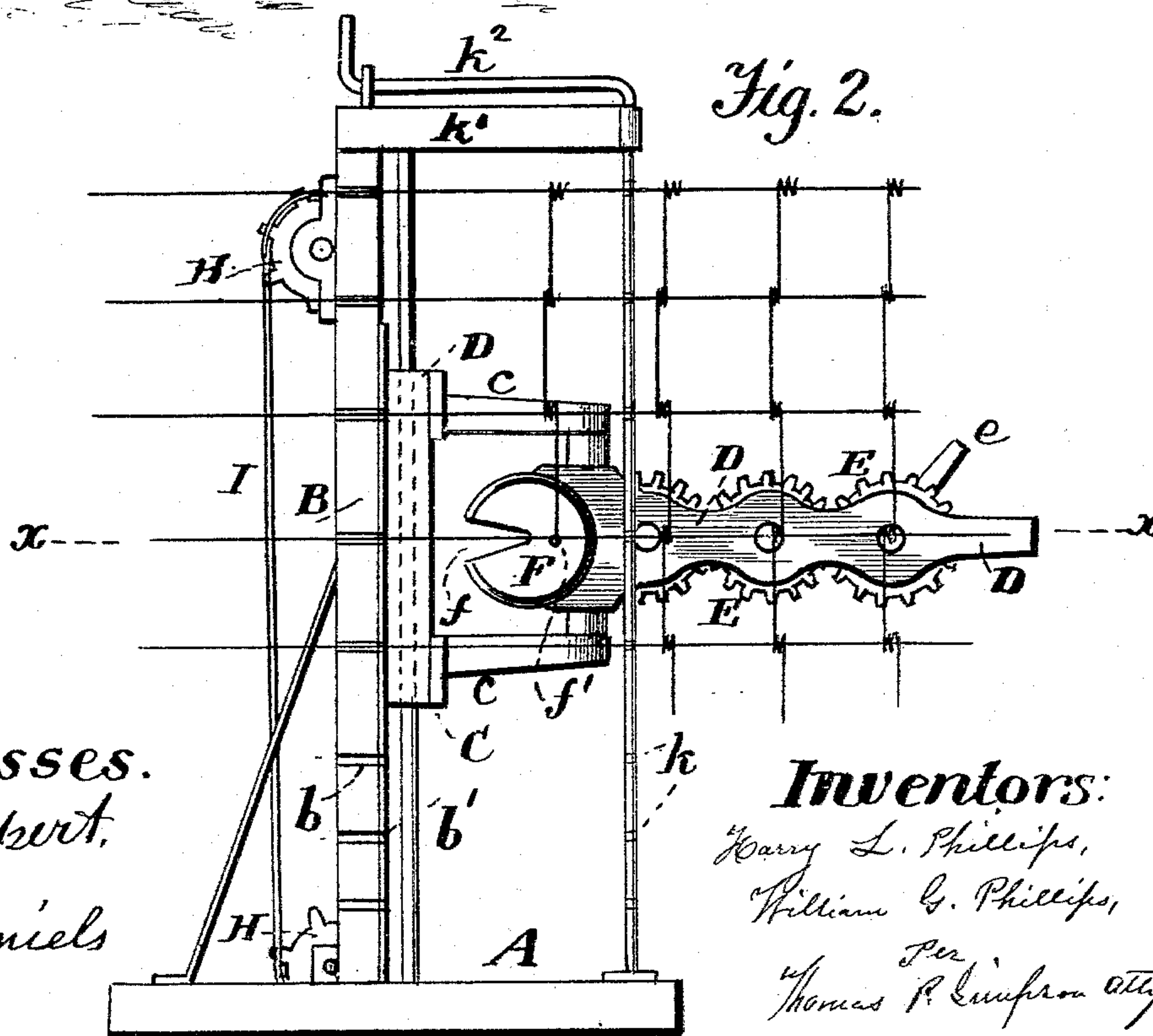
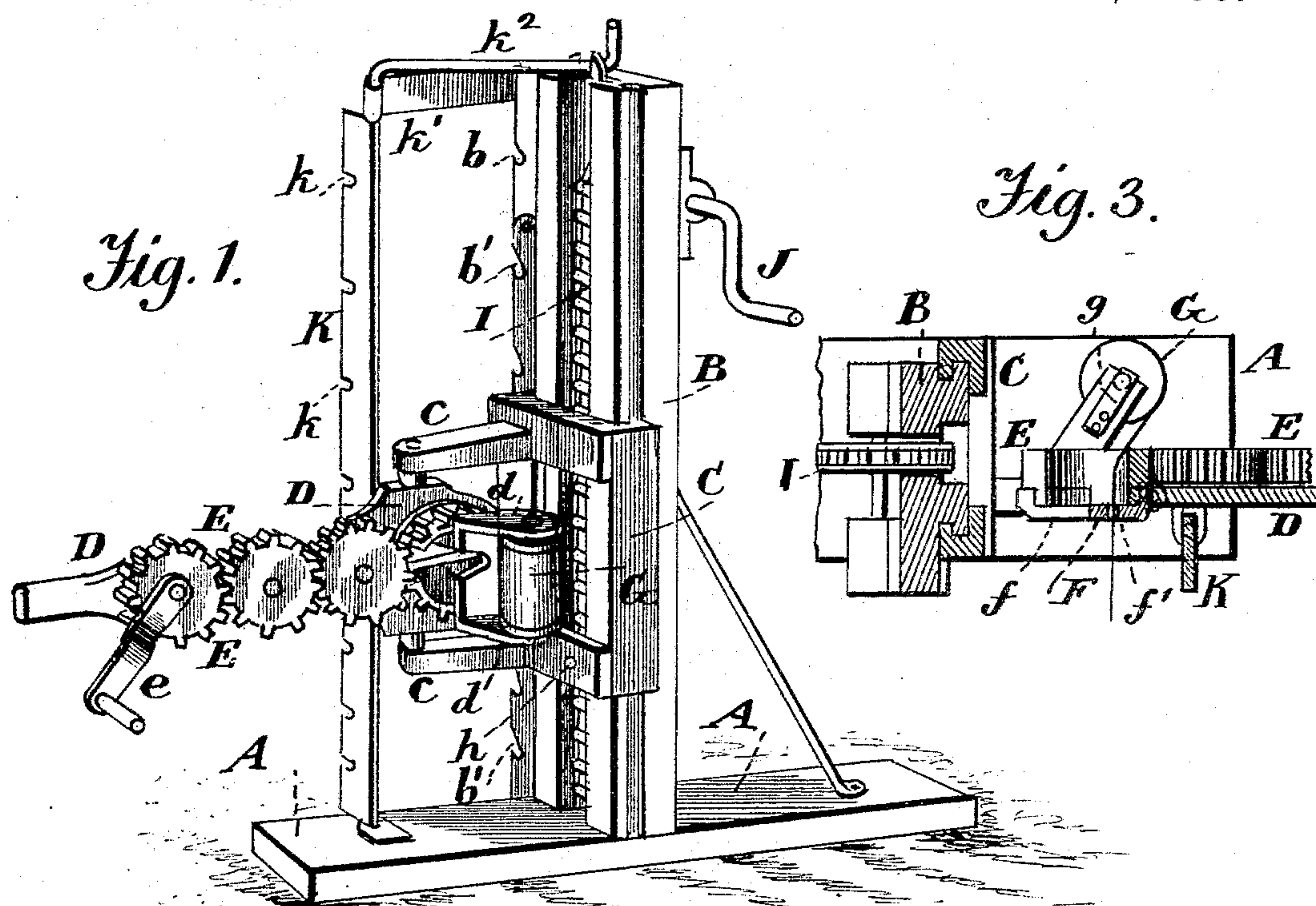


(No Model.)

H. L. & W. G. PHILLIPS.
STAY WIRE FASTENER FOR WIRE FENCES.

No. 533,494.

Patented Feb. 5, 1895.



Witnesses.
A. Ruppert,
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UNITED STATES PATENT OFFICE.

HARRY L. PHILLIPS AND WILLIAM G. PHILLIPS, OF LONE TREE, IOWA.

STAY-WIRE FASTENER FOR WIRE FENCES.

SPECIFICATION forming part of Letters Patent No. 533,494, dated February 5, 1895.

Application filed August 8, 1894. Serial No. 519,742. (No model.)

To all whom it may concern:

Be it known that we, HARRY L. PHILLIPS and WILLIAM G. PHILLIPS, citizens of the United States, residing at Lone Tree, in the county of Johnson and State of Iowa, have invented certain new and useful Improvements in Stay-Wire Fasteners for Wire Fences; and we 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 of reference marked thereon, which form a part of this specification.

The special object of the invention is to improve that class of fencing machines which are employed to tie the vertical stay wires to the horizontal wire rails.

Figure 1 of the drawings is a perspective view; Fig. 2, a front elevation, and Fig. 3 a horizontal section on dotted line xx of Fig. 2.

In the drawings, A represents the base, supporting, at right angles thereto, the upright B on which slides, by means of a groove and tenon joint, the carrier C. Between the arms $c c$ of the carrier is journaled the support D for the coiling mechanism, which consists of the spur wheels E, the one at the outer end being provided with a hand crank e and the one at the inner end being on a collar or shaft which carries the disk F. In this disk is made a sector excision f for the rail wire and eccentrically the hole f' for the stay wire. Between two arms $d d$ attached to the side of the spur-wheel whose shaft carries the disk F, on the opposite side of the said support, we journal the spool G on which is wound the stay wire; while g is a small spring bearing upon one end of the spool-shaft to hold the spool in position.

The tie wire fastener is arranged so as to bring the disk F at right angles to the line of fence and convenient for the reception of the rail in its sector-groove f , so that the disk may turn on it as a center. By turning the spur wheels E, the spool will turn around the rail as many times as may be required to make the desired knot.

The fastener is moved up and down on the post B by the sliding carrier C from one rail to another, the said carrier being moved by the sprocket-mechanism H I H and the hand crank J.

h is a pin attaching the chain to the slide.

The wire rails are held fast to the upright B in the notches b thereof and in those b' of a strap iron fastened to its side.

K is a vertical bar having notches k aligning with the notches $b b'$ so as to receive the rails, and journaled at its top in the arm k' while at the bottom it is stepped to turn in the base A. At the upper end of this bar is formed a crank-arm k^2 by which it may be turned in the quadrant of a circle to or from the wire rails.

With the machine described in our former United States Patent, No. 510,704, the coiler is drawn straight back from the rail or line wire, there being but one wire to hold the tension for the stay wire. Hence the line wire follows the coiler so as to loose its slack and often causes both sides of the knot last made to break. The line wire also gets loose and allows too much wire to be served out from the spool, thus leaving a surplus to reach the next line wire, producing an uneven mesh and giving an unsightly curve to the stay wire. By our improvements, we remove these objections by applying the spring or tension plate g to one end of the spool-shaft so as to produce the necessary friction to retard the uncoiling of the stay wire from the spool, thus tightening the knot and taking up all slack. Again, by pivoting the coiler disk (or the frame which supports it), we draw, at a turn from the stay wire spool, a minimum length of stay wire and thereby leave no surplus, because we have a straight draw endwise, with the stay wire against all the rails or line wires below.

Of course, it is well understood the bottom rail or line wire is made of heavy strong wire or of wire cable so as to stand tension.

What we claim as new is—

1. In a stay wire fastener for wire fences the pivoted coiler support D and the supporting frame combined with the spur wheels E,

the outer one being provided with a hand-
crank and the inner one being arranged on
the shaft of the coiling disk, and the stay-
wire spool G having a tension plate spring as
5 shown and described, for the purpose set
forth.

2. In a stay wire fastener for wire fences,
the upright B and strap having the notches
b b' in combination with a vertical notched
10 bar K pivoted to turn horizontally and whose

notches align with the notches in the upright
as and for the purpose specified.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

HARRY L. PHILLIPS.
WILLIAM G. PHILLIPS.

Witnesses:

H. L. WALDAN,
M. A. PETTY.