

(Model.)

2 Sheets—Sheet 1.

E. C. PHILLIPS.

FENCE MACHINE.

No. 343,604.

Patented June 15, 1886.

Fig. 1.

Fig. 2.

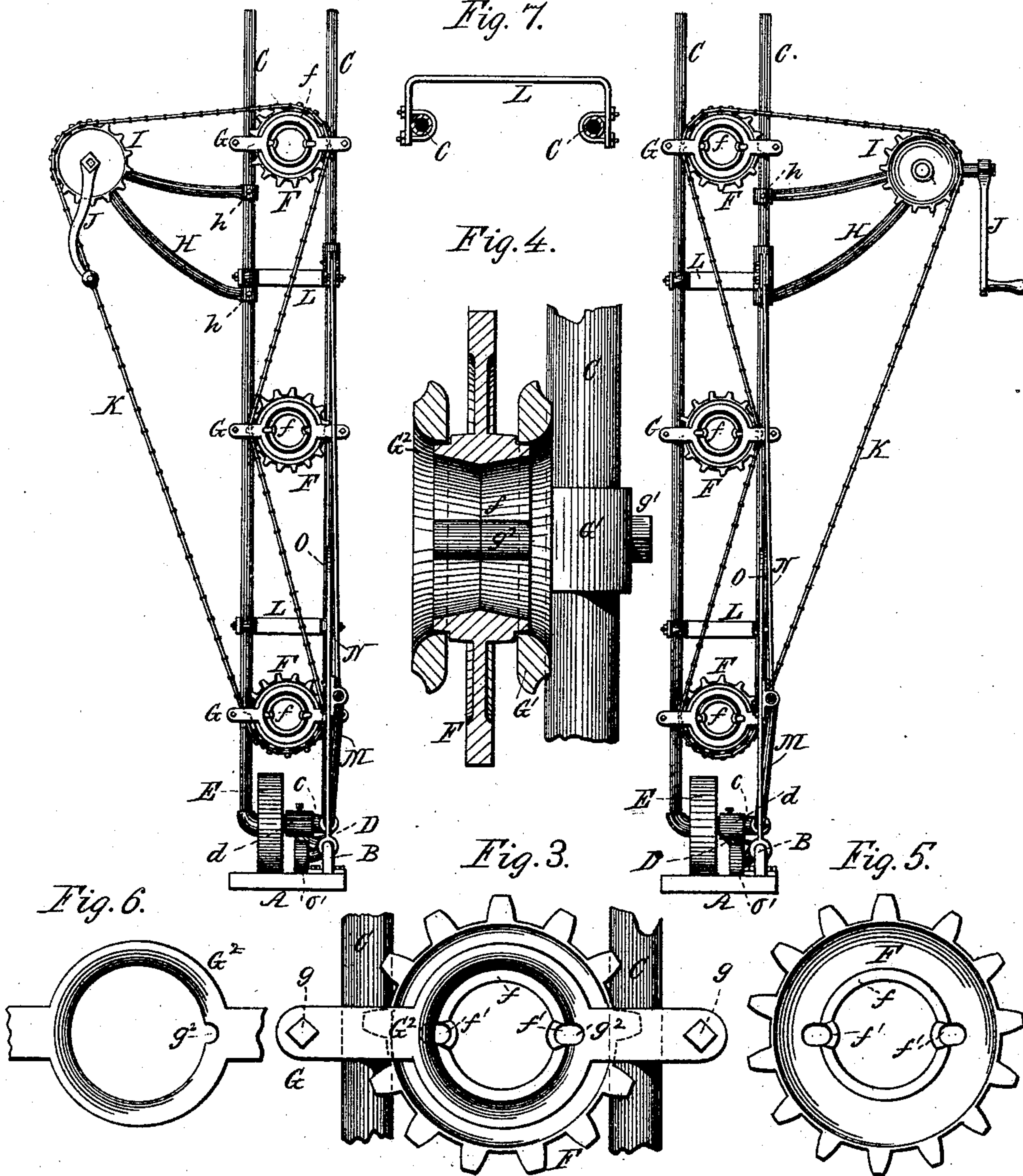
Fig. 7.

Fig. 4.

Fig. 3.

Fig. 5.

Fig. 6.



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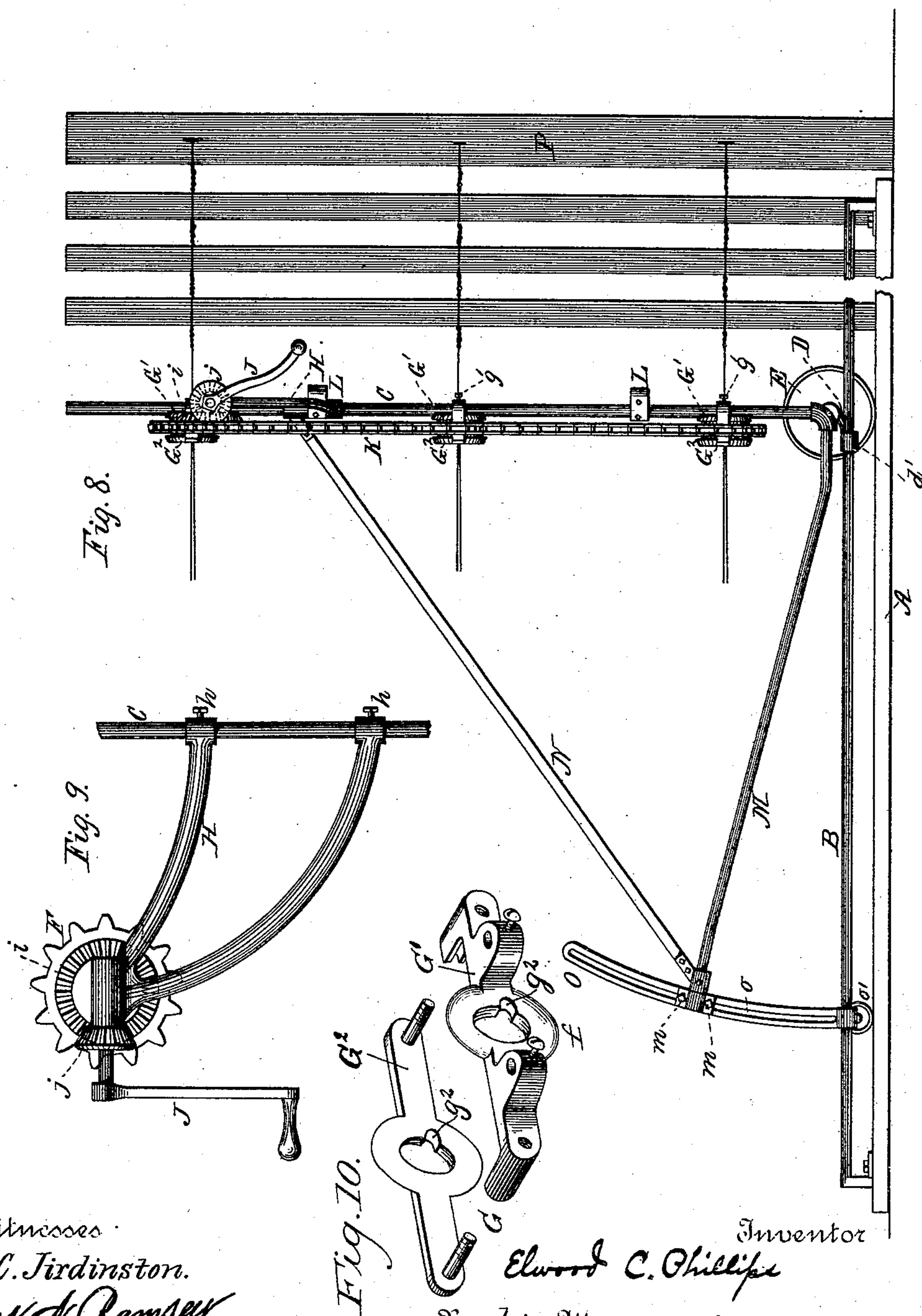
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UNITED STATES PATENT OFFICE.

ELWOOD C. PHILLIPS, OF RICHMOND, IND., ASSIGNOR TO ANDREW WARREN,
OF ST. LOUIS, MO., AND JOHN W. MARCH, OF CINCINNATI, OHIO.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 343,604, dated June 15, 1886.

Application filed November 21, 1885. Serial No. 183,481. (Model.)

To all whom it may concern:

Be it known that I, ELWOOD C. PHILLIPS, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Fence-Machines, of which the follower is a specification.

My invention relates to machines for making combined wire and picket fence. Its object is to produce a light, strong, and rapidly-operating machine, capable of ready adjustment for the purpose of regulating the number of runners and their distance from each other; and it consists in the combinations of parts and details of construction hereinafter described and claimed.

In the drawings, Figure 1 is a front view of a fence-machine embodying my invention, that part of the machine which faces from the completed fence being considered as the front for the purpose of description. Fig. 2 is a front view of the same, showing a modification. Fig. 3 is an enlarged view of a twister-wheel and the bracket supporting the same; Fig. 4, a vertical section of the same; Fig. 5, a front view of a twister-wheel; Fig. 6, a front view of one section of the bracket which supports the twister-wheel. Fig. 7 is a top view of a bumper; Fig. 8, a side view of a fence-machine embodying my invention, showing also a section of completed fence; Fig. 9, a detail showing a preferred method of actuating the driving-sprocket; Fig. 10, a perspective view of the two sections composing the bracket which supports the twisters.

A is a ground-plank, and B a guide shown as a bar mounted thereon.

C C are standards, hereinafter called "twister-standards," preferably connected at the bottom by a cross-bar, c, journaled in a sleeve, d, upon an elbow or carrier, D, the other end of which has a sleeve, d', taking over the guide-bar. The cross-bar c also serves as a hub for a wheel or truck, E, adapted to travel upon the ground-plank.

F F are sprocket-wheels, preferably annular in form, mounted in brackets G on the twister-standards and serving as twisters. The brackets are made in sections G' and G² connected by screw-bolts g or other suitable

means. One section, G', of each bracket is sleeved at each end to one of the twister-standards, and may be held at any point thereon by means of set-screws g'. Both sections of the brackets have corresponding circular openings adapted to receive and serve as bearings for the hubs f' of the twisting-wheels. Oval slots f' extend through the hub f, and the bearing-surface of each of the brackets is provided with one or more recesses, g², so placed as to register with said slots at one point in the revolution of the twisting-wheel. The slots f' serve as eyes for the wires, and are partly closed by the brackets, allowing but little play to the wires, except at the points in the revolution of the twister at which the recesses in the brackets register with the slots when the entire slot is unobstructed, allowing splices or other irregularities in the wire to pass. A bracket, H, sleeved to one of the twister-standards and adjustable thereon by means of set-screws h, carries a driving sprocket-wheel, I, which may be actuated by a crank, J, attached directly thereto, as shown in Fig. 1; but I prefer to provide one side of the driving-sprocket with a series of gear-teeth, i, and to provide the crank with a gear-wheel, J', meshing with said teeth, as shown in Figs. 2, 8, and 9. The driving-sprocket is connected with the twister-sprockets by means of an endless chain, K, taking over opposite sides of alternate wheels, so as to actuate them in opposite directions. The twister-standards are provided at suitable intervals with bumpers L, attached to the standards in such a manner as to be vertically adjustable thereon.

M is a rod rigidly attached at one end to the twister-standards, preferably at or near their base, and at the other end to a brace, N, the other end of which is attached to the twister-standards at a point substantially above their base, the standards, rod, and brace together forming a triangular frame. This frame is provided at or near the point of junction of the rod M and brace N with one or more bolts, m, which take into a longitudinal slot, o, in a curved standard, O, and by means of nuts upon said bolts the rear of the frame may be held at any desired point upon the standard O, thereby holding the twister-

standards at any desired angle to the ground-plank. The curved standard is sleeved to the guide-rod and provided with a truck, *o'*.

The operation of the machine is as follows:

- 5 Two strands of wire are passed through each twisting-wheel—one through each slot—and secured to a suitable post, *P*. The machine is then pushed forward until the bumpers strike the post, and the crank revolved, there-
- 10 by actuating the twister-sprockets and twisting the wires, the machine receding as the twisting progresses. When the desired number of twists has been given to the wires, the machine is withdrawn a short distance and a
- 15 picket inserted between the strands of wire held by the several twisting-sprockets. The machine is then pushed forward until the bumpers come in contact with the picket and crowd it snugly into the crotch of the previ-
- 20 ously-twisted wires. The twisters are again actuated and the process repeated. The ground-plank is moved forward from time to time as the work progresses. When the ground slopes, the twister-standards can be re-
- 25 tained in their vertical position by raising or lowering the rod *M* and securing it at the proper point upon the slotted standard *O*. The twisters, being adjustable vertically upon the twister-standards, may be placed at any
- 30 desired distance from each other, and by using a greater or less number a fence may be constructed with any desired number of runners.

I prefer to construct the twister-standards, guide-bar, and the bracket supporting the driving-sprocket of tubular iron, thus securing the greatest strength in proportion to the weight of the parts.

By simplicity of construction combined with lightness of parts I secure a machine which, while abundantly strong, can be easily and rapidly advanced to the work and withdrawn therefrom by hand, thus dispensing with the system of gearing by which portable machines have usually been advanced and withdrawn.

I claim—

1. The combination, in a fence-machine, of a ground-plank and a guide-bar thereon, with a twister-frame traveling upon the ground-plank and sleeved to the guide-bar, substantially as specified.

2. The combination, in a fence-machine, of a ground-plank and a guide-bar thereon, with a twister-frame journaled upon a carrier sleeved to the guide-bar, substantially as and

3. The combination, in a fence-machine, of a ground-plank, a guide-bar thereon, and a twister-frame journaled at its base, loosely attached to the guide-bar and traveling upon

the ground-plank, with means for holding the twister-frame at any desired angle to the ground-plank, substantially as described.

4. In a fence-machine, a ground-plank and a guide-bar thereon, a twister-frame traveling on the ground-plank and journaled to a carrier sleeved to the guide-bar, and a rod rigidly connected at one end with the twister-standards, in combination with means for vertical adjustment of the free end of said rod, substantially as and for the purpose specified.

5. In a fence-machine, a ground-plank, a guide-bar thereon, a longitudinally-slotted standard, a twister-frame traveling upon a ground-plank and journaled upon the carrier and sleeved to the guide-bar, in combination with a rod rigidly connected at one end with the twister-frame, and provided with a screw-bolt taking into said slotted standard, substantially as and for the purpose specified.

6. In a fence-machine, a guide-bar, a carrier traveling thereon, a frame journaled upon said carrier, and brackets having an unlimited vertical adjustment upon said frame, and carrying twisting-wheels, in combination with means for actuating said twisting-wheels, substantially as described.

7. In a fence-machine, a guide-bar, a carrier traveling thereon, a frame journaled upon said carrier, brackets vertically adjustable upon said frame and carrying twister-sprockets, a driving-sprocket, an endless chain connecting the driving-sprocket and the twister-sprocket, and means for actuating the driving-sprocket, in combination with a slotted standard traveling upon the guide-bar, and an adjusting-rod attached at one end to the twister-frame, and vertically adjustable upon the slotted standard, substantially as described.

8. The combination, in a fence-machine, of a ground-plank and a guide thereon, with a twister-frame journaled at its base and mounted upon one or more wheels traveling upon the ground-plank and held in their path by the guide, substantially and for the purpose specified.

9. In a fence-machine, a twisting-wheel having slots for the wires, in combination with brackets supporting the twisting-wheel, and having recesses adapted to register with said slots at one point in the revolution of the twisting-wheel, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

ELWOOD C. PHILLIPS.

Witnesses:

W. T. DENNIS,

JAS. W. NICHOLS.