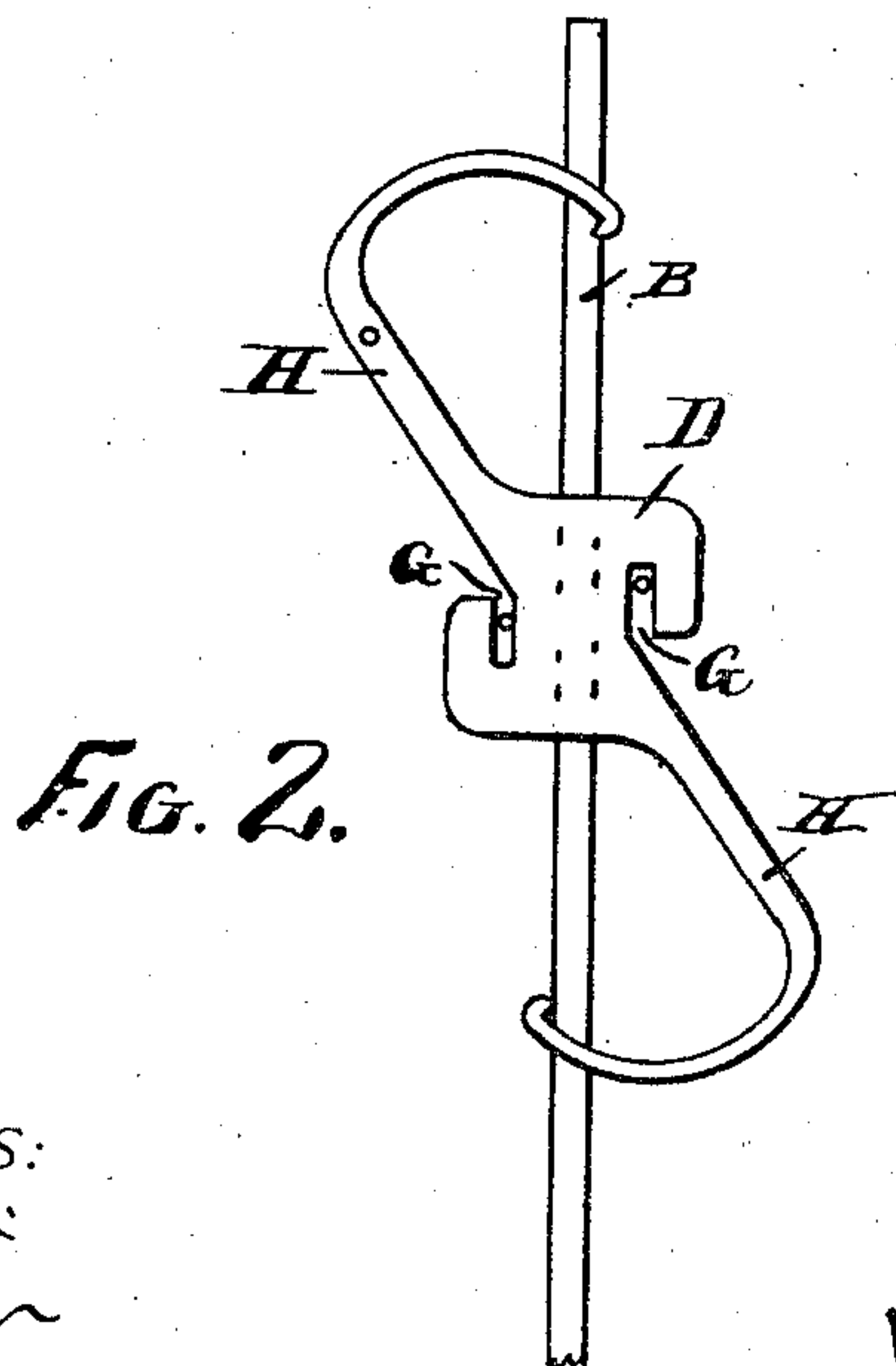
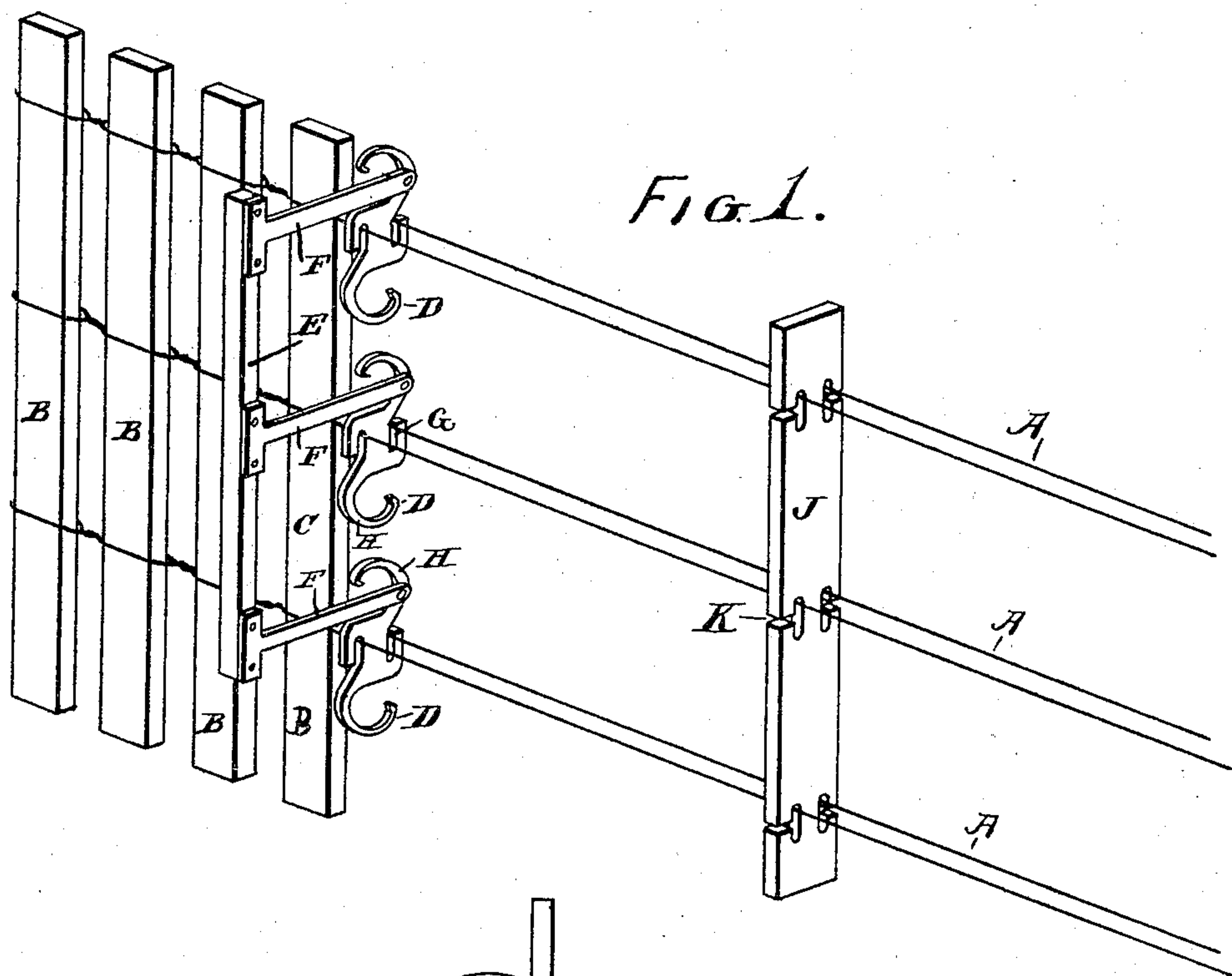


(No Model.)

J. W. CLARK.
FENCE MACHINERY.

No. 368,753.

Patented Aug. 23, 1887.



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FENCE MACHINERY.

SPECIFICATION forming part of Letters Patent No. 368,753, dated August 23, 1887.

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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 Machinery, of which the following is a specification.

This invention pertains to machinery to be employed in constructing that class of fences consisting of horizontal strands of two wires each, with vertical slats held between the two wires of each strand by twists of the strand-wires between the slats. Such fences are often constructed in the position which they are to occupy as fences, and my improved machinery is intended to serve in the construction of a fence under such circumstances. Sometimes in such wire-and-slat fences the two wires of each strand are given one or more twists in advance of the last slat which has been inserted, and after a new slat is inserted in advance of this twisting a new twist is given in advance of the newly-inserted slat, and so on throughout the length of the fence, the twisting, as the work progresses, being alternately in opposite directions, in order that the wire in advance of the progressing work may not be subjected to accumulative twists. Again, sometimes the advance slat is placed in position and the twisting of the wire between the new slat and its predecessor is done after such placing of the advance slat. Both these plans are common and well known in connection with these slat-and-wire fences, and my machinery is adapted for either mode of operation.

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

Figure 1 is a perspective view of a slat-and-wire fence under process of construction, my improved machinery being shown as being employed; and Fig. 2 is a side view of one of the improved twisters, shown in proper relation to the slats and wires.

In the drawings, A indicates the strands of wire, shown as three strands in number, and consisting of two wires each, these strands being designed to extend, as usual, from a starting-post to a tension apparatus by which the strands are tightly strained in the line of the

intended fence; B, slats of the completed portion of the fence held between the two wires of each strand and retained edgewise by the usual twists given to each pair of wires in the space between the slats; C, the advance slat of the construction, this slat being disposed between the two wires of each strand and seated as firmly as possible back against the twist previously formed just in advance of the preceding slat; D, a vertical series of twisters, one for each of the strands, each twister comprising a pair of open notches to engage the two wires of the strand, and, essentially, one lever-arm, but, preferably, two lever-arms, by which it may be rotated; E, a vertical handle-bar connected with the several twisters and serving as a means by which they may be simultaneously rotated; F, horizontal arms having their outer ends rigidly secured to the handle-bar and having their inner ends pivoted to the lever-arms of the twisters, there being one of these arms F for each twister; G, the wire-receiving notches in the twister, these notches being located a distance from each other corresponding with the distance apart which the two wires of each strand are to occupy before the twisting takes place—that is, a distance between wires such as will permit the ready insertion of the slats between the wires—the two slots in each twister opening in opposite direction, as clearly seen in Fig. 2, the two notches being parallel to each other, and each notch having parallel side walls and being of a depth adapted to receive a pair of wires one above the other; H, the lever-arms of the twisters, these arms projecting in opposite directions from the central portion of the twist-ers which contains the notches, the projecting of the arms being at an angle to the two slots, as clearly shown, the outer ends of the arms being preferably curved, as shown, to form felly-like extremities for the arms; J, a spacing-slat placed upon the wires a short distance in advance of the twisting-machine, this slat being a light lath-like piece of wood of sufficient strength to hold the wires in proper relation to each other, but not so heavy as to cause an undesired sagging of the wire; and K, T-shaped notches in the edge of the spacing-slat, one notch for each wire, the notches being outwardly open, the form of the notches

5 permitting of the wires being readily inserted and removed, but preventing the displacement of the wires as the wires and spacing-slat are violently disturbed in the course of the twisting operation.

The operation of the device, when employed as illustrated in Fig. 1, is as follows: The wires are placed and stretched from starting-post to tension-post in the usual manner. The spacing-slat is placed upon the wires a short distance in advance of the starting-point and serves to keep the wires of each strand and the separate strands in proper relation to each other and prevents the individual movement of the wire or strands sidewise during the work. The series of twist-ers is then placed upon the wires, as indicated in Fig. 1. A slat is now inserted vertically, so as to lie between the two wires of each strand, and is pushed to the left toward the starting-post to its proper position. The series of twist-ers is then pushed to the left as close against the slat as desired. The handle-bar is now pulled toward the operator and away from the wires. This causes a partial rotation of all of the twist-ers and brings the pivot-points of the lever-arms of the twist-ers forward. The operator now presses downward upon the handle-bar and then pushes the same forward toward the fence, by which means he has given something more than a half-revolution to all of the twist-ers. The handle-bar and twist-ers, without disturbing the rotated position of the twist-ers, are then moved to the right sufficiently to allow a new slat to be inserted in advance of the twist just formed, the slat being seated as firmly as possible against the terminations of the twists. The twisting machinery is then moved to the left as close as desired against the new slat and the twisting operation is repeated by first pulling the handle-bar outward and then upward and then pushing it inward, this operation causing a rotation of the twist-ers and a twisting of the wire in a direction opposite to that previously given. When the wire employed is larger and the work consequently hard, the twisting may be performed by directly manipulating one of the twist-ers, preferably the upper one. This twister is to be turned by its levers precisely as if there was but one twister, and the handle-bar and arms serve in transmitting a corresponding rotation to the other twist-ers. The result of this mode of operation is that the alternate twists are in opposite directions, whereby accumulative twists in the strands in advance of the twisting machinery are avoided. During the oper-

ation the spacing-slat J has held the wire strands in proper relation to each other and practically unifies the strand structure, and as the work progresses the spacing-slat is pushed ahead on the wire.

Where it is desired that the wires, instead of being twisted in alternately-opposite directions in front of the last slat inserted, shall be twisted between the slats after the insertion of the slats the procedure is entirely different. In such case but one twister is employed, the other twist-ers and the handle-bar and arms F being unemployed. The new slat is inserted between the wires a proper distance from the preceding slat, there being at this time no twisting of the wires between the slats, or, if desired, quite a number of slats may be placed before any twisting is done. The twister is then taken in hand and so manipulated as to bring the two wires of the strand in one of the slots of the twister, the lever-arms of the twister projecting outward diagonally from between the slats. The twister is now grasped by one of its lever-arms and a rotary motion is given to it by manipulating the lever-arms successively, as many twists being given to the wire as is desired, after which a reverse rotation is given to the twister, which serves to disengage the slot from the wire and to thus permit the withdrawal of the wrench from the wires. This operation is repeated with each strand. If several workmen are engaged in the work at once, several of the twist-ers will be employed in this manner. The felly-like extremities of the lever-arms of the twist-ers serve in permitting the workman to dexterously rotate the twist-ers, and they also serve in permitting the insertion of the extremity of the twister between the wires of the strand by a hammer-like presentation of the hook ends of the twist-ers.

I claim as my invention—

1. The twister D, provided with the parallel pair of slots G, each having parallel walls, and with lever-arms H, projecting outwardly diagonal to the walls of the said slots, substantially as and for the purpose set forth.

2. A series of twist-ers, D, a handle-bar, E, and arms F, connected thereto, and slat J, having T-shaped wire-retaining notches K, combined and arranged for use substantially as and for the purpose set forth.

JOHN W. CLARK.

Witnesses:

J. W. SEE,

W. A. SEWARD.