

(No Model.)

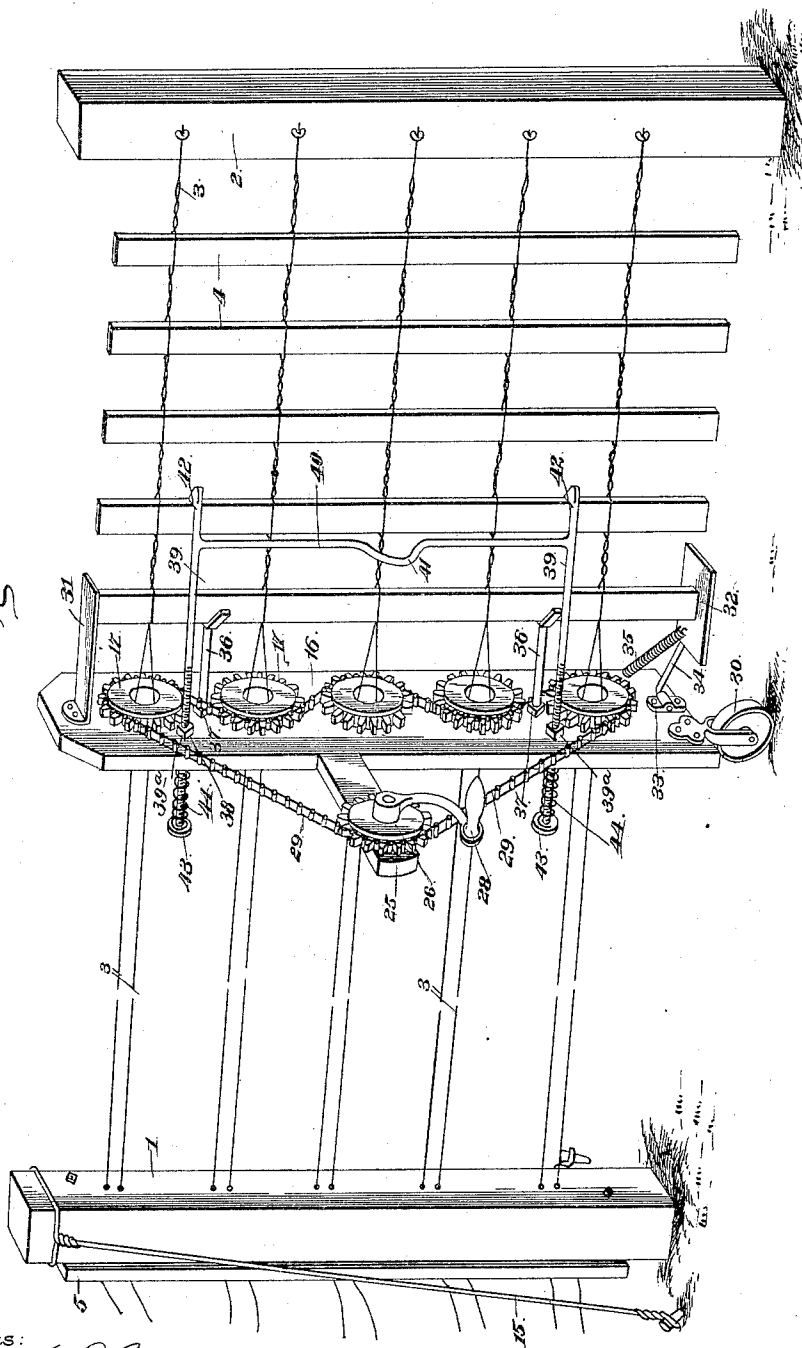
2 Sheets—Sheet 1.

E. HUGHES.
FENCE MACHINE.

No. 473,930.

Patented May 3, 1892.

Fig. 1.



Witnesses:

M. E. Fowler
W. S. Small

By his Attorneys,

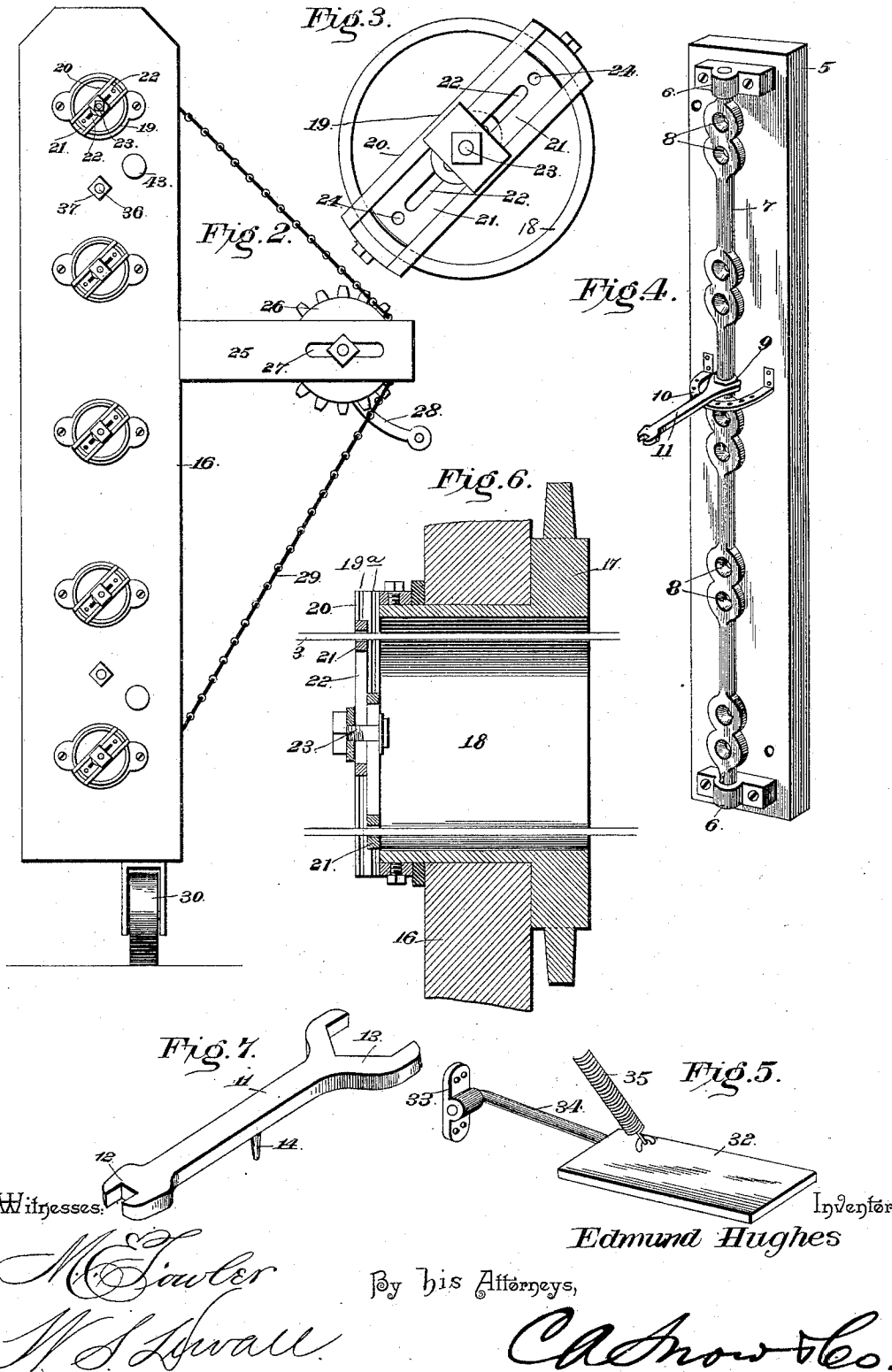
Edmund Hughes
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Inventor

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UNITED STATES PATENT OFFICE.

EDMUND HUGHES, OF COOKPORT, PENNSYLVANIA.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 473,930, dated May 3, 1892.

Application filed April 29, 1889. Renewed October 20, 1891. Serial No. 409,302. (No model.)

To all whom it may concern:

Be it known that I, EDMUND HUGHES, a citizen of the United States, residing at Cookport, in the county of Indiana and State of Pennsylvania, have invented a new and useful Fence-Machine, of which the following is a specification.

This invention has relation to fence-machines, and more particularly to the spacing mechanism, whereby the operator is enabled to uniformly set the pickets and maintain the same during the operation of wiring.

The invention also has relation to a tension device for maintaining the several strands of wire under a proper tension during the operation of the machine.

Other objects and advantages of the invention will be hereinafter explained, and the novel features will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a fence-machine constructed in accordance with my invention, the view being taken in rear thereof and the machine being in position to operate. Fig. 2 is a front elevation of the machine. Fig. 3 is an enlarged front elevation of one of the twist-ers. Fig. 4 is a front perspective of the tension device. Fig. 5 is a detail in perspective of the lower picket-adjusting arm. Fig. 6 is an enlarged detail in longitudinal section of the twister shown in Fig. 3. Fig. 7 is a detail in perspective of the wrench for operating the tension device.

Like numerals of reference indicate like parts in all the figures.

1 and 2 represent, respectively, the front and rear end posts of a fence, and to the latter are secured in the usual manner the several series of strands of wire 3, between which are inserted the usual pickets 4. To the front face of the post 1 there is secured by suitable bolts or otherwise a tension or base plate 5, at the upper and lower ends of which are provided bracket-bearings 6, which support a vertical and rotatable shaft 7. At intervals along the shaft are formed bell-shaped or conical perforations 8, said perforations being formed in pairs to accommodate the two wires in this instance composing the strand. About midway of the shaft 7 is formed a polygonal boss 9, and immediately below the same and

secured to the face of the base-plate 5 there is mounted a semicircular perforated adjusting-plate 10. From any suitable source of supply the strands of wire 3 are fed through the openings 8, and through corresponding openings formed in the post 1 and thence to the machine.

11 represents a wrench, one end 12 of which is provided with an ordinary nut-receiving head, and the opposite end 13 is of a form to operate upon the polygonal boss 9 of the shaft 7. A pin 14 is formed upon the wrench intermediate of the ends of the same, and is in such a position that when the head 13 embraces the boss 9 said pin is adapted to enter one of the perforations in the curved adjustable plate 10. From this it will be seen that the wrench, being in position, is movable to the right or left, which will cause the wires to bind somewhat in the perforations 8, and thus be fed to the machine under tension, the tension being predetermined and maintainable through the medium of the wrench.

15 represents ordinary guy ropes or rods, serving to maintain the post 1 against movement.

16 represents the fence-machine frame, upon the rear face of which are provided a system of spocket-wheels 17, said wheels being journaled upon transverse hollow shafts 18, passing through the machine, which at their opposite ends carry twisting-heads 19. Upon the front ends of the shafts 18, as before stated, are mounted the twist-ers, and the same consist of a frame 20, which embraces and is clamped to the end of the shaft 18, and in said frame there are formed inner and outer parallel guide-grooves 19^a, in which are mounted for sliding opposite plates 21, each provided with an elongated slot 22, through which passes a set-nut and bolt 23, whereby said plates are made adjustable to and from each other within the frame 20. Perforations are formed near the ends of the plates, through which the strands of wire pass to the pickets.

At the operative side of the machine-frame 16 there projects an arm 25, carrying a sprocket 26, mounted in an adjustable slot formed in the arm. This sprocket is provided with an operating handle or crank 28, and over the same and around the series of sprockets 17 there passes a motion-imparting chain

29. The machine, as thus constructed, is mounted upon a suitable caster 30 or may be otherwise supported.

At the upper end of the machine-frame there projects rearwardly a fixed angular aligning plate 31, and at the lower end of the machine there projects a movable spring-press guide-plate 32, said plate in this instance being journaled in a bracket 33, fixed upon the frame and supported by an L-shaped lever 34. A spring 35 is connected to the plate and frame and has a tendency to draw said plate upwardly, so that a picket 4, placed upon the spring-plate 32, will be forced up against the plate 31, and in this manner a uniformity of height of the pickets assured, and this by an automatic ordinary adjustment of the same when inserted.

Projecting from the rear face of the frame 16, and preferably adjustable in said frame, are lateral spacing-bars 36, provided with adjusting-nuts 37 at each side of the frame, the rear ends of said space-bars being in this instance of a Y shape and adapted to receive a picket.

Loosely mounted in openings 38, formed in the frame, are reciprocating rods 39, one near the lower and one near the upper end of the frame. These rods are connected by a connecting-bar 40, curved between its ends, as at 41, to form a hand-hold. The rods 39 are provided with shoulders 42 at their rear ends and with a head 43 at their forward ends and at the opposite or front side of the frame. Between the forward face of the machine and the head 43 there is mounted a coiled spring 44, which serves to draw the hook end 42 of the rod 39 inwardly against the stop-nuts 39^a, one of which is threaded upon each of said rods.

The operation of my invention is as follows: Taking the apparatus, as shown in Fig. 1, it is now desirable to insert a new picket. By grasping the picket-embracing rod 40 at 41 and giving a lateral draw, the hook end 42 of the rods 39 are disengaged with the picket and are connected to the next succeeding picket. A new picket is now inserted upon the plate 32 and is pressed up in position against the plate 31 and against the twists of the wire by means of the space-bars 36, the hooks 42 serving to draw the machine-frame and the spacing-bars toward the newly-inserted picket, thus pressing said picket snugly within the divergent strands of wire prior to a twist being made. By revolving the crank 28 a sufficient number of times the series of

twists will be made, and the operation may then be repeated.

Having thus described my invention, what I claim is—

1. In a fence-machine, a hollow twister-shaft provided at one end with a clamping-frame provided with opposite pairs of grooves, in combination with sliding plates mounted in the grooves and adapted to overlap in the frame and provided with opposite perforations near their ends and with aligning elongated slots, and a set-screw inserted through said slots, substantially as specified.

2. In a fence-machine, a frame having perforations, in combination with loosely-mounted reciprocating picket-embracing arms provided at each side of the machine with stops, springs mounted upon the arms between the rear stops and the machine, whereby the embracing ends of the arms are drawn toward the machine, and a vertical connecting-bar for connecting the same, substantially as specified.

3. In a fence-machine, a tension device consisting of a plate perforated and provided with opposite bearings, a vertical shaft mounted in the plate and adapted to be oscillated and provided with a series of wire-receiving openings aligning with the perforations of the plate, and mechanism for rotating the shaft and locking the same in any of its positions, substantially as specified.

4. In a fence-machine, a tension device consisting of a base-plate provided with brackets, a vertical shaft provided with wire-receiving openings mounted in the brackets and having a polygonal boss, a curved adjusting-plate surrounding the shaft, perforated and secured to the base-plate, and a wrench for embracing the boss and provided with a depending tooth to engage said adjusting-plate, substantially as specified.

5. The combination, with a fence-post, of a rotatable shaft and means for supporting the same located in front of the post, said shaft being provided with a series of wire-receiving openings, means for rotating the shaft, and means for locking the same in position, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

EDMUND HUGHES.

Witnesses:

B. F. WILLIAMS,
MAY FLEMING.