

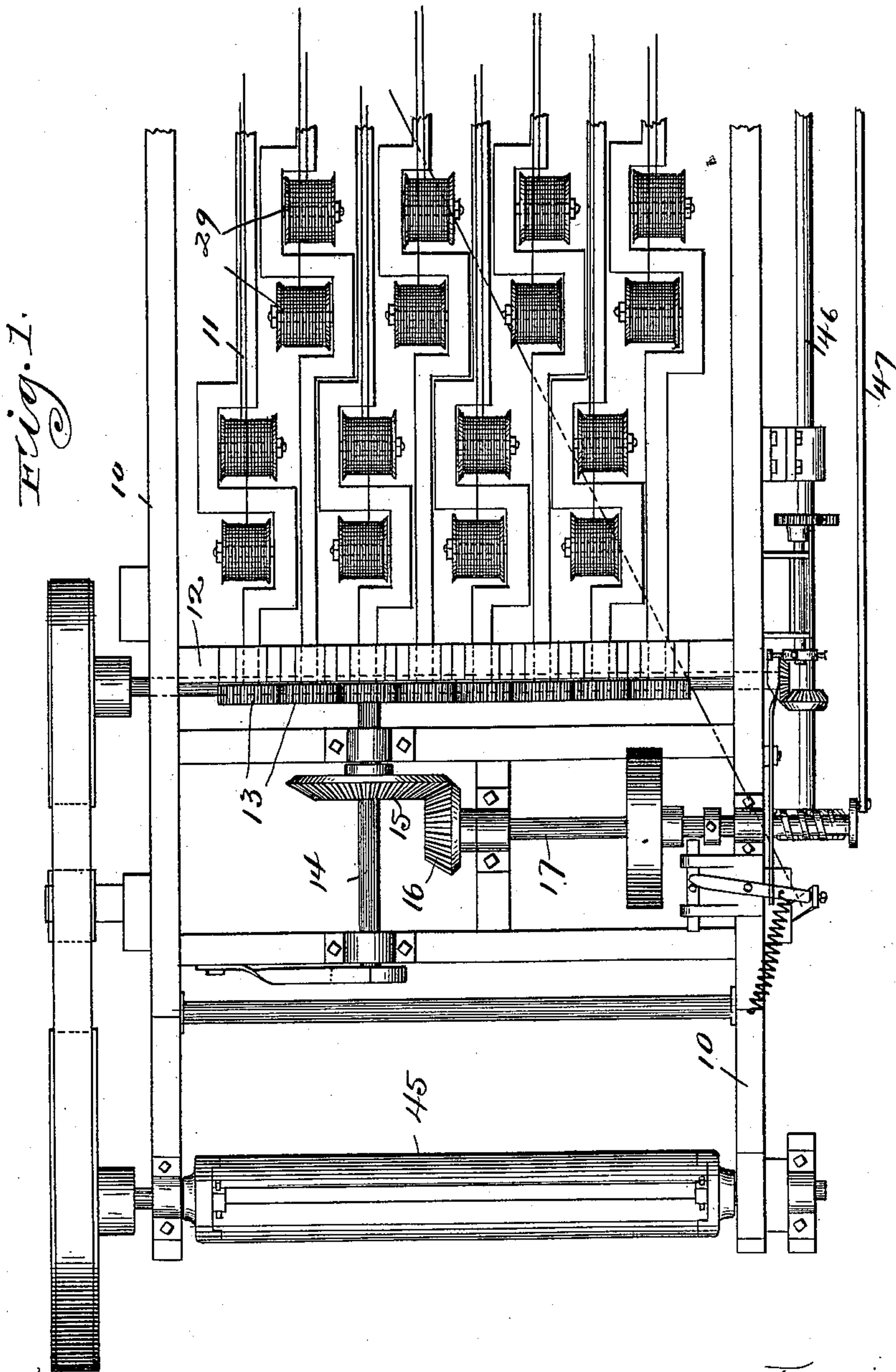
(No Model.)

5 Sheets—Sheet 1.

E. F. SHELLABERGER.  
MACHINE FOR MAKING WIRE PICKET FENCING.

No. 533,091.

Patented Jan. 29, 1895.



Witnesses,  
J. M. Mann.  
J. B. Goodwin

Inventor,  
Edward F. Shellabarger  
By *Rayfield, Fowler & Luthman*  
Attys.

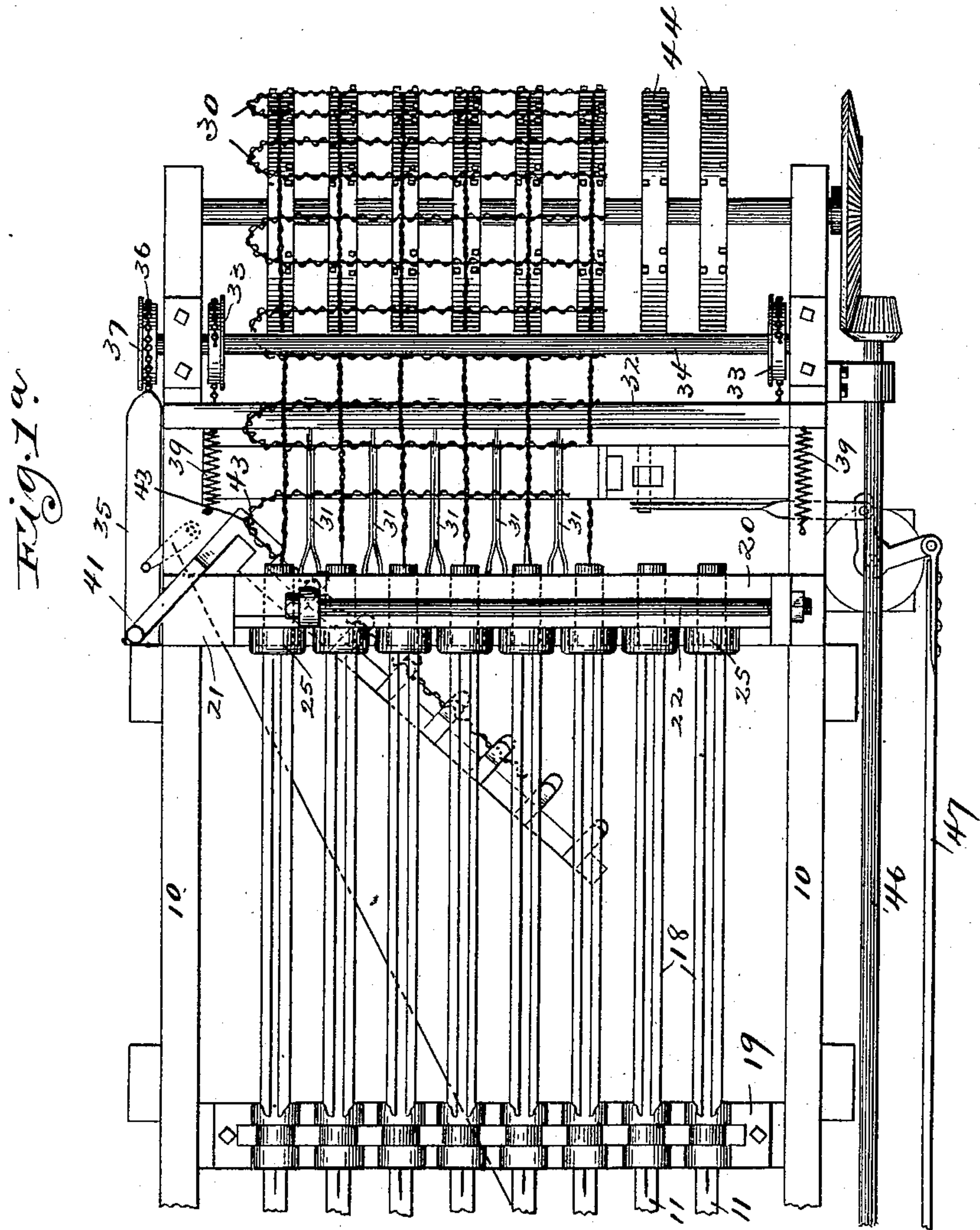
(No Model.)

5 Sheets—Sheet 2.

E. F. SHELLABERGER.  
MACHINE FOR MAKING WIRE PICKET FENCING.

No. 533,091.

Patented Jan. 29, 1895.



Witnesses,  
J. D. Mann,  
J. B. Goodwin

Inventor,  
Edward F. Shellabarger  
By Office Towler & Lathrop  
Attys.

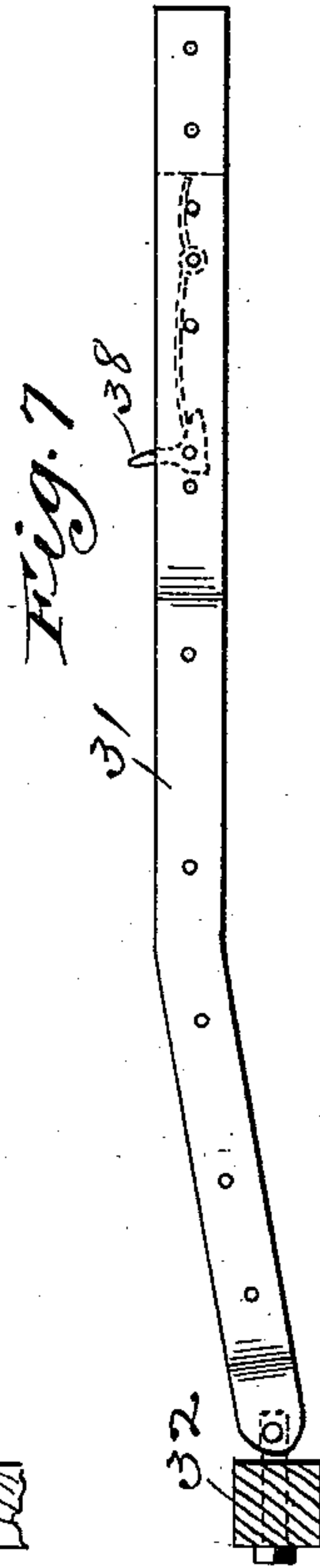
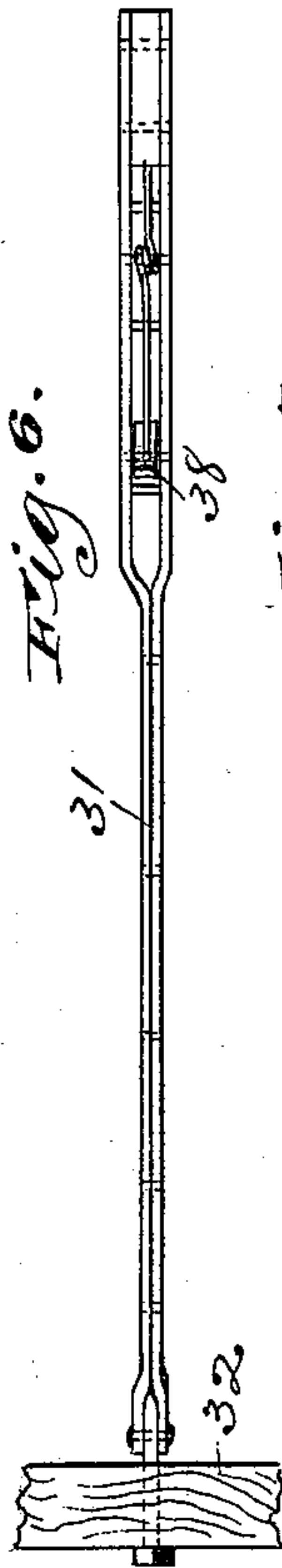
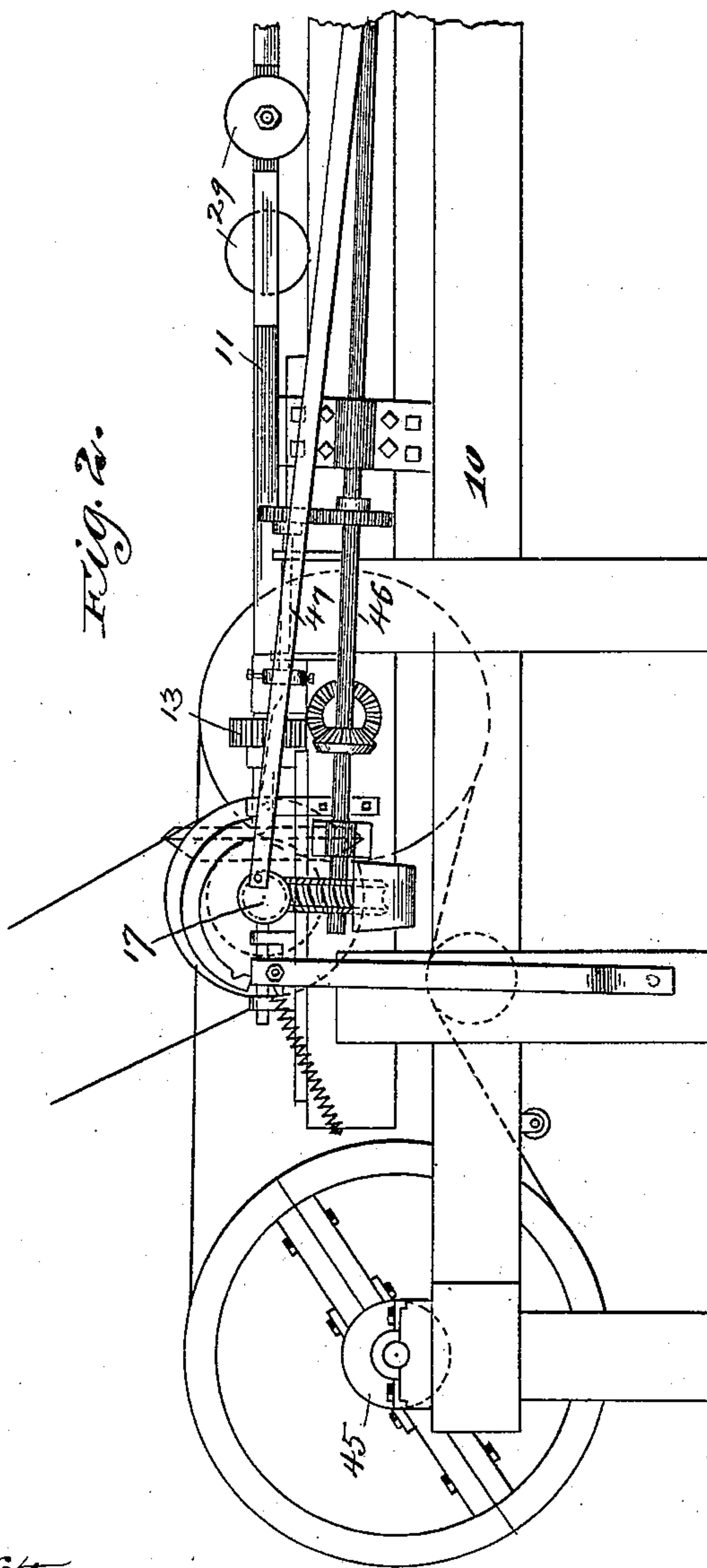
(No Model.)

5 Sheets—Sheet 3.

E. F. SHELLABERGER.  
MACHINE FOR MAKING WIRE PICKET FENCING.

No. 533,091.

Patented Jan. 29, 1895.



Witnesses,  
J. C. Mann  
F. B. Goodwin

Inventor,  
Edward F. Shellabarger  
By Clifford, Todd & Luthian  
Attys.



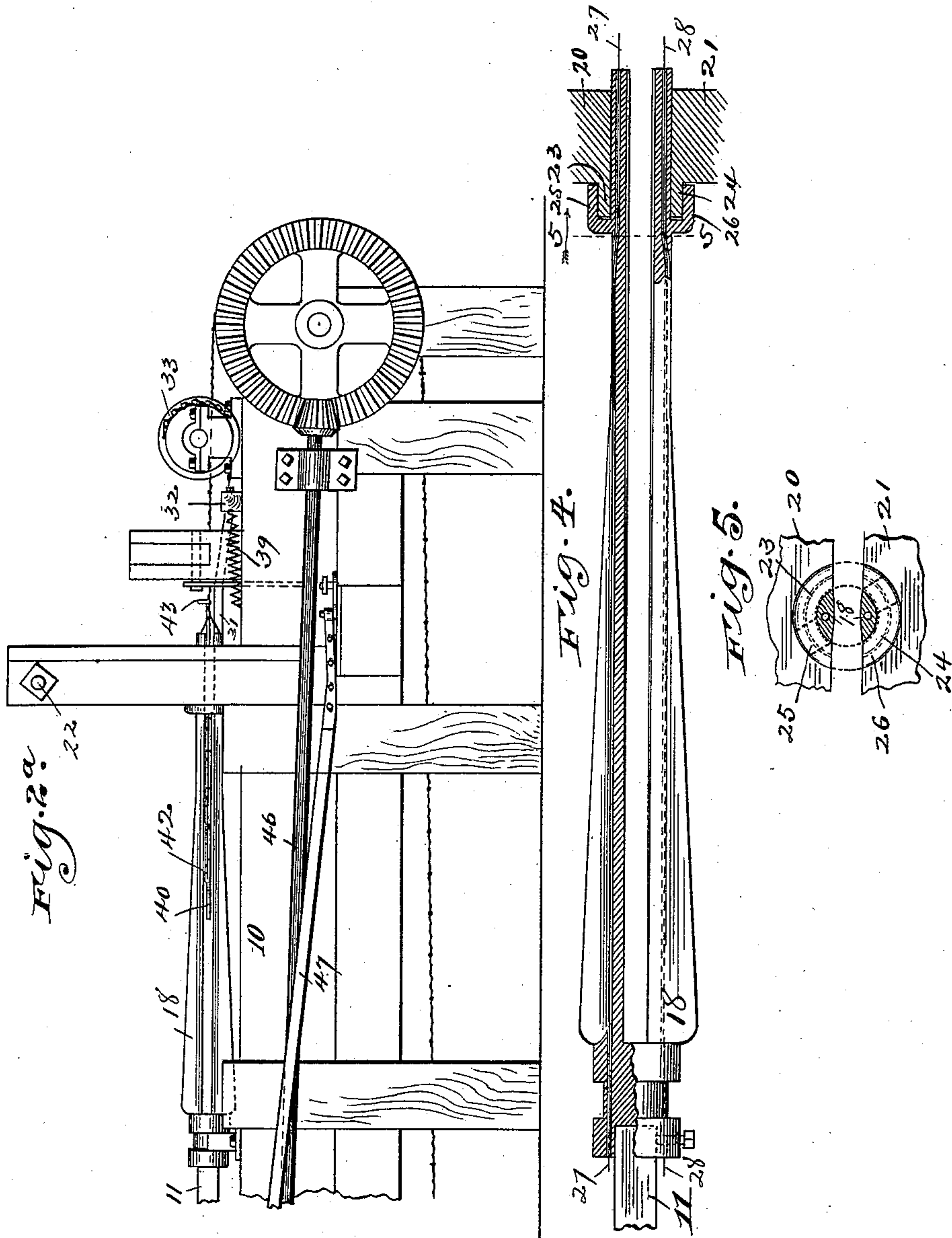
(No Model.)

5 Sheets—Sheet 4.

E. F. SHELLABERGER.  
MACHINE FOR MAKING WIRE PICKET FENCING.

No. 533,091.

Patented Jan. 29, 1895.



Witnesses,  
J. A. Mann  
F. B. Goodwin

Inventor,  
Edward F. Shellabarger  
By Offield, Fowler & Luthman  
Attys.

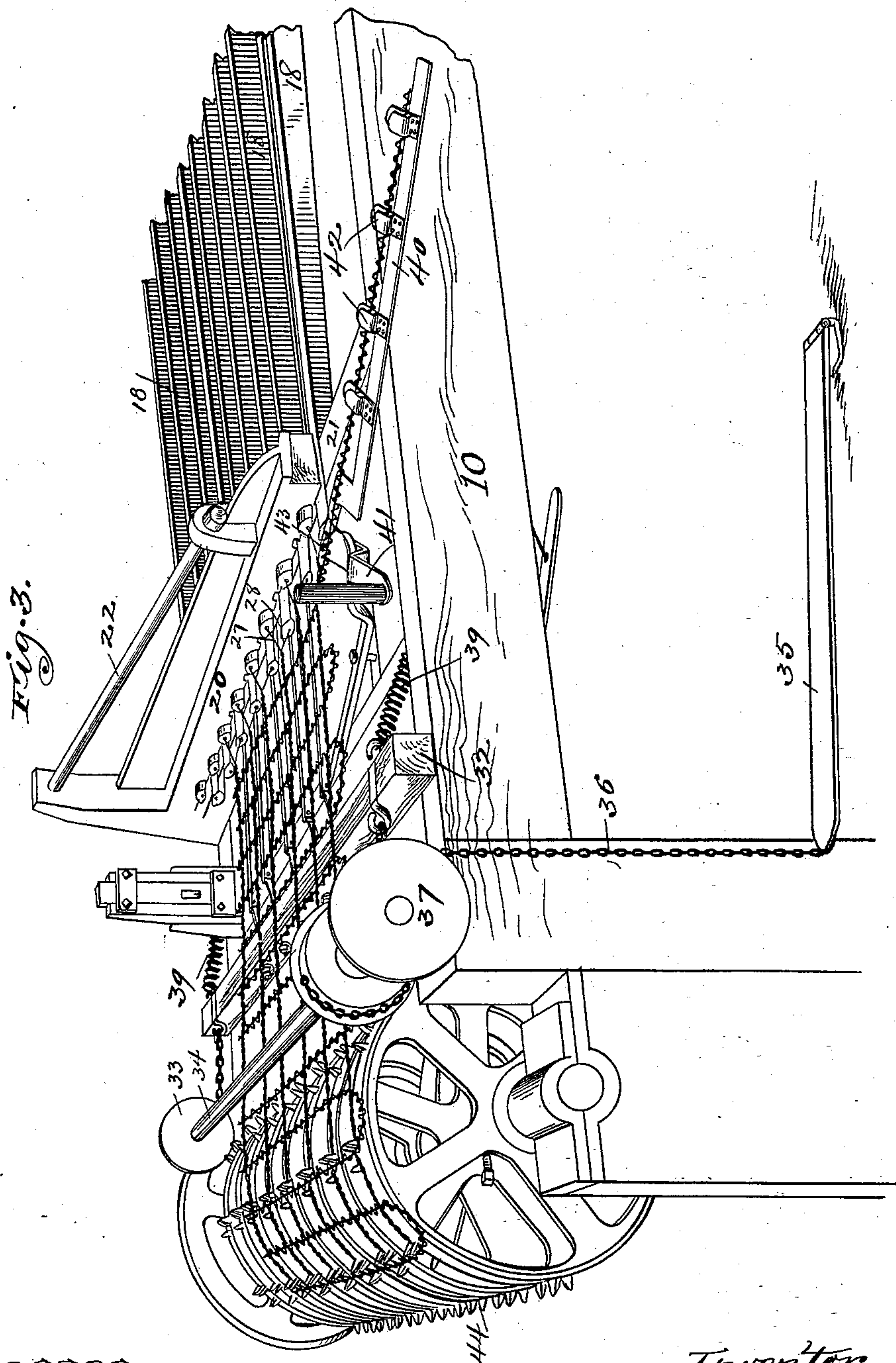
(No Model.)

5 Sheets—Sheet 5.

E. F. SHELLABERGER.  
MACHINE FOR MAKING WIRE PICKET FENCING.

No. 533,091.

Patented Jan. 29, 1895.



Witnesses,  
J. D. Mann  
F. B. Goodrum

Inventor,  
Edward F. Shellabarger  
By *Offield, Fowler & Luthicum*  
Attys.



# UNITED STATES PATENT OFFICE.

EDWARD F. SHELLABERGER, OF DE KALB, ILLINOIS.

## MACHINE FOR MAKING WIRE-PICKET FENCING.

SPECIFICATION forming part of Letters Patent No. 533,091, dated January 29, 1895.

Application filed November 4, 1893. Serial No. 489,987. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD F. SHELLABERGER, of De Kalb, Illinois, have invented certain new and useful Improvements in Machines for Making Wire-Picket Fencing, of which the following is a specification.

This invention relates to a machine for making wire picket fence composed of a series of parallel cables and U-shaped wire pickets having the legs thereof separated and interwoven with the cable wires at separated points.

In the accompanying drawings, Figures 1 and 1<sup>a</sup> taken together show a plan view of the machine, Fig. 1 showing what I designate as the rear end of the machine on which the wire holding spools are mounted, and Fig. 1<sup>a</sup> the front end of the machine or that end from which the completed fence is delivered. Figs. 2 and 2<sup>a</sup> are side elevations of the parts shown in the preceding figures respectively. Fig. 3 is a perspective view of the front end of the machine, particularly intended to illustrate the mechanism for placing the pickets. Fig. 4 is a side elevation, partly in section, of a split twister fork and its bearings. Fig. 5 is a sectional view on the line 5—5 of Fig. 4, looking in the direction of the arrow. Figs. 6 and 7 are detail views of a drag bar for pulling the pickets into proper position between the cable wires.

The invention relates more particularly to the split twister fork and to the mechanisms for placing the pickets.

In the drawings, 10 represents the supporting frame work of the machine which supports the operating parts. These operating parts comprise a series of cranked spool carriers 11 which have bearings at their rear ends on a cross timber 12 and are driven by the series of spur gears 13, one of which constitutes a driver from the shaft 14, said shaft being driven through the bevel gears 15, 16, the latter mounted on the driving shaft 17. The forward ends of the carriers 11 are secured respectively to the rear ends of a series of split twister forks 18, said twister forks having bearings at their rear ends upon a cross timber 19, and at their front ends in a yoke shaped or slotted casting, the members of which are marked 20, 21. This casting has

the open end of its slot at one side of the machine and its upper member is suitably braced by the rod 22, as shown in Fig. 3. The members 20, 21 have curved seats in their faces to receive the members of the split twister fork; and in order to maintain the two members of the fork parallel to each other the rear sides of the members 20, 21 are provided with curved lugs 23, 24, and the members of the forks with curved flanges or segmental collars 25, 26. These curved flanges extend to the plane of the inner face of the members of the split twister fork so that as the latter is rotated the flanges at all times have a bearing upon the lugs 23, 24, as shown by the dotted lines in Fig. 5. The twister forks are drilled longitudinally through their front ends and also through their rear ends, and wires 27, 28 are carried through said apertures, said wires being led from the spools 29 on the spool carriers. The wires are twisted as they issue from the front apertures in the split twister forks, and the rotation of these twister forks is rendered intermittent by mechanism not necessary to describe, so that after they have completed a certain number of revolutions, so as to form a series of twists thus cabling the wires together, their action is arrested to permit the insertion of the pickets.

The pickets are separately formed, and as shown are composed of two wires interwoven together, the wire being cut to suitable length to form the legs and bow of the picket. The pickets are marked 30, and by reference to Fig. 3 the manner of inserting them between the cable wires will be understood. The picket stock cut to length to form a picket has one end thereof inserted between the split twister forks and is drawn forward into the jaw of the wires forming the cables. This may be done manually but I prefer to employ mechanical means for pulling the picket stock into the jaw of the cable wires. These means comprise a series of drag bars 31 which are pivotally connected to a cross timber 32 which is flexibly connected to the pulleys 33 on shaft 34. The shaft carrying these pulleys is operated by the foot treadle 35 and chain 36 carried over the drum 37. The cross piece 32 is drawn forward by the opera-



tion of the foot treadle, and in its forward movement the drag bars 31 are also advanced and the spring controlled dogs 38 engage the picket, pulling it tightly into its place between the strands of the cable. When the foot treadle is released the springs 39 will return the cross piece 32 to its original position. When the end of the picket is thus in place the split twister shafts are rotated, cabling the strands together the desired distance, and then the free end of the picket must be inserted. In order to render this easy I have provided the swinging arm 40 which is pivoted upon the frame and has the crank 41 by which it is operated. This arm 40 is provided with a series of holders 42 which engage the free end of the picket, and by operating the crank the arm 41 is swung upon its pivot carrying the free end of the picket into place. In this movement the arm with the end of the picket engaged swings through the opening of the split twister fork and the loop of the picket is formed around the stud 43, (Fig 1<sup>a</sup>.) As the end of the picket is thus brought to place it passes over the dogs 38 on the drag bars 31 and then the foot treadle is depressed, and the dogs engage the leg of the picket and draw it tightly into place, whereupon the split twister forks are again rotated and the wires cabled behind the picket thus securing it in place.

The reason for making the bearing for the front ends of the split twister forks open will now be apparent. If it were otherwise constructed the swinging arm for placing the leg of the picket could not be employed and it would be difficult, if not impossible, to bend the picket stock by hand after one end thereof had been interwoven with the cable wires. Heretofore in machines for making picket fence the pickets have usually been given their ultimate form and simply thrust in both legs at the same time; and so far as I am aware I am the first to provide for bending the picket into form after one leg is interwoven in the fence.

It will be seen that the split twister forks, the open sided bearings for their forward ends and the arms for bending and forming the picket co-operate, and that while the twister forks and the open ended bearings could be employed, even where the pickets were bent by hand, the intervention of the swinging arms with the assemblage of the three parts in the machine adds to its capacity and facilitates and renders easy its operation while obviating the necessity of employing separate machinery for forming the pickets.

I have employed the term "split twister fork" because it accurately describes the particular construction of twisting device which is shown in the drawings, but I do not intend to limit myself thereby to the precise construction of this fork. The split twister with its members separated so as to permit one leg

of the picket to be swung into place between such members after the other leg of the picket has been engaged, is the essential characteristic of the construction, and to permit this not only the twistors must be divided but their bearings must also be open in line with the opening between the twistors to permit the end of the picket to be swung into place. This is made possible by the provision of the split twistors and their open bearings.

The machine may be so timed as to vary the distance between adjoining pickets, and also between the legs of the individual pickets, but this does not form a part of my present invention. The completed fencing is carried about a drum or feed roller 44 and is thence conducted back to the rear of the machine and ultimately wound on the spool shaft 45. The front feed roller is driven by the shaft 46 and a cut-off mechanism is driven by the shaft 47. The particular means for operating these several mechanisms need not be described.

Without limiting myself to precise details of construction, I claim—

1. In a wire picket fence machine, the combination with a series of divided or split twistors, each member of which carries a strand of wire, and the opening of which is of a length approximately equal to the length of the pickets, divided bearings for supporting the extremities of the split twistors, and means for rotating them in unison, whereby one end of the picket stock may be interwoven with the cables and the opposite end passed through the openings between the split twistors and also interwoven with the cable strands, substantially as described.

2. In a wire picket fence machine, the combination with a series of divided or split twistors, each member of which carries a strand wire, and the opening of which is of a length approximately equal to the length of the pickets, divided bearings for supporting the extremities of the split twistors, and means for rotating them in unison, and a pivoted arm adapted to be engaged with one end of the picket stock after its opposite end has been interwoven with the cables and to be swung through the space between the members of the split twistors to carry the said end in position to be interwoven with the cable wires, substantially as described.

3. In a wire picket fence machine, the combination with split twister forks, of a bearing therefor, said bearing having two members projected parallel to each other and with an opening between them, and the members whereof are provided with curved lugs, and the twister forks having curved flanges to engage said lugs, whereby to maintain the separated ends of the twister forks in proper relative position, substantially as described.

4. In a wire picket fence machine, the combination with split twister forks and a divided



and separated bearing therefor, of a pivoted arm adapted to engage an end of the picket and when swung on its axis to carry said end into position to be interwoven in the fence, substantially as described.

5. In a wire picket fence machine, the combination with a series of twisters for forming the cables, of a series of drag bars having spring-controlled dogs adapted to engage the

picket, and means for advancing said drag bars whereby to draw the picket into place between the strands of the cables, substantially as described.

EDWARD F. SHELLABERGER.

Witnesses:

C. F. SMITH,

A. G. KENNEDY.