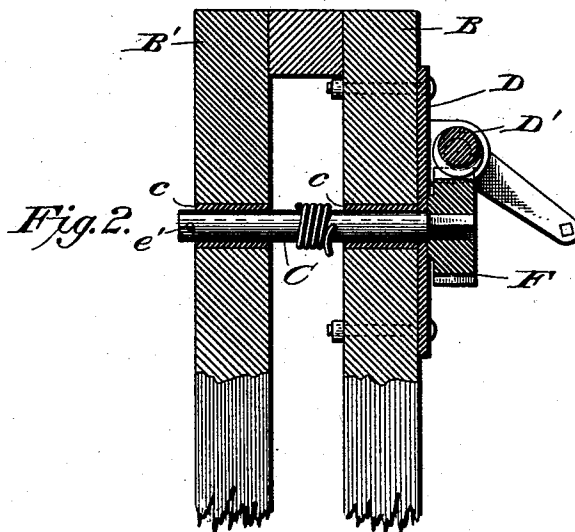
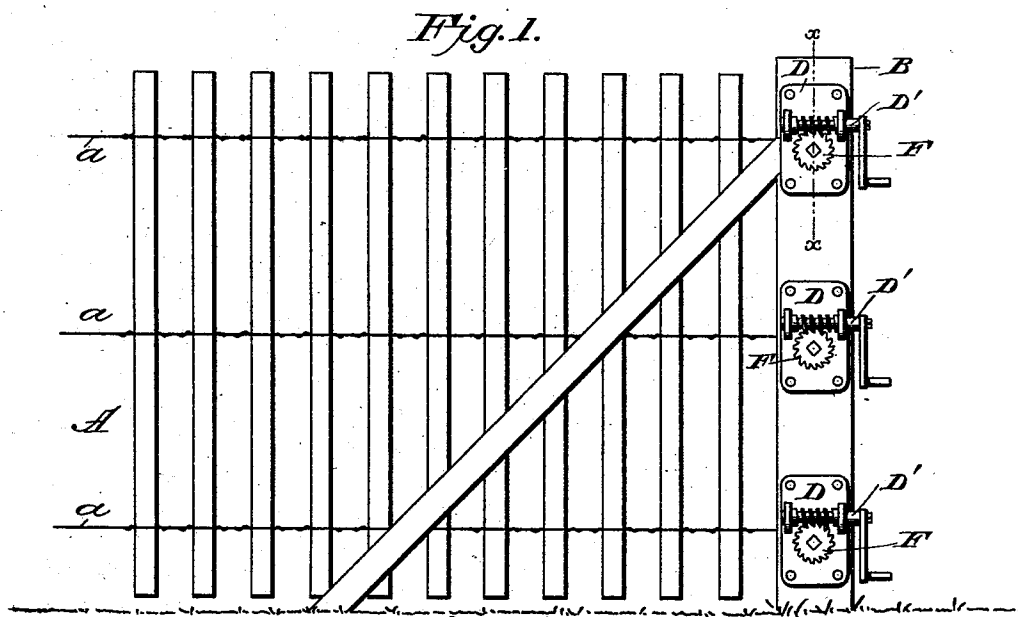


(No Model.)

I. M. ULSH.
TIGHTENER FOR FENCE WIRE.

No. 513,844.

Patented Jan. 30, 1894.



WITNESSES
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UNITED STATES PATENT OFFICE.

ISAAC M. ULSH, OF FREMONT, OHIO.

TIGHTENER FOR FENCE-WIRE.

SPECIFICATION forming part of Letters Patent No. 513,844, dated January 30, 1894.

Application filed August 10, 1893. Serial No. 482,860. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. ULSH, a citizen of the United States of America, residing at Fremont, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in Tighteners for Fence-Wire; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in permanent wire fence tighteners.

The object of the invention is to provide means for tightening the wires of either wire fences or wire and slat fences and it consists in the construction and combination of the parts, as will be hereinafter fully set forth and particularly pointed out in the claim.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation showing the application of my improvement, and Fig. 2 is a sectional view on the line *x-x*.

A designates the end section of an ordinary wire and slat fence, the wires being designated by the letter *a*.

Band B' designate posts or uprights which are located adjacent to and are parallel with each other, leaving a space between them in which the wires *a* are passed and secured as hereinafter set forth. The posts B and B' are provided with apertures which are on a line with each other, and within these apertures are placed metal bushings *c c* which form bearings for short shafts C upon which the wires are wound. On the outer side of the post B are rigidly secured plates D through which the apertures in the post are continued to permit the shafts C to project beyond the plates, the projecting end of each shaft being squared to receive a pinion or toothed wheel F, one of the sides of each tooth being inclined while the other is straight or on a line radiating from the center, and with this toothed wheel engages a worm or threaded shaft D' journaled in lugs projecting from the plates D, the worm or threads being formed on the central part of the shaft so that the ends thereof will bear in the lugs, one end

being extended and squared to receive a crank-handle for turning said shaft.

The shaft C is retained in its bearings by means of the pinion F keyed on one end and a pin *e'* which is passed through a perforation near the other end, and centrally, or between the posts, this shaft has a perforation through which the wire is passed for attaching the same thereto. By turning the shaft D' the worm thereon will rotate the pinion on the shaft C and the turning of said shaft will wind the wire thereon. By shaping the teeth of the pinion as herein shown and described a straight bearing surface is provided so that the shaft C will be locked and will not be turned by the tension of the wire *a*.

A permanent wire fence tightener constructed as herein shown and described can be readily manufactured and cheaply applied, and by means of the same the fence can be quickly tightened and the stretching of the wires taken up.

I am aware that prior to my invention it has been proposed to provide a wire fence tightener with a drum having a toothed wheel which is engaged by a shaft having a worm, and I do not claim such invention broadly; but

What I do claim as new, and desire to secure by Letters Patent, is—

In a permanent wire tightener for the end sections of wire and slat fences, consisting of the connected and braced posts B and B', each having corresponding apertures on a line with each other and at right angles with the fence, shafts journaled in said apertures and provided at one end with locking pins and at the other with fixed pinions whereby the shafts are held against lateral displacement, plates D through which the shafts pass, said plates having lugs which support shafts D' having central worms, the ends of said shafts, which extend beyond the posts, being keyed to receive an operating handle, the parts being combined substantially as shown and for the purpose set forth.

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

ISAAC M. ULSH.

Witnesses:

LESTER WILSON,
JAMES W. DUNFEE.