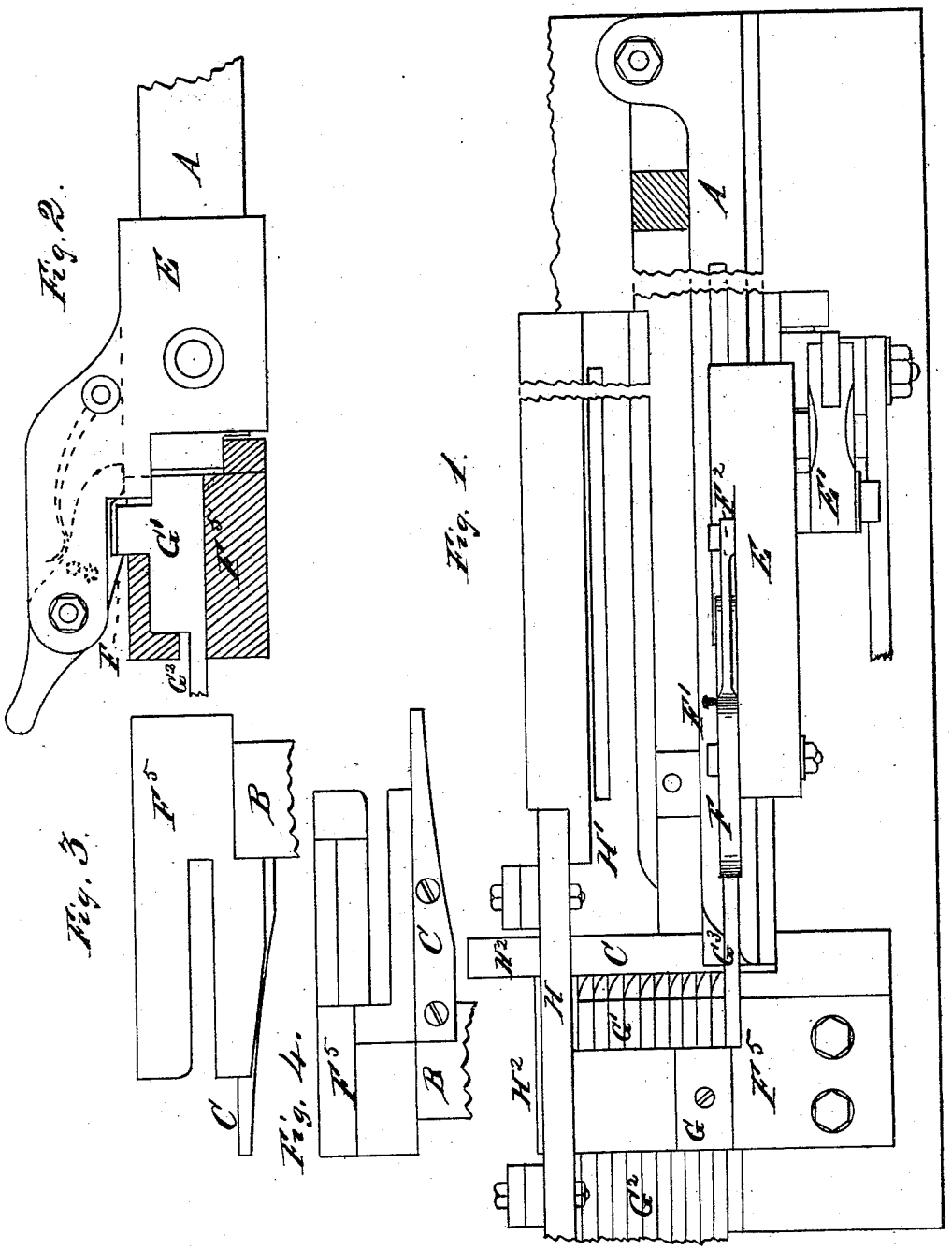
4 Sheets—Sheet 1.

W. WEBSTER.

Loom for Weaving Pile Fabrics.

No. 211,949. Patented Feb. 4, 1879.



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4 Sheets—Sheet 2.

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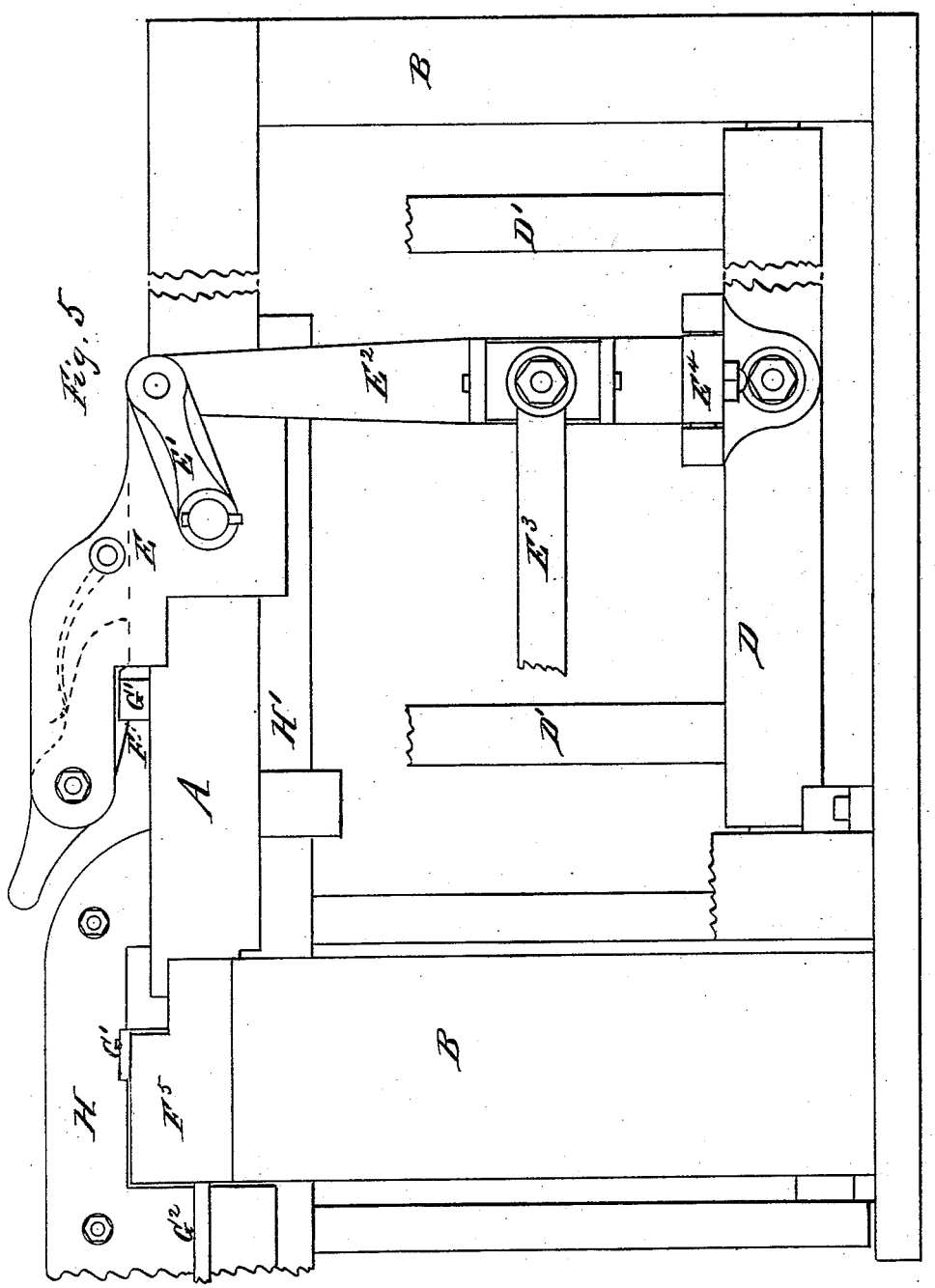

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Fig. 6.

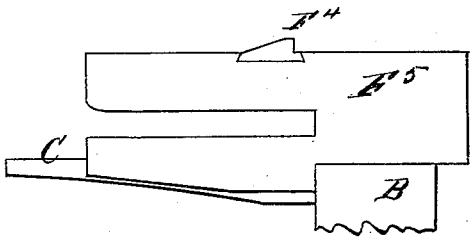


Fig. 7.

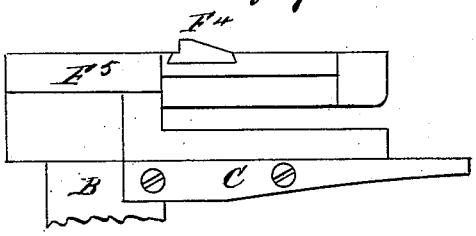
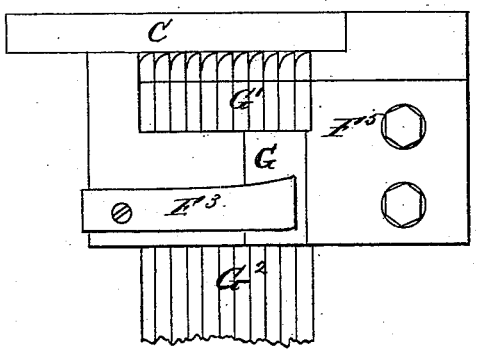


Fig. 8.



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4 Sheets—Sheet 4.

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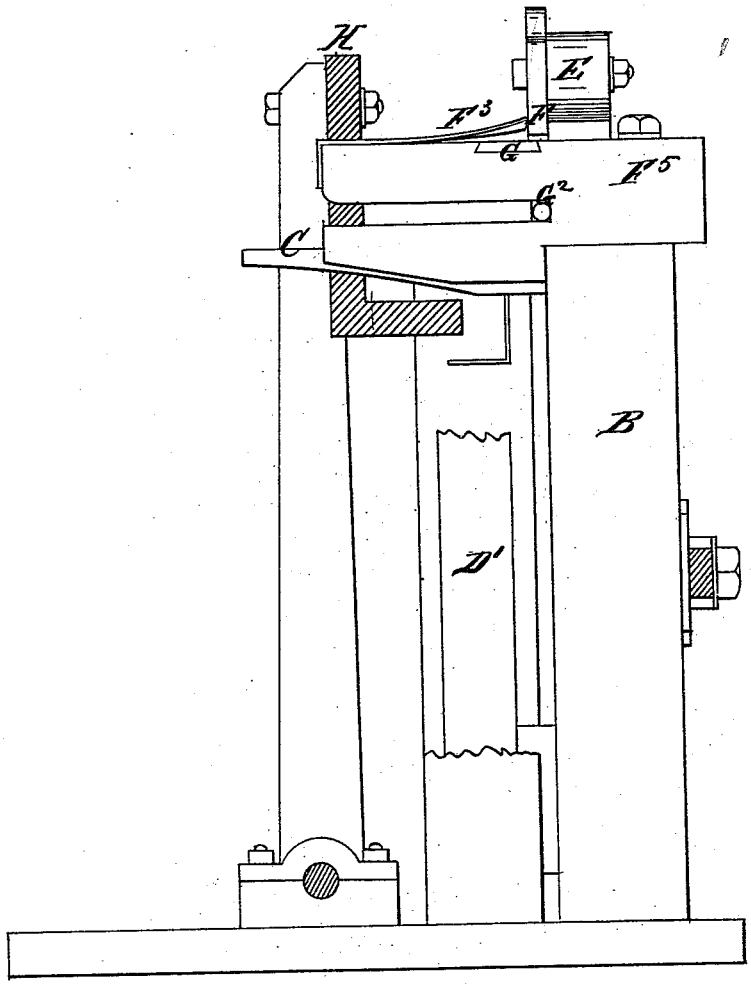
Fig. 9.



Witnesses
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Wm H. Webster

Inventor
William Webster

UNITED STATES PATENT OFFICE.

WILLIAM WEBSTER, OF MORRISANIA, NEW YORK, ASSIGNOR TO WEBSTER LOOM COMPANY.

IMPROVEMENT IN LOOMS FOR WEAVING PILE FABRICS.

Specification forming part of Letters Patent No. **211,949**, dated February 4, 1879; application filed January 11, 1876.

To all whom it may concern:

Be it known that I, WILLIAM WEBSTER, of Morrisania, in the county and State of New York, have invented a new and useful Improvement in Looms for Weaving Pile Fabrics, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The nature of my invention consists, first, in combining, with a wire-box which is so constructed that its upper surface, or the part thereof contiguous to the point where the heads of the wire come in contact with the box, is somewhat lower than the upper surface of the heads of said wires, a vibrating wire-bar and a reciprocating driving-slide carrying a hook, which driving-slide is adapted to move on the said wire-bar, whereby the said hook, after it has inserted a wire, passes over the heads of the wires without coming in contact with the upper surface of the box to the proper position for seizing and withdrawing another wire; and, second, in combining, with said wire-box, vibrating wire-bar, driving-slide, and hook, a spring-director, whereby the said hook is prevented from rebounding and engaging with the head of an adjoining wire.

In the drawings, Figure 1 represents a top view of a loom, in part, having my improvement applied. Fig. 2 represents a front view of my improvement, the wire-box and the wire-bar shown partly in section. Figs. 3 and 4 represent the right and left hand side views of the wire-box shown in Figs. 1 and 2. Fig. 5 represents a front view of the mechanism shown in Fig. 1. Figs. 6, 7, and 8 represent views of wire-boxes of the same construction as shown in Figs. 1, 3, and 4, with the exception of the parts inserted in their upper surfaces. Fig. 9 represents a view of the left-hand side of the loom, in part, and showing a side view of the wire-box, Fig. 8, with its projection, which is a modification of the projection shown in Figs. 6 and 7.

Similar letters of reference indicate corresponding parts in all the figures.

A represents a wire-bar, attached to a post or frame of the loom B. Its inner end rests and slides upon a plate, C. This plate is so attached to the frame of the loom as to be easily removed therefrom. For instance, should I wish to attach the wire-bar to the horizontal shaft D by means of the two arms D′, which are shown broken off, then I purpose removing the plate C, as it would not be required to support the wire-bar.

E represents the reciprocating driving-slide. This slide is moved by means of a link, E^1, staff E^2, and connecting-rod E^3, which is shown broken off. It will be seen that I have attached the lower end of the staff E^2 to the shaft D by means of a double-acting joint, E^4, and made it (the shaft) rigid; but in the event of my using the two arms D′ to support the wire-bar, I do not intend to use the shaft D rigid, but to have it rock.

F represents a hook, which is attached to the slide E and reciprocated with it. F may be called a rigid hook, and be used as such to all intents and purposes by inserting a pin, F^1, through said hook and into the driving-slide, or it may be a spring-hook, as it is necessary at times to remove a wire from the wire-bar by hand, either when first commencing to weave on a new piece or when backing the loom in order to find a broken thread. In these events it is of the greatest importance that F should be of such construction as to yield or move on a fulcrum in such a way that it can be raised out of contact with the wire-head G^1, and be held up by a pin, F^1, or some other means, until it is desired to commence operation with the loom, when the pin is removed and the hook allowed to descend and engage with the wire-head. Now, inasmuch as it is necessary to have the hook move loosely on the driving-slide, so as to be raised or oscillated, I attach a spring, F^2, to the slide, and have it bear upon the upper surface of a part of the hook, to prevent the hook from accidentally slipping or losing its hold of the wire-head, and also for the purpose of causing quick motion to be given to the hook for other purposes hereinafter mentioned.

I do not wish to confine myself to this particular kind of hook, as there are many kinds of hooks or latches in common use that can or may be adopted and used.

The director F^3 (shown in Figs. 8 and 9) is yielding in its construction, so that after a

wire is boxed and the hook has moved away from it the hook comes in contact with this yielding projection, which I have called "director" F^3, and bears or presses it down by sliding over it, and the instant the hook leaves the end of it the director recovers its first position again, and forms a shoulder or an abutment to the hook, and prevents it rebounding to interfere with the wire next adjoining to the one to be withdrawn. Should the constructer wish to, he can sink or let down this director F^3, or the yielding part of it, into the top surface of the wire-box.

The wire-boxes, Figs. 1 and 8, are shown filled with wires and wire-heads G^1. The wires G^2 are represented as protruding through the box and broken off. In Fig. 1 the hook F is represented as having partly withdrawn a wire from out the wire-box, and in Fig. 2 the hook is represented as just taking hold of the wire-head to withdraw it from out of the wire-box. In this figure the outer part of the box is removed or cut off, in order to show the wire-head G^1 in the box, and also the shape of it.

H and H^1 represent the lay and shuttle-box of the loom. They may be supported and vibrated in any of the known ways. Fig. 9 shows an end cross-sectioned view of or through the lay H, in order to show the end of the wire-box F^5 and plate C passing and projecting through it, as shown at H^2, Fig. 1.

The wire-bar, driving-slide, lay, and shuttle-box may be vibrated and reciprocated by cranks and cams, or any other well-known means. (Not shown.)

I wish it to be understood that the several parts shown in the drawings are not made proportional one with the other, or on any scale; but I have endeavored to be very particular and careful to so explain my invention and its operation that one skilled in the art of building looms for weaving piled fabrics can readily and easily proportion and put into proper positions in the loom all of the parts shown and described without further explanation.

I claim as of my own invention—

1. The combination, with a wire-box constructed with its upper surface, or a portion thereof which is contiguous to the wire-heads, lower than the upper surfaces of the said wire-heads, of the wire-bar, constructed to have a lateral movement, and a single reciprocating driving-slide moving on said wire-bar, and actuated by a vibrating rod connected therewith without the intervention of a secondary slide, the said driving-slide carrying a hook which is adapted to withdraw, control, and insert the pile-wire, substantially as and for the purpose set forth.

2. In combination with a wire-box constructed, as described, with its upper surface, or a portion thereof which is contiguous to the wire-heads, lower than the upper surface of said wire-heads, mechanism for withdrawing the wires, and the spring-director, whereby the hook is prevented from rebounding and engaging with an adjoining wire-head, all being constructed as shown and described.

WILLIAM WEBSTER.

Witnesses:

JAMES WADE,

WM. H. WEBSTER.