

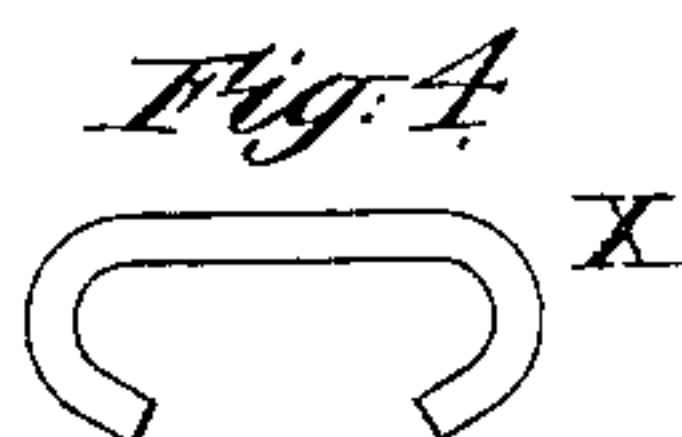
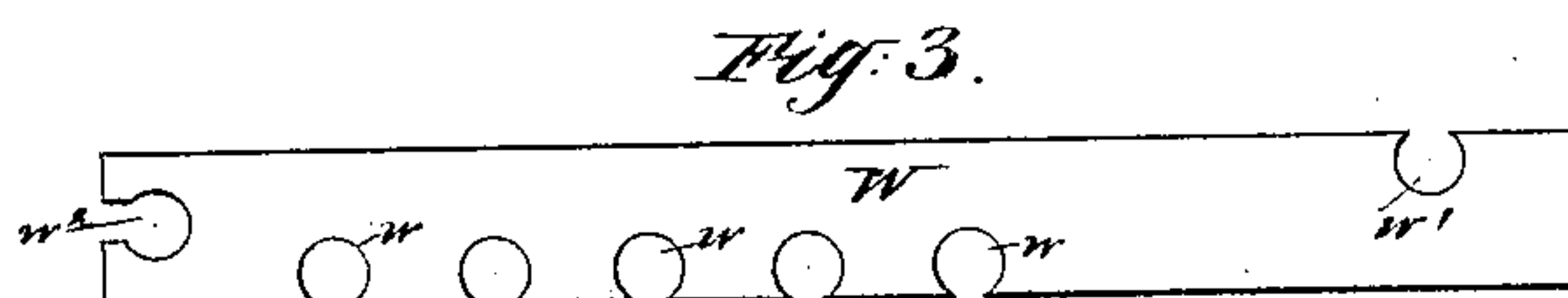
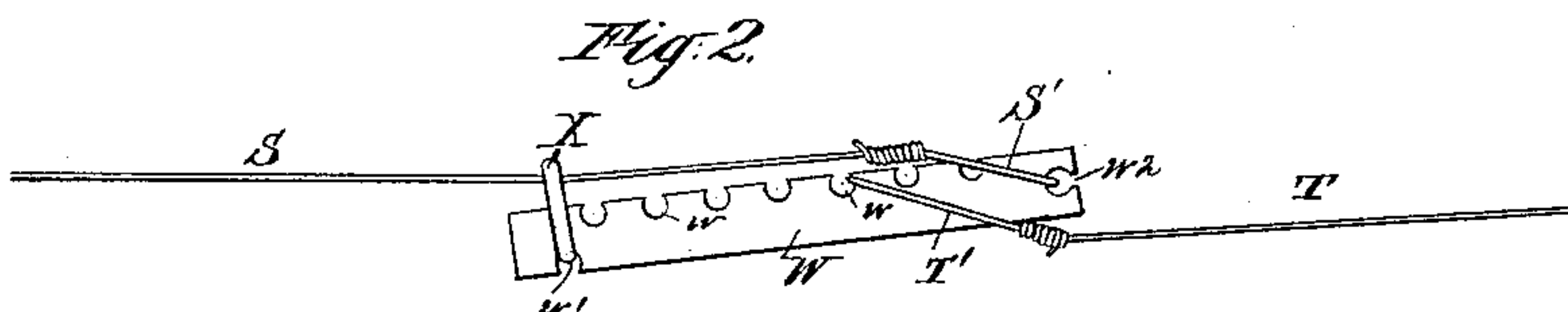
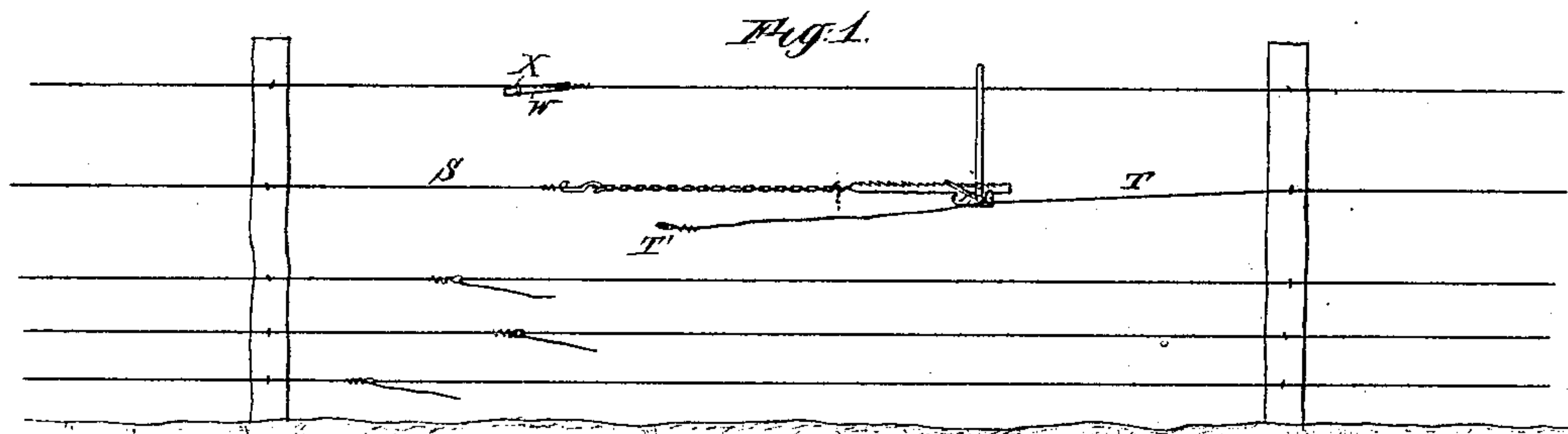
(No Model.)

W. A. MURRAY.

WIRE TIGHTENER.

No. 372,382.

Patented Nov. 1, 1887.



Witnesses:
Charles F. Searle,
H. A. Johnston.

Inventor:
William Archibald Murray
by his attorney
Thomas Drew Stetson

UNITED STATES PATENT OFFICE.

WILLIAM ARCH MURRAY, OF PIAKO, AUCKLAND, NEW ZEALAND.

WIRE-TIGHTENER.

SPECIFICATION forming part of Letters Patent No. 372,382, dated November 1, 1887.

Application filed November 23, 1886. Serial No. 219,569. (No model.) Patented in New Zealand July 31, 1884, No. 1,177; in England July 11, 1885, No. 8,421, and in Victoria December 31, 1885.

To all whom it may concern:

Be it known that I, WILLIAM ARCH MURRAY, of Piako, Auckland, New Zealand, temporarily residing in London, England, have invented a certain new and useful Improvement in Wire-Fence Strainers, (patented to me in New Zealand July 31, 1884, No. 1,177; in England July 11, 1885, No. 8,421, and in Victoria December 31, 1885,) of which the following is a specification.

This invention relates to improved devices, which I term a "key" and "clip," for holding the wires in place without relaxing any of the strain after said wires have been strained or stretched by any of the various mechanisms now in use for the purpose. A device which I preferably employ to stretch or strain the wires has been made the subject of a separate application by me for Letters Patent, filed October 9, 1885, Serial No. 179,422. When this device is used, it can be easily disengaged from the wires after the straining movement has been effected. The parts left on the fence are of little bulk, weight, or cost.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a general side elevation of a section of fence with my invention. In this figure the upper wire is strained, the second is being strained, and the third, fourth, and fifth are ready for straining. The succeeding figures are on a larger scale. Fig. 2 shows the wires after the stretching mechanism has completed its work and the ends of the strained wires are permanently engaged. Fig. 3 represents the key detached, and Fig. 4 represents the clip detached.

Similar letters of reference indicate corresponding parts in all the figures.

When the wire has been sufficiently strained by the straining devices, I make a loop, T', on the right-hand wire T, almost touching the loop S' on the left-hand wire S. I employ for the permanent engagement of these loops together parts which I term a "key" and "clip."

W is the key. It is provided with deep notches *w w* along one edge, a single deep notch, *w'*, on the other edge near one end, and a deep notch, *w''*, in the opposite end.

X is a clip of stout iron or steel wire bent into a shape approximating the form of the letter C. I provide a liberal supply of these keys and clips.

To engage the loops S' T', I insert one of the keys W partially through the loop T' and engage such loop in one of the notches *w*. Then I engage the loop S' of the opposite wire in the end notch, *w''*, as shown in Fig. 2. The key is now ready to serve as a lever, the free end of which is moved to the left by the force of the hand until it lies adjacent to the wire S, thus carrying the looped ends S' T' a little past each other and giving the final strain to the wires. Now the clip X is applied, engaging the wire S with the key, being held in place by means of its notch *w'*, and the work is complete, ready to stand for an indefinite period, or until the wires shall again require straining. The keys should weigh about six ounces each. Four per wire per mile are sufficient.

My keys and links are equally suited for barbed wire or common wire. Each wire of a fence can be strained in two or three minutes. The invention requires no special adaptation of posts by boring or otherwise. Two out of three straining-posts ordinarily used are saved.

I am aware that devices for connecting strained wires have heretofore been used, consisting of a lever having a notched arm and links for connecting the wires therewith. Such construction I do not, therefore, broadly claim.

I claim as my invention—

The combination, with the wires S T, of the holding key W, having side notches, *w* and *w'*, and end notch, *w''*, and the open link X, all arranged and constructed to serve as and for the purposes set forth.

In testimony whereof I have hereunto set my hand, at London, England, this 12th day of October, 1886, in the presence of two subscribing witnesses.

WM. ARCH MURRAY.

Witnesses:

THOMAS M. WALLER,
A. NUTTING.