

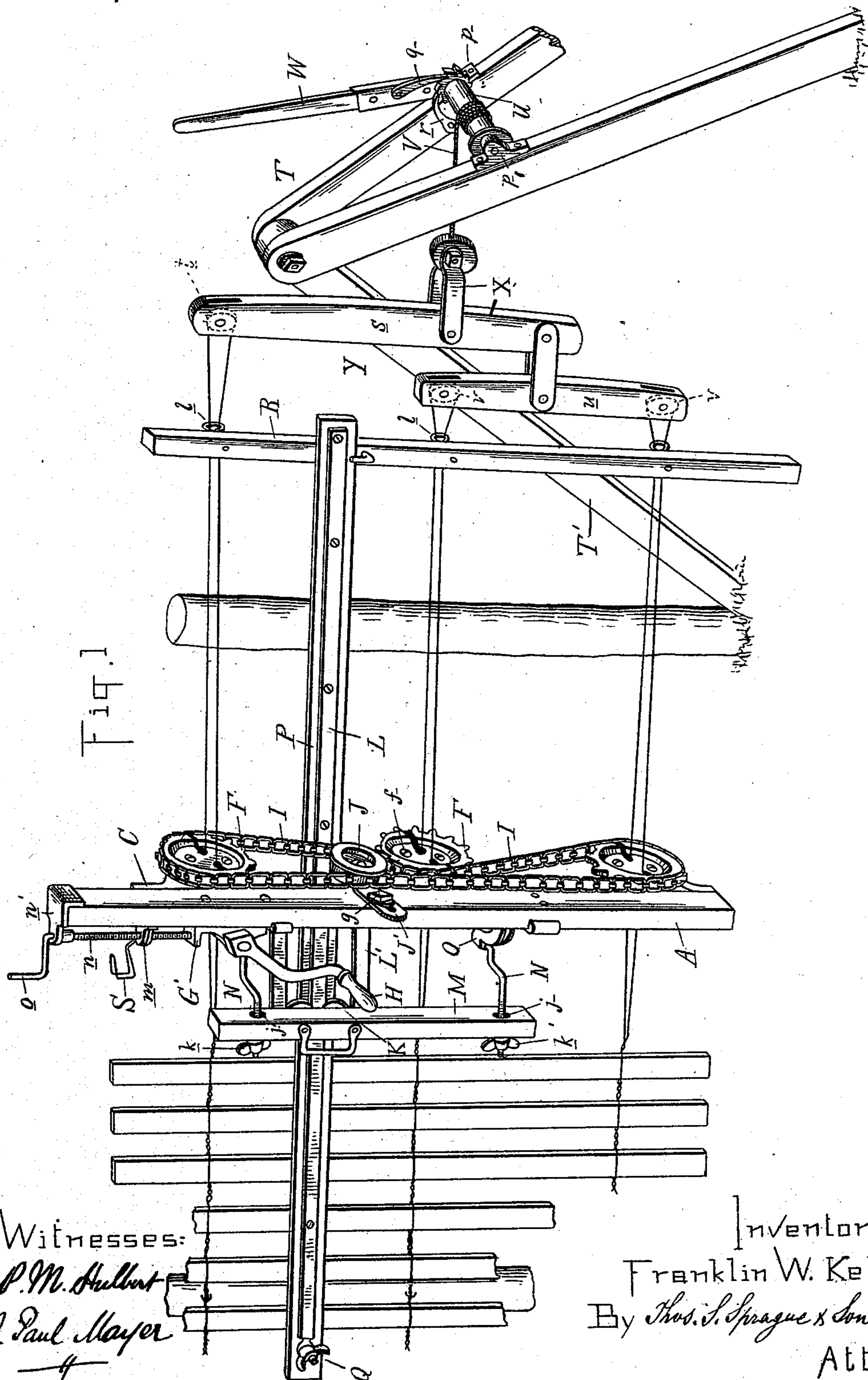
(No Model.)

2 Sheets—Sheet 1.

F. W. KELLY.
PICKET FENCE MACHINE.

No. 413,673.

Patented Oct. 29, 1889.



Witnesses:

P. M. Hulbert

J. Paul Mayer

Inventor:

Franklin W. Kelly

By *Thos. S. Sprague & Son*

Att'y

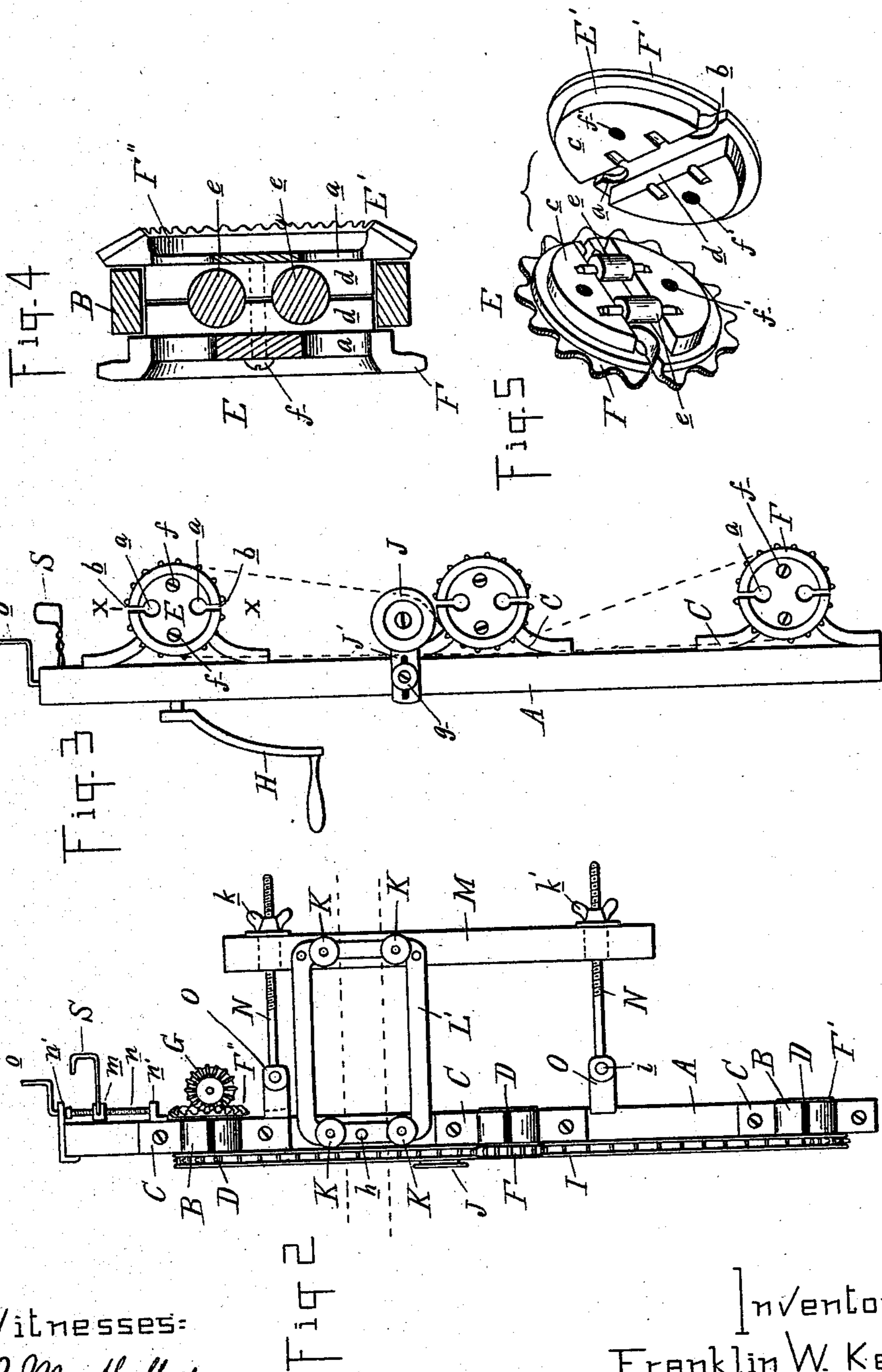
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UNITED STATES PATENT OFFICE.

FRANKLIN W. KELLY, OF VERMONTVILLE, MICHIGAN.

PICKET-FENCE MACHINE.

SPECIFICATION forming part of Letters Patent No. 413,673, dated October 29, 1889.

Application filed February 7, 1889. Serial No. 299,080. (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.

10 This invention relates to new and useful improvements in picket-fence machines; and the invention consists in the improved construction and arrangement of the parts, all as more fully hereinafter described and claimed, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved machine, showing it as in operation. Fig. 2 is a rear elevation of the twister-frame. 20 Fig. 3 is a side elevation of the same. Fig. 4 is a section of the twister on line X X in Fig. 3, and Fig. 5 is a detached perspective view of the two halves of the twister separated.

25 A is a standard, to one side of which the rotary twisters are journaled in annular bearings B, formed in the brackets C, which are suitably secured to the side of the standard. Horizontal slots D are cut through said bearings B, large enough to permit of engaging and disengaging the fence-wires into and from the wire-passages of the twisters. The rotary twisters are constructed in two halves E and E', as shown in Fig. 5, each half being 35 provided with corresponding wire-passages *a*, which correspond with slots *b* through the periphery. Each half of the twister has integrally formed with it one-half *c* of the hub of the twister, and in recesses *d* formed therein are journaled the anti-friction rollers *e*, which are at right angles to the wire-passages in the twister-wheels to receive the strain of the fence-wires in twisting, and thereby relieve the friction of the wire in 45 passing through said wire-passages. The half E of the twister is provided with a circumferential sprocket-gear F, and the other half E' is provided with a flange F', except in the top twister, which has a bevel-gear F'' instead of the said flange. The two halves of the 50 twister are secured together by means of bolts

or screws *f*, which pass through corresponding screw-holes *f'* in the halves of the twisters. The bevel-gear F'' of the upper twister meshes with the bevel drive-pinion G, which is secured to a shaft journaled in a suitable bracket G', secured on the side of the standard, and is actuated by a suitable crank-handle H on the front side of the machine. From the top twister motion is communicated to the other 60 twisters by an endless drive-chain I, which passes around the sprocket-wheels of the upper and lower twisters, and is brought in contact with one side of the sprocket-wheel of the central twister by means of a tightener-pulley J, which is journaled on the free end of a bracket J', which is adjustably secured to the side of the standard by means of the bolt *g* engaging into a slot of said bracket. By this manner of conveying motion the 70 chain may be readily tightened as it becomes too slack, and it can be readily removed from the twisters for the purpose of inserting the fence-wires into the twisters by slackening the bolt *g* to relieve the tension on the chain. 75 At the same time this tightener-pulley J guides the front portion of the sprocket-chain and prevents it from coming in contact with the rear portion of the chain. By removing the sprocket-chain from the twisters and by 80 making the wire-passages *a* in each twister to register successively with the slots D in the bearings of the twisters the fence-wires can be engaged or disengaged into or from the twisters. 85

K are the travelers by means of which the machine is supported and guided in operation upon the guide-rail L. These travelers K are secured near the corners of the rectangular outrigger-frame L', which is pivotally secured 90 at *h* to the standard, and to the opposite side of which the bar M is secured. The upper and lower ends of this bar are adjustably and pivotally connected with the standard A by means of the hooked ends *i* of the rods N pivotally engaging into sockets formed in the 95 free ends of the bumpers O, which bumpers are secured to the standards for the purpose of butting the pickets into place while building the fence. The other ends of the rods N 100 pass through elongated slots *j* in the bar M, and are provided upon their screw-threaded

ends with adjusting thumb-nuts *k*. By this construction the bar *M* may be adjusted in relation to the standard *A* so as to hold the machine at all times in vertical position when
 5 going up or down hill, as it will be seen that the adjustment of the thumb-nuts *k* and *k'* upon the ends of the rods *N* will change the adjustment of the travelers on the bar *M* up or down in relation to the travelers on the
 10 side of the standard. The slots *j* are provided for the purpose of giving play to the rods *N* through the bar *M*. The rail *L*, with which the travelers engage, is secured to the supporting-bar *P* at the necessary distance apart
 15 to permit the travelers to have a free movement on the rail. One end of this carrying-rail is provided with a clamping device *Q*, by means of which this nut may be clamped at the proper height to the fence, and at the
 20 other end this carrying-rail is clamped to the ground support *R*, which is provided with eyes *l*, into which the wire strands are engaged.
S is a picket-guide, and this forms with its free end a spring-clamp to engage and hold
 25 the upper end of the pickets. To adjust this spring-clamp vertically I secure it to a screw-nut *m*, which engages upon the adjusting-screw *n*. This screw is journaled in suitable bearings *n'*, and is provided at its upper
 30 end with a crank-handle *o* for the convenient turning of the screw to adjust the picket-guide up or down to any desired height. The object of this construction is to adjust the pickets while weaving the fence, so as to provide
 35 for the sag between the supporting-posts. To this end I give the screw a pitch of, say, a quarter of an inch, whereby every time a new picket is inserted I raise the picket-guide one turn of the screw until I arrive at the middle
 40 between two posts, and then I reverse the screw to lower the picket-guide, one turn for every picket, until I arrive at the end of the panel.

With the proper tension on the fence-wires
 45 the pickets will adjust themselves to hang even, and thereby improve the appearance of the fence. To effect the proper tension of the fence-wires I use the following device: An adjustable tripod *T*, one leg *T'* of which
 50 is preferably longer than the other two, is adjusted in line with the fence and preferably placed against the end of the fence-post, as shown. Upon the other two legs is journaled in suitable bearings *p* the windlass *U*, to
 55 which one end of the tension-cable *V* is secured. This windlass is provided with an actuating-lever *W*, which engages into a ratchet on the windlass by means of the pawl *q*, and a back-stop *r* also engages with the
 60 ratchet-wheel. The other end of the tension-cable *V* is secured in any suitable manner to a clevis *X*. To this clevis is pivotally secured

a three-strand evener *Y*, consisting of the main lever *s*, in the long arm of which a sheave *t* is secured, and over which the top 65 strand passes. To the short arm of the lever *s* is secured by a suitable clevis the lever *u*, the arms of which are of equal length, and are provided at their ends with sheaves *v*, over which the central and lower strands pass, all 70 so arranged that by winding the tension-cable *V* upon the windlass the three strands of wire are put under equal tension, sufficient purchase being provided with the lever and windlass to put any desired tension on the 75 wires.

While building the fence I maintain the same tension on the wire, as I find by practical experience that the stretch on the wire in twisting the pickets compensates for the 80 twisting, and a much tighter and better fence is obtained in this manner than by making use of a let-go tension.

As some parts of the construction herein described and shown have already been de- 85 scribed and claimed by me in a patent dated October 30, 1888, No. 391,851, I do not intend to claim such constructions herein; but

What I claim as my invention is—

1. In a fence-machine, the combination, 90 with the twister-frame, of the rectangular outrigger-frame pivotally secured at one side to the standard of the twister-frame, the bar *M* on the outrigger-frame, and the bumpers *O*, all substantially as and for the purpose 95 specified.

2. The combination, with the standard of the machine, of the outrigger-frame *L'*, pivotally secured thereto and provided with the travelers *K*, the bar *M*, secured to said out- 100 rigger-frame, the rods *N*, having the hooked ends pivotally engaging into sockets in the bumper *O*, and the adjusting thumb-nuts *k* and *k'* on the screw-threaded ends of said rods, all arranged to operate substantially as 105 described.

3. In a picket-fence machine, a vertically-adjustable picket-guide carried by a screw-nut engaging with an adjusting-screw, sub- 110 stantially as described.

4. In a picket-fence machine, the combination, with the twister-frame, of a verti- 115 cally-adjustable picket-guide *S*, provided with the nut *m* and the adjusting-screw *n* engaging into said nut, and provided with a crank-handle *o*, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 24th day of January, 1889.

FRANKLIN W. KELLY.

Witnesses:

J. PAUL MAYER,
 ED. MCBREARTY.