

(No Model.)

C. A. PHELPS.
FENCE.

No. 556,518.

Patented Mar. 17, 1896.

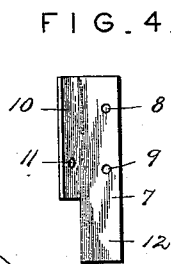
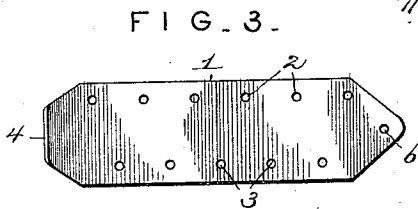
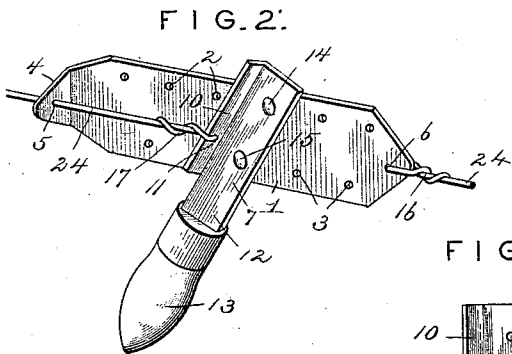
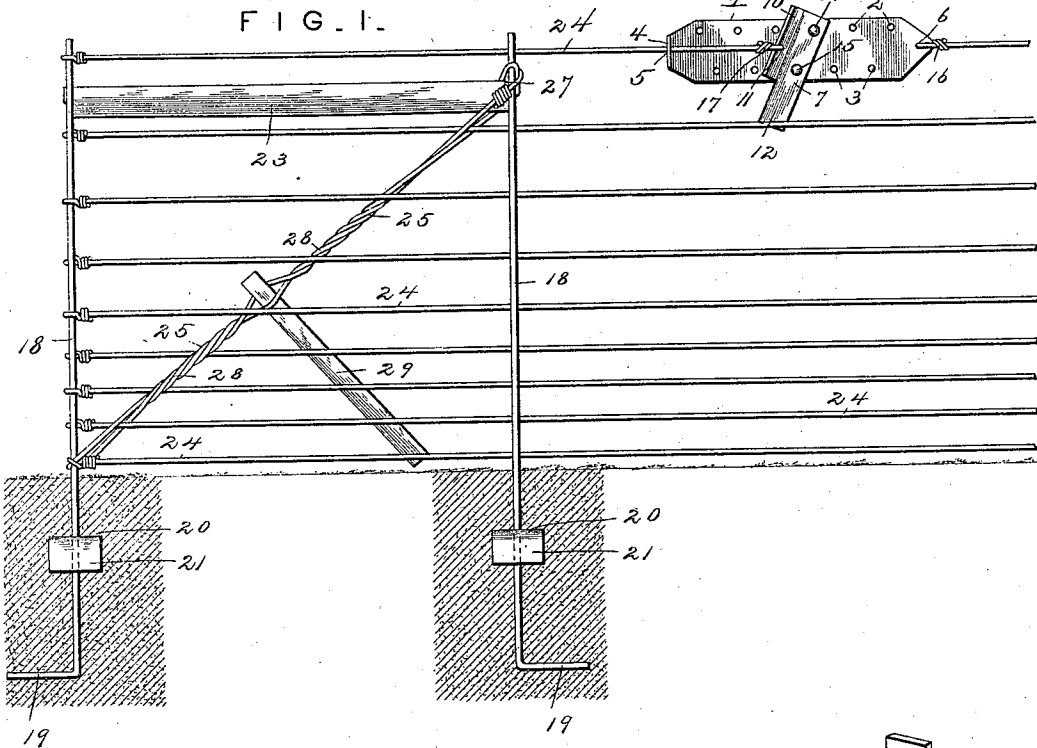


FIG. 5.

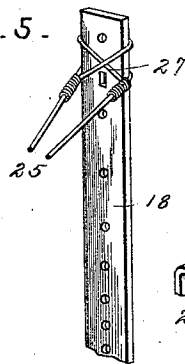
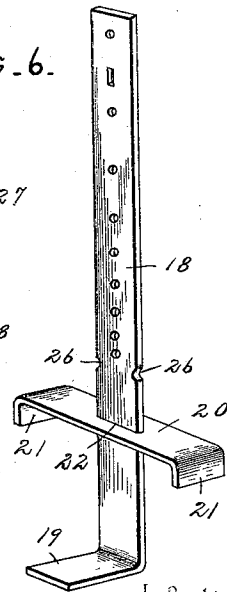


FIG. 6.



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FENCE.

SPECIFICATION forming part of Letters Patent No. 556,518, dated March 17, 1896.

Application filed May 24, 1895. Serial No. 550,553. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. PHELPS, a citizen of the United States, residing at Broadway, in the county of Union and State of Ohio, have invented a new and useful Fence, of which the following is a specification.

The primary object of the present invention is to provide a device for tightening fence-wires and splicing the same when broken, which will be simple in construction, efficient for the purpose designed, and capable of being readily and successfully applied to the fence-wires at any required point in their length.

The device, while especially designed for tightening wires, is equally well adapted for splicing and connecting the broken ends of fence-wires and securing the desired tension on the separated portions in an efficient manner.

The device in its organization comprises, essentially, two parts, a plate provided in its length with two sets of openings, and having one end bent and apertured to form a guide for the passage of one end of a wire, the opposite end having an opening to receive the adjacent end of the other wire to be tightened or connected, and a movable plate provided with openings to alternately register with the two sets of openings provided in the first-mentioned plate, and having a flanged edge portion to be connected with the wire which passes loosely through the opening in the bent end of the first-mentioned plate. Two pins are provided to co-operate with the plates and form fulcrums for the movable plate to tilt upon in its adjustment when tightening the wire, and also to form means for locking the two plates in the relative located position after the desired tension upon the wire has been secured.

The improvement also consists of the novel features and the peculiar construction and combination of the parts, which hereinafter will be more fully described and claimed, and which are shown in the accompanying drawings, in which—

Figure 1 is a side elevation of a length of wire fence, showing the application of the invention. Fig. 2 is a perspective view of the improved device, showing the detachable

handle applied to the relatively movable plate. Fig. 3 is a detail view of the fixed plate having the two series of openings. Fig. 4 is a detail view of the movable plate. Fig. 5 is a detail view showing the manner of securing the ends of the brace-wire to the fence-post. Fig. 6 is a detail view showing the manner of anchoring and steadying the fence-posts in the ground.

The plate 1 is long and narrow and is provided with two series of openings 2 and 3, which extend in parallel relation, the position of the openings 2 alternating and coming opposite the space between the openings 3, for the purpose which hereinafter will be more particularly set forth. One end of the plate, as 4, is bent laterally, and is provided with an opening 5 to form a guide for the passage of the wire in the efficient working of the device. The opposite end of the plate 1 is provided with an opening 6 to receive the end of the wire to be coupled or tightened.

The plate 7 is comparatively short and narrow and is provided with openings 8 and 9 to correspond with the position of the openings 2 and 3, with which they register in the working of the device. These openings 8 and 9 are spaced apart a distance corresponding to the distance between two adjacent or corresponding openings 2 and 3, so as to register therewith when tightening the wire. A flange 10 is provided on one edge of the plate 7, and has an opening 11 to receive the end of the wire to be coupled or tightened by the device. One end of the plate 7, as 12, is reduced by omitting an end portion of the flange 10, so as to receive a handle 13, by means of which the plate 7 is actuated in the practical application of the invention. Two pins or bolts 14 and 15 are provided to connect the plate 7 with the plate 1. By placing both pins through the openings 8 and 9 and corresponding openings 2 and 3 the two plates 1 and 7 will be locked or secured firmly together against accidental displacement.

The handle 13, which may be of any suitable construction, is apertured at one end to receive the reduced end 12 of the plate 7. This handle gives an increased leverage in the operation of the plate 7 and prevents injury to the hand, as it obviates sharp corners or edges coming in contact therewith.

When the device is to be used solely as a tightener, one will be provided for each line wire of the fence and located at the required point, so as to secure the best possible results.

5 In applying the device to a fence-wire 24 the latter is cut and one end, as 16, is passed through the opening 6 of the plate 1 and twisted so as to form firm attachment therewith, the opposite end, as 17, being passed
10 through the opening 5 and attached to the plate 7 by being passed through the opening 11, and secured by having its end twisted in the ordinary manner. To create a tension on the fence-wire, the plate 7 is alternately rocked
15 upon one or the other of the pins 14 and 15 until the desired tension has been attained, when both pins 14 and 15 are passed through the openings 8 and 9 and registering openings 2 and 3, thereby locking the two plates
20 1 and 7 in the required position. The handle 13 is now detached and the device left in the adjusted position. When moving the plate 7 on the plate 1, one of the pins 14 or 15 is passed through, for instance, the opening 9 and a corresponding opening 2, and the plate
25 7 is rocked upon this pin as a fulcrum until the opposite opening 8 registers with an opening 3 in advance of the opening 2, through which the pin 14 passes. The pin 15 is now
30 passed through the opening 8 and the registering opening 3, and the pin 14 is withdrawn and the plate again rocked upon the pin 15 as a fulcrum, until the said opening 9 again registers with an opening 2 in advance of
35 the opening 3, through which the pin 15 passes. This step-by-step movement is continued until the required tension on the wire is attained, after which both pins 14 and 15 are placed in position in the manner set forth
40 hereinbefore, so as to secure the parts 1 and 7 in the required position. For coupling the ends of broken wires the device is applied in precisely the same manner as set forth for tightening fence-wires.

45 The plates 1 and 7 are formed from sheet metal and are cheaply struck up and can be provided at a trifling cost. By having the handle 13 detachably connected with the plate 7 it can be used time and again with the same
50 or different devices when applying the latter to the fence-wires. The pins 14 and 15 may be of any form, such as nails or bolts. Hence the device in its entirety is cheap and can be economically manufactured in great quantities
55 and placed upon the market and purchased by the consumer at a nominal cost compared with devices of a like nature.

60 The fence-posts 18 are preferably metal bars and have their lower ends, 19, bent substantially at right angles, so as to secure a firm footing in the ground when setting up the fence. In order to further brace and strengthen the post 18, plates 20, having their
65 ends 21 bent substantially at right angles, are placed upon the lower portions of the said posts 18 and have oblong openings 22 corresponding in outline to a cross-section of the

fence-posts, so as to obtain a snug fit upon the fence-posts, and these plates 20 are located a short distance from the bent ends 19
70 and about six inches from the surface of the ground. The anchoring-plates 20 are slipped upon the fence-posts from either end, as found most convenient, and occur at right angles to the bent ends 19, thereby serving to sustain
75 the fence against lateral stress.

The line of fencing is braced longitudinally by means of a bar 23, which is interposed between an end post and the adjacent post there-
80 to in the length of the fence, and said bar 23 has its end portions reduced and fitted into mortises provided in the said fence-posts. To attain the best results this bar 23 is located in proximate relation to the upper ends of the
85 fence-posts and extends parallel with the fence-wires 24.

A brace-wire 25 is secured midway of its ends to the lower portion of the end fence-post in any convenient manner, and, as shown, is wrapped once and a half around the said
90 end fence-post and is seated in notches 26 provided in the edges of the said post, and the end parts of the wire are brought together and extend upwardly and toward the adjacent
95 fence-post, to which the inner end of the bar 23 is attached, and have their upper ends passed around the said post and twisted upon the main portion of the wire, substantially as
100 shown at 27. The parts 28 of the brace-wire are twisted together by means of a short bar 29, which is passed between them and turned until the required tension upon the brace-wire is attained. The upper end portions 27
105 of the brace-wire are passed around the second fence-post from opposite sides and extend over the top edge of the bar 23, the latter serving to prevent the downward displacement of the said portions 27 when the brace-wire is subjected to tension.

The particular manner of connecting the
110 upper ends of the brace-wire 25 with the second fence-post provides a simple and effective joint, and at the same time prevents any possible separation of the end and adjacent or
115 second fence-posts at their upper ends, thereby retaining the bar 23 in proper relation.

The fence-wires 24 are strung through openings formed in the fence-posts 18, and are secured at their ends to the end fence-post by having their extremities carried around a
120 portion of the said fence-post and twisted about the main portion of the said wires. To prevent an unequal strain on the end fence-post, the ends of the fence-wires are alternately disposed in opposite relation, as most
125 clearly shown in Fig. 1.

In assembling the parts it is obvious that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or
130 sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. A wire-tightener constructed substantially as herein shown and described, the same consisting of a sheet-metal plate having an opening at one end, and having the opposite end bent at right angles and apertured to form a guide, and having two sets of openings in its length disposed in parallel relation and contiguous to its edges, the openings of one set alternating with and coming between the openings of the opposite set, a movable plate having one edge bent at right angles and apertured, and having two openings to alternately register with the aforesaid sets of openings, and having one end reduced, a handle detachably connected with the reduced end of the movable plate, and pins to pass through registering openings in the two plates and alternately form fulera and a means to lock the two plates in the required position, substantially as set forth.

2. In a wire fence, the combination of the end post having notches in its edges a short distance from the ground, a brace-bar interposed between the upper ends of said end

post and the post adjacent thereto and having its ends entering openings in the said posts, a brace-wire doubled upon itself and fitted into the notches near the foot of the end fence-post and having its parts brought together and inclining upwardly to the top portion of the said adjacent fence-post, and having the upper end portions passed around the said post from opposite sides and twisted upon the main portion of the wire, said end portions crossing above the brace-bar, and a short bar placed between the upwardly-inclining parts of the brace-bar and serving as a means to twist the latter together and engaging with the fence-wires prevent the untwisting of the parts of the brace-wire, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES A. PHELPS.

Witnesses:

C. D. SHELTON,

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