(No Model.)

J. WILLIAMS, J. REYNOLDS & J. BELL.

FENCE MACHINE.

No. 342,240. Patented May 18, 1886.

Fig. 1.

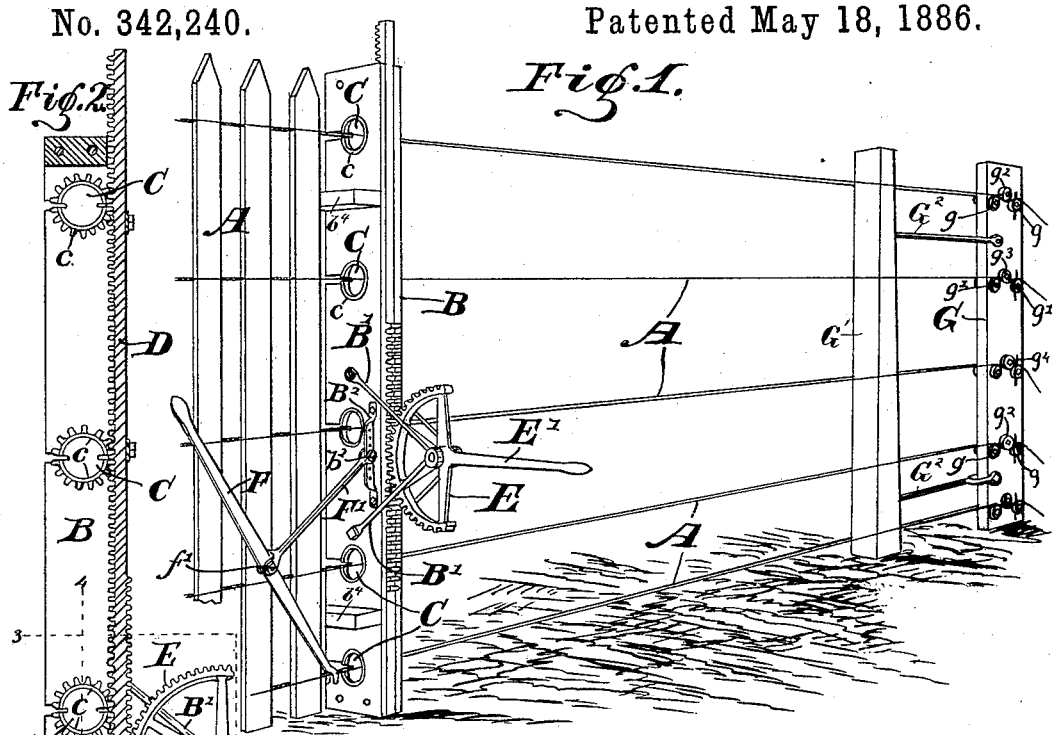


Fig. 2.

Fig. 5.

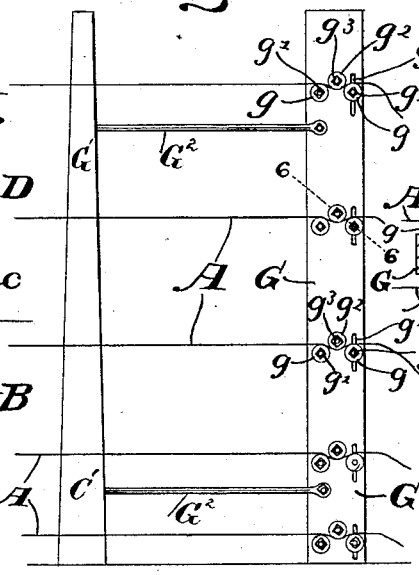


Fig. 4.

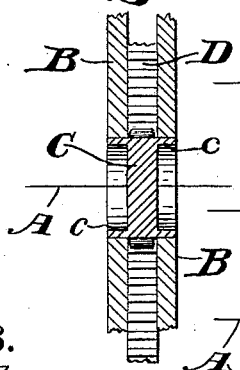


Fig. 6.

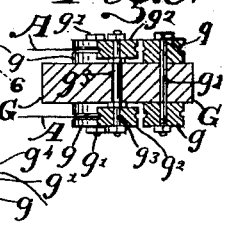
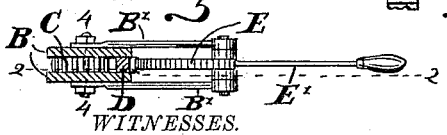


Fig. 3.



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UNITED STATES PATENT OFFICE.

JACOB WILLIAMS, JOSIAH REYNOLDS, AND JESSE BELL, OF DUBLIN, INDIANA; SAID BELL ASSIGNOR TO SAID WILLIAMS AND REYNOLDS.

FENCE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 342,240, dated May 18, 1886.

Application filed February 1, 1886. Serial No. 190,436. (No model.)

To all whom it may concern:

Be it known that we, JACOB WILLIAMS, JOSIAH REYNOLDS, and JESSE BELL, of the town of Dublin, county of Wayne, and State of Indiana, have invented certain new and useful Improvements in Fence-Machines, of which the following is a specification.

Our said invention consists in various improvements in that class of machines for building fences which twist the strands of wire about the pickets, and thus produce a combined wire and picket fence, as will be hereinafter more particularly set forth.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a section of fence in process of construction, our machine being employed in such construction; Fig. 2, a central vertical section of the framework, the wheels and other mechanism being shown in elevation; Fig. 3, a horizontal sectional view looking downwardly from the dotted line 3 3 in Fig. 2; Fig. 4, a detail sectional view on the dotted line 4 4 in Figs. 2 and 3; Fig. 5, a detail view of the tension device for the wire, and Fig. 6 a detail sectional view looking downwardly from the dotted line 6 6 in Fig. 5.

In said drawings, the portions marked A represent the fence; B, the frame of the machine for weaving the wire about the pickets; C, the twister-wheels therein; D, a rack-bar for operating said twister-wheels; E, a segment for operating said rack-bar; F, a lever for moving the machine, and G the tension device for the wire.

The fence A is the ordinary combined wire and picket fence, and is shown simply to illustrate the method of using our invention.

The frame B of the machine is constructed of two sides or boards secured together at the bottom and top, and at such other points as may be desired, preferably by interposing blocks and passing bolts through said sides and said blocks. These sides are provided with openings or bearings to receive the journals of the wheels C, and notches in one edge, which lead into said openings. This frame is also provided with brackets B′, in which are bearings for the segment E. Ordinary buffers, b^4, may be provided on the front side of said frame, as shown, if desired.

The wheels C are preferably spur-pinions, having flanges *c* upon each side, which serve as journals, and which rest in the bearings provided therefor in the sides of the frame B. Two notches, *c′*, are cut in the opposite sides of these wheels, and extend from the periphery in to just inside the flanges *c* forming the journals. These flanges or journals are placed in the bearings provided therefor in the framework, and then the two sides of said framework are brought into position and bolted together, as shown.

The rack-bar D is mounted in a suitable way therefor in the back side of the frame B, and its teeth engage with the teeth of the wheels C, and it is thus adapted to operate said wheels. On its back side it is also provided with teeth for a portion of its length, as shown, and these engage with the segment, by which it is operated. In order to permit this rack-bar to travel a considerable distance and still revolve all the twister-wheels, intermediate gear-wheels, C′, are interposed between the lowest and next lowest of said wheels, and so when the lower end of this rack-bar passes above said lowest wheel it will still be driven by means of these intermediate wheels from the one next above it.

The segment E is mounted in bearings in the brackets B′ on the frame B, and is provided with a handle, E′, by which the operator may give it the required movement.

The lever F is bifurcated at its lower end, and adapted to catch over the wire between the pickets of the portion of the fence which is completed. It is provided with a connecting-rod, F′, by which it is connected to a bar, B^2, on the frame B by means of pivot-bolts *f′* and b^2. There are several holes in this bar B^2, so that the required adjustment of the point of attachment can be obtained, according to whether the greatest proportion of power is needed near the bottom or farther up on the fence in moving the machine.

The tension device G consists of a plain

board or plank and several knobs, g, secured firmly to the sides thereof by bolts g' and rollers g^2, secured thereto by appropriate shafts, g^3. One set of the knobs in each group is rendered adjustable by there being a slot, g^4, provided for the reception of the bolt on which they are mounted, as indicated most plainly in Fig. 5. Thus by loosening this bolt and moving it up and down said pair of knobs may be adjusted, and the friction on the wire thus increased or diminished and the required tension obtained. Said tension device is supported in position in any suitable manner, it being shown as supported from a post, G', by rods G^2, which we regard as a desirable and efficient support when convenient.

The operation of our said invention is as follows: The wires being strung and in place, the machine is brought alongside said wires, and one wire of each pair is put through the corresponding notch in the side of the frame into one of the notches in the wheel. The wheels are then given a half-revolution, and the other wire of each pair is put into the other notch in the wheel which received the first wire. The machine is then ready for use. A picket being introduced between the wires, the wheels are given the desired number of revolutions by means of the segment and rack-bar, the machine moved, another picket introduced, and the operation repeated.

The machine may be conveniently moved by means of the lever F, connected thereto, by placing the bifurcated end of the said lever over the twisted wire between two pickets in the portion of fence which is completed, and pushing or pulling on said lever, as will be readily understood. The wires being passed between the knobs and rollers of the tension device, (which have grooves in their faces to keep said wires from sliding,) are kept at the proper tension by the adjustment of said rolls, as hereinbefore described.

Having thus fully described our said invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the frame B, having journal-bearings, notches leading from one side to said journal-bearings, wheels C, having flanges c on each side, forming journals for said wheels, and notches leading from the periphery to inside said flanges, and means for revolving said twister-wheels.

2. The combination, in a fence-machine, of the frame B, having large journal-bearings, and notches in one edge leading thereto, wheels C, mounted in said journal-bearings, flanges c being provided on each side to form their journals, and having teeth on their peripheries and notches in their opposite sides leading to within said flanges, the rack-bar D, mounted in a vertical way in said frame and engaging with the teeth of said wheels C, and means for operating said rack-bar, all substantially as set forth.

3. The combination of the frame B, having journal-bearings, gear-wheel C, mounted in said journal-bearings and provided with notches in their opposite edges, the rack-bar D, suitably mounted in said frame and engaging with said wheels C, means for operating the same, and a train of gear-wheels, C', arranged between the two wheels C nearest one end of the frame, whereby said bar D is permitted a long travel and the operation of said end wheels assured at all times, substantially as set forth.

In witness whereof we have hereunto set our hands and seals, at Dublin, Indiana, this 25th day of January, A. D. 1886.

JACOB WILLIAMS. [L. S.]
JOSIAH REYNOLDS. [L. S.]
JESSE BELL. [L. S.]

In presence of—
GEORGE W. TAGGART,
OLIVER WHITE.