

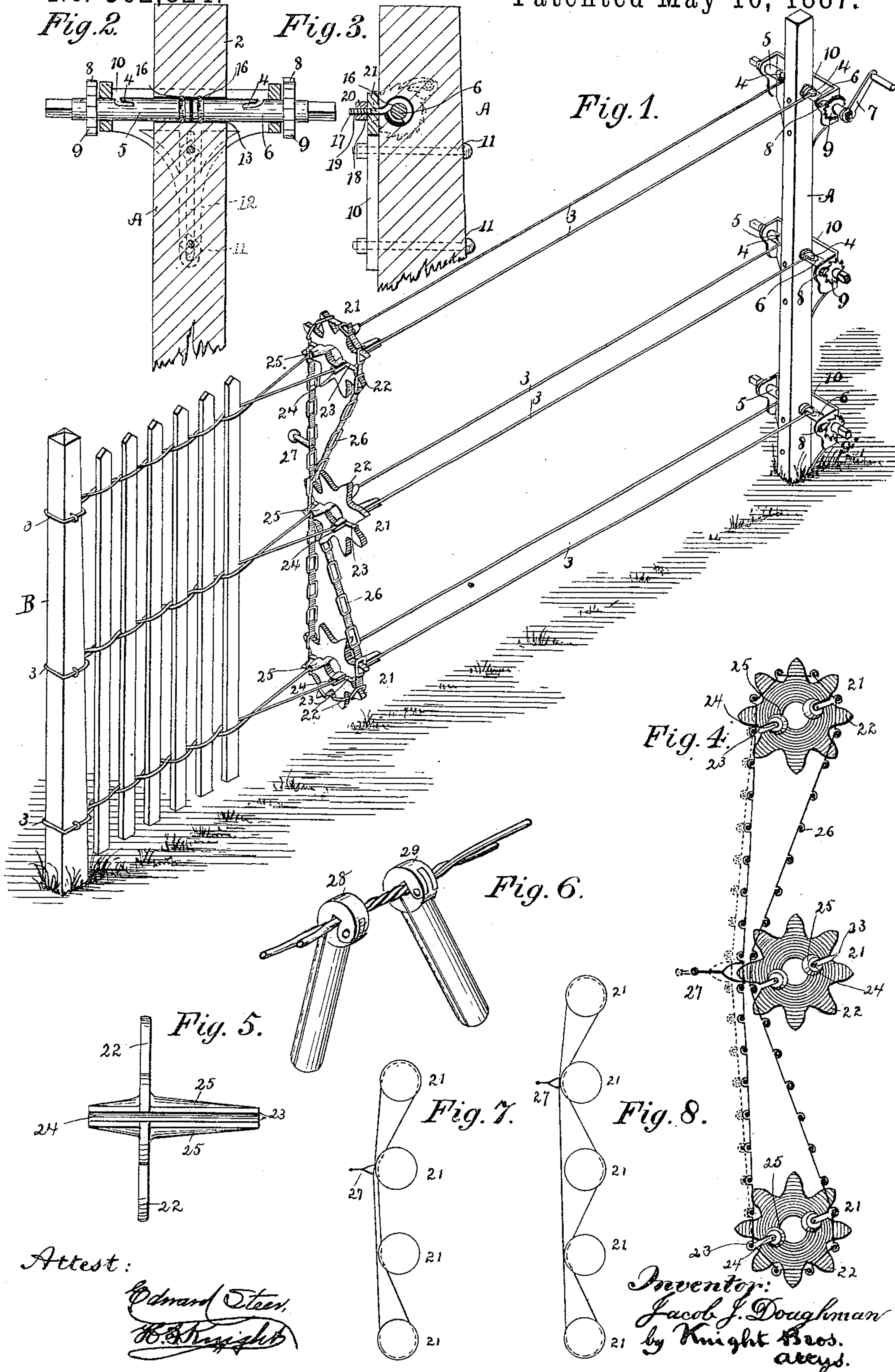
(No Model.)

J. J. DOUGHMAN.

DEVICE FOR CONSTRUCTING WIRE AND PICKET FENCES.

No. 362,824.

Patented May 10, 1887.



Attest:

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UNITED STATES PATENT OFFICE.

JACOB J. DOUGHMAN, OF MAUD'S, OHIO.

DEVICE FOR CONSTRUCTING WIRE AND PICKET FENCES.

SPECIFICATION forming part of Letters Patent No. 362,824, dated May 10, 1887.

Application filed September 27, 1886. Serial No. 214,636. (No model.)

To all whom it may concern:

Be it known that I, JACOB J. DOUGHMAN, of Maud's, Butler county, Ohio, have invented new and useful Devices for Constructing Wire and Picket Fences, of which the following is a specification.

My invention in its several parts relates to improved means of stretching and twisting the wire used in the construction of a combined wire and picket fence.

In the accompanying drawings, Figure 1 represents, in process of construction a combined wire and picket fence which illustrates my stretching and twisting devices. Fig. 2 represents my wire-stretching mechanism by means of a section in the vertical plane of the windlass. Fig. 3 is a section of the same mechanism taken in the plane 3 3. Fig. 4 is a profile of my twisting mechanism. Fig. 5 is an edge view of one of the twisting sprocket-wheels. Fig. 6 represents a pair of splicing-tongs. Figs. 7 and 8 are diagrams representing my principle applied to fences of more than three sets of wires.

1 represents a post, which is firmly planted in the ground.

2 represents an upright, which may be either planted in the ground, as here shown, or be by any other means secured in the vertical position in the desired line of fencing. The wires 3, being secured to the post 1 in groups of two wires to each group, have their other extremities engaged in nicks 4 in the windlasses 5 6, there being one such windlass for each wire of any given couple. Each wire is then brought to the desired tautness by winding up its appropriate windlass through the instrumentality of a winch, 7, and is retained to such tautness by the engagement of a pawl, 8, in a ratchet, 9, of which there is one upon each windlass. The outer end of the windlass of each group journals in a bracket, 10, which is secured at any desired height to the upright 2 by means of bolts 11 in a slot, 12, of said bracket. The inner ends of the windlasses of each group are journaled in a circular orifice, 13, in the upright 2.

Circumferential grooves 14, near the inner ends of each group of windlasses, receive my tension-hooks 16. The shank 17 of each hook, extending through orifices 18 19 in the said up-

right and bracket, is screw-threaded to receive nuts 20, which enable the operator to produce any desired friction of each respective hook against its appropriate windlass preparatory to release of the ratchet-pawls, for the object hereinafter explained.

It will be seen that a right-hand rotation of the nuts 20 operates to draw and press the windlass shafts with any desired stress against the side of the orifice 13 nearest to said nuts, so as to act as a brake to oppose rotation of the windlass to any degree, even to complete arrest thereof when desired. The said hooks 16 consequently discharge two distinct and important functions—to wit, that of holding the windlasses against longitudinal displacement and that of enabling the application of the desired frictional resistance to rotation of each respective windlass.

The width of each windlass-bracket is made so much greater than that of the upright as to present a portion of each windlass outside of the upright sufficient to wind the surplus wire upon.

My twisting mechanism proper is constructed as follows: There is provided for each group of wires a journalless sprocket-wheel, 21, of eight or any other even number of cogs or sprockets, 22. Each sprocket-wheel has situated midway between two diametrically opposed pairs of sockets two notches, 23, which unite with grooves 24 in arms 25 that project rectangularly from the faces of the said sprocket-wheel. One of these sprocket-wheels having been so introduced between the wires of each group as for one wire to occupy each groove, as shown in Figs. 1 and 4, an endless chain, 26, is engaged upon said sprockets in the manner indicated in said figures, by reference to which it will be seen that the arrangement of the parts is such that, in the normal condition of the apparatus, both sides of the chain become engaged on the same side of the middle sprocket-wheel, so as to automatically lock the twisting mechanism whenever said mechanism is left undisturbed.

Extending laterally from the chain 26 is a handle, 27, by means of which the operator can at any instant disengage the "idle" side of the chain, as shown by dotted lines in Fig. 4, and by means of which, also, while thus

disengaged, he can so elevate or depress the chain as to rotate the entire series of sprocket-wheels either forward or backward, so as to impart the desired twist to each group of wires.

5 It will be seen that my sprocket-wheels are supported wholly upon the wires themselves without the intervention of any frame or journal whatever.

10 It is further apparent that the operator may at any moment substitute the yielding tension of the friction-hooks 16 for the positive tension of the ratchet mechanism by a proper tightening of the nuts 20, followed by disengagement of the pawls 8.

15 When it becomes necessary to splice a new length of wire, the operator places the ends to be joined alongside of each other, and having gripped both by tongs 28 29 he moves the tongs in opposite directions, as indicated in 20 Fig. 6, so as to produce the spiral splice there shown.

Figs. 7 and 8 show the application of my principle to fences of four and of five sets of wires, respectively.

25 I claim as new and of my invention—

1. The stretching or tension mechanism for

wire and picket fences, consisting of the combination of bracket 10, attached to and being wider than the upright and affording the outer bearings for the windlasses 5 6, whose inner 30 ends are journaled in an orifice in said upright, substantially as set forth.

2. The combination of the tension and retaining hooks 16, which engage in circumferential grooves 14 in windlasses, and whose screw- 35 threaded shanks 17 are provided with nuts 20, substantially as and for the purposes set forth.

3. The twisting mechanism proper, consisting of the combination of three or more even-toothed sprocket-wheels, having neither frame 40 nor journal, provided with the grooved arms 25, and whose chain 26 normally engages by both sides with the middle sprocket-wheel and is provided with a releasing and operating handle, 27, substantially as and for the pur- 45 poses set forth.

In testimony of which invention I hereunto set my hand.

JACOB J. DOUGHMAN.

Attest:

GEO. H. KNIGHT,
JAMES W. JONES.