A. FAULKNER.

LOOM FOR WEAVING PILED FABRICS.

No. 9,417. Patented Nov. 23, 1852.

Fig. 1.

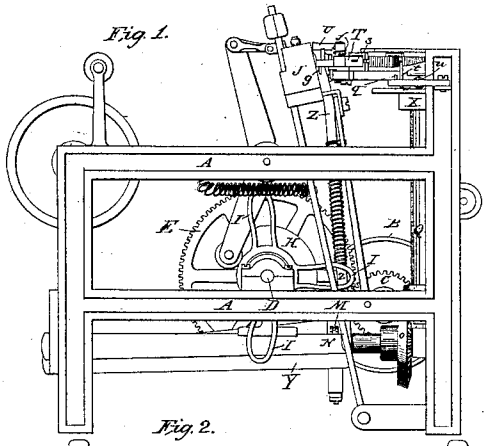


Fig. 2.

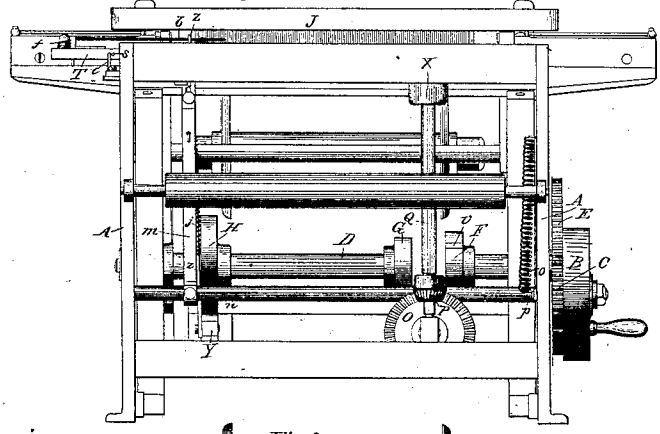
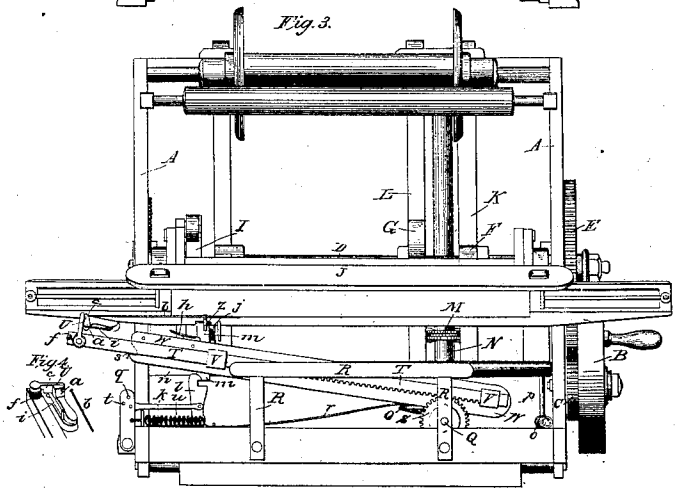


Fig. 3.



UNITED STATES PATENT OFFICE.

AUG. FAULKNER, OF WALPOLE, NEW HAMPSHIRE.

PINCER FOR OPERATING PILE-WIRES.

Specification of Letters Patent No. 9,417, dated November 23, 1852.

To all whom it may concern:

Be it known that I, AUGUSTUS FAULKNER, of Walpole, in the county of Cheshire and State of New Hampshire, have invented certain new and useful Improvements in Looms for Weaving Piled Fabrics; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1, represents a view from one of the ends of the loom. Fig. 2, represents a front view, and Fig. 3, represents a view from the top.

Similar letters in the several figures denote the same parts.

The nature of my invention consists in withdrawing, supporting, carrying, replacing and releasing the figuring wires, by means of a claw operated automatically, by the moving parts of the loom.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

The frame A, as well as many of the other parts of loom, not herein particularly described, may be constructed in any well known substantial manner. Motion may be communicated to the various parts of the loom, by means of a belt passing over the pulley B, on the arbor of which is placed a small cogged wheel C, which meshes into a larger cog wheel E, on the main shaft D, of the loom. On the shaft D, are placed the several cams F, G, H, I, of which, the cam I, is for working the lay, shuttle race, and other parts connected thereto, in the usual well known manner, and which being common to many looms, need not be particularly described, premising that there is two beats of the lay, to one operation of the claw which operates the wires. The cams F, G, operate alternately the levers K, L, and from stirrups on the ends of said levers passes a chain M, up, and over the horizontal shaft N, which is properly prepared for the same, so that as the levers K, L, are alternately pressed down by the cams F, G, they cause the shaft, N, to perform a portion of a revolution, first in one direction, and then in a contrary one. On the end of the shaft N, next the front of the loom, is a bevel gear wheel O, which works into a smaller bevel wheel P, on the vertical shaft Q, giving to said shaft Q, the same oscillating motion, but in a degree greater than that given to the horizontal shaft N, and which may be regulated by the size of the gear wheels O, P. The vertical shaft Q, extends up to the top of the breast beam of the loom, and is supported in the frame R, upon which the warp rests. Underneath the plate R, and on the shaft Q, is a spur wheel S, firmly fixed to the shaft, so as to move with it, which spur wheel operates with a rack on the bar T, carrying the claw U, (better seen in Fig. 4, and which will be more particularly described hereafter). The bar T, slides in guides V, attached to a plate W, which plate has an arbor X, on its end, through which the vertical shaft Q, passes, and by which arrangement, when the bar carries forward the claw and the figuring wire in it, the bar will move in the arc of a circle, of which the center of the vertical shaft Q, is the center, and the rack on said bar is consequently always kept in gear with the spur wheel S, whose center is also in the center of said shaft.

The claw U, is made in two parts, which have motions independent of each other for grasping, carrying and releasing the figuring wire—one of the parts *a*, has a slot in it which receives the figuring wire *b*, and the other part *c*, has a pin *e*, Fig. 3, in it, which moves in said slot, so that as the two parts of the claw move past each other in releasing or forcing out the wire *b*, said pin will push the wire out of the claw, and allow it to remain between the sheds where it has been carried by the operation of the loom, while the claw returns for another wire. These wires are withdrawn, carried forward and inserted in regular order, having for the purpose a sufficient number, so that the friction of the warp will prevent the strain from drawing out the loops. The figuring wire *b*, has a head formed upon it, like an ordinary pin head, which head passes between the jaws of the claw—the stem of the wire passing through the slot in one of the jaws before mentioned, and by means of this head, the wires are withdrawn, not requiring the usual force or power applied to machines for a similar purpose. The part *c*, of the claw, is forced up against the part *a*, by a small spiral spring *f*, and in rear of the part *c*, is a straight spring *i*, for forcing it forward after it has been slid back in delivering the wire, so as to be in proper position for receiving the next one. On the un-

derside of the part *a*, of the claw, is a pin *g*, Fig. 1, which as the bar carrying the claw is drawn back to deliver the wire, strikes against a spring cam *h*, Fig. 3, attached to the plate W, and slides said part *a*, back from the other part *c*, of the claw, the pin *e*, in said part *c*, forcing or pushing out the wire.

The cam H, on the shaft E, operates a lever Y, on the end of which is a guide or steadying and carrying rod Z, the top of which (being suitably notched for the purpose) receives the figuring wire as it is drawn out of the loop and supports it until it is carried forward and inserted in the shed, when, or a little before the wire is in place, by the operation of the cam, said rod Z is drawn down and held out of the way, until the lay beats up, and the claw returns for another wire, when it becomes released, and by means of the spring *j*, rises up to again support and carry the next wire.

The bar T, carrying the claw, is forced back toward the front of the loom, after releasing the wire, by the lay, and in order that the lay may beat up the warp, while the claw is receiving another wire, I arrange a double spring catch hinged together by a bar *k*, Fig. 3,—one of said catches *l*, receives a bar *m*, arranged on a shaft *n*, which bar *m*, guides and carries back and forth the steadying rod Z—the shaft *n*, in being partially turned by the forward motion of the bar *m*, draws out a spiral spring *o*, attached to an arm *p*, on said shaft, and when released said spring contracting, throws forward again said bar *m*, and the carrying rod Z, with it; at the same moment the plate W, carrying the bar T, is released from the other catch pin *q*, and said plate and bar, are forced forward by the spring *r*, and the bar carrying the claw, being run toward the warp by means of the rack and spur wheel, places the figuring wire in the sheds, the supporting rod Z, having been drawn down out of the way at the proper time for this purpose, and returns for another similar operation. The tripping of the catches *l*, *q*, is done by means of a pin *s*, in the bar T, which strikes against a pin *t*, in the bar carrying the catch *q*, forcing forward, and drawing by means of the connecting bar *k*, both catches out, allowing the parts carrying the figuring wire to move toward the lay, when said catches are immediately forced back by means of the spring *w*, into position for again catching and holding the parts when they return for a similar operation. There is a small projection *v*, on the cam F, which strikes the lever K, at the instant when the claw is drawn toward the breast beam, and operates the bar T sufficiently to draw the claw up into the exact position for receiving the head of the rearmost figuring wire, which it clasps, and draws out and carries forward as before described.

Having thus fully described the nature of my invention what I claim therein as new and desire to secure by Letters Patent is:—

The manner herein described of constructing and operating the claw for withdrawing, carrying, replacing and releasing the figuring wires, viz: by making one of the jaws *c*, fixed, and providing it with a pin or projection *e*, extending into a suitable slot in the sliding part *a*, of the claw, so that as said part *a* moves back and forth in contact with the fixed part of the jaw, the pin or projection therein will, when the figuring wire is to be seized, keep it in possession for being properly caught in the claw, and when it is to be released, will prevent it from moving with the sliding jaw as set forth.

AUGUSTUS FAULKNER.

Witnesses:
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L. C. DONN.