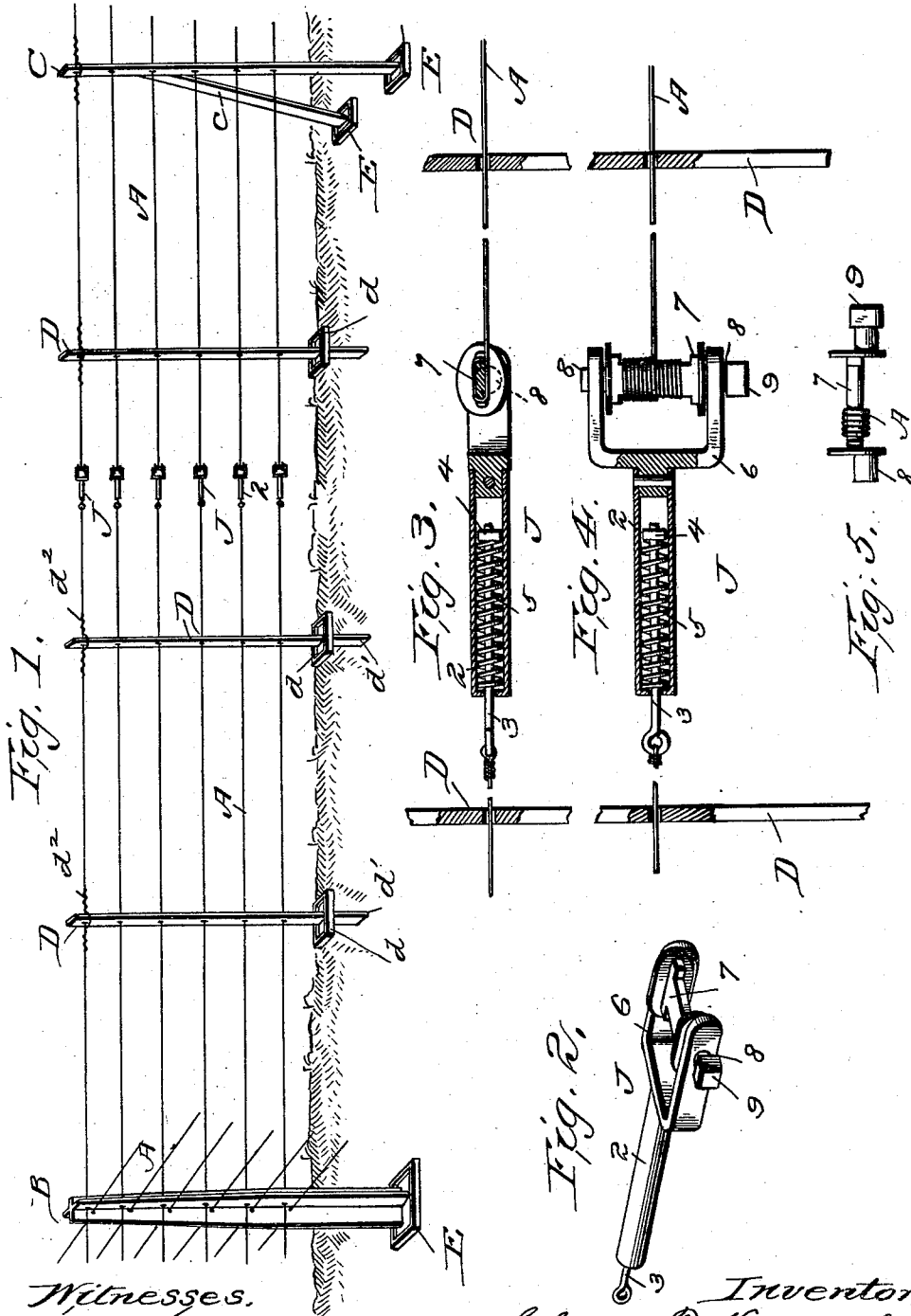


(No Model.)

C. F. HOLZWARTH.
FENCE.

No. 553,466.

Patented Jan. 21, 1896.



Witnesses.
Geo. R. Hamlin

Fig. 2.
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UNITED STATES PATENT OFFICE.

CHARLES F. HOLZWARTH, OF NEW MIDDLETOWN, OHIO.

FENCE.

SPECIFICATION forming part of Letters Patent No. 553,466, dated January 21, 1896.

Application filed July 6, 1894. Serial No. 516,742. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. HOLZWARTH, a citizen of the United States, residing at New Middletown, in the county of Mahoning and State of Ohio, have invented certain new and useful Improvements in 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.

My invention relates to those fence-wire compensators comprising winding mechanism for taking up slack wire, and a device adapted to compensate for expansion and contraction of the fence-wire.

My object is to produce a superior device of the class named, whereby the use of locking mechanism, as commonly employed in conjunction with the winding mechanism, is rendered unnecessary, owing to the peculiar construction of said winding mechanism.

A further object is to provide compensating means in conjunction with the peculiar winding mechanism.

Having these objects in view my invention consists in certain improvements and combinations more fully described hereinafter, and pointed out in the appended claims, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a section of fencing, showing the application of the invention. Fig. 2 is a detail view of the tightener and compensator. Figs. 3 and 4 are detail views, partially in section, showing the structure of the compensator and its application; and Fig. 5 is a detail view of the winding-spool shown detached from the compensator.

Similar letters and numerals of reference indicate corresponding parts in the several views.

The fence-wires A are arranged in parallel relation and are secured at their ends or at proper points to the posts. The intermediate posts and pickets have openings through which the wires pass loosely to allow for the movement due to contraction and expansion

incident to the changes of the temperature to obviate the straining of the posts and wires.

The construction of the fence-posts and anchorage device shown in the drawings being old, I will not enter into a description thereof.

The combined compensator and tightener is composed of a tube 2 receiving and inclosing a coil-spring 5, a rod 3 passing through one end of the tube and the spring, the inner end receiving a nut or stop 4, a bifurcated frame 6, and a spool 7 journaled in the bifurcations of the said frame. The shank of the frame 6 is secured by a rivet in the open end of the tube 5. The spring 5 is confined between the stop 4 and the end of the tube through which the rod 3 works. These combined tighteners and compensators J are located between the posts to which the fence-wires are permanently and rigidly attached.

Of course for long lines of fencing these devices J will be properly located to compensate for contraction and expansion. The spools 7 are flat or oblong in cross-section and have heads of corresponding shape and are depressed in their edges to receive the winds of the wire. The journals 8 are eccentric to the spool, being set to one side of the flattened body of the spool, but centrally of its edges. One journal has a head 9 to receive a wrench or other tool, by means of which the spool is turned on its journals to take up slack in the wire. One end of the wire is attached to the spool and the opposing end of the other wire is attached to the rod 3, the parts being so disposed that normally the spring 5 is held under tension. Hence, should the wire lengthen due to linear expansion, the spring will expand and take up the extra lengthening of the wire and prevent any sagging thereof. On the other hand, should the wire shorten by contracting, the spring 5 will contract and prevent the wire snapping or straining the posts. In the event of the wire expanding beyond the capacity of the spring 5 to take up any expansion thereof, a turn of the spool will take up a length to obtain a proper tension of the said spring. By the eccentric disposition of the spool and its oblong or flattened construction the strain on the fence-wire will not under normal strain exert sufficient force to turn the spool back and unwind it. This is due to the wire

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passing approximately through the axis of the spool instead of tangentially thereto. (See Fig. 3.)

The fence is erected in the usual manner, 5 the posts being first set up at the required points, and the wires are strung by being drawn through the openings in the pickets and the posts. The tighteners and compensators are located at the required points either 10 by cutting the wires or by stringing the wires from opposite directions and locating the devices J at their opposite ends.

Having thus described my invention, what I claim as new, and desire to secure by Letters 15 Patent, is—

1. A winding device consisting of a spool or drum eccentrally journaled in such manner as to bring the line of stress approximately through the centers of its journals

when a wire, cord, cable, chain, or equivalent 20 device is wound thereon, whereby the said spool or drum is made self-locking and is prevented from unwinding when under stress, substantially as described.

2. In a wire fence, a tightener comprising 25 a spool oblong in cross section and eccentrally journaled, substantially as described for the purpose set forth.

3. A fence wire compensator comprising the combination of an eccentrally journaled 30 winding spool and a compensating or tension device, substantially as described.

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

CHARLES F. HOLZWARTH.

Witnesses:

JOHN SEEGER,

HENRY BAUMGARTNER.