

W. WEBSTER.
Loom for Weaving Pile-Fabrics.
No. 130,961. Patented Aug. 27, 1872.

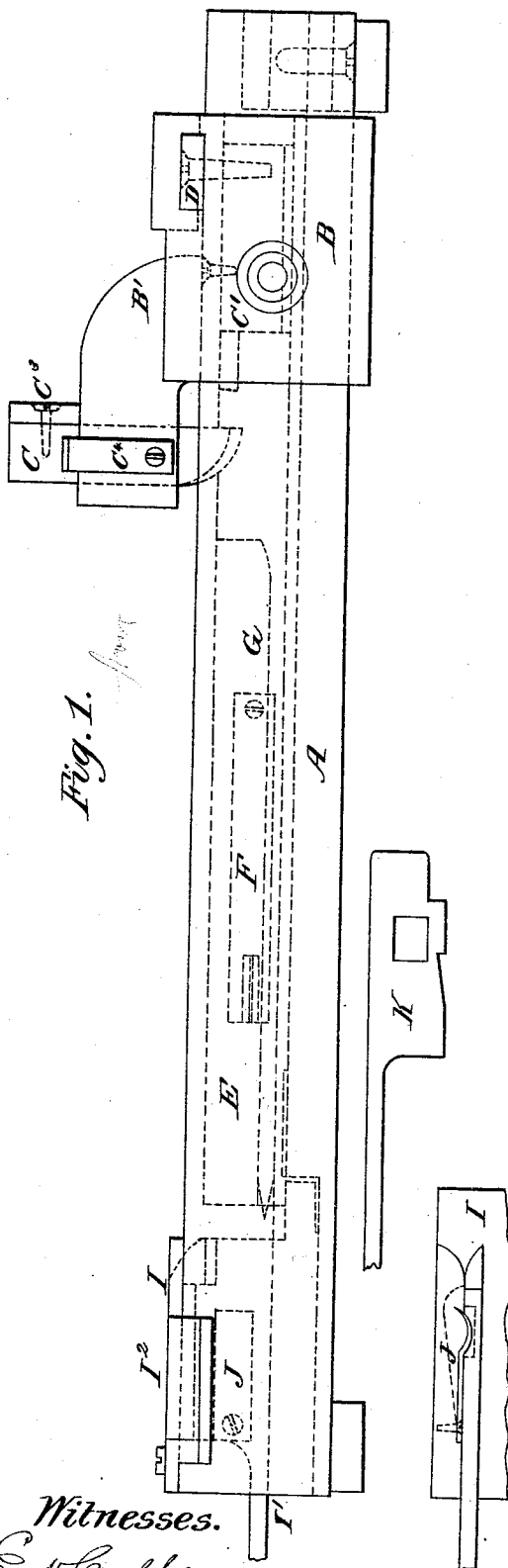


Fig. 1.

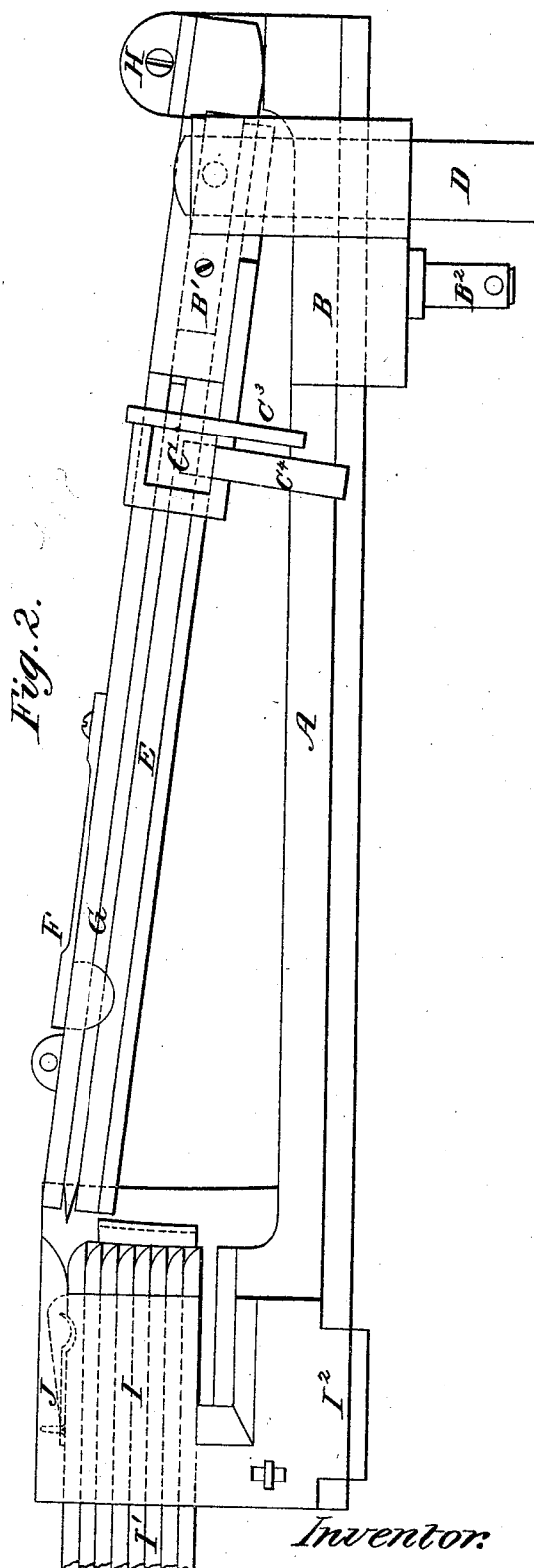


Fig. 2.

Witnesses.
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William Webster

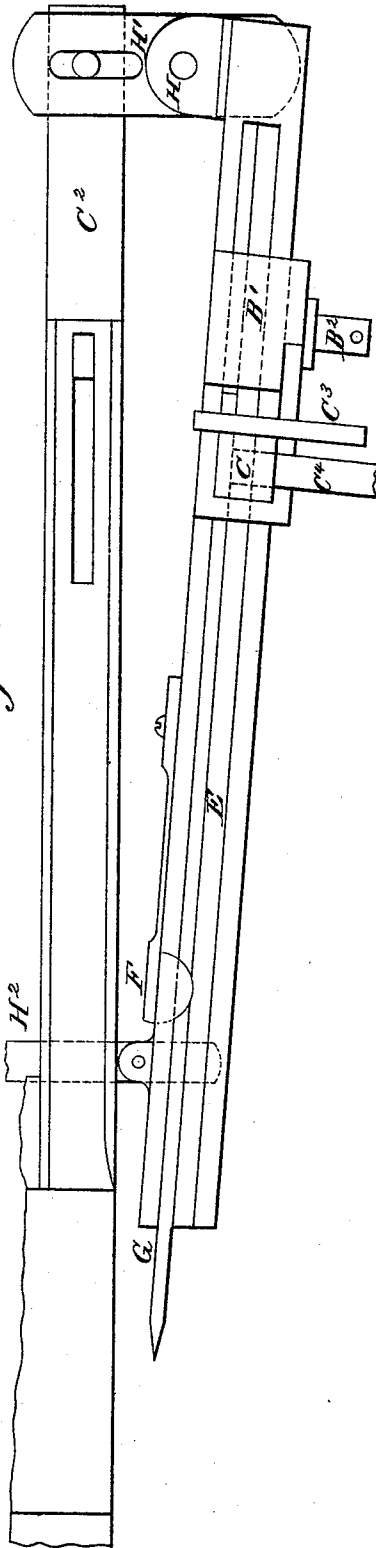
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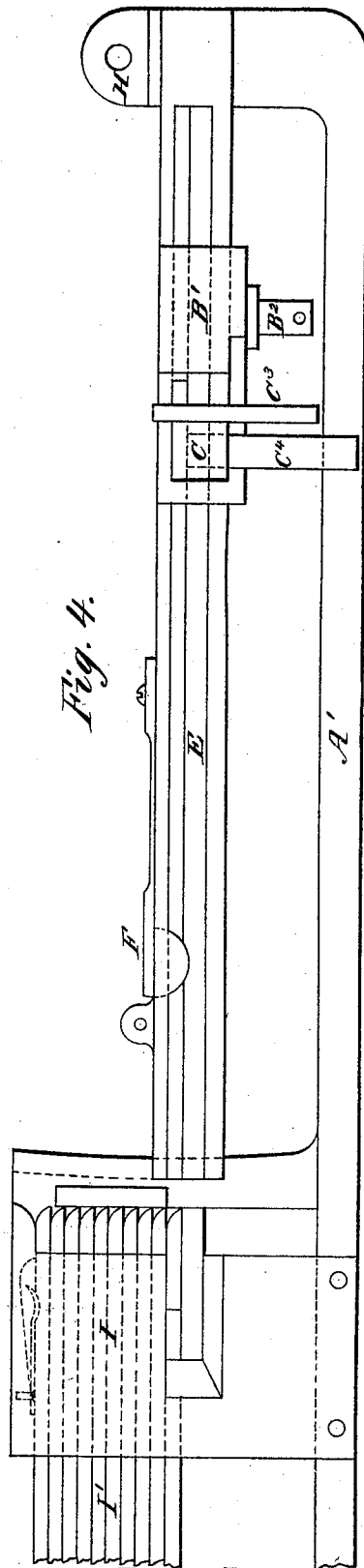
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Fig. 3.



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Fig. 4.



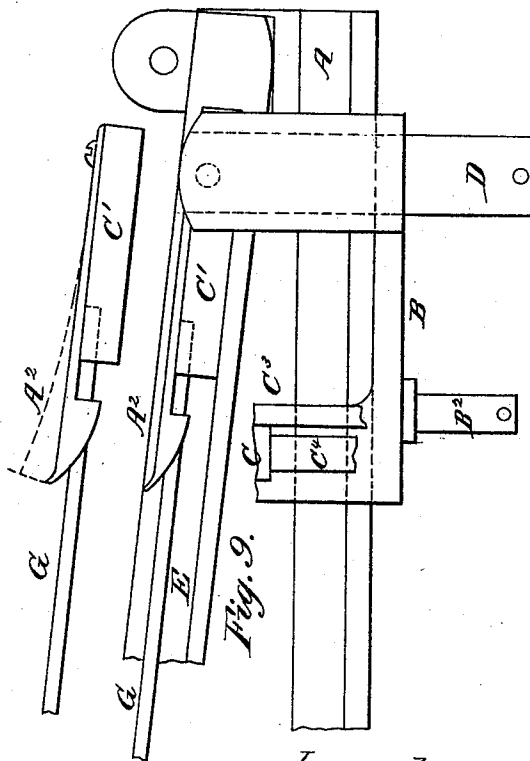
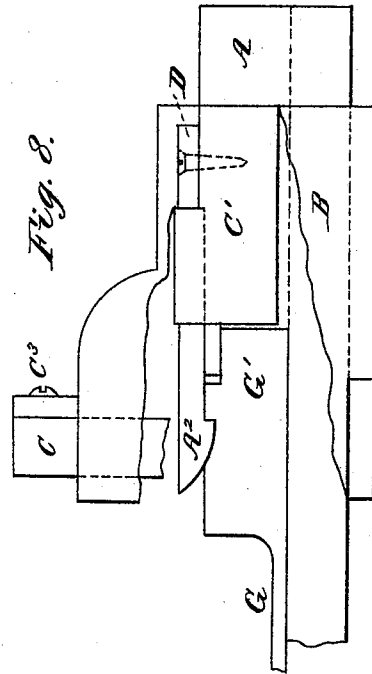
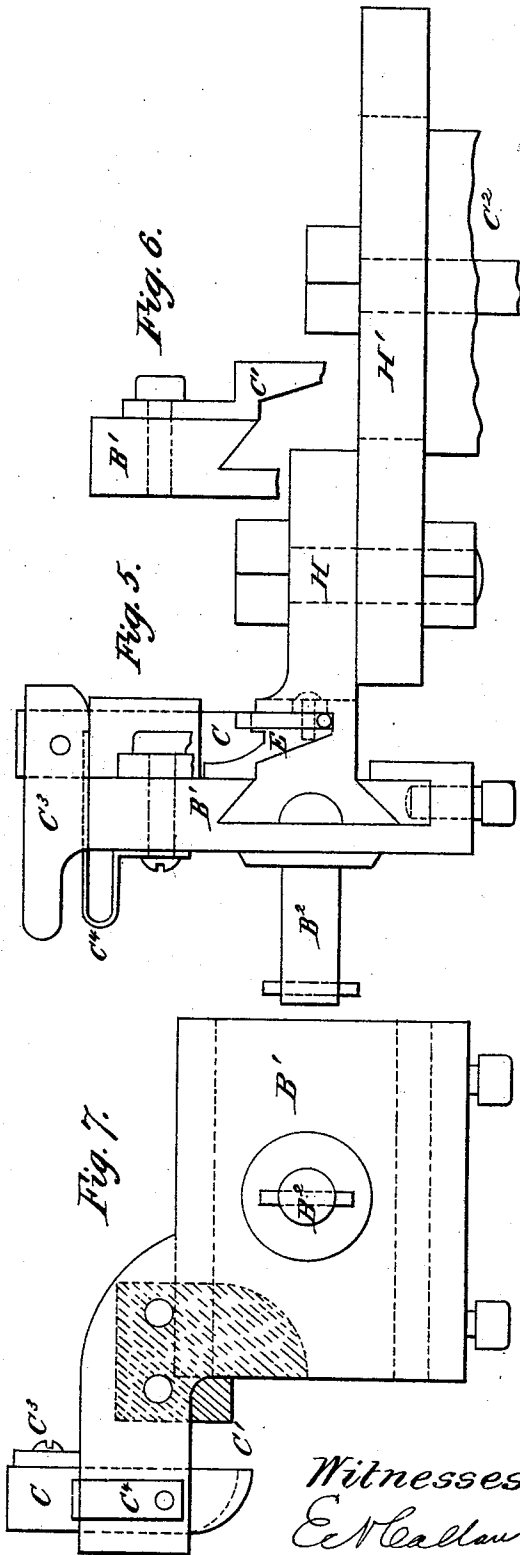
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UNITED STATES PATENT OFFICE.

WILLIAM WEBSTER, OF MORRISANIA, NEW YORK.

IMPROVEMENT IN LOOMS FOR WEAVING PILE FABRICS.

Specification forming part of Letters Patent No. **130,961**, dated August 27, 1872.

SPECIFICATION.

I, WILLIAM WEBSTER, of Morrisania, in the county of Westchester and State of New York, have invented certain "Improvements in Looms" for Weaving Pile Fabrics, &c., of which the following is a specification:

The Nature and Object of my Invention.

The first part of my invention relates to the combination and arrangement of the reciprocating or driving slide, sliding bar, withdrawing and inserting devices, and trough, in such a manner that the trough shall be capable of oscillating between the points of withdrawal and insertion of the wire, the sliding bar receiving a horizontal motion at the same time that the pushing-slide is being reciprocated on the trough by the driving-slide. The advantage of this part of my invention is that a shuttle-box, rigidly connected with the lay, may be used. The second part of my invention relates to the means for preventing the wire from bounding back from its position in the wire-box; and consists in a spring attached to the inner end of the wire-box, and fitting indentations or openings in the heads of the wires. The third part of my invention relates to the combination of the vibrating trough directly with the lay. The fourth part of my invention relates to a modification of the mechanism; and consists in having the oscillating trough and reciprocating slide pathway combined or made in one piece, and having the withdrawing and pushing devices combined or connected and reciprocated thereon by power applied directly thereto; the object of this part of my invention being to dispense with the driving-slide and stationary slide pathway and sliding bar. The fifth part of my invention consists in the combination, with a lay having a rigid shuttle-box, of a pivoted vibrating wire-trough, a reciprocating driving-slide, and latch, the latter being operated by the wire-box to release the wire, and the slide and latch moving on the trough, all as set forth.

Description of the Accompanying Drawing.

Sheet 1.—Figure 1 is a front view of my improvement; Fig. 2, a top view of the same. Fig. 3 represents a wire-head. Fig. 4 represents a sectional part and end view of the

wire-box. Sheet 2.—Fig. 3 represents the oscillating trough connected to the shuttle-box or lay of a loom. Fig. 4 is a top view of the wire-trough attached to the breast-beam of a loom. Fig. 5 is an end view of the oscillating trough of Fig. 3 attached to the shuttle-box or end of the lay. Fig. 6 is a sectional and detached part of the reciprocating slide, Fig. 5. Fig. 7 is a side view of the slide, latch, and pusher of Fig. 4. Sheet 3.—Figs. 9 and 10 represent side and top views of a wire-trough with latch at one side.

The following is a description of my improvements:

Sheet 1.—A A, Figs. 1, 2, represent front and top views of stationary slide pathways, upon which the reciprocating or driving slide B moves. B¹ represents the withdrawing and pushing slide, secured to the oscillating trough so as to reciprocate thereon. The reciprocation of this slide is produced by the driving-slide B and the bar D, which bar is secured at one end to the slide B¹, and projects through and slides in a mortise in the driving-slide B of sufficient length to allow the trough to oscillate. B² represents a pin or stud, by which power may be applied to the slide B. C represents the withdrawing and transferring latch, attached to the slide B¹, and has projections downward, as shown by the dotted lines, Fig. 1. One portion of the end of the latch catches into the nick of the wire-head to withdraw the wire, the other part of the latch projects further down and bears against the side of the wire-head and holds it in an upright position against the side of the trough. The end of the latch is made inclined. C³ represents a lever, to disengage the latch C from the wire-head; and C⁴, a spring, to give quick motion to the latch C. E represents a trough, which oscillates on a fulcrum in a lateral projection on the outer end of the breast-beam, and opposite a point midway between the points of withdrawal and insertion of the wire into the wire-box. The front of the trough is not located on a line with its longitudinal axis, but at one side in a lateral projection on the end of the trough, by which arrangement its oscillating end is not carried away from the edge of the wire-box when moved into position for inserting the wire. I represents the wire-box, whose edge is made con-

cave, corresponding with a circle drawn from the fulcrum H of the trough, so that the slide which reciprocates on the trough shall not become cramped with the wire-box after leaving one wire, and while moving to engage and withdraw another wire from the box, thereby avoiding the necessity of a back movement of the slide. G, Fig. 1, represents a wire in the trough E, the point of which is in position to be pushed into the wire-box I. When the wire is boxed the latch C is detached from the wire-head by sliding upon the box. The edge of the wire-box may be made inclined in order that the latch may more easily rise upon it. When the end of the trough is brought back to the point of withdrawal of another wire the latch will engage with another wire-head, as before. F, Fig. 2, represents a spring, the projecting end of which passes through a slot in the side of the trough E and over the wire G to prevent it from springing out of the trough. That part of the spring over the wire is made rounding or inclined, so that the head of the wire may easily pass it. I¹ represents a number of wires already boxed. In order to facilitate removing the wires from the box I the top of it may be hinged to be opened as shown at I². J, Fig. 4, represents a spring attached to the inside end of the wire-box I. This spring is made rounding on its face end for the purpose of better engaging the wire-head. It may be attached to the outside of the wire-box and be made to project through an opening in the box and press against the side of the wire-head in the same manner as before. K, Fig. 3, represents a wire-head having its side indented or provided with an opening to receive the projecting end of the spring J to prevent the wire bounding back while in the wire-box I, and it is being beat up by the reed. The dotted lines and letters, Fig. 1, represent some of the several parts before described. Sheet 2, Figs. 3, represents the fulcrum H of the oscillating trough E as attached to the end of the lay C² by a plate, H¹. The other end of the trough may be oscillated by a rod, H², moved by a cam or other device, not shown. Fig. 4 represents a modification of the invention. The withdrawing and pushing slide B¹ in this case becomes the driving-slide. The fulcrum or center H of the oscillating trough E is represented as being attached to the breast-beam A' of the loom in the same manner as shown in Fig. 2, Sheet 1. Fig. 5 represents an end view of the withdrawing and pushing slide described in Figs. 3 and 4, but

with the trough attached with shuttle-box. The fulcrum of the oscillating trough E may be attached to the shuttle-box or lay of the loom, or to a vertical shaft. Fig. 6 represents a sectional part of slide B¹, showing an end view of the pusher C¹, which is bolted to the slide, fits the trough, and assists in pushing out the wire. Fig. 7 represents a side view of the driving-slide B¹, its pin B², to which power is applied, and the withdrawing and transfer latch C and pusher C¹ attached to the slide. Sheet 3, Figs. 9 and 10, represent other modifications of my improvements, in which the withdrawing-latch is pivoted to the pusher and moves horizontally, instead of out and in, over the top of the trough to engage the wire, and rises to disengage it when entering the box.

Having described the nature and objects of my improvement, I wish to be understood that I do not expect to confine myself to the precise forms of the several parts described.

Claims.

1. The vibrating trough, the driving-slide B, and its guiding-way, the pusher and latch moving on the trough, and the sliding bar D, combined and operating substantially as described.
2. The combination, with the wire-box I, of the spring J, when operating in connection with the wires having the depressions or equivalents in the heads, to prevent them moving back when struck by the reed.
3. The combination, with the lay C², of the trough E, when arranged, connected, and operating as described, and for the purpose set forth.
4. In combination with a trough oscillating at one end only and constructed to serve as a slide guide-way, substantially as shown in Figs. 4, 5, and 6, Sheet 2, I claim the driving-slide B¹, pusher C¹, and withdrawing and transferring latch C, all operating substantially as and for the purpose set forth.
5. In combination, the lay and its rigid shuttle-box, the pivoted vibrating wire-trough, the reciprocating driving-slide, and the latch moving thereon, the latter being operated by the wire-box, the combination being and operating substantially as described.

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