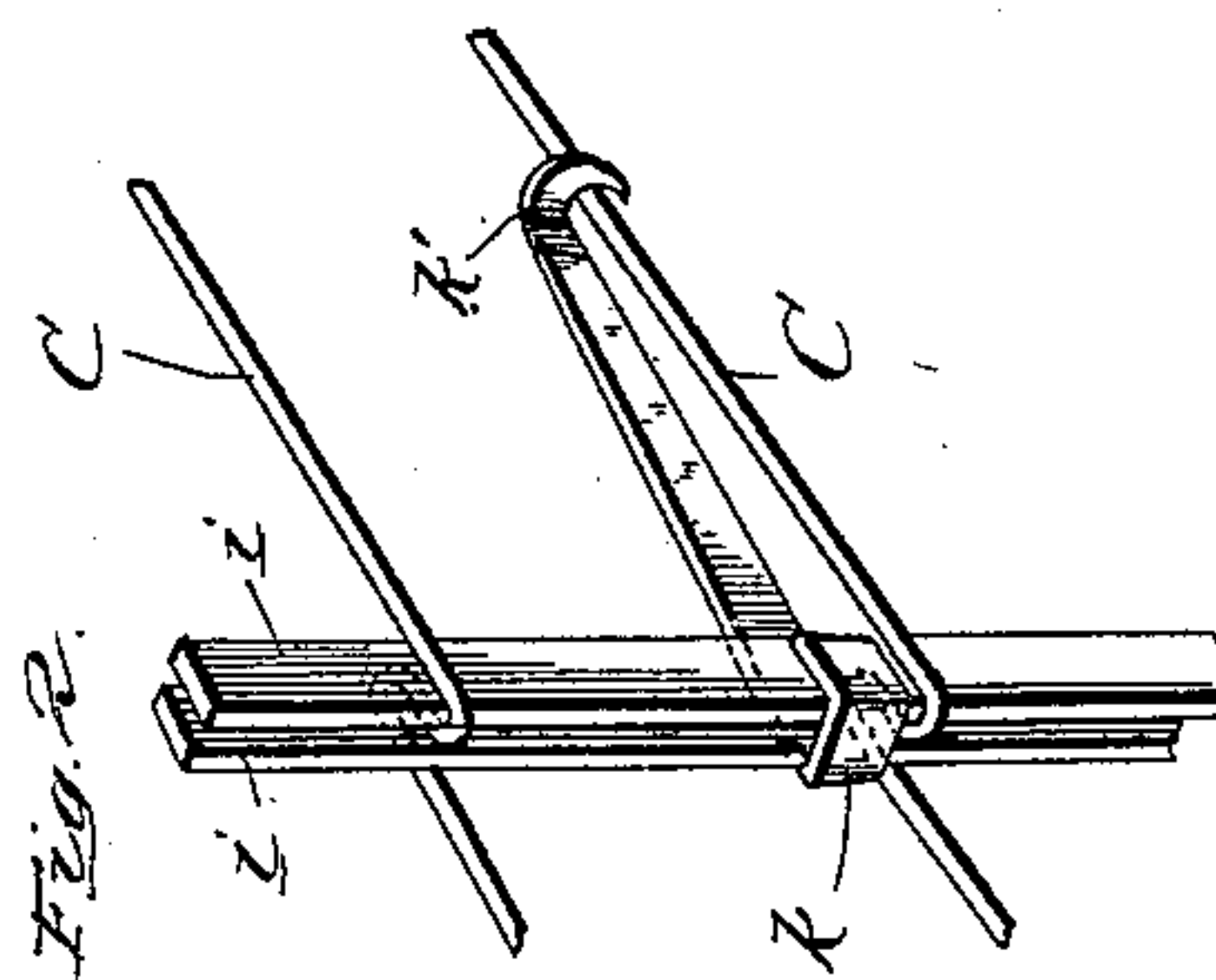
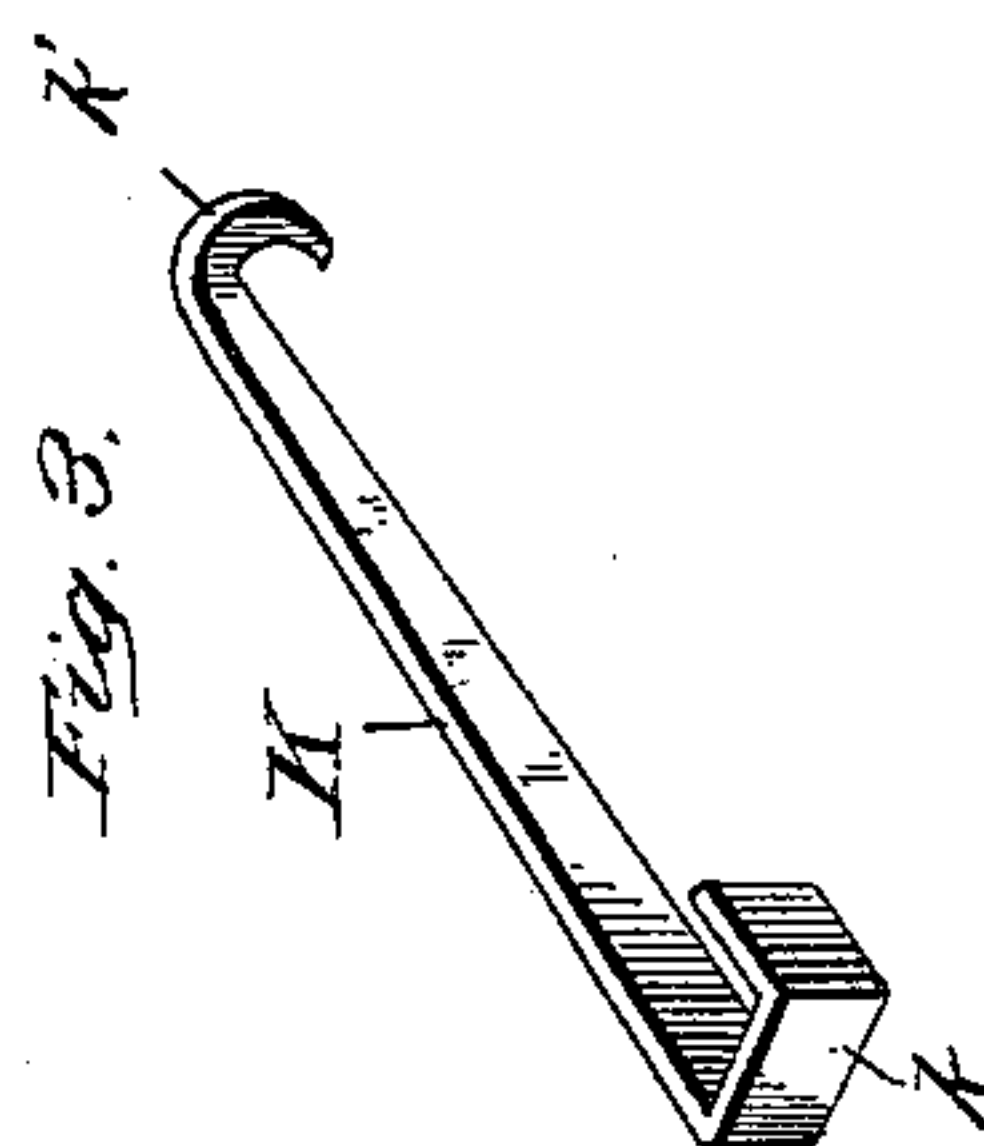
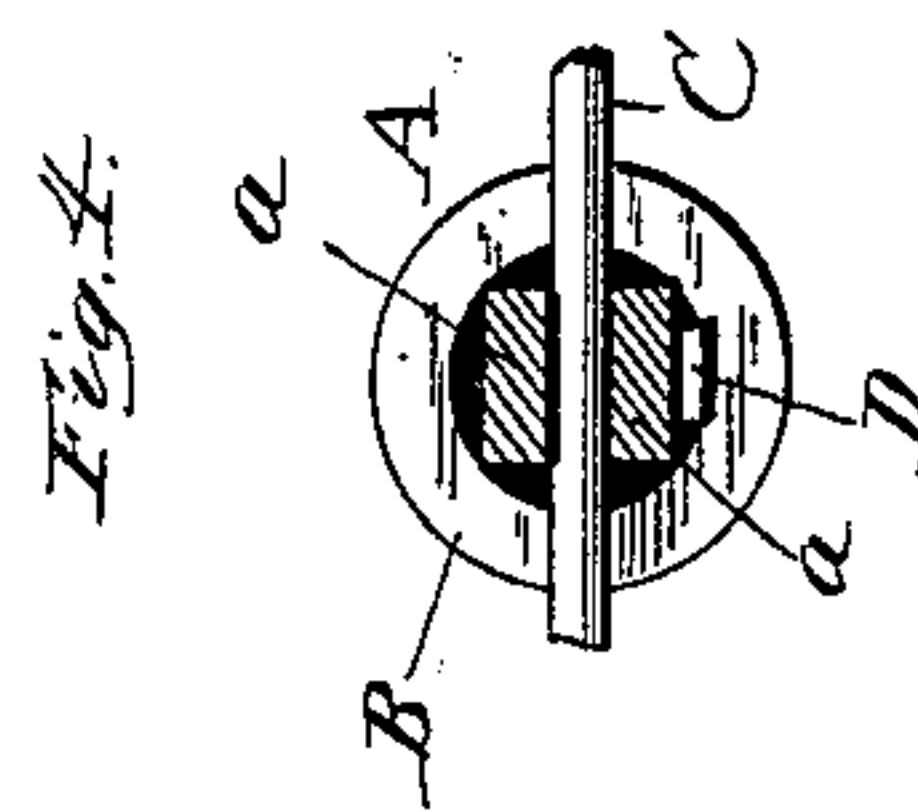
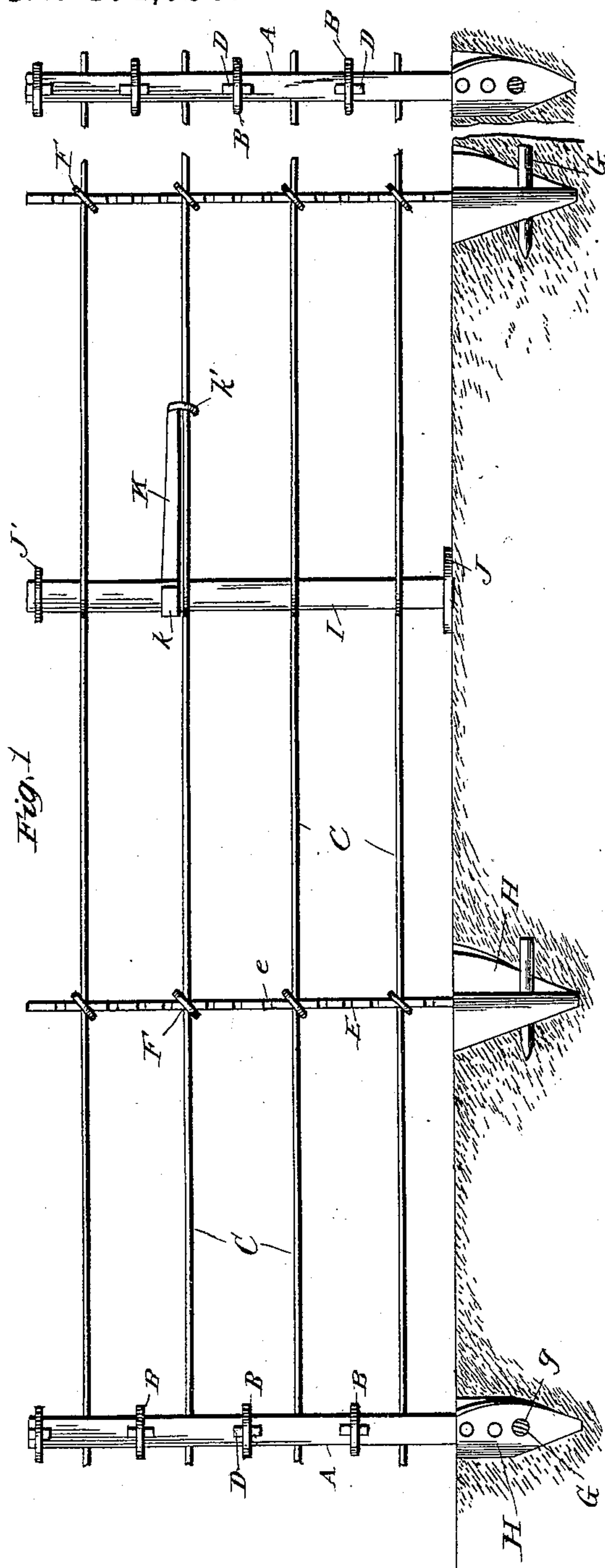


(No Model.)

E. WARNER.
WIRE FENCE TIGHTENER.

No. 404,938.

Patented June 11, 1889.



2 Witnesses
E. Raeder
Van Buren Hillyard.

Inventor
Ebenezer Warner

By *his* Attorneys *R. & A. Lacey*

UNITED STATES PATENT OFFICE.

EBENEZER WARNER, OF TOMAH, WISCONSIN.

WIRE-FENCE TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 404,938, dated June 11, 1889.

Application filed March 6, 1889. Serial No. 302,115. (No model.)

To all whom it may concern:

Be it known that I, EBENEZER WARNER, a citizen of the United States, residing at Tomah, in the county of Monroe and State of Wisconsin, have invented certain new and useful Improvements in Wire-Fence Tighteners; 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 wire fences, and particularly to the means for tightening the wires.

The object of the invention is to improve on my former patent, No. 390,046, dated September 25, 1888.

The improvement consists of the details of construction which will be hereinafter more fully described and claimed, and shown in the annexed drawings, in which—

Figure 1 is a side view, parts being broken away, of a fence embodying my invention; Fig. 2, a perspective detail view of the upper part of the tightener, showing the wrench in position; Fig. 3, a perspective view of the wrench; Fig. 4, a top view of the end posts.

The end, corner, or main posts A are each composed of two bars *a a*, between which the fence-wires C are placed and clamped by the washers or bands B, which are placed on the said posts, the keys D being driven in between the said washers or bands and the sides of the bars *a*. The intermediate fence-posts E have a series of notches *e* in their front edges to receive the fence-wires, the latter being held to the posts by the binding-wires F. The feet H of all the posts are constructed alike, being tapering and curved in opposite directions between their ends, and when driven in the ground are held from vertical displacement by the pins G, inserted through the openings *g* therein. After the foot H has been driven sufficiently far into the ground, the earth is removed from one side thereof to disclose the opening *g*, and the pin G is driven through this opening into the solid earth on the opposite side of the said foot until about half its

length is on each side thereof. The removed earth is now replaced and packed.

The tightener I is located at any convenient place in the fence, preferably between two posts, as shown, as it is not self-supporting, being held in a vertical position by the fence-wires. It is composed of two bars *i i*, which are held together at their lower ends by the plate J.

This tightener is placed on the wires in such a manner that the bars *i i* extend one on each side thereof, and are held together at their upper ends by the washer J'. The tightener, being adjusted to the wires, as just described, is turned to wind the wires thereon by any suitable means, the wrench K being preferred, as it makes provision to hold the tightener from turning back. The inner end *k* of the wrench is adapted to embrace three sides of the tightener, the fourth side being open to permit the wrench to be readily applied and removed from the tightener. The outer end of the wrench is provided with the hook *k'*, which is adapted to engage with one of the fence-wires and hold the wrench from turning back.

In practice, when tightening a fence, it is found of advantage to provide some means for temporarily holding the tightener against turning back when readjusting the wrench K, as it often happens that when the wires are sufficiently tightened the wrench is not in position to engage with the fence-wire. Again, when it is required to give the tightener only one-quarter or one-half turn, the wrench must needs be removed and adjusted anew, so as to engage with the fence-wires.

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

1. The combination, with the wire-fence tightener, of the removable wrench having a hook to engage with a fence-wire, substantially as described.

2. The combination, with the wire-fence tightener, of the wrench adapted to embrace the said tightener on three sides, being open on the fourth side, and having a hook at its outer end for engaging with the fence-wire, substantially as described.

3. The herein shown and described fence-

wire tightener, composed of two bars which
are adapted to have the fence-wires passed be-
tween them, the plate J, for connecting the
bars at their lower end and supporting them
5 on the ground, the plate J', for connecting the
upper ends of the bars, and the wrench for
turning the bars to wind the fence-wires there-
on, said wrench being constructed to engage

with one of the wires to prevent the bars turn-
ing back, substantially as described. 10

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

EBENEZER WARNER.

Witnesses:

VAN BUREN HILLYARD,
CHARLES H. RAEDER.