2 Sheets—Sheet 1.

# W. WEBSTER & J. WADE.

## LOOM FOR WEAVING PILED FABRICS.

No. 170,922. Patented Dec. 7, 1875.

Fig. 2.

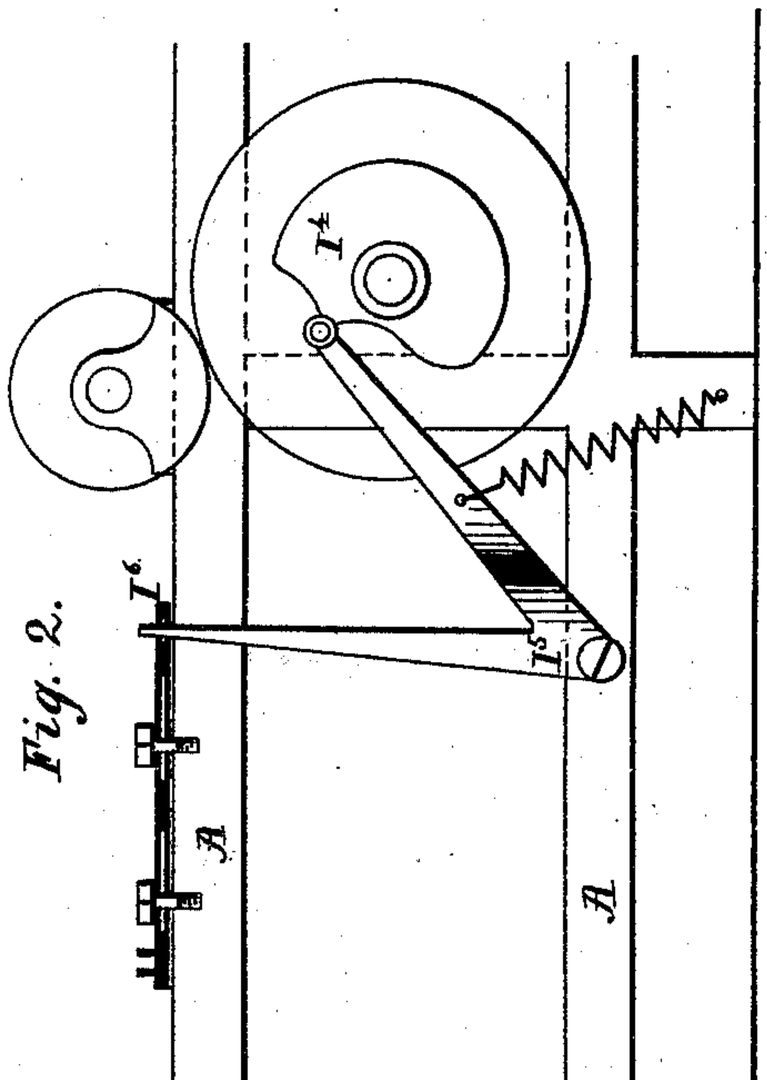


Fig. 3.

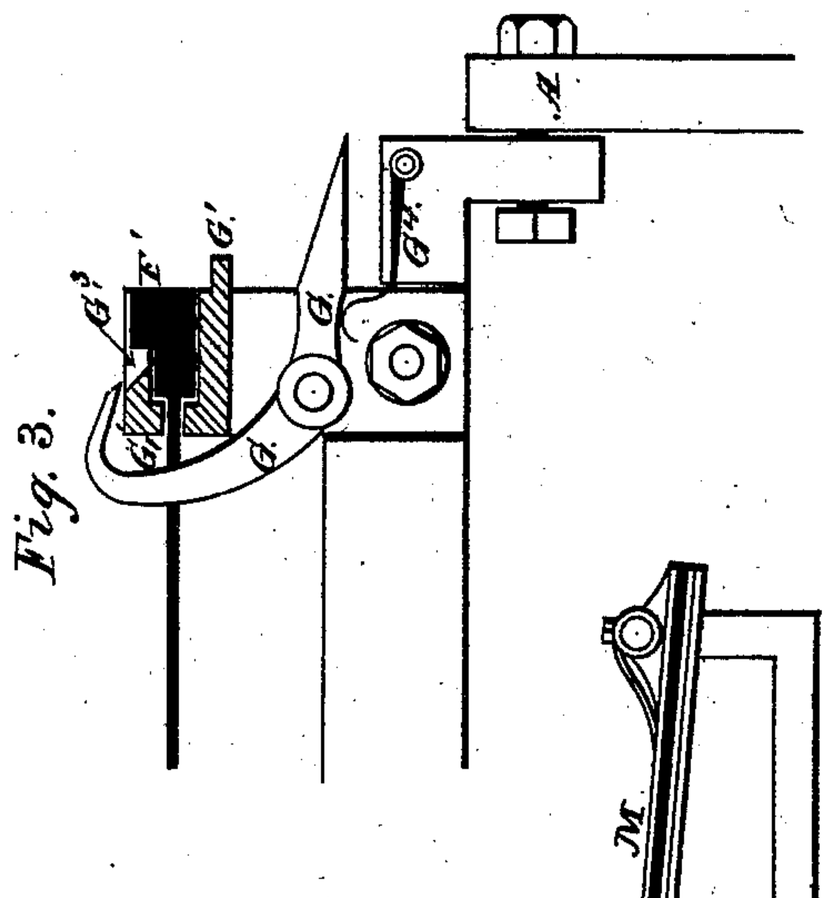


Fig. 1.




Witnesses:

Wm. G. Smith.

Wm. H. Webster.

Inventors:

William Webster

James Wade

2 Sheets—Sheet 2.

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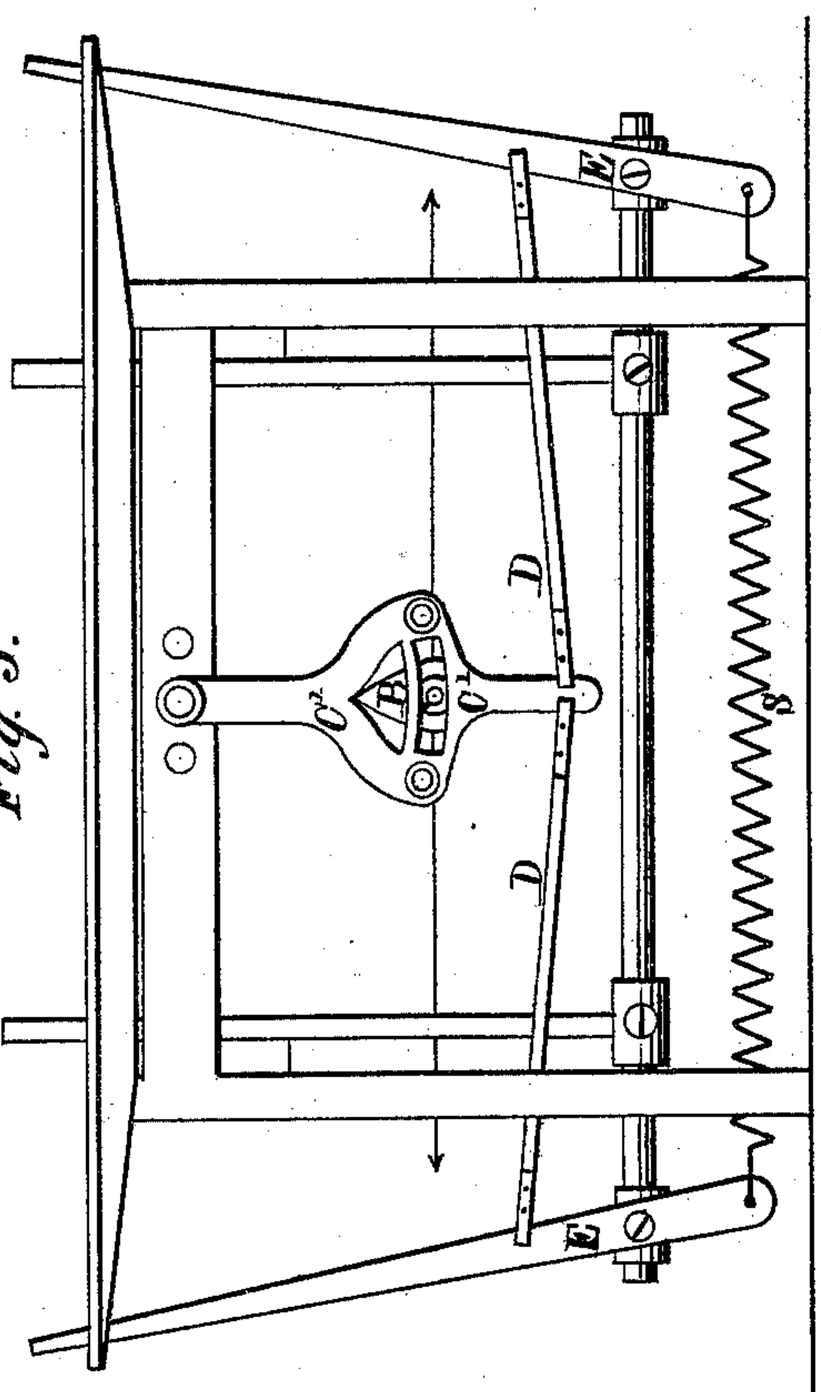


Fig. 5.

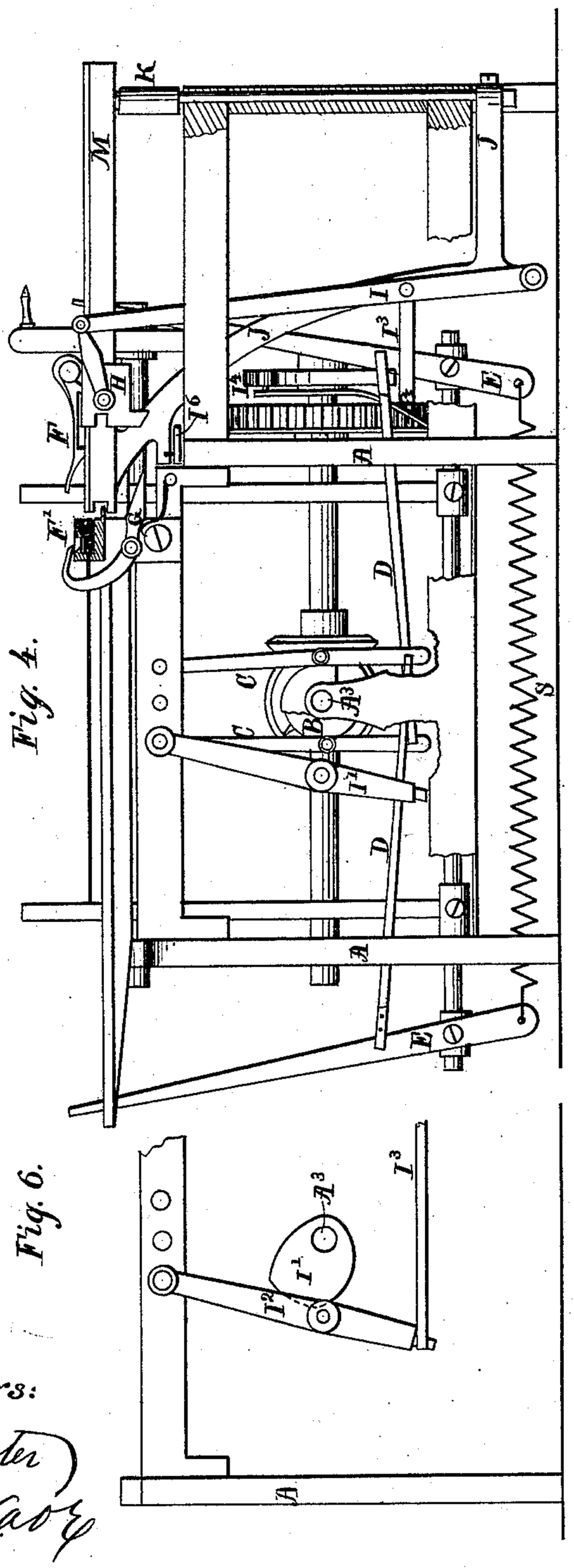


Fig. 4.




Fig. 6.

Witnesses

Wm. G. Smith.

Wm. H. Webster.

Inventors:

William Webster

James Wade

# UNITED STATES PATENT OFFICE.

WILLIAM WEBSTER, OF MORRISANIA, AND JAMES WADE, OF NEW YORK, N. Y., ASSIGNORS TO WEBSTER LOOM COMPANY.

## IMPROVEMENT IN LOOMS FOR WEAVING PILED FABRICS.

Specification forming part of Letters Patent No. **170,922**, dated December 7, 1875; application filed October 6, 1875.

*To all whom it may concern:*

Be it known that we, WILLIAM WEBSTER, of Morrisania, in the county and State of New York, and JAMES WADE, of the city, county, and State of New York, have invented new and useful Improvements in Looms for Weaving Pile and other Fabrics, which improvements are fully set forth in the following specification, reference being had to the accompanying drawings.

Figure 1, Sheet 1, represents a top view of the loom; Fig. 2, part of end view, showing transferring-cam; Fig. 3, detached enlarged view of wire, wire-box, and movable latch or hook releaser. Fig. 4 represents a front view of the loom partially in section; Fig. 5, front view of loom, showing a modification in the construction of the picker-motion, as shown in Fig. 4; Fig. 6, detached view of cam and lever, for inserting and withdrawing the pile-wire, as partly shown in Fig. 4.

The nature of our invention is, first, in constructing and arranging the picker-motion, as shown in Figs. 4 and 5, by using only one picker-cam, B, in combination with two vibrating levers, C, or one double vibrating lever, C′. The levers C may each have a picking-roll, and the double lever C′ may have two picking-rolls. The object of this part of our invention is to give a direct and straight blow to the picker-staffs E from the picker-cam B, and avoid the complicated mechanism now generally used, consisting of cams, duplicate picking-shafts, with their arms, &c. Second, in the employment of elastic metallic picker-straps D, which connect the lever C or the double lever C′, and the picker-staffs E, as shown in Figs. 4 and 5, directly or combined with short leather straps. Metallic straps being less liable to stretch or expand, save the lost motion (incident to the use of leather and other straps) between the picker-lever and picker-staffs. They are also more durable, cheaper, and less liable to get out of order, and combine the advantages of a leather strap and a rigid connection, such as a metal rod or stiff wire, without their disadvantages. Third, in releasing the latch or hook F′ from the wire head F′ when it is being boxed, and keeping it released until the latch or hook is again brought into position to withdraw another wire by means of the movable releaser or lever G, the top end of which is made to extend over the top of the wire box $G^1$ from the point of withdrawal to the point of inserting the head of the wire into the wire-box. The lower end of this releaser is also made to extend quite or nearly the width of the wire box, and out from it, as shown in Figs. 3 and 4, sufficiently far to allow the forward end or edge of the driving-slide H to strike or come in contact with it as the head of the wire is being pushed into the wire box. In this position, as shown in Fig. 1, the slide H presses down the lower part of the releaser G, which carries the top part of the releaser G over the top of the wire box and under the nose of the withdrawing-latch F, raising the nose of the latch up from, and out of contact with, the wire head, and holds it so raised until the latch and wire bar M are moved forward again into position for the latch to withdraw another wire, when the latch at this point leaves the projecting part of the releaser G, and drops down into the nick $G^3$, Figs. 3 and 4, to withdraw the wire. As the driving-slide H, with its latch and wire, moves out and away from the wire box the top projecting part of the releasing-lever G is carried back to its first position by means of the spring $G^4$, Figs. 3 and 4, or by having the top part of the lever G weighted the spring $G^4$ may be dispensed with, as the lever would fall by its own gravity. The releaser G is made wedge-shaped from preference, but other shapes may be used to as good advantage. Fourth, in pivoting the reciprocating lever I, which moves the driving-slide H on the wire bar M to the frame J, which is connected with and projects from the pivoted shaft or post K, to which is attached one end of the vibrating or oscillating wire bar M. The object of this part of our invention is to avoid any twist or lost motion in operating the reciprocating lever I. This lever I is operated by the cam $I^1$, lever $I^2$, and connecting-rod $I^3$, which are shown broken off, Figs. 1, 4, and 6. The cam $I^4$, Figs. 1, 2, and 4, gives

the vibrating movement to the wire bar M by means of the lever $I^5$ and sliding bar $I^6$; and both cams $I^1$ $I^4$ may be constructed and timed to give any desired movement to the parts connected.

This picking mechanism is particularly adapted to this loom, because the picking-cam can be placed on the same counter-shaft as the cam that operates the driving-slide. It takes up less room, and is less complicated in its construction, than the common picking mechanism.

We do not wish to confine ourselves to any of the forms of the several parts, as many forms may be used without deviating from the main features of our invention.

What we claim as our invention is—

1. The combination of the picker-lever C, cam B, picker-staff E, and spring S, all arranged in the same plane and operating together, as and for the purpose set forth.

2. In combination, the spring S, picker-staff E, picker-lever C, and cam B of the pliable metallic picker-strap D, as and for the purpose set forth.

3. In combination with the wire box, constructed to hold the wire heads in position side by side, and the latch F, the releaser G, constructed and operating substantially as shown.

4. In combination with the wire bar M, the lever I, pivoted shaft K, and frame J, all arranged as and for the purpose set forth.

5. In combination with the picker-staff E, the actuating slide-lever I, levers C $I^2$, links $I^3$ D, the cams B $I^1$, arranged upon the shaft $A^3$, as and for the purpose shown.

WILLIAM WEBSTER.
JAMES WADE.

Witnesses:
WM. G. SMITH,
WM. H. WEBSTER.