(No Model.)

W. W. HIGHTREE.

TENSION MACHINE FOR USE IN CONSTRUCTING FENCES.

No. 411,029. Patented Sept. 17, 1889.

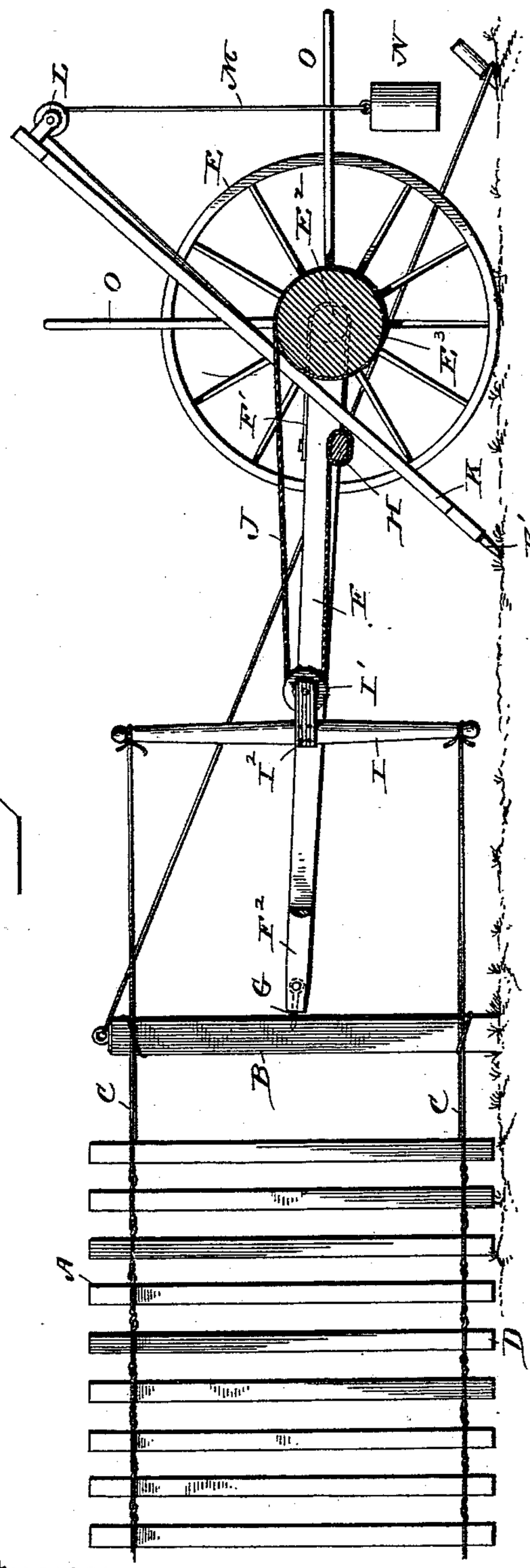

Fig. 1.

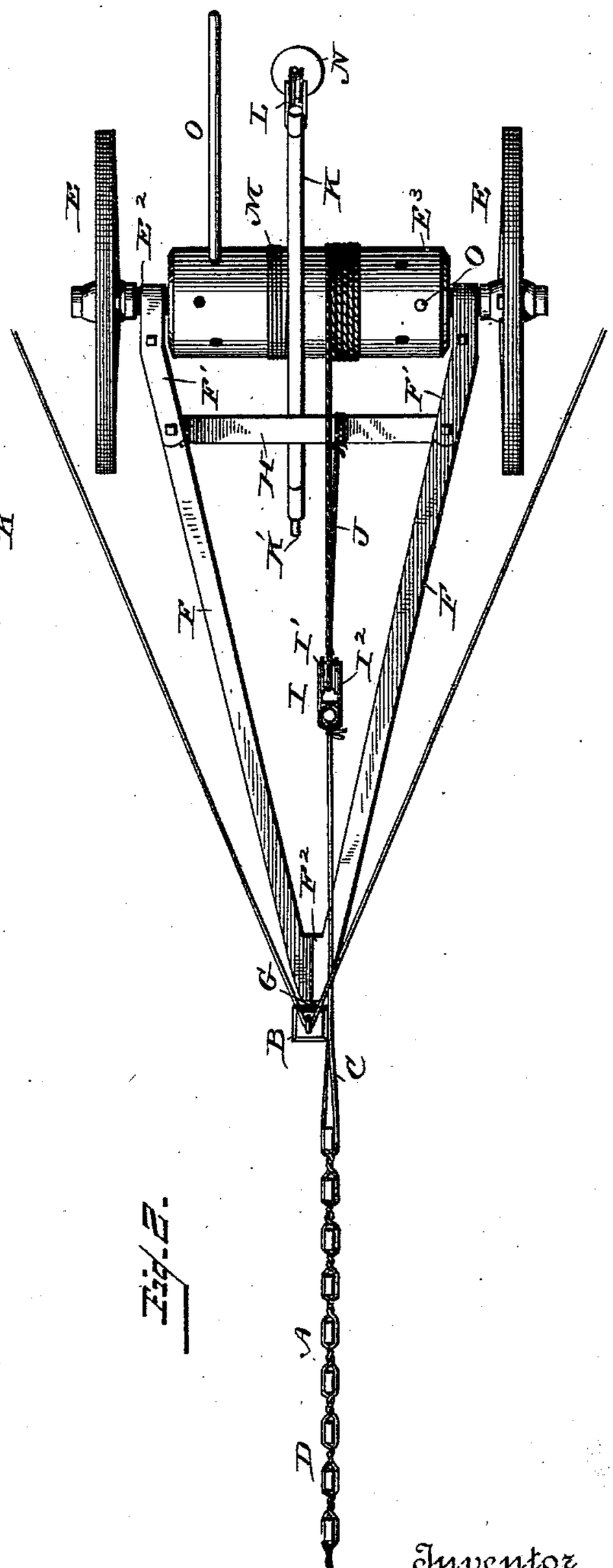

Fig. 2.

Witnesses
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WARREN W. HIGHTREE, OF HUBBARD, OHIO.

TENSION-MACHINE FOR USE IN CONSTRUCTING FENCES.

SPECIFICATION forming part of Letters Patent No. 411,029, dated September 17, 1889.

Application filed July 8, 1889. Serial No. 316,769. (No model.)

To all whom it may concern:

Be it known that I, WARREN W. HIGHTREE, a citizen of the United States, residing at Hubbard, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Tension-Machines for Use in Constructing Fences; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in tension devices for fence-machines; and it has for its object to simplify and cheapen and at the same time render more efficient in operation this class of devices.

To the above ends and to such others as the invention may pertain the same consists in the peculiar combinations and in the novel construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating like parts throughout both views, and in which drawings—

Figure 1 is a side view of the machine, partly in section in order to better illustrate other parts. Fig. 2 is a top plan.

Reference now being had to the details of the drawings by letter, A designates the line of fence which is being constructed, the same consisting of the posts B, wires C, arranged in pairs, and having pickets D held in place between the wires, which are twisted between each picket, as is common in the construction of this class of fences; but as the present invention relates solely to the mechanism employed in stretching the wires and has no reference to the manner of placing the pickets or twisting the wires I will at once proceed to explain the mechanism which I employ for this purpose and which embodies my invention.

E E are wheels, which are fixedly secured to a rotatable axle E^2, the main central portion of which axle is enlarged to form a drum E^3.

F F are timbers the rear ends of which are loosely sleeved to the axle by means of the bands F′, which are passed around the axles at points adjacent to the inside of the wheels, or, in lieu of the bands, holes may be made through the timbers adjacent to the ends to receive the axle, as will be readily understood. The timbers F are united at their front or forward ends, as shown at F^2, and secured between their united ends is the enlarged base of the metallic pike or point G, which pike projects a short distance beyond the ends of the timbers.

H is a cross-timber secured at its ends to the under faces of the timbers F, and connecting said timbers at a point slightly in advance of the drum E^3 upon the axle.

In operation, the fence-posts having been set and the wires passed through the loops or keepers upon the sides of the posts, the last post in the line is securely braced, as shown in the drawings. The machine is then placed in position, the pike G being firmly embedded in the rear face of the post. The ends of the wires C are carried past the post, and are secured to the timber I, upon the rear face or edge of which timber is fixed the pulley I′ by means of the metallic band I^2, passed around the timber and having the pulley journaled between its rearwardly-extended ends. One end of the rope or chain J is secured to the cross-timber H, and its opposite end is wound around the drum E^3 upon the axle. The machine is now secured in position by means of the timber K, one end of which timber is provided with a metallic point K′ at its lower end in order to secure a firm hold upon the ground. It will be observed that the timber K is passed at an angle downwardly through the space intervening between the cross-timber H and the drum upon the axle, and that upon the rear side of this inclined brace or timber is

carried a pulley L, over which pulley is passed a rope or chain M, one end of which is secured to the drum E^3. The said rope or chain M is wound around the drum in a direction opposite to that of the rope or chain J, and after passing through the pulley L the free end of the rope is secured to a weight N. The machine having been placed in proper position, as described, the drum is turned by the operator by means of suitable hand-levers O, the ends of which levers are inserted in suitable holes or openings in the drum for the purpose. By the turning of the drum the rope or chain J is wound thereon and the vertical timber I is drawn toward the drum, thus drawing the wires secured thereto firmly into place.

The weight N upon the free end of the rope or chain M, which rope is wound in an opposite direction around the drum, serves as a brake, allowing the drum to slip back as the wire grows shorter, and is tightened by twisting in inserting the pickets.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is—

1. In a fence-making machine, the combination, with a vertical tension-rod having a pulley secured thereto, of a rotatable cylinder or drum to the rear of the tension-rod, a transverse timber in advance of and adjacent to said drum, a rope secured to said transverse timber, passed through the pulley upon the tension-rod, and wound around said drum, an independent rope or chain secured to and wound around the drum in an opposite direction and passed over a pulley to the rear of and upon a higher plane than the drum and carrying upon its free end a weight, and means, as the levers O, for rotating said drum, substantially as described.

2. The herein-described tension device for fences, the same comprising, in combination, the wheels, the axle provided with a drum, as described, the timbers F, loosely sleeved at their rear ends upon the axle and united at their forward ends and provided with a metal pike, as described, a cross-timber connecting the timbers F at a point slightly in advance of the drum, the timber I, the pulley attached thereto, the rope J, secured to the cross-timber, passed through the pulley, and wound around the drum, the brace-timber K, between the cross-timber and drum, carrying at its upper end a pulley, and a rope or chain M, wound around the drum in a direction opposite to that of the chain J, passed over the pulley at the upper end of the brace-rod, and its free end provided with a weight, substantially as described, and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

WARREN W. HIGHTREE.

Witnesses:
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JOHN H. HERBERT.