E. P. TERRELL & L. A. WILLIAMS.

Loom-Picking Mechanism.

No. 204,396. Patented May 28, 1878.

Fig. 1.

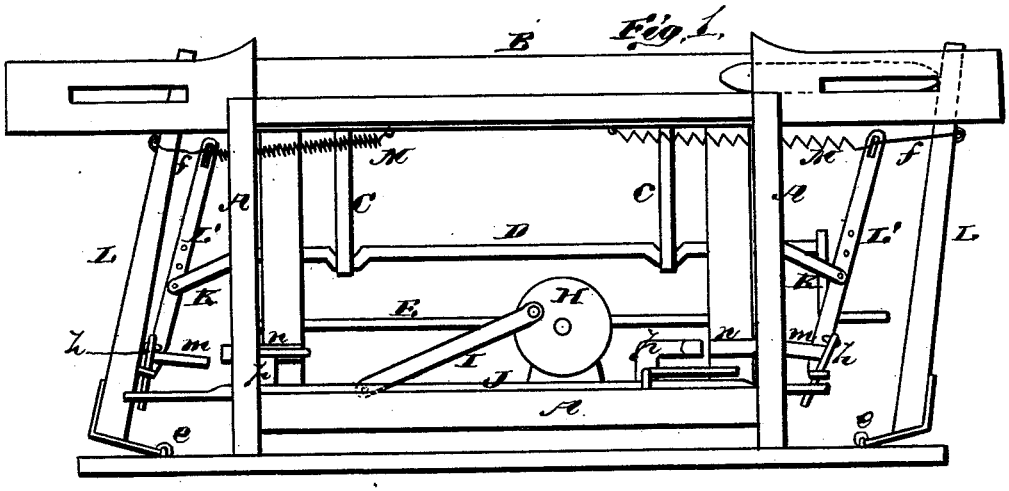


Fig. 2.

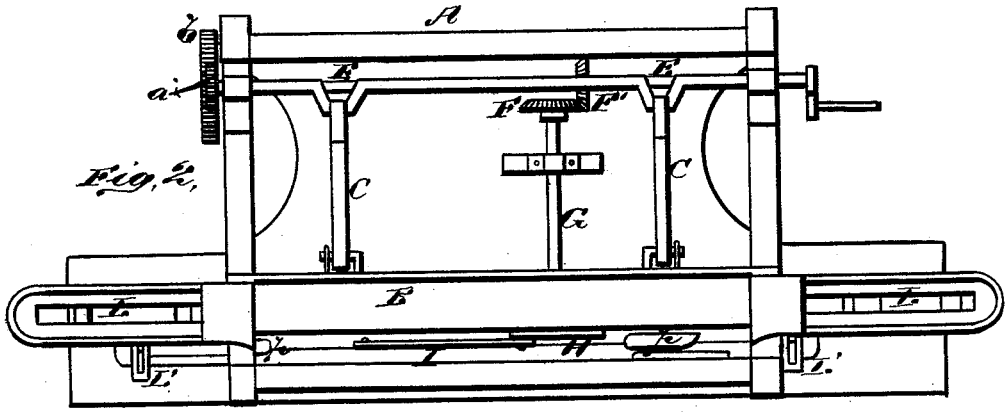


Fig. 3.

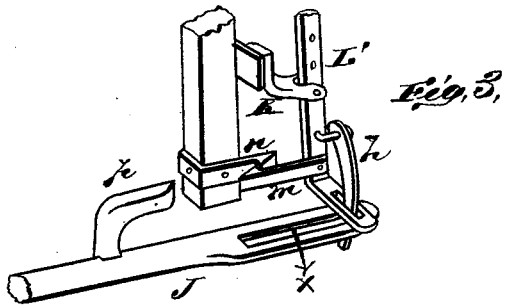
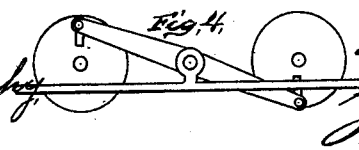


Fig. 4.



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UNITED STATES PATENT OFFICE.

ENOCH P. TERRELL AND LUCIAN A. WILLIAMS, OF WEST LIBERTY, OHIO; SAID TERRELL ASSIGNOR TO SAID WILLIAMS.

IMPROVEMENT IN LOOM PICKING MECHANISMS.

Specification forming part of Letters Patent No. **204,396**, dated May 28, 1878; application filed February 16, 1878.

To all whom it may concern:

Be it known that we, ENOCH P. TERRELL and LUCIAN A. WILLIAMS, of West Liberty, in the county of Logan and State of Ohio, have invented a new and valuable Improvement in Loom Picking Mechanisms; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a front view of our loom picking mechanism. Fig. 2 is a plan view. Fig. 3 is a perspective detail; and Fig. 4 is a modification of a double-crank attachment for large looms, &c.

The nature of our invention consists in certain improvements in a picking mechanism for looms, as will be hereinafter more fully set forth.

The annexed drawings, to which reference is made, fully illustrate our invention.

A represents part of the frame of a loom, and B is the ordinary lay-beam.

The lay-beam B is operated by means of pitmen C C from cranks on the driving-shaft D. On one end of this shaft is a pinion, *a*, meshing with a cog-wheel, *b*, upon the end of a counter-shaft, E. This counter-shaft, by means of bevel-gears F F′, communicates motion to a shaft, G, on the forward end of which is a crank-disk, H, connected by a pitman, I, with a bar, J, sliding lengthwise in suitable guides attached to the frame A. At each end of the lay-beam B are two picker-staffs, L and L′. The outer staff, L, extends upward into the shuttle-box, and its lower end is connected to the bed or frame of the loom by means of a hinge, *e*, so arranged that said staff L will, of its own weight, fall outward, or be pushed outward by the shuttle.

The inner staff, L′, is pivoted to an arm, K, on the lay-beam, and its upper end is, by a strap, *f*, connected to the outer staff, L. The upper end of the inner staff, L′, is drawn inward by means of a spiral spring, M, attached to it and to the under side of the lay-beam.

The lower end of the staff L′ is bent forward and slotted, and through the same is passed an arm, *h*. This arm is pivoted at its upper end to the body of the staff, and its lower end projects through a slot, *x*, in the end of the bar J, so that the staff L′ will be operated by the movement of said bar. To the staff L′ is also secured, at the lower end, a spring-catch, *m*, to engage with a similar one, *n*, on the leg of the lay-beam, and hold the staff until released by the knockers.

p p are knockers on the bar J.

The operation of this mechanism is as follows: A positive motion is imparted, through the miter cog-gears F F′, to the crank-wheel H, and this wheel, by means of the pitman I, operates the bar J, which bar draws in the inside picker-staffs L′ L′, alternately, and latches them in the latches. These are thrown off by the knockers *p*, which press back the spring-catches *n* on the legs of the lathe, and the spiral springs M under the lay-beam being expended at the time the latch is on, when the knocker releases the latch, the spring contracts quickly, thereby throwing the shuttle into the opposite box, and so on alternately.

As we throw the shuttle with a close-coiled well-tempered spiral spring, the thread is drawn through the warp every time with the same tension, thereby making an even and tightly-woven fabric.

The springs are to have adjusters, so that they can be taken up or let out, and thereby act with any required force.

In some cases we may use a double-crank attachment, as shown in Fig. 4. This is mainly intended for very large looms, and for that class of looms in which the heddle-cams are on the main shaft in the center.

The springs M may be so arranged as to be contracted, and when the latches are released the expansion of the spring will throw the shuttle. This can be more conveniently applied under the lay-beam, on account of the knock-off motion or attachments.

On some looms a leaf-spring can be used to better advantage; hence we do not confine ourselves to any particular kind of spring.

What we claim as new, and desire to secure by Letters Patent, is—

1. The reciprocating bar J, slotted at each

end, and provided with knockers *p*, operated by mechanism, as herein described, in combination with the alternating staffs L′ L′, having spring-latches *m* near their lower ends, for the purpose set forth.

2. A loom picking mechanism consisting of a slotted bar, J, with knockers *p p*, pivoted arms *h h*, and inner pivoted staffs L′ L′, provided with spring-latches *m m* and spiral springs M M, and forming a connection with the picker-staffs L L by means of straps *f f*, adapted for use, substantially as described.

3. The combination of the pivoted staff L′, having its lower end bent forward and slotted, the pivoted arm *h*, and the slotted end of the sliding bar J, for the purposes specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

ENOCH P. TERRELL.
LUCIAN A. WILLIAMS.

Witnesses:
B. S. B. STAMATS,
E. J. HOWENSTEIN.