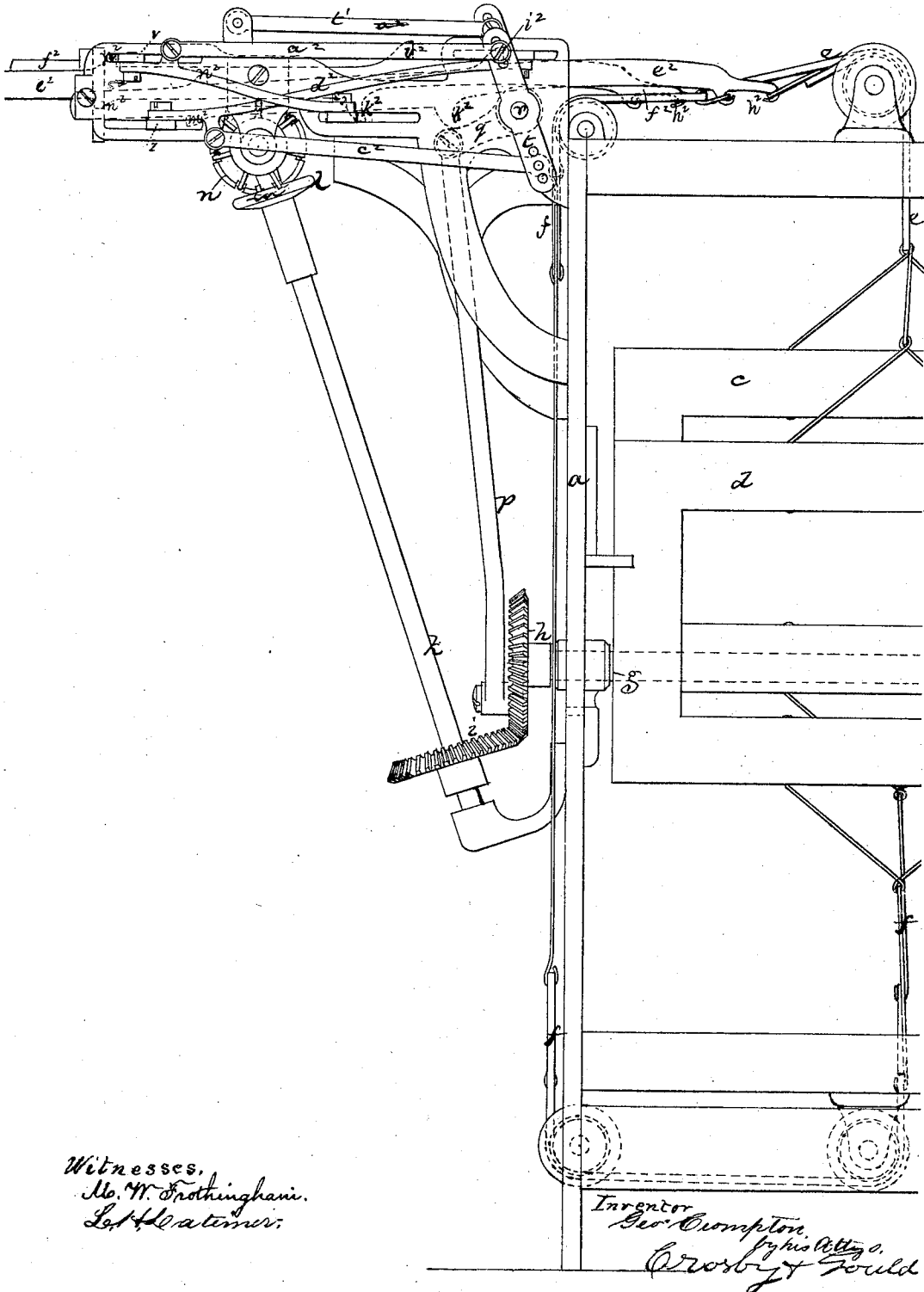


G. CROMPTON.

Loom Shedding Mechanisms.

No. 140,682.

Patented July 8, 1873.



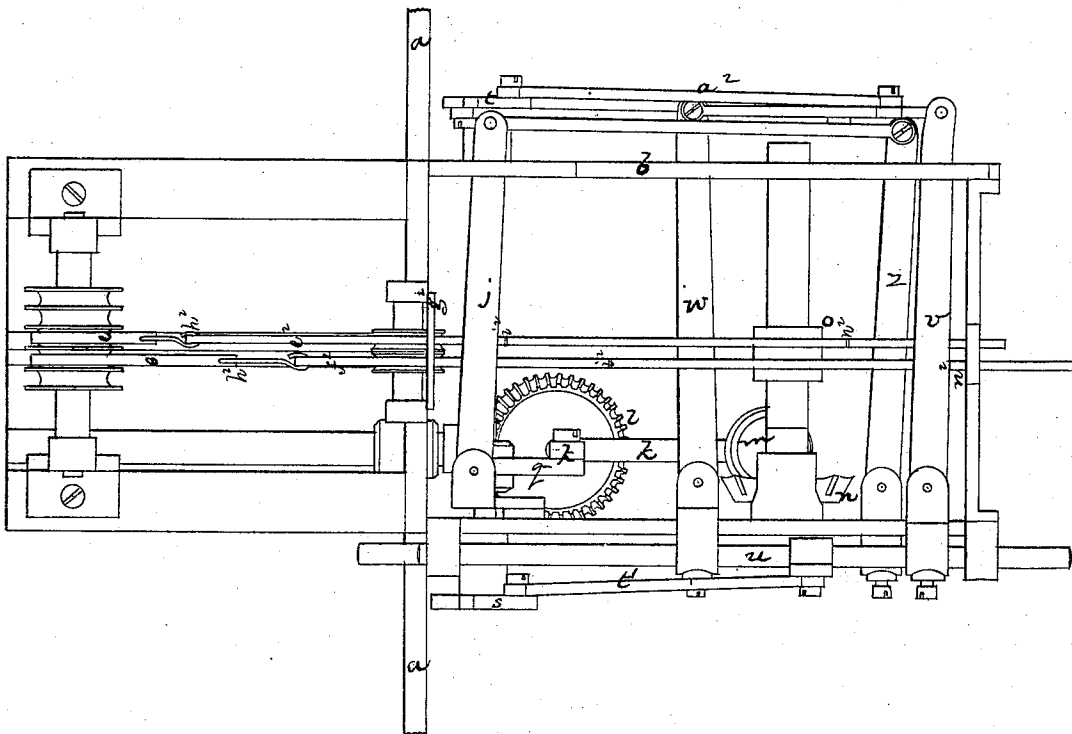
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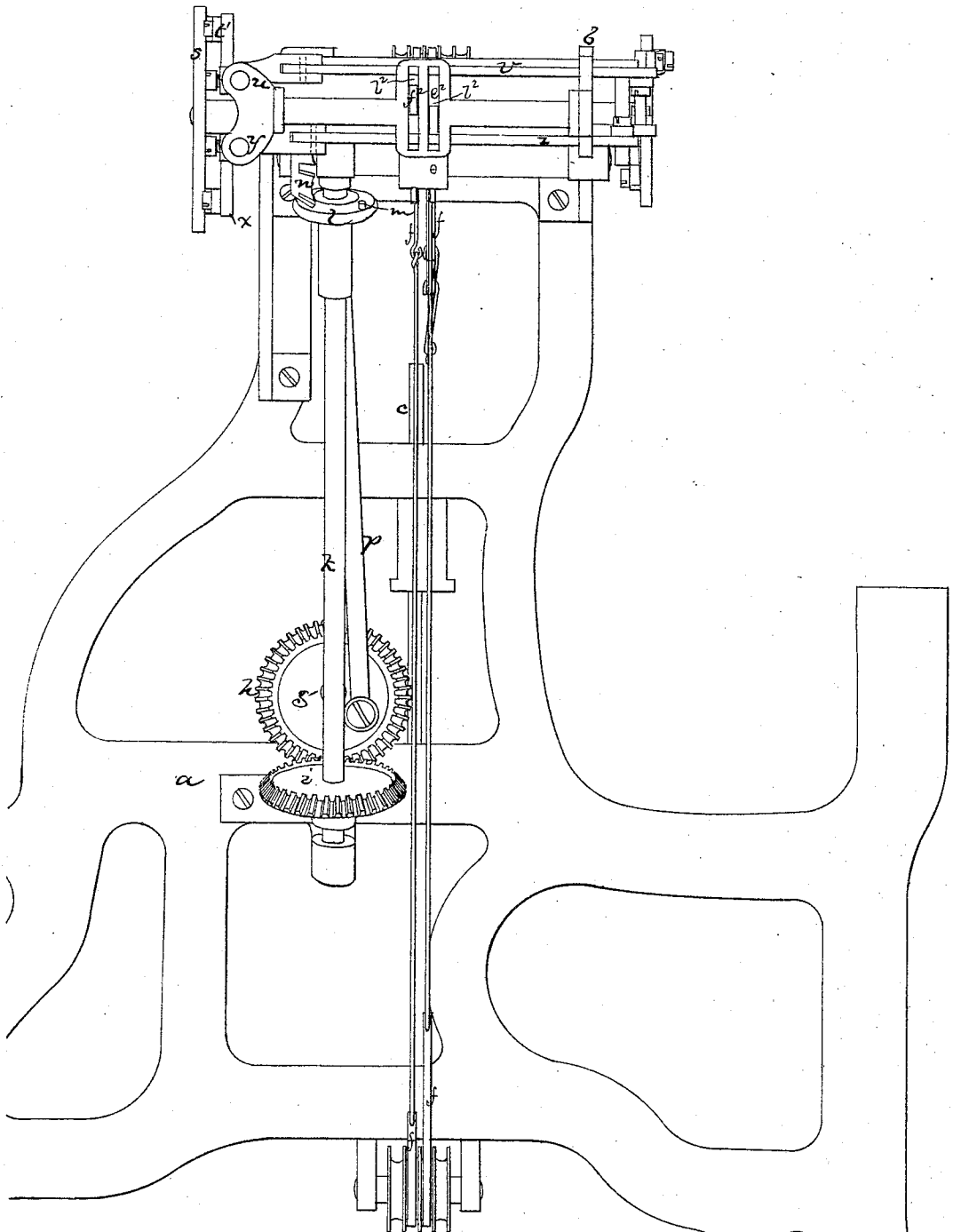
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UNITED STATES PATENT OFFICE.

GEORGE CROMPTON, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN LOOM-SHEDDING MECHANISMS.

Specification forming part of Letters Patent No. **140,682**, dated July 8, 1873; application filed November 8, 1872.

To all whom it may concern:

Be it known that I, GEORGE CROMPTON, of the city and county of Worcester, in the State of Massachusetts, have invented an Improvement in Looms; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to that class of fancy looms employing a harness mechanism having horizontal jack-bars for forming the shed, said bars being actuated by the lifter, depresser, and eveners bars.

In my present arrangement I make the jacks as long bars, each having at its inner end two hooks or notches, to which the two harness-cords are fastened, the jack-bars adjacent to these ends passing through a guide and fulcrum plate, then between the eveners bars, then over the pattern-chain or cylinder, and then between the lifter and depresser bars, the stress of the harness-cording pressing the free ends of the jack-levers down to or toward the cylinder, while the pins of the cylinder lift such ends to bring their hooks into the plane of movement of the lifter-bar, as required by the exigencies of the pattern. It is in these long horizontal jack-bars, thus arranged, and their combination with the pattern chain or cylinder, and lifter, depresser, and eveners mechanism, that my invention consists.

The drawing represents in end view, in plan, and in side elevation a harness mechanism embodying my invention.

a denotes the loom-frame; *b*, the frame that directly supports the pattern mechanism, and the lifter, depresser, and eveners mechanism. *c d* denote the two leaves of the harness; *e f*, the top and bottom cording thereof. *g* denotes the shaft that actuates the lifter, depresser, eveners, and pattern mechanism, said shaft carrying a bevel-gear, *h*, meshing into and driving a bevel-gear, *i*, at the foot of an inclined shaft, *k*, at whose top is a wheel, *l*, carrying a pin, *m*, which intermittently engages with a crown-wheel, *n*, on the end of the shaft that carries the pattern-chain or cylinder *o*. From the wheel *h* extends a crank-pin

to which a link, *p*, is jointed, said link connecting the wheel to the end of a rocker-arm, *q*, which arm *q* extends from a shaft, *r*, that carries rockers *s t* which reciprocate the lifter, depresser, and eveners bars, one arm of the rocker *s* being jointed by a link, *t'*, to an arm extending from the slide-rod *u*, to which one end of the lifter-bar *v* and one end of the eveners-bar *w* are connected, and the other arm of said rocker being jointed by a link, *x*, to an arm extending from the slide-rod *y*, to which one end of the depresser-bar *z* and one end of the other eveners-bar *j* are jointed, one arm of the other rocker *t* being connected by a link, *a²*, to a link, *b²*, jointed at its opposite ends to the opposite ends of the lifter-bar *v* and eveners-bar *w*, and the other arm of said rocker by a link, *c²*, to a link, *d²*, the opposite ends of which are jointed to the opposite ends of the depresser-bar *z* and eveners-bar *j*, the latter connections being in accordance with the inclination formed in the respective warps for each shed, and the connections of each rocker being made adjustable to vary the extent of such inclination. *e² f²* denote two of the jack-bars. Said bars are placed horizontally over the pattern-chain or cylinder, and at their inner ends pass through slots in a guide and fulcrum plate, *g²*, the bars resting upon the plate at the bottoms of the slots. At the extreme end of each bar are two hooks or notches, *h²*, to which the top and bottom cordings *e f* are respectively fastened, the top cording *e* extending from the end notch over a single guide-sheave to the top of the harness-leaf, and the bottom cording *f* extending over a guide-sheave (which is placed under the jack-bar) down vertically by the end of the loom-frame under another guide-sheave, and thence horizontally under another guide-sheave, and thence vertically up to the bottom of the harness-leaf. Adjacent to the fulcrum-plate the jack-bars pass between the two eveners-bars *w j*, the jack-hooks *i² k²* being always in the plane of movement of both eveners-bars. Thence the jack-bars pass over the pattern-chain or cylinder, and thence between the lifter and depresser bars, the jack-bars extending through vertical guide-slots *l²*, and the ends of the jack-bars being free to move in these slots by the stress of the cording and

the action of the pins or rings of the pattern-cylinder or chain, such movement holding the lower hook m^2 of each jack-bar in the plane of movement of the depresser-bar z , or carrying each upper hook n^2 into the plane of movement of the lifter-bar v .

The free ends of the jack-bars may be pressed down toward the cylinder by gravity or by a suitable spring; but I prefer the arrangement of the harness-cording to hold them in normal position.

I claim—

1. The hooked horizontal jack-bars having cording-notches h^2 , and resting on the fulcrum-plate g^2 , and arranged with respect to the

lifter, depresser, and evener bars, and with their outer free ends lying over the pattern mechanism, substantially as shown and described.

2. In combination with such jack-bars and their cording-notches h^2 , the lifter and depresser bars $v z$, evener-bars $w j$, fulcrum-plate g^2 , harness-cording and pattern-chain or cylinder, and the mechanism that actuates the pattern mechanism and actuates and adjusts the lifter, depresser, and evener mechanism.

GEORGE CROMPTON.

Witnesses:

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J. B. SYME.