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Patented Mar. 4, 1902.

N. & G. FORTIER.  
STOP MOTION FOR LOOMS.

(Application filed Oct. 15, 1901.)

(No Model.)

2 Sheets—Sheet 2.

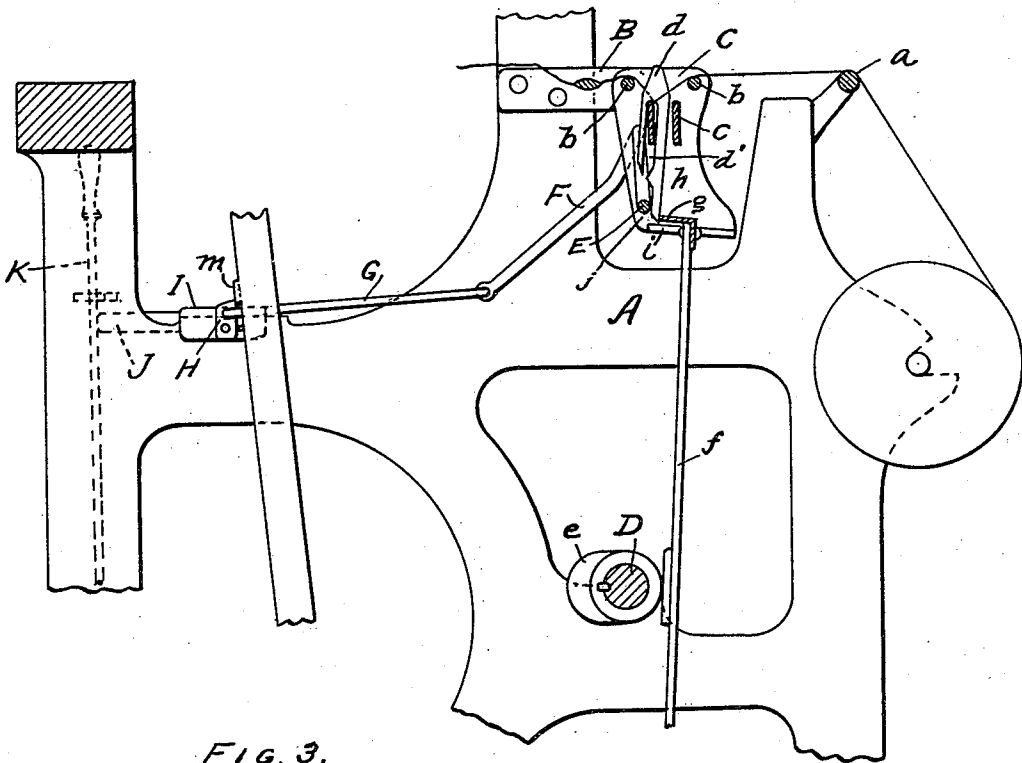


FIG. 3.

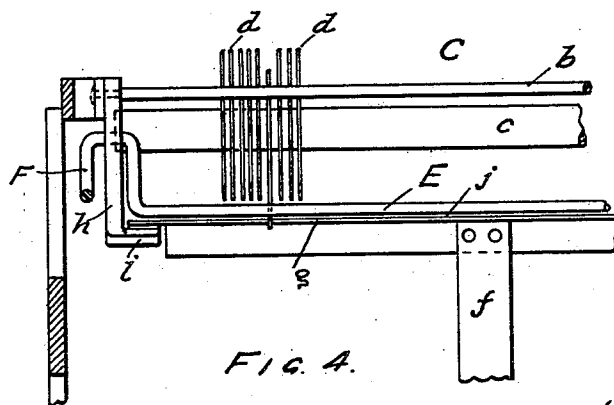


FIG. 4.

Witnesses  
Garnald S. Howland  
Robert S. Stanton

Inventors  
Napoleon Fortier  
George Fortier  
By Kenetic E. Bellows, Atty

# UNITED STATES PATENT OFFICE.

NAPOLEON FORTIER AND GEORGE FORTIER, OF WARREN, RHODE ISLAND.

## STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 694,362, dated March 4, 1902.

Application filed October 15, 1901. Serial No. 78,741. (No model.)

*To all whom it may concern:*

Be it known that we, NAPOLEON FORTIER and GEORGE FORTIER, citizens of the United States, residing at Warren, in the county of Bristol and State of Rhode Island, have invented certain new and useful Improvements in Stop-Motions for Looms, of which the following is a specification.

Our invention relates to stop-motions for looms wherein the warp-threads pass through a transversely-arranged frame or attachment, and has for its object the ends commonly sought in similar mechanisms, but at a minimum cost, with the additional advantage of facile adjustment.

To the ends above specified our invention consists in the novel arrangement and combination of parts hereinafter described in connection with the accompanying drawings, wherein—

Figure 1 is a side elevation of a loom-frame, partly in section, showing the stop-motion mechanism in transverse section; Fig. 2, a plan view of the shipper mechanism; Fig. 3, an elevation of the loom-frame and stop-motion similar to that of Fig. 1, with a warp-thread broken; and Fig. 4 is a front view of a portion of the stop-motion frame.

Like letters of reference indicate like parts throughout.

Our device is illustrated herein as embodied in a common form of loom, supported at either end by the loom-frame A or lugs B, projecting from the frame. Its position may be at any convenient point in path of the warp intermediate the harness and the whip-roll *a*.

The carrier portion C of my device consists of two warp-rests *b* and one or more guide-bars *c*, upon which are mounted a series of flat oblong wires *d d*. These wires are each longitudinally slotted, *d'*, to admit of engagement with the guide-bars. Through the upper portion of these slots also pass the warp-threads, which normally hold the wires in suspension. To the main shaft D of the loom is fixed a cam *e*, which as the shaft rotates contacts with and vibrates a vertical spring-rod *f*, which carries upon its upper end a flat strip *g*, whose ends contact with the inner surfaces

of the carrier sides *h* and are further guided by inwardly-directed flanges *i*, projecting from the bottom of the same. Loosely mounted in the sides *h* of the carrier is a rod E, traversing the carrier below the guide-rod *c* and slightly above the front edge of the strip *g* when the latter is at its advanced point of forward travel. Thus a narrow opening *j* is formed by the proximity of the strip *g* and rod E. Integral with this rod E is a bent arm F, to which is pivoted a connecting-rod G, whose outer end is pivoted to a latch or pawl H, mounted upon a block I, which carries an arm J to contact with the shipper-handle K. The block I is slidably mounted on the loom-frame A. Upon the front of the lay-sword *n* is a projection *m*, located to contact with the latch H when the latter is elevated.

The operation of our mechanism is as follows: Under normal conditions the parts assume the positions indicated in Fig. 1. The warp-thread series hold the wires *d d* in elevated position above the strip *g*, which continuously vibrates in its guides *i*. The vibration is caused by the cam *e*, keyed to the main shaft D, contacting with the spring-rod *f*. If and when a warp-thread breaks, the parts assume the position shown in Figs. 3 and 4. The lower extremity of the wire *d* descends to the plane of travel of the strip *g* and is forced against the pivoted rod E, which movement is communicated through the arm F and rod G to the latch H and elevates the latter to meet the lay projection *m* in its regular travel. The impact of the lay-sword upon the latch H is sufficient to force the slidable block I and its fixed arm J against the shipper-lever K and free the latter from its notch, thereby shipping the belt in the usual manner.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a stop-motion for looms, the combination with a warp-thread of a drop-wire supported by the tension of the warp-thread, a transverse strip vibrating below the drop-wire, a vertical spring-rod carrying said strip, a cam fixed to the loom-shaft and contacting with the spring-rod, a pivoted bar parallel

to and nearly contacting with the vibrating strip, an arm integral with the bar, a connecting-rod pivoted to said arm, a latch also pivoted to the connecting-rod, and fixed to a  
5 slidable block, an arm projecting from the movable block, a shipper-lever, and an arm projecting from the block and normally contacting with the shipper-lever, as set forth.

In testimony whereof we have affixed our signatures in presence of two witnesses.

NAPOLEON FORTIER.  
GEORGE FORTIER.

Witnesses:

ARCHIBALD C. GAYTON,  
HORATIO E. BELLOWS.