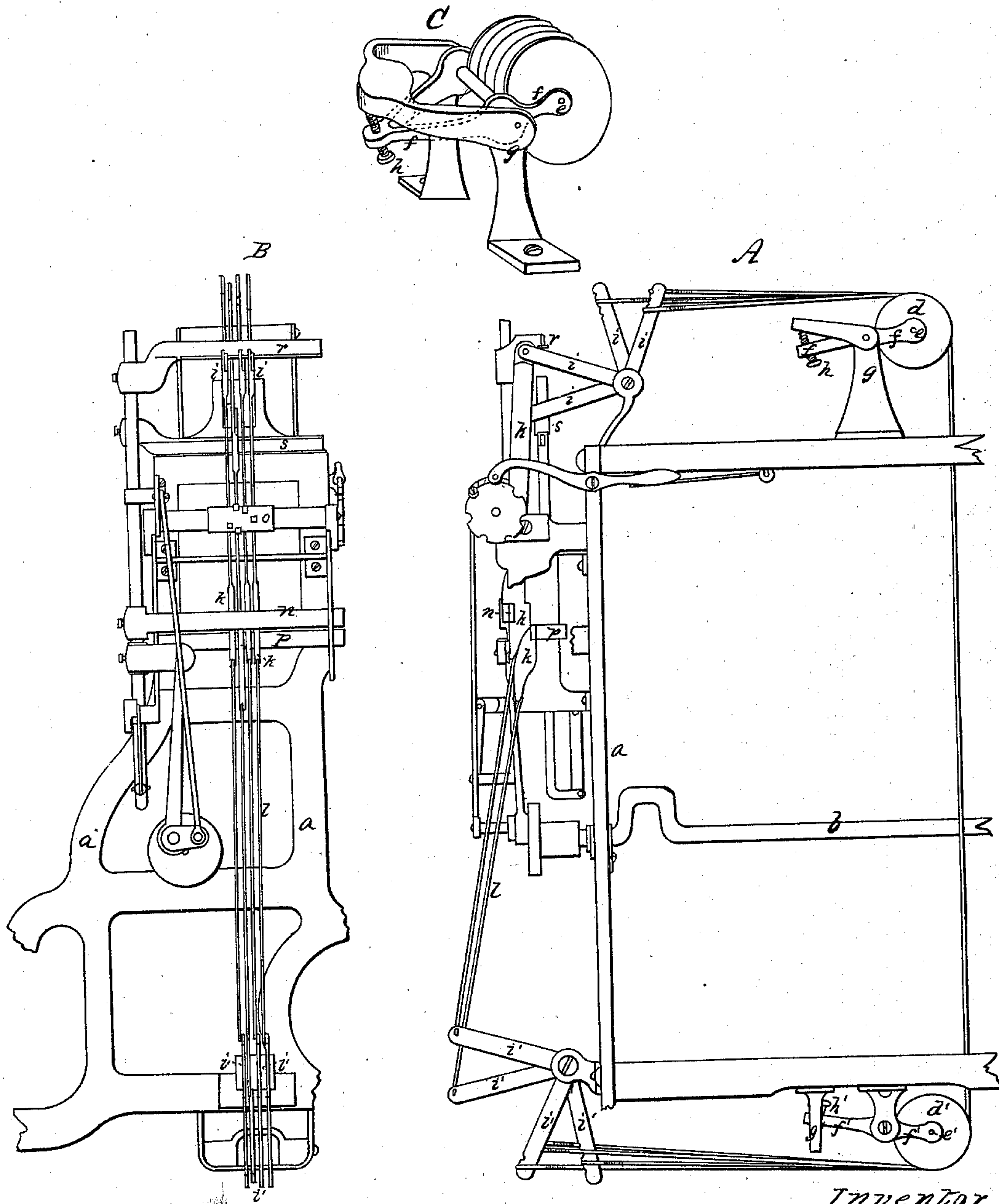


G. Crompton. Loom Shedding.

N^o 59,972.

Patented Nov. 27, 1866.



Witnesses

L. B. Kidder
M. W. Frothingham

Inventor
Geo Crompton
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United States Patent Office.

IMPROVEMENT IN HARNESS MOTION FOR LOOMS.

GEORGE CROMPTON, OF WORCESTER, MASSACHUSETTS.

Letters Patent No. 59,972, dated November 27, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE CROMPTON, of Worcester, in the county of Worcester, and State of Massachusetts, have invented certain new and useful improvements 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 practise it.

The invention relates to the harness motion of looms, and more particularly to the method of adjustment of the heddles of fancy and narrow-ware looms. The invention consists, first, in so mounting the sheaves over or around which run the cords in which the harness frames are suspended that the harnesses may be all simultaneously raised or lowered; and secondly, in the construction and arrangement of the parts, as shown and described, by which an even and uniform opening of the shed through all the harnesses is produced, the parts referred to being heddle levers, guiding sheaves for the heddle wires or cords, eveners, jacks, pattern cylinder, lifter and depresser bars, and means for imparting motion thereunto; the construction involving a bent or angular form of heddle levers, each of which has one end notched, for adjustment of the heddle cords; and the arrangement involving the horizontal position of the acting faces of the lifter and depresser bars, and the employment of upper and lower bent and notched heddle levers, and upper and lower heddle-cord guide sheaves.

The drawings represent a loom embodying my invention, A denoting a side view and B an end elevation of the same, only those parts of the mechanism directly connected with the invention being shown therein, the rest being too well known to need illustration or description.

a denotes the frame, *b* the driving shaft, *c* the heddle wires or cords, running over sheaves or pulleys, *d d'*, above and beneath the frame *a*, the heddles being suspended by these wires between the sheaves in the ordinary manner. The upper sheaves *d* are all placed upon one shaft, *e*, mounted in bearings on a swing-frame, *f*, which turns on a shaft mounted in bearings on a standard *g*, as seen at C. The frame *f* has an adjusting screw, *h*, which abuts against an extension of the standard *g*, and by means of this screw the frame, and with it the whole series of sheaves, and with them all the heddles or harness frames, are simultaneously and equally raised and lowered. The lower sheaves *d'* are similarly arranged with respect to a shaft *e'*, frame *f'*, standard *g'*, and adjusting screw *h'*, so that the stress upon the frames may be uniformly maintained, and increased or decreased at pleasure. The heddle wires of each harness frame are attached to the upper and lower ends respectively of bent rocker levers *i i'*, which constitute the heddle levers, and which are jointed together at their outer ends, each one of the upper set to the opposite one of the lower set, by jacks, *k*, and connecting rods *l*, each jack, *k*, having a hook both upon its front and rear edge. Normally the jacks are held in such position by the strain of the rods *l* as to keep their hooks in line with the lifter bar *n*, while by the action of the projections on the pattern cylinder *o*, part of the jacks are intermittently, or previous to each throw of the shuttle, thrown out of the path of movement of this lifter and into such position that their rear hooks are in the path of movement of a depresser bar, *p*.

The manner of operating the jacks, the pattern cylinder, and eveners *r s*, and of successively producing and changing the shed, is well known, and will be obvious from the drawings, without further description. To produce an even and uniform opening of the shed through all the harnesses it is customary to set the lifter and depresser bars in inclined positions, or to make their acting faces inclined, so that the harnesses most remote from the shuttle-race may be raised or lowered to such extent, in addition to the movement of the nearer ones, as to produce the same opening of shed at the shuttle-race; and with some other looms differently constructed, or with a different arrangement of the jacks and other harness mechanism, this is accomplished with a graduated attachment of the heddle wires in a series of notches on the heddle levers. I accomplish this object in a loom having the general arrangement of mechanism here shown by making the acting face or edge of each lifter and depresser bar horizontal, and by constructing each heddle lever with a series of notches for attachment of the heddle wires, so that each harness frame may be so adjusted by the notches as to produce the desired uniformity in the shed, while at each new disposition of the jacks by the pattern cylinder, (after they have been arranged by the eveners,) their hooks are simultaneously acted upon by the lifter or depresser bar with which they may be in position to be brought into engagement.

I do not claim broadly a provision for adjustment of the harness frames by raising and lowering the sheaves

over which the heddle wires or cords pass. Neither do I claim the combination of notched heddle levers, eveners, jacks, pattern cylinder, and lifter and depresser bars.

What I claim is the provision for simultaneous and equal adjustment of all the sheaves of either set, by mounting them in a swinging frame, which is controlled and moved by an adjusting screw, or other equivalent device, substantially as set forth.

Also the construction and arrangement, as shown and described, of the parts by which the heddles are operated to produce the shed.

GEO. CROMPTON.

Witnesses:

T. L. NELSON,

JAMES GREEN, Jr.