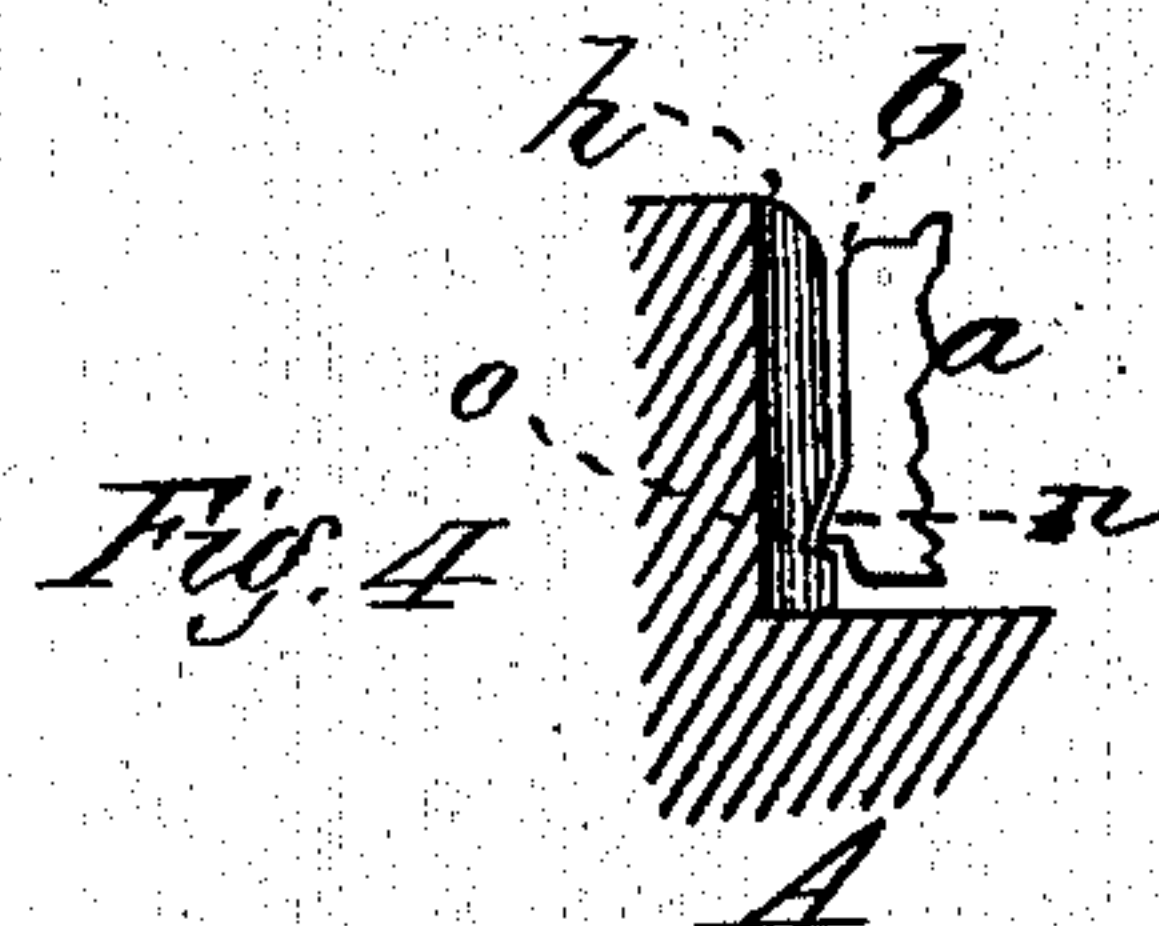
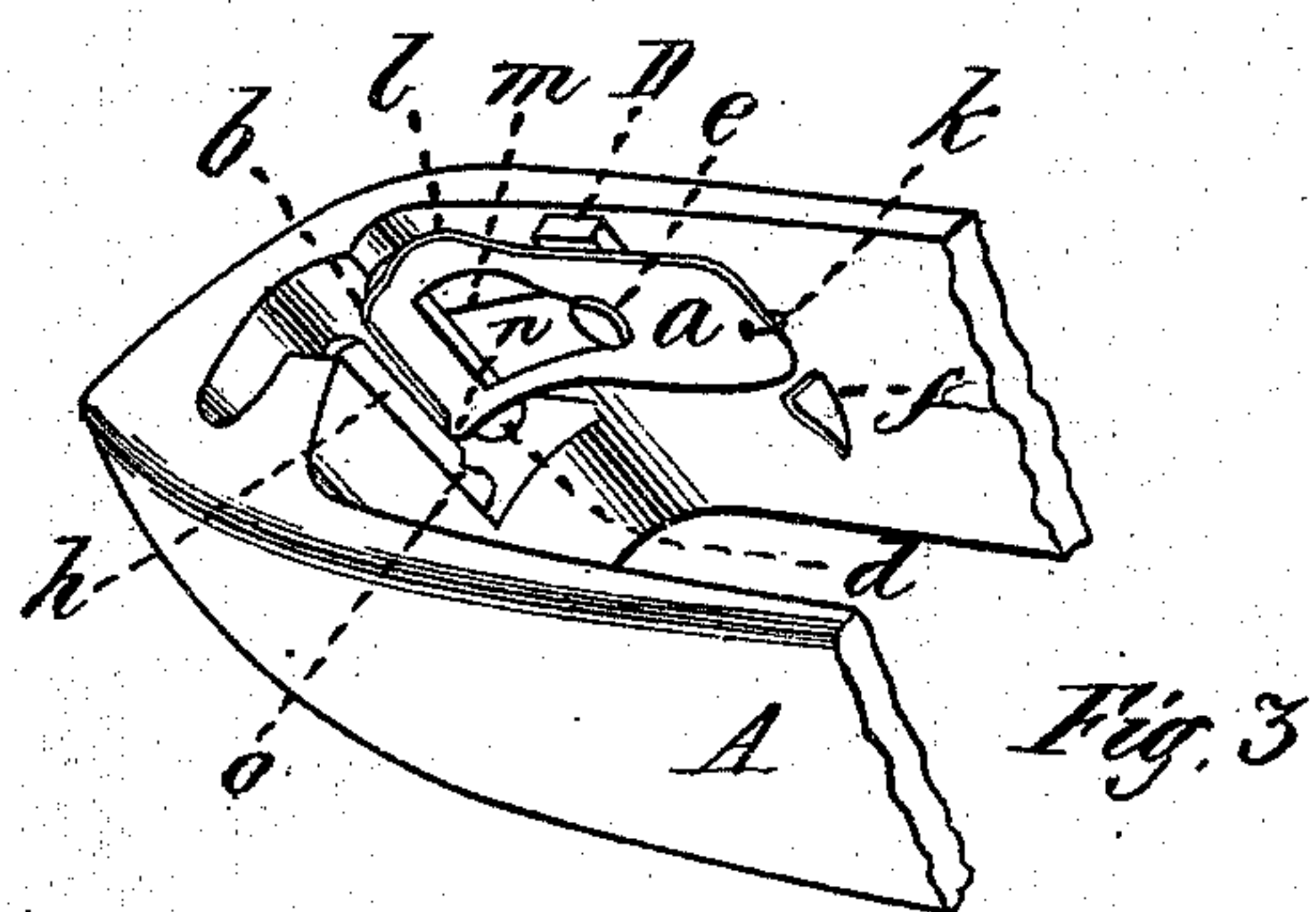
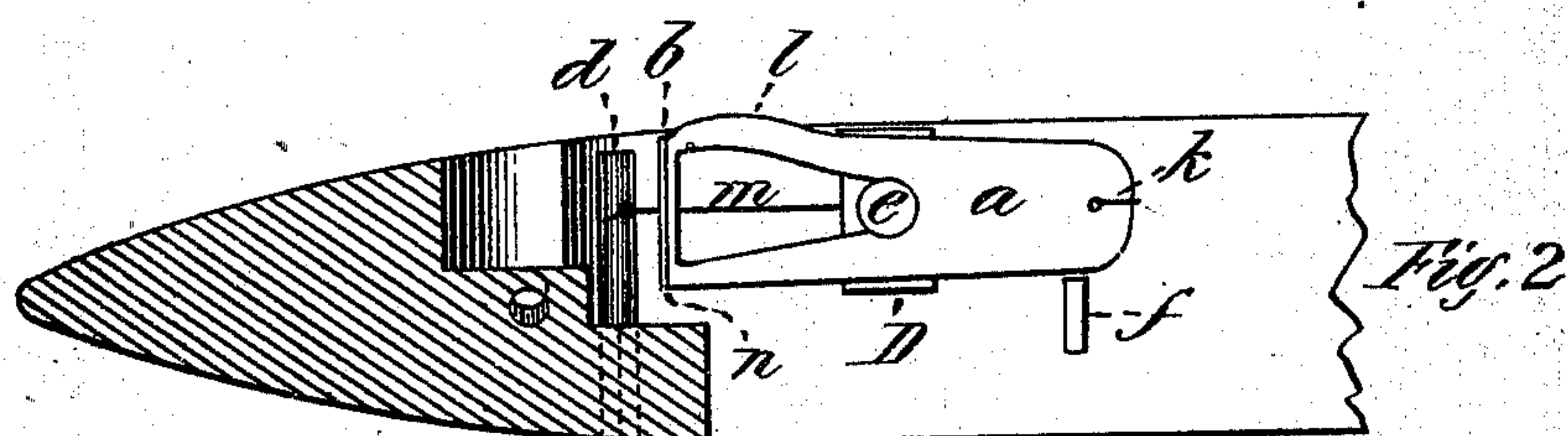
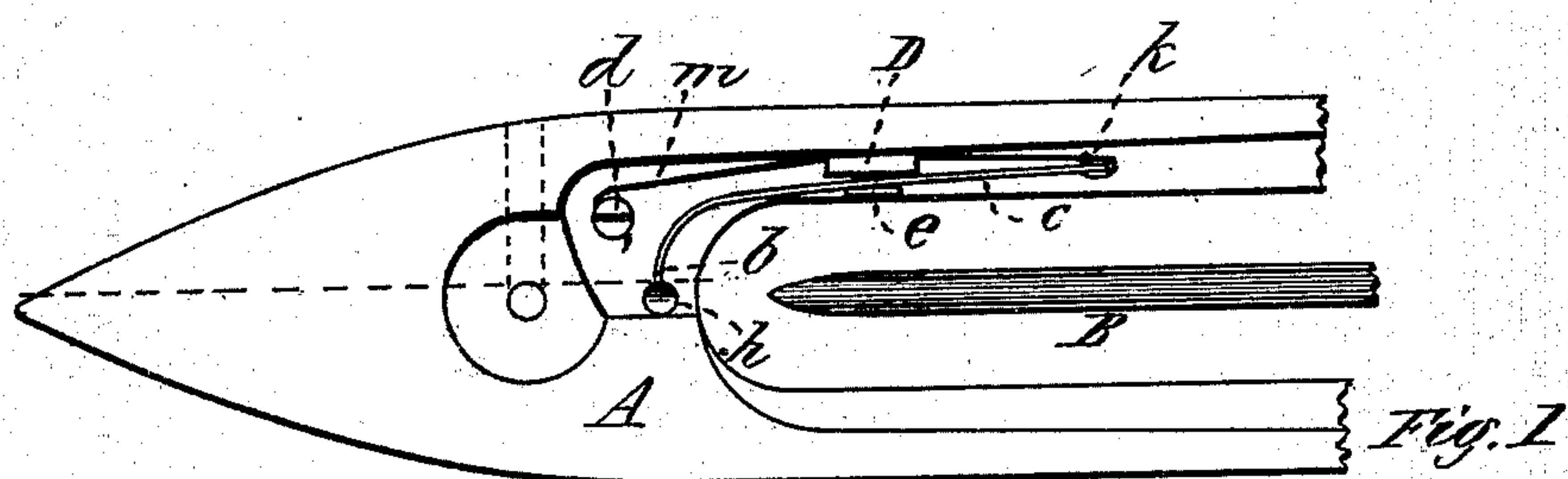


**J. RIGBY.**  
**Shuttles for Looms.**

No. 146,362.

Patented Jan. 13, 1874.



Witnesses,  
 Clarence E. Duckland,  
 J. P. Wall

Inventor,  
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# UNITED STATES PATENT OFFICE.

JOHN RIGBY, OF CHICOPEE, MASSACHUSETTS.

## IMPROVEMENT IN SHUTTLES FOR LOOMS.

Specification forming part of Letters Patent No. **146,362**, dated January 13, 1874; application filed November 29, 1873.

*To all whom it may concern:*

Be it known that I, JOHN RIGBY, of Chicopee, county of Hampden and State of Massachusetts, have invented an Improvement in Shuttles for Looms, of which the following is a specification:

My invention relates to that class of shuttles which are used in power-loom, though it may be applied to any ordinary shuttle used in weaving; and the object of my invention is to stop the loom automatically as soon as a thread of the warp knots, so as to prevent bad and uneven places being made in the cloth. This I accomplish by providing the shuttle with a pivoted latch, which, when the shuttle is in operation, is raised above the top of the shuttle, and when a thread of the warp breaks, so as to leave a "pick-out," and the harnesses, in consequence, fail to spread the threads apart to form a perfect shed, as the shuttle passes along in the shed, the upper threads rub or press upon the top of the shuttle, and strike the latch, forcing it down. At the end of the pivoted latch, and fixed firmly in the shuttle, is a projecting piece, by the side of which the thread of filling passes from the cop or bobbin, and when the pivoted latch is pressed down it moves against the fixed projecting piece, firmly grasping the filling-thread between the latch and the piece. The thread is thereby prevented from passing out, and is immediately broken, and when this occurs the loom is instantly stopped by the ordinary automatic devices arranged for that purpose.

In the drawings, A is the shuttle; B, the spindle. *a* is the latch, pivoted by the pivot *e* to the inside of the shuttle, or to a piece, D, secured upon the inside. The pin *h* is secured firmly in the shuttle, and has a notch, *o*, therein, the upper part of which is beveled, as shown clearly in Fig. 4, and the end *b* of the pivoted latch *a* is provided with a point, *n*, which fits into the notch *o*, and when thus fitted into the notch, the edge *b* of the end of the latch impinges against the side of the pin *h*. A pin, *d*, is fitted into a hole in the shuttle tightly, yet so that the pin may be turned therein, and to this pin is secured one end of a strong twine or catgut, *m*, the other end of the latter being secured to the rear end of the latch *a*, at *k*; and a stop, *f*, is secured to the

inside of the shuttle, to limit the downward movement of the rear end of the latch *a*, and permit the highest curved part *l* of the latch to be elevated the proper distance above the shuttle. The latch *a* is pivoted to the shuttle at about midway, so that being thus balanced upon the pivot *e*, and the cord *m* being drawn somewhat tightly by turning the screw *d*, to draw the latch against its pivot, any slight jar will not cause the end *b* of the latch to fall against the pin *h* when it is set for use.

When ready for use, the filling-thread upon the spindle passes in between the end *b* of the latch *a* and the pin *h*, and out through the shuttle-eye, and the latch *a* is set with its rear end *k* resting on the stop *f*, and when in this position, the curved part *l* at the top of the latch is raised a little above the top of the shuttle, and the point *n* on the end of the latch is raised out of the notch *o*, and bears against the side of the pin *h*, and keeps the straight perpendicular edge *b* of the latch away from the pin *h*, so that the filling-thread is free to pass between.

When thus arranged and in use, if the cloth was being made uneven, so as to leave a pick-out, the threads of the warp, not being permitted to spread apart, would rub along the top of the shuttle as it passed along, and, striking the part *l*, would force down the end *b* against the pin *h*, grasping the filling-thread between, and stopping it. This stoppage causes the thread to be broken, and the loom would be stopped by the ordinary stop-motion. The point *n* on the end of the latch, being beveled on top to correspond with the upper bevel of the notch *o*, drops into said notch easily, and is held there until it is raised by forcing the rear end of the latch down.

The pin *d* should have a firm bearing in its hole in the shuttle, so that the cord *m* shall be held tightly by it.

Having thus described my invention, what I claim as new is—

The combination of the pivoted latch *a*, provided with a point, *n*, the pin *d*, cord *m*, stop *f*, notched pin *h*, and shuttle A, substantially as described.

JOHN RIGBY.

Witnesses:

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