(No Model.)

J. W. CLARK.

FENCE MAKING APPARATUS.

No. 353,019. Patented Nov. 23, 1886.

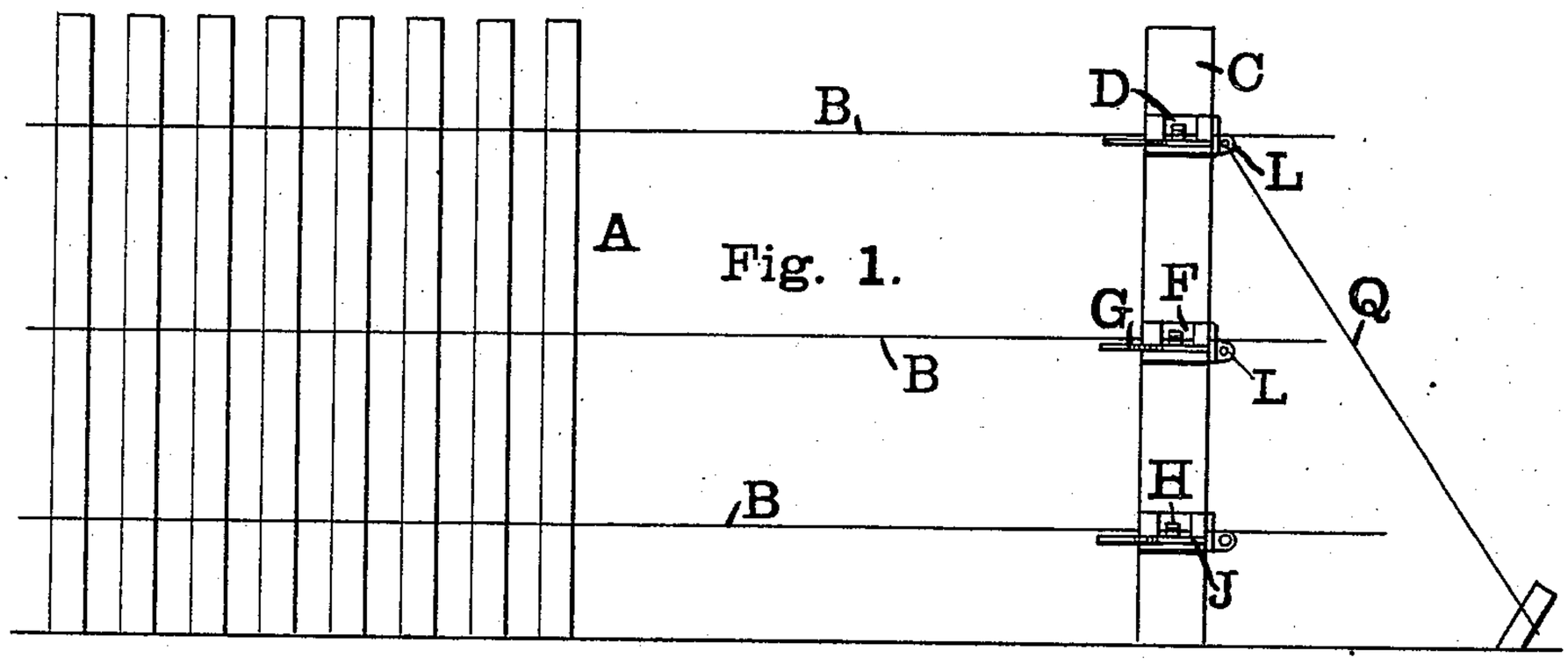

Fig. 1.

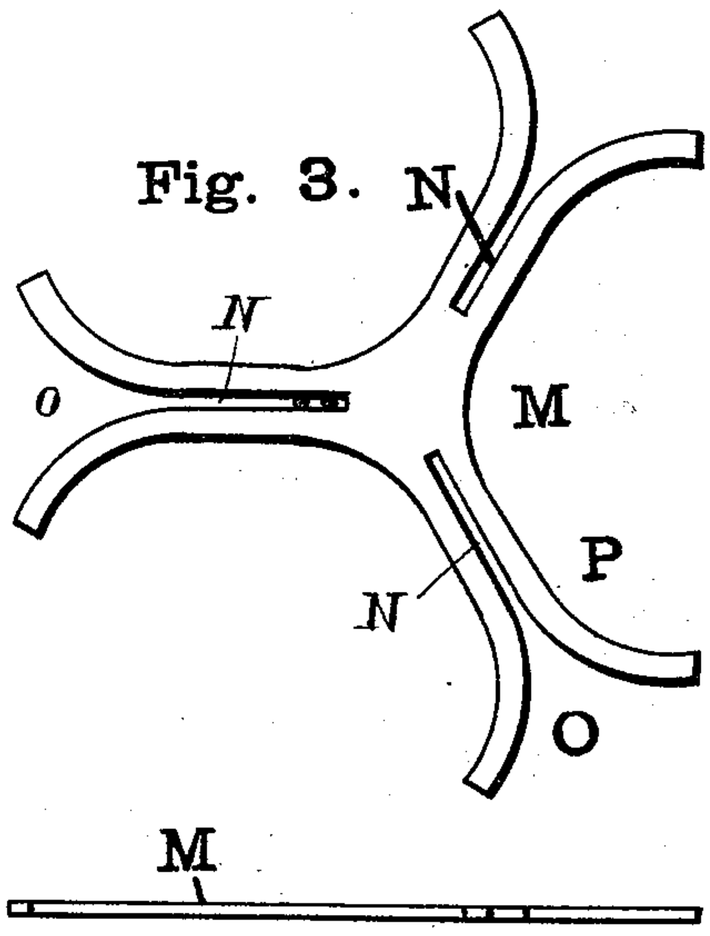

Fig. 3.

Fig. 4.

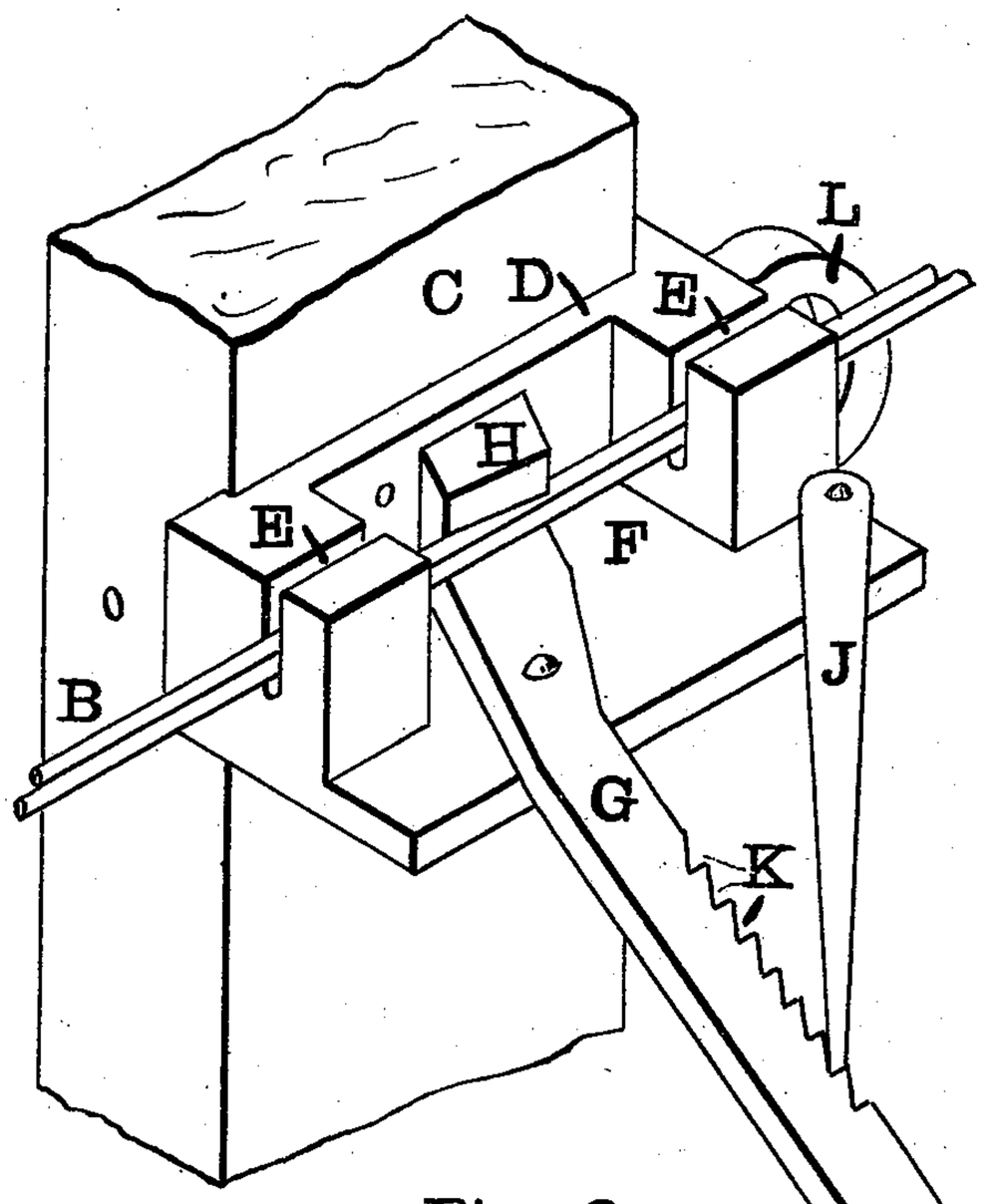

Fig. 2.

Witnesses:
W. A. Seward.
W. L. Garver.

John W. Clark
by James W. See
Inventor
Attorney

UNITED STATES PATENT OFFICE.

JOHN W. CLARK, OF HAMILTON, OHIO.

FENCE-MAKING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 353,019, dated November 23, 1886.

Application filed October 4, 1886. Serial No. 215,228. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. CLARK, of Hamilton, Butler county, Ohio, have invented certain new and useful Improvements in Fence-Making Apparatus, of which the following is a specification.

This invention relates to improvements in the construction of apparatus for manufacturing that kind of fencing consisting of vertical pickets supported by horizontal strands of wires. The wires are strained in several strands of two wires each, the pickets are placed one by one, and twists are given to the wires after each succeeding picket in a general manner well known in the fence-building art.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is an elevation of a fence under process of construction, and exhibiting my improved device for securing the tension of the strands of wires; Fig. 2, a perspective view of a portion of a tension-post with one of the tension devices attached; Fig. 3, a face view of the improved wrench employed in twisting the wires, and Fig. 4 an edge view of the wrench.

In the drawings, A indicates the pickets in the completed portion of the fence; B, the horizontal strands of wire by which the pickets are held, each strand containing two wires, which are twisted together between the pickets, the twisting being effected by means of a wrench applied successively over each strand in front of the last picket inserted; C, a post, firmly supported in the line of the fence at one end of the limit of immediate operations, this post forming a tension-post which supports the wires in a strained condition, the other ends of the wires being firmly secured to an initial post at the point where the fence begins, or the permanent posts of the fence may successively form the initial posts as the work progresses; D, blocks, secured to the face of the tension-post, as by bolting, in such number and at such points as to suit the number and desired location of the strands of wire employed in the fence; E, slots in each of these blocks, the slots opening upward and being disposed in the lines of the strands of wire; F, a gap in each block, forming a central interruption of the slots, the floor of the gap forming a horizontal shelf below the wires which engage the slots; G, a horizontal hand-lever pivoted to the floor of the gap, the shorter end of the lever projecting back under the strands of wire, there being one lever for each block; H, a jaw at the back end of the lever, projecting upward behind the strands of wire and immediately to the rear thereof, the front face of this jaw being recessed or grooved in order that the jaw may be engaged above the wires as well as behind the same, and thereby prevent the wires rising from the slots in the block; J, a pawl pivoted to the floor of the gap, and arranged to have its end engage one edge of the hand-lever; K, ratchet-teeth in the edge of the hand-lever, to be engaged by the pawl; L, an eye-hook projecting from the forward side of each of the blocks, but essential only in connection with the upper block; M, the wrench by which the wires are twisted after the insertion of each picket, said wrench being formed of a flat spider-like piece of metal; N, slots arranged in radial lines and of a width adapted to admit a pair of wires of the size being operated with, as shown in the left-hand slot in Fig. 3, and to twist them together as the wrench is revolved about the pair of wires as an axis; O, boldly-flaring mouths at the outer ends of the radial slot; P, the spaces around the periphery of the wrench formed between those portions containing the slots N; and Q, the anchor-wire by which the tension-post is supported against the strains imposed by the strands of wire, this anchor-wire engaging the eye-hook L of the upper tension-block and a stake properly set in advance of the tension-post.

The operation of the device is as follows: The strands of wire are firmly secured to the initial post, and are carried along in the line of the fence and laid in the grooves of the tension-block, while the pawls are disengaged from the levers, so as to permit the jaws of the levers to swing back free from the line of the wires. The wires are then pulled as taut as possible, and the levers have their outer ends pulled toward the initial post, so as to bring the jaws of the levers forcibly against the inner sides of the wires, thus cramping the wires between the jaws of the levers and the outer sides of the slots in the block. As each lever

is pulled into cramping position the finger of the operator is employed to press the pawl J against the lever, where it engages in such notch as will retain the lever in the position into which it has been pulled. A picket is now set vertically between the wires, and the wrench is applied successively to each strand immediately in front of the picket, and a definite number of twists are given to the wires, after which another picket is inserted, and more twisting is done, and so on with each picket successively. The form of the wrench is such that after the twisting of one strand is completed the final manipulation of the wrench forms the completion of the twist, withdraws the wrench, and applies it to the next lower strand. The wrench is applied to a strand by presenting the slot horizontally in the plane of the strand and then pushing the wrench toward the strand until the wires reach the base of the slot. The desired number of twists are then given, and the twisting operation is terminated with the wrench in a position to present one of its slots downward. The wrench is now withdrawn diagonally downward, and by a descending motion the downwardly-projecting slot is caught upon the next lower strand, the flaring mouth of the slot permitting this to be dexterously done. The wrench has thus engaged the new strand, and a wheel-like motion being given the wrench toward the operator until the slot in engagement becomes horizontal, when the wrench is pushed inward until the wires reach the base of the slot, the wheel-like motion of the wrench being continued until the twisting of the new strand is completed. The wrench is first applied to the top strand and the twisting begun, and the motions are practically continuous until the final twist is given to the lowest strand. As the insertion of pickets and the twisting of the wires progresses the strands become taken up, and additional wire must be supplied from in advance of the tension-post, the wires feeding past the tension-blocks with sufficient readiness to permit the twisting to take place without permitting the strands to become slack. The tension upon the wires may be adjusted by moving the levers so that the pawls will engage other notches.

I claim as my invention—

1. In fence-making apparatus, a tension device consisting of block D, having upwardly-open slots E and gap F, lever G, provided with jaw H, engaging to the rear of wires that may be laid in the slots of the block, and having ratchet-teeth K and pivoted to the block, and pawl J, pivoted to the block and engaging the teeth of the ratchet, combined and arranged to operate substantially as set forth.

2. In a fence-making apparatus, the combination of tension-post C, blocks D, provided with slots E and with eye-hooks L, lever G, pivoted to the blocks and provided with jaws H and teeth K, and pawls J, pivoted to the blocks and engaging the levers, substantially as and for the purpose set forth.

3. In fence-making apparatus, the flat spider-like wrench M, having radial slots N, terminating outwardly in flaring mouths O, and having spaces P, combined substantially as and for the purpose set forth.

JOHN W. CLARK.

Witnesses:
W. A. SEWARD,
J. W. SEE.