(No Model.)

3 Sheets—Sheet 1.

G. Q. ADAMS.

FENCE MAKING MACHINE.

No. 306,797. Patented Oct. 21, 1884.

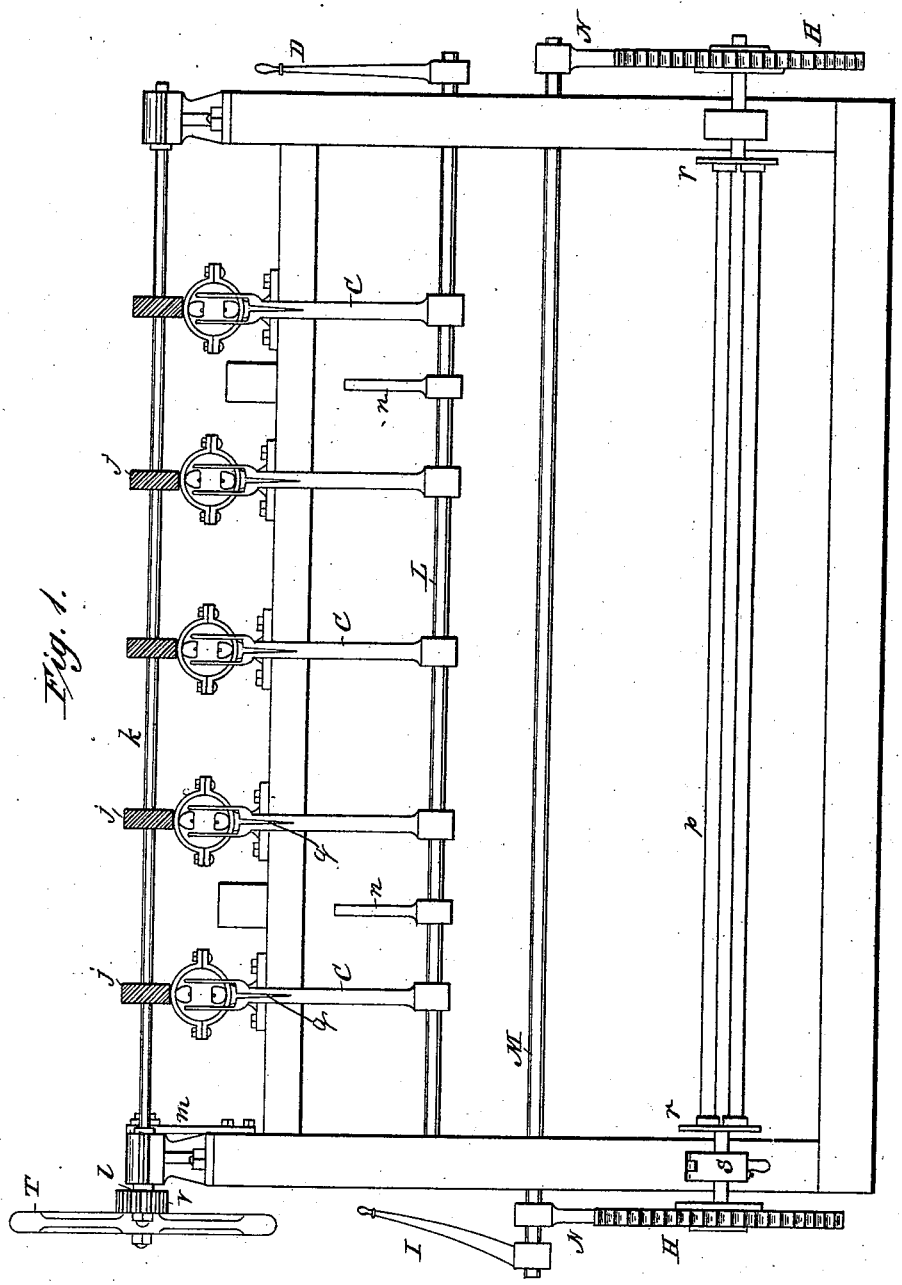

Fig. 1.

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INVENTOR:

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(No Model.) 3 Sheets—Sheet 2.

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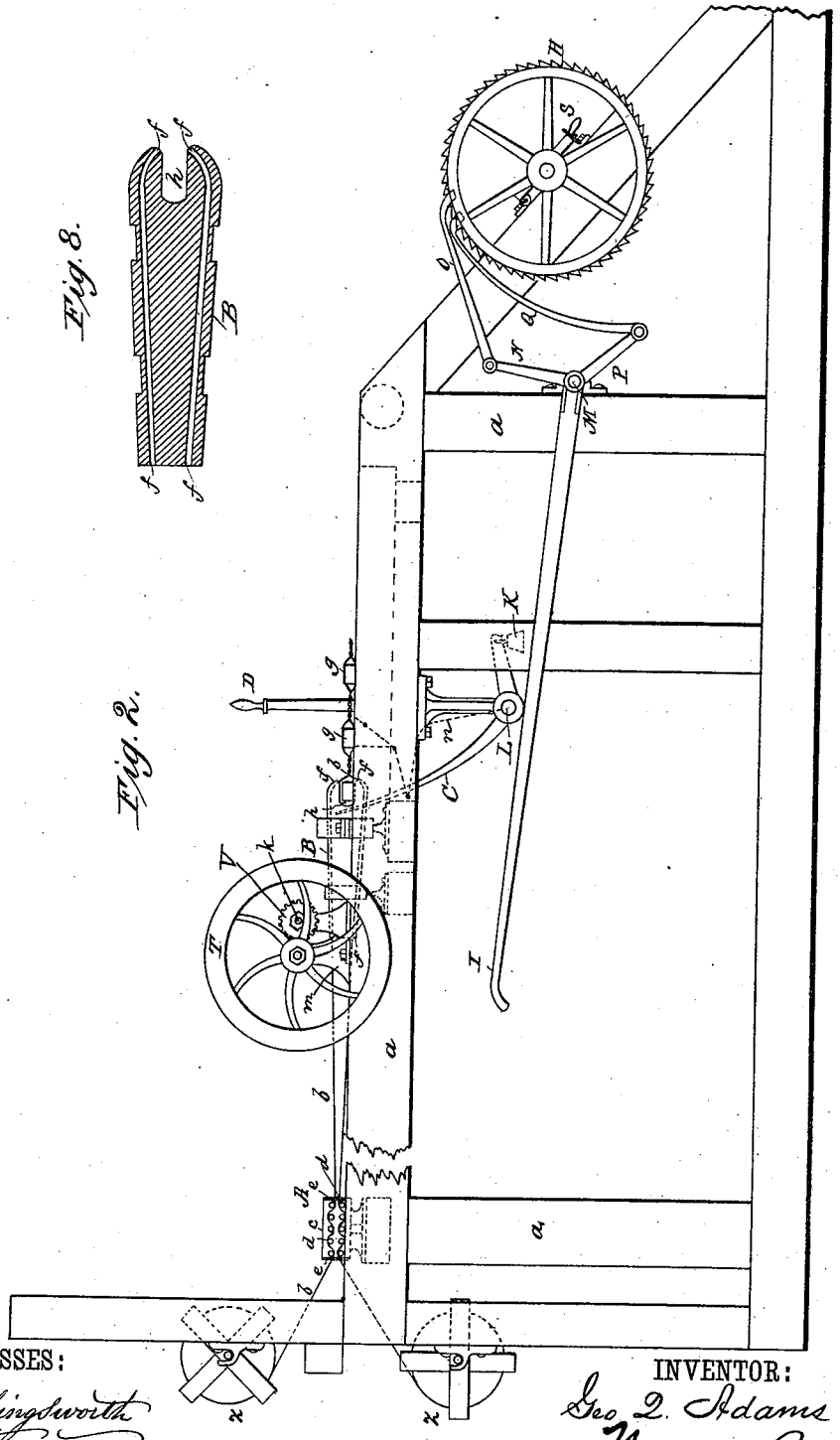
Fig. 8.

Fig. 2.



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FENCE MAKING MACHINE.

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Fig. 4.

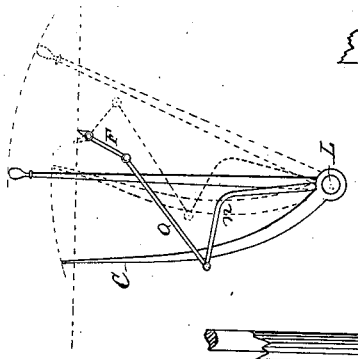


Fig. 7.

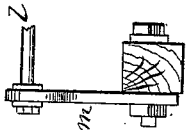


Fig. 6.

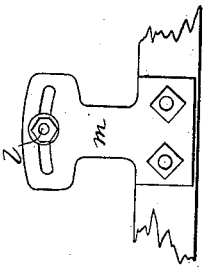


Fig. 3.

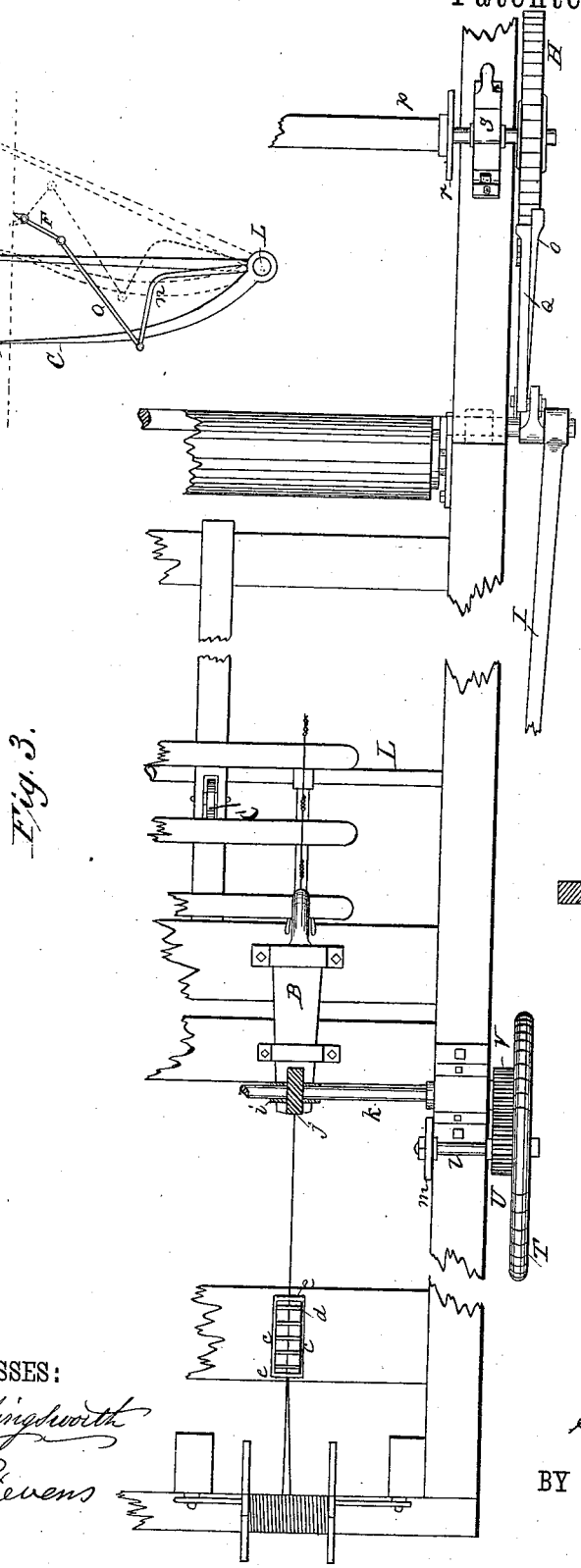
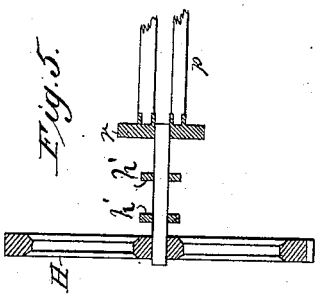


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE Q. ADAMS, OF QUINCY, ILLINOIS, ASSIGNOR TO THE ADAMS FENCE COMPANY, OF KEOKUK, IOWA.

FENCE-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 306,797, dated October 21, 1884.

Application filed February 6, 1884. (No model.)

To all whom it may concern:

Be it known that I, GEORGE Q. ADAMS, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Fence-Making Machines, of which the following is a description.

This invention relates to that class of machines which are used for making fence of wires and pickets; and it has for its object to provide mechanism for aiding manual labor in making fence by twisting the wires between the pickets, by spacing the pickets, and by winding into a roll the finished fence.

To this end my invention consists in the construction and combination of parts in a fence-making machine, hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a transverse vertical section, part in elevation, of a portion of my fence-making machine. Fig. 2 is a side elevation of said machine. Fig. 3 is a partial plan view of the same, and Figs. 4, 5, 6, 7, and 8 are detail views.

a represents the frame of the machine.

z z represent two rolls or coils of wire, provided with shafts, on which they are removably journaled on the frame *a* to give off their wire *b* as fast as it is pulled along by the machine.

A represents my tension device, which consists of two side plates, *c*, in which are fixed two sets of cross-pins *d*. The upper wire *b* passes between the pins of the upper set alternately above and below succeeding pins, and the lower wire *b* passes in a similar manner between the pins of the lower set.

e e are end plates to the tension-box, each plate being perforated for both wires *b* to pass through. By this means the wire is straightened and held back against the draft of the machine with sufficient resistance to close firmly upon the pickets, as hereinafter described.

From the tension-box A the two wires *b* pass into the twisting-head B. This head is a casting, through which two curved holes, *f f*, are cored in such a form as to be in line at the rear end with the wires *b*, where said holes *f* receive said wires from the tension-box A, and to be in line at the other end with the two wires *b*, where they converge in the act of being twisted together between the pickets *g*, and to join these lines by smooth curves, so that the wires may enter straight into the holes, pass through them with the least possible obstruction, and pass straight out of said holes to the point of junction of said wires. The head is cross-recessed, forming a mouth, *h*, through which one picket at a time is passed between the two wires *b*.

The machine will be provided with as many twisting-heads B as their are to be pairs of wires *b* in the fence. Each twister B has fixed to it a worm-gear, *i*, to be rotated by a worm, *j*, on a shaft, *k*. Shaft *k* is provided with a gear-wheel, V, which is driven by a gear-wheel, U, operated by means of a hand-crank wheel, T. Wheel U is mounted on a stud, *l*, adjustably secured in a slot in bracket *m*. (See Fig. 6.) By this means the centers of shaft *k* and stud *l* may be regulated to fit gears U and V of different sizes, so that the relative amount of motion of the crank-wheel T and the twister B may be gaged at will. A picket, *g*, being placed in the mouth of the twister B, is then moved forward by means of the forked lever C on the rock-shaft L, operated by the hand-lever D, the distance allotted to one picket. This distance is gaged by two stop-levers, F F, one near each side of the machine, to keep the pickets square with the line of fence. The levers F are operated by means of a crooked arm, *n*, on rock-shaft L and a connecting-rod, *o*. When lever C is moved forward by lever D carrying a picket, the same act carries the upper end of lever F into the path of the picket and stops the picket. While the picket is thus held, the hand-lever I is operated to wind upon reel *p* the slack of the fence completed. Then lever D is brought back, returning levers C and F to their normal positions. Levers F and C are so timed relatively to each other that the upper end of lever F will not extend up into the path of the pickets until the last picket which has been fastened in the fence has passed it. Lever C is forked to pass each side of a twister, B, and it is split down its body at *q* to receive the wires and hold them one directly above the other while

being twisted. The fork in lever C is only low enough to pass freely under the end of the twister and as the lever passes forward with the slat, its body rises into the path of the slat, bringing the two wires into the split *g*. The reel *p* consists of a pair of bars fitted to enter sockets in two heads, *r*, which are journaled in the frame and provided each with a ratchet-wheel, H. The lever I is secured fast to a shaft, M, to rock it. Shaft M extends across the machine, and is provided at each end with a pair of arms, N and P. These arms are provided with pawls O and Q, which engage the teeth of wheels H. The pawls being hung at opposite sides of shaft M, each serves as a detent upon the wheel while the other draws back, and both the upward and downward strokes of lever I move the reel forward. The cap of box S, in which one of the wheels H is journaled, is hung on a hinge at one end and provided at the other end with a handle, whereby the box may be opened and allow the removal of wheel H, with its shaft and plate *r*. The roll of finished fence may then be removed from the machine and the bars *p* of the reel will fall free inside the roll, so that they may be easily removed. K is a counterbalance-weight to arms C and *n*. The distance from the tension-box A to the twister B is sufficient to permit the two wires *b* to be twisted the required amount to fasten a picket without taking a set between the tension-box and the twister. The hand-wheel T is turned forward to form the twist for one picket. This twists the wires loosely in the long space from A to B. Then, to fasten the next picket, the hand-wheel T is turned back an equal amount, thereby untwisting the wires from A to B.

In Fig. 5, between the ratchet-wheel H and the head *r*, a pair of collars, *h' h'*, are shown on the shaft, which keep the same longitudinally in place when in the bearing.

What I claim as my invention, and wish to secure by Letters Patent, is—

1. The twisting-heads B, provided with worm-gears *i*, in combination with the worms *j*, the shaft *k*, and means for revolving said shaft, substantially as and for the purpose specified.

2. The combination, with the twisting device, its gears, and the worms on shaft *k*, of the gear-wheels U and V, the hand-wheel T, the stud *l*, and the slotted bracket *m*, substantially as shown and described.

3. The combination, with the handle D and rock-shaft L, of the forked lever C, the stop-lever F, the arm *n*, and connecting-rod *o*, substantially as shown and described.

GEORGE Q. ADAMS.

Witnesses:
CHARLES M. GILMER,
LUKE HUISKAMP.