATENT OFFICE.

JOHN B. BOLTON, OF EASTHAMPTON, MASSACHUSETTS.

LENO-MOTION FOR LOOM-DOBBIES.

SPECIFICATION forming part of Letters Patent No. 757,085, dated April 12, 1904.

Application filed July 20, 1903. Serial No. 166,387. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. BOLTON, a citizen of the United States, residing at Easthampton, in the county of Hampshire and State of Massachusetts, have invented a new and useful Improvement in Leno-Motions for Loom-Dobbies, of which the following is a specification.

This invention has reference to an improvement in looms, and more particularly to an improvement in looms used for leno-weaving, where mechanism in operative connection with the loom-dobby and certain predetermined harnesses operates to give a half-and-return motion to the harnesses.

In leno-weaving it is necessary to cross certain warp-threads and to give to certain predetermined harnesses controlling the warp-threads a half-and-return movement during the cross-weaving or a movement that will carry such warp-threads from the plane of the open shed to an intermediate point and back to the original plane. This is done by mechanism connecting the loom-dobby with the harnesses controlling the warp-threads used in cross-weaving. As heretofore constructed, this mechanism or leno-motion is operated independent of the harness-levers, but controlled by the harness-levers when not in use for cross-weaving to give a full movement to the harnesses.

The object of my invention is to simplify the operation of leno-weaving, and I accomplish this object by an improvement in the mechanism of a leno-motion, whereby the construction is simplified and the leno-motion operated by the harness-levers to give a half-and-return motion to the harnesses controlling the warp-threads used in cross-weaving.

My invention consists in the peculiar and novel construction of the mechanism of a leno-motion, whereby the leno-motion is operated by the harness-levers to give a half-and-return motion to certain predetermined harnesses, as will be more fully set forth hereinafter.

Figure 1 is a front view of a loom-dobby, showing my improved leno-motion connecting the harnesses used in cross-weaving with theobby and operated by the harness-levers.

Fig. 2 is a plan view of the leno-motion, showing the harness-levers used to operate the leno-motion in section; and Fig. 3 is a detail sectional view of the adjustable connecting-bar, showing the bar pivotally and adjustably secured to a support, the lower parts of the support where it is fastened to the front and back frames of the dobbie being broken away.

In the drawings, *a* represents the frame of the dobbie, *b* the harness-levers, and *c* the harnesses. The connecting-bar *d* has the hooks *d'* and *d''* adjustably secured near its ends in the slots *d'''* *d'''* by the nuts *d''''* *d''''*. It is pivotally and adjustably secured through its center to the support *e* by the bolt *d''''''* through the slot *e'* in the support. The support *e* has the downwardly-extending ends *e''* *e''* secured to the front and back dobbie-frames *a'* and *a''* by the bolts *e'''* *e'''*. Connecting with the hook *d'* on the connecting-bar *d* is the strap *f*, having the link *f'* connecting with the yoke *f''* with the hook *f'''* for the harness-lever *b'* and the hook *f''''* for the harness-lever *b''*. The yoke *f''* has the link *f''''''* connected with the cording *f''''''''*, which extends over a grooved roller and downward to the harness controlling the warp-threads used in cross-weaving. The strap *g* connects with the hook *d''* on the connecting-bar *d* and has the link *g'* connecting with the flat link *g''* with the elongated slot *g'''* for the harness-lever *b'''*. The flat link *g''* has the link *g''''* connected with the cording *g''''''*, which extends over a grooved roller and downward to the skeleton harness or frame carrying the doups or loops for the cross-threads. The harnesses *c* are raised by the harness-levers *b* against the tension of the springs *c'*, secured to the harnesses and to a fixed portion of the loom.

In the operation of my improved leno-motion the harness-lever *b'*, engaging with the hook *f'''* of the yoke *f''*, starts from its extreme outward position to go inward at the same time as the harness-lever *b''* starts from its extreme inward position to go outward. At the half-way or meeting point the harness-lever *b''* engages with the hook *f''''* on the yoke *f''*. The yoke is now released from the harness-lever *b'* and carried outward to its starting-point by the harness-lever *b''*. The half

in-and-out motion of the yoke f^2 gives to the harness controlling the warp-threads used in cross-weaving a half-and-return movement—that is, a movement from the upper plane of the open shed downward to an intermediate or central point and back to its original position. At the same time the skeleton harness having the doup for the cross-threads is controlled by this movement through its connections with the pivoted connecting-bar d , which lifts it to center at the same time that the cross-threads are ready to go to the other side of the doup. As the cross-threads go downward the skeleton or doup harness goes upward, each having a half-and-return movement through the operation of the harness-levers b' and b^2 on the yoke f^2 and their connections with the pivoted connecting-bar d . When the harness controlled by the yoke f^2 is not used in cross-weaving, it is given a full movement by the harness-lever b^3 engaging with the flat link g^2 , as shown in Fig. 2.

It is evident that two or more harnesses controlling the warp-threads used for cross-weaving may be used, if desired, by connecting them with the yoke f^2 without materially affecting the spirit of my invention.

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

1. In a leno-motion for looms, a loom-dobby and harnesses operated thereby, a bar pivotally secured at its center to a support on the loom-dobby, a yoke with hooks, means for connecting the yoke with one end of the pivoted bar and with the harnesses controlling the cross-threads, a flat link having an elongated slot, means for connecting the link to the other end

of the pivoted bar and to the doup-harness, springs on the harnesses connecting with a fixed part of the loom, operating means consisting of two harness-levers moving in opposite directions and engaging with the hooks on the yoke to give a half-and-return motion to the cross-threads, and means consisting of a harness-lever passing through the slot in the flat link to give a full movement to the cross-threads when not in use for cross-weaving, as described.

2. In a leno-motion for looms, the combination of the connecting-bar d having the hooks d' and d^2 adjustably secured in the slots d^3 d^3 by the nuts d^4 d^4 and pivotally secured to the support e by the bolt d^5 through the slot e' , the support e having the ends e^2 e^2 secured to the dobby-frame by the bolts e^3 e^3 , the strap f on the hook d' , the link f' , and yoke f^2 with the hooks f^3 and f^4 to engage with the harness-levers b' and b^2 , the link f^5 and the cording f^6 connecting with the harness controlling the cross-threads, the strap g on the hook d^2 , the link g' , and the flat link g^2 having the elongated slot g^3 for the harness-lever b^3 , the link g^4 , and the cording g^5 connecting with the doup-harness, the spring c' connecting with the harnesses and a fixed part of the loom, and means for operating the harness-levers, all for the purpose as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN B. BOLTON.

Witnesses:

JOHN WARING,
ROBERT COWBURN.