

H.R.FRY.

Loom.

No. 118,446.

Patented Aug. 29, 1871.

Fig. 1.

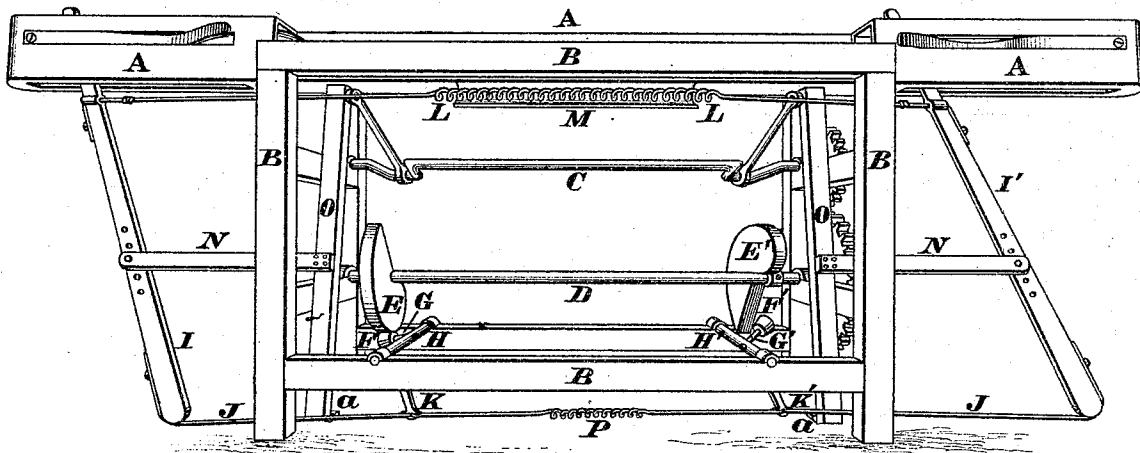
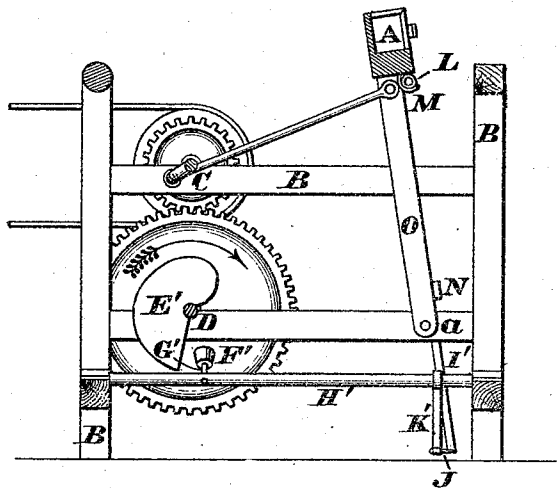


Fig. 2.



Attest.  
Jas. H. Layman.  
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INVENTOR.  
By Knight Bros  
Sup

# UNITED STATES PATENT OFFICE.

HENRY R. FRY, OF WABASH, INDIANA.

## IMPROVEMENT IN PICKING MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. 118,446, dated August 29, 1871.

*To all whom it may concern:*

Be it known that I, HENRY R. FRY, of Wabash, Wabash county, State of Indiana, have invented certain Improvements in Power-Looms.

My invention is an improvement in the class of looms whose shuttle-motion is obtained by the action of an independent spring; and my invention consists, first, in the application to a picker-staff, pivoted at or near its center, of a spiral spring or springs attached to or supported underneath the lay-race, and consequently acting directly upon the staff in the direction and almost in the line of the path of the shuttle; and second, in connection with the above, of a rock-shaft and pulley, which receive their impetus from a suitable cam and impart the same to the picker-staff by strap or other connection with the lower end thereof.

This arrangement has, over other independent picker-movements, several decided practical advantages; for example, it is much cheaper and more simple in construction, and is easier in operation, the picker-staff being balanced near its center and working with a more advantageous purchase and not so much strain on the cam. My picker-motion is believed to be more nearly noiseless than any other in use, almost the only sound being that of the shuttle in entering the boxes. It possesses, in common with other looms of its class, the advantage of a regular picker-motion, which is entirely independent of any irregularity of movement of the other parts of the loom. This independent picker-motion insures a prompt, certain, and complete stroke of the shuttle at every opening of the shed, whether such openings are of a more or less frequent occurrence.

Figure 1 is a perspective view of a portion of a loom embodying my improvements. Fig. 2 is a transverse section of the same.

The lay A is hinged at *a* in the customary manner to the frame B or other fixed object near the floor, and receives the usual forward and backward oscillation by the pitman connected to the

crank-shaft C, which shaft is journaled horizontally in the frame, and has suitable cog-wheel connection with a shaft, D, carrying two cams, E E', which, acting on pulleys F F' at the end of the arms G G' that project from rock-shafts H H', become effective to draw back or retract the picker-staves I I, through the medium of straps or cords J, that connect the arms K K' on the rock-shafts with the lower ends of said staves, which staves, in the release of the pulleys F F' from the cams E E', are drawn suddenly inward by the action of a spiral spring or springs, L, attached to the under side of the lay or supported under the same in a box, M. The extension of this spring is effected by the forcible retraction of the staff, as aforesaid. Instead of being pivoted near their lower ends, the picker-staves are fulcrumed, at or near their mid-lengths, in brackets N which project from swords O. The effect of this central pivoting of the staves, in connection with the directly-acting springs upon the under side of the lay, is to prevent much of the customary friction and resistance, which, in looms of this class, interfere with the free manipulation of the lay and picker-mechanism. The lay, being relieved from all strain, is easily manipulated or pressed forward or backward for piercing broken threads or other purposes. P is a spring which limits the recoil of rollers F F' after they have escaped from under the cams E E'.

I claim as my improvement—

The rock-shafts H H', cams E E', pulleys F F', arms G G' K K', spring P, and straps J, in combination with the picker-staves I I', pivoted at or near their centers, and a spring or springs, L, attached to the upper parts of said picker-staves and secured underneath the lay, all arranged substantially as herein described.

In testimony of which invention I hereunto set my hand.

HENRY R. FRY.

Witnesses:

GEO. H. KNIGHT,  
JAMES H. LAYMAN.