(No Model.) 2 Sheets—Sheet 1.

F. W. KELLY.

PICKET FENCE MACHINE.

No. 391,851. Patented Oct. 30, 1888.

Fig. 1

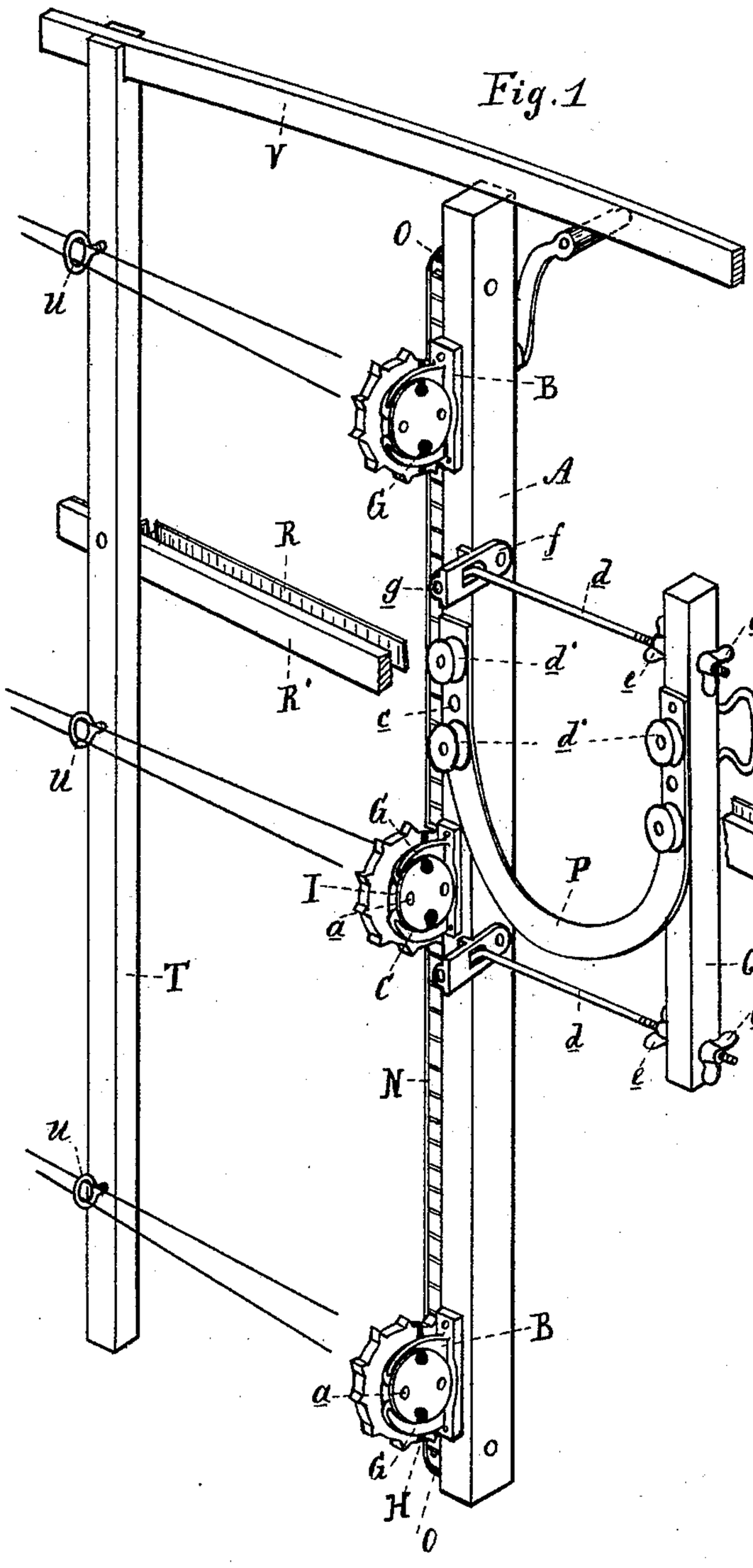
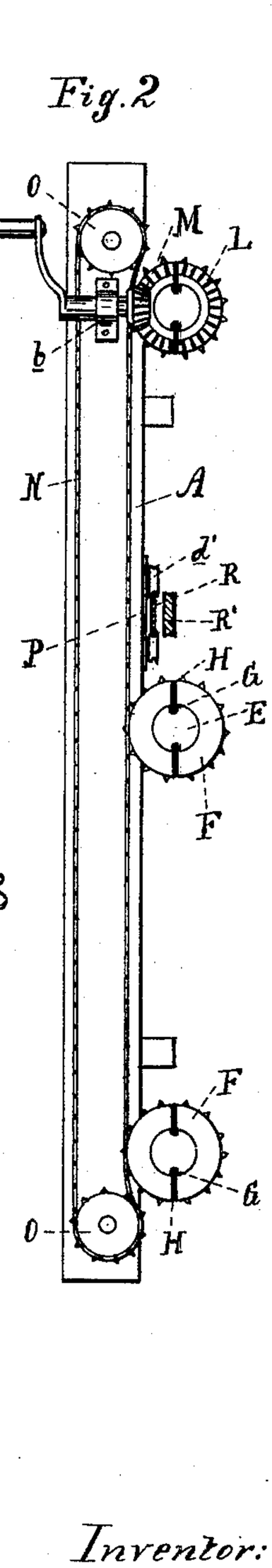


Fig. 2



Inventor:

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By Thos. D. Sprague & Son.

Atty.

Attest:

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P. M. Hulbert.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3

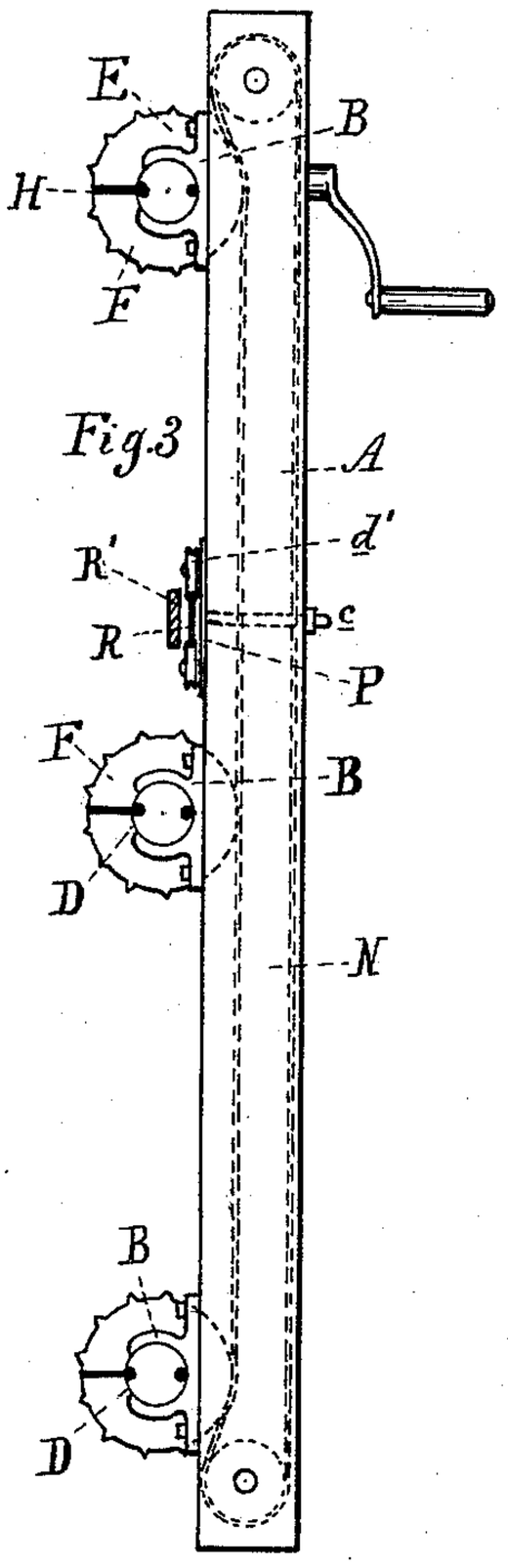


Fig. 4

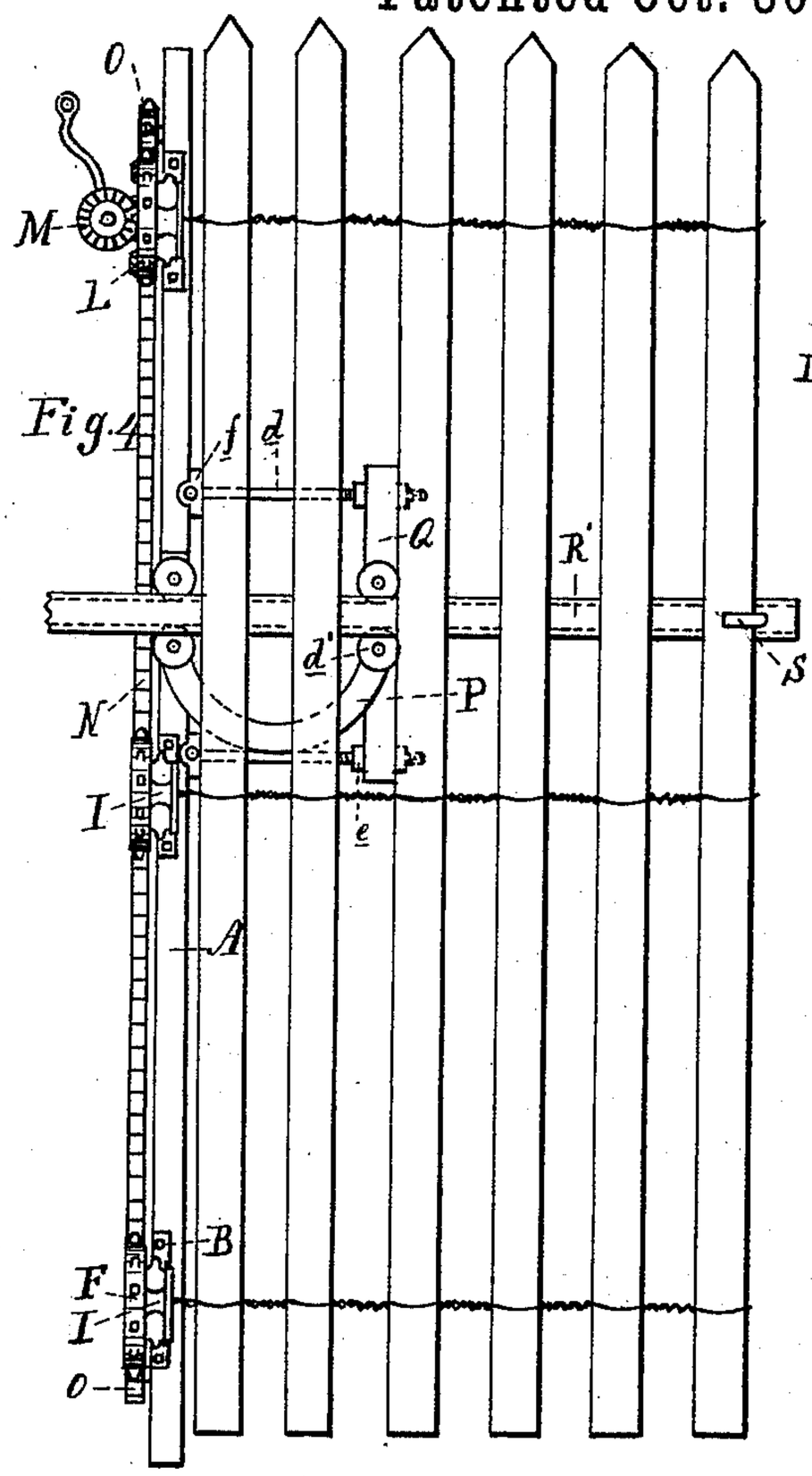


Fig. 6

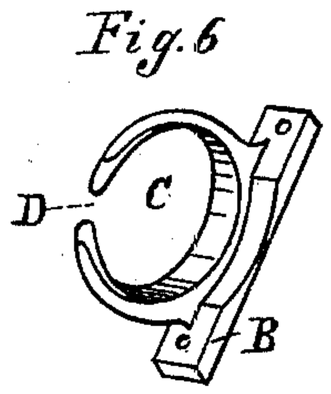


Fig. 7

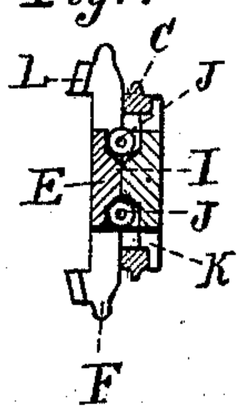


Fig. 5

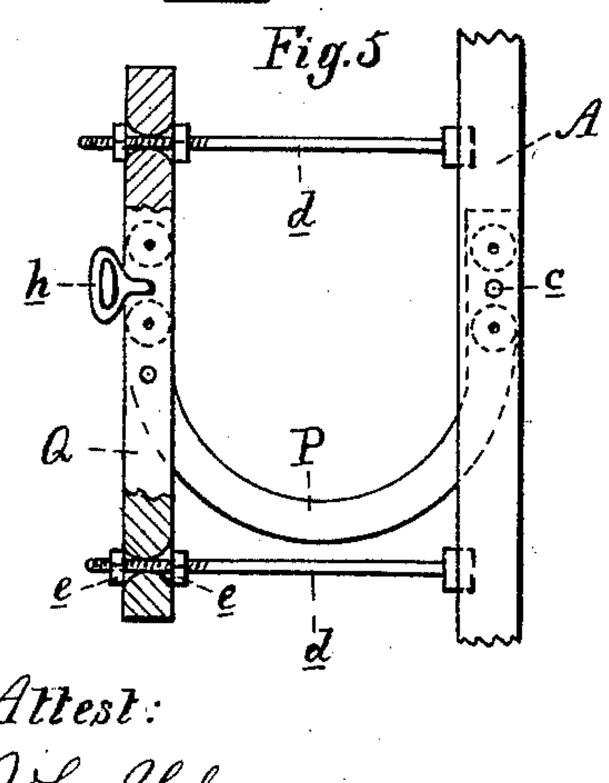
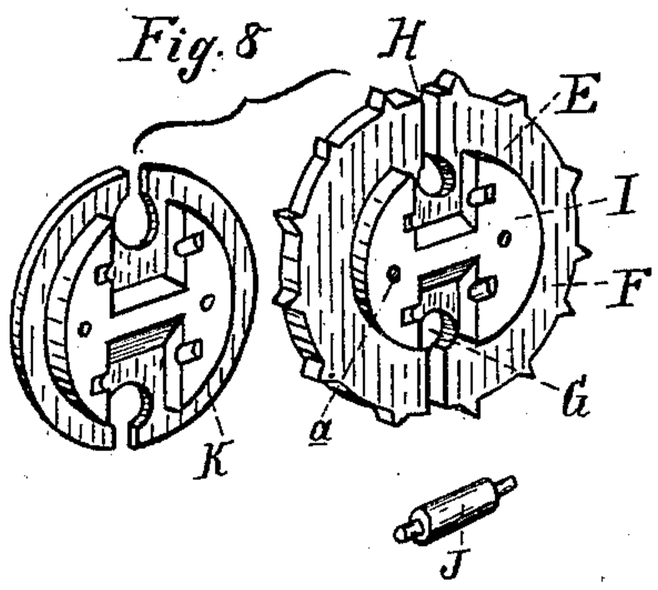


Fig. 8



Attest:
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D. M. Halbert.

Inventor:
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By Munn & Co Sprague & Son.
Atty.

UNITED STATES PATENT OFFICE.

FRANKLIN W. KELLY, OF VERMONTVILLE, MICHIGAN.

PICKET-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 391,851, dated October 30, 1888.

Application filed July 7, 1888. Serial No. 279,296. (No model.)

To all whom it may concern:

Be it known that I, FRANKLIN W. KELLY, a citizen of the United States, residing at Vermontville, in the county of Eaton and State of Michigan, have invented certain new and useful Improvements in Picket-Fence Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in picket-fence machines; and the invention consists in the peculiar construction and arrangement of the parts, all as more fully hereinafter described, and specifically set forth in the claims.

In the drawings which accompany this specification, Figure 1 is a perspective view of my improved machine. Fig. 2 is an elevation of the machine, looking at it from the direction in which the fence is built. Fig. 3 is an elevation looking at it as it appears from the rear or the direction in which the fence is wired. Fig. 4 is an elevation looking at the machine at right angles to the fence and with the machine back of the fence. Fig. 5 is a detached sectional elevation of the carriage. Fig. 6 is a detached perspective view of one of the bearings of the twister. Fig. 7 is a section through one of the twisters; and Fig. 8 is a detached perspective view of the twister and face-plate.

A is the standard of the machine, to which the twisters are secured by means of the brackets B, provided with the circular bearings C, which embrace the hubs of the twisters and are cut away at D.

E are the rotary twisters secured by the overhanging brackets B to the side of the standard. These twisters are provided with the circumferential sprocket-gear F, and the usual wire-passages, G, which communicate by the slots H with the periphery of the wheel. The hubs I of the twisters rest in the circular bearing C of the brackets, and are recessed to receive the anti-friction rollers J, which are at right angles to the wire-passages in the twister-wheels and upon the inner end thereof to receive the strain of the wire in twisting, and thereby relieve the friction of the wire in passing through the wire-passages.

K are face-plates similarly recessed to the hub to receive one-half of the anti-friction rollers, and these face-plates are of slightly larger diameter to overlap the hub to retain the twisters in their bearings by means of suitable screws, *a*, which pass through the face-plate into the hub.

The upper twister is provided upon its side with the crown-gear L, which meshes with the drive-pinion M, suitably journaled in the bearing *b*, secured near the upper end of the standard and having the usual crank-handle for communicating power. The motion is imparted to the upper twister-wheel by means of this pinion, and from there it is imparted to a sprocket-chain, N, which passes over the idler-sprockets O, secured near the top and bottom of the standards in such a manner as to hold the sprocket-chain in engagement with all of the twisters. The rotary twisters are all correspondingly arranged in such manner that the slots leading into the wire-passages can be made to register simultaneously with the openings in the bearing B, whereby the machine may be first engaged with one of the strands of each wire, and then by giving a one-half turn they may be engaged with the other strand, so that the machine may be readily engaged or disengaged from the wires.

To hold the machine at all times in vertical position when going uphill or downhill, I provide the following devices: A carriage consisting of the U-shaped bar P is pivotally secured to the face of the standard by means of a suitable bolt, *c*, and a cross-head, Q, is bolted to the free end of this U-shaped bar. Four anti-friction rollers, *d'*, are secured in pairs, one pair to one leg of the bar P and the other pair to the other leg, as shown, and these rollers are intended to engage in the operation of the device upon the guide-track R, preferably constructed of band-iron, as in the manner of hanging doors. This guide-track is secured to the rail R', one end of which is provided with a suitable clamping device, S, for securing it at any desired height to a picket of the fence, while the other end is pivotally supported by the ground-support T, which carries in addition the wire-guides U, through which the wire strands pass. The upper end of this ground-support is forked or otherwise provided with a bearing to support one end of the arched picket-guide V, the other end of which is provided with suitable rests, W, to be supported upon the pickets of the fence.

To adjust the machine to a plumb, the cross-

head Q and standard A of the machine are connected by the parallel rods *d*, which at one end are screw-threaded and provided with the adjusting-nuts *e*, while the other end is secured by a hinge-joint to the standard. This hinge-joint I preferably form by means of the bumpers *f*, which I construct with the socket *g*, adapted to receive the hooked end of the parallel rods and form the hinge-connection therewith. At the same time these bumpers project sufficiently forward to be used in the ordinary manner, as with other machines, to force the pickets back between the wires in making the fence, the operator moving the machine by means of the handle *h*, fastened on the cross-head Q.

In practice the operation of the machine in building fences is similar to the operation of other machines in use, in so far as the wiring of the pickets is concerned. To adjust the machine to a plumb when going up or down hill, the parallel rods *d* are shortened or lengthened in a proper manner by means of the thumb-nuts *e* to obtain the desired effect indicated by a plumb, which may be preferably carried on the standard.

It will be seen that the operator from his position is enabled with his right hand to communicate motion to the twisters, while with his left hand he guides the machine in operation, having hold of the handle *h*. At the same time he can adjust the clamp S, which is provided with suitable thumb-nut or otherwise, to be readily attached to or detached from the picket.

The ground-support I preferably adjust at or near the fence-post, the guide-rail R being of suitable length to span between two posts. The object of this arrangement is to bring the picket-guide V in proper position between two posts to adjust thereby the height of the pickets, suitable allowance being made for the sagging by the arching of such guide.

It will be seen that by means of the adjusting-nuts *e* the parallel rods *d* can be lengthened or shortened independently of each other, and thereby the frame is made rigid to guide the machine.

What I claim as my invention is—

1. The combination, with the standard of a picket-fence machine, of the rotary twisters having openings for the wire to be used therein, the bearings for said twisters, the circumferential sprocket-gears carried by the twisters, and the crown-gear carried directly by one of the sprocket-wheels, the drive-pinion engaging directly with said crown wheel and provided with an actuating crank-handle, the idler-sprockets near the top and bottom of the standard, and the sprocket-chains passing over these idlers and engaging with the sprocket-wheels of the twisters, substantially as described.

2. In a fence-machine, the rotary twister-wheel, the hub thereof provided with the wire-passages, the anti-friction rollers secured at the inner end of the wire-passages in sockets formed in the hub of the wheel, and a face-plate secured to the hub of the wheel and provided with corresponding wire-passages and sockets with the hub of the twister-wheels, substantially as described.

3. The combination, with the frame of the machine and the travelers secured thereto, of a support consisting of the guide-rail adapted to engage with the travelers, a clamp at one end of the guide-rail and a ground-support at the other end of the guide-rail, substantially as described.

4. The combination, with the frame of the machine and the travelers secured thereto, of a support consisting of the guide-rail adapted to engage with the travelers, a clamp at one end of the guide-rail and a ground-support at the other end, said ground-support being provided with the wire-guides, and the arched picket-guide supported on the ground-support, substantially as described.

5. The combination, with the standard of a picket-fence machine, of the U-shaped frame pivotally secured thereto, the guide-rail, the rollers *d'*, the cross-head secured to the free end of the U-shaped frame, the parallel rods hinged to the standard and engaging into the cross-head, and the adjusting-nuts upon said parallel rods, substantially as described.

6. The combination, with the standard A, of the bumpers *f*, provided with the sockets *g*, the parallel rods *d*, having the hooked ends engaging therein to form a hinge-joint, the guide-rail, the rollers *d'*, the cross-head Q, secured to the free end of the rods by the adjusting-nuts *e*, and the U-shaped frame P, pivotally secured to the standard, substantially as described.

7. The combination, with the picket-fence machine provided with the rollers *d'*, secured to the frame of the machine, of the guide-rail R, the clamp S, secured to one end thereof, the ground-support T, secured to the other end of the guide-rail, the wire-guides U, and the arched picket-guide V, supported thereon, substantially as described.

8. In a picket-fence machine, the combination of the standard A, the rotary twister-wheels secured thereto, the U-shaped bar P, pivotally secured to the standard, the cross-head Q, secured to the free end of the U-shaped frame, the friction-rollers *d'*, the parallel rods *d*, hinged to the standard, the adjusting-nuts *e*, the guide-rail R, adapted to engage with the rollers, the clamp S, and the ground-support T, and the arched picket-guide V, the parts being arranged to operate substantially as and for the purpose described.

In testimony whereof I affix my signature, in the presence of two witnesses, this 26th day of June, 1888.

FRANKLIN W. KELLY.

Witnesses:
P. M. HULBERT,
JOHN SCHUMAN.