(No Model.)

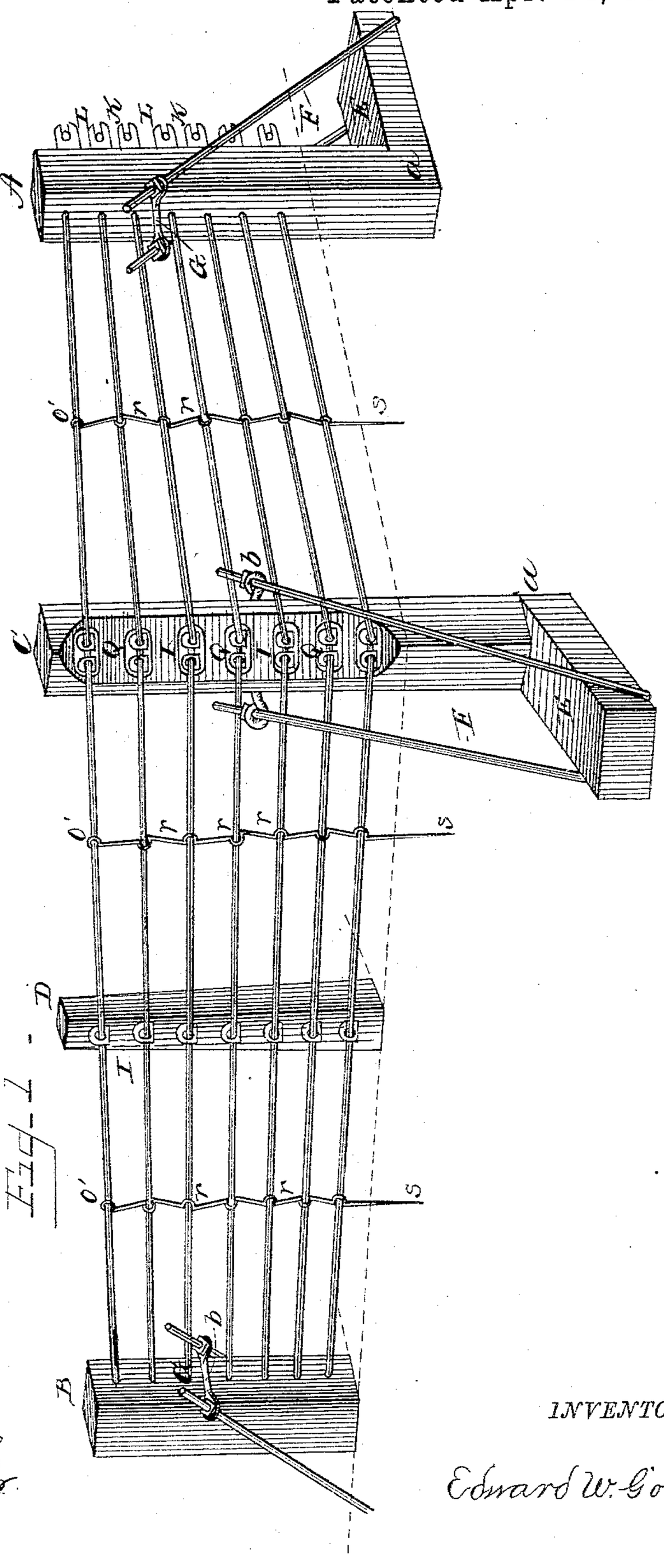
2 Sheets—Sheet 1.

E. W. GOODWIN.

FENCE.

No. 315,767.

Patented Apr. 14, 1885.



WITNESSES

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(No Model.)

2 Sheets—Sheet 2.

E. W. GOODWIN.

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Fig 2.

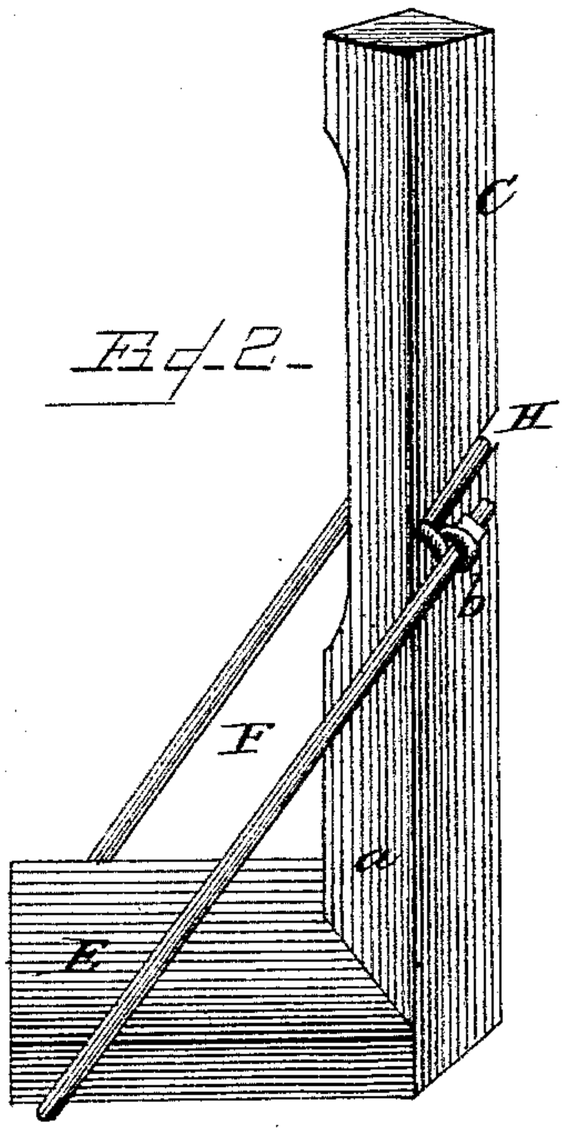
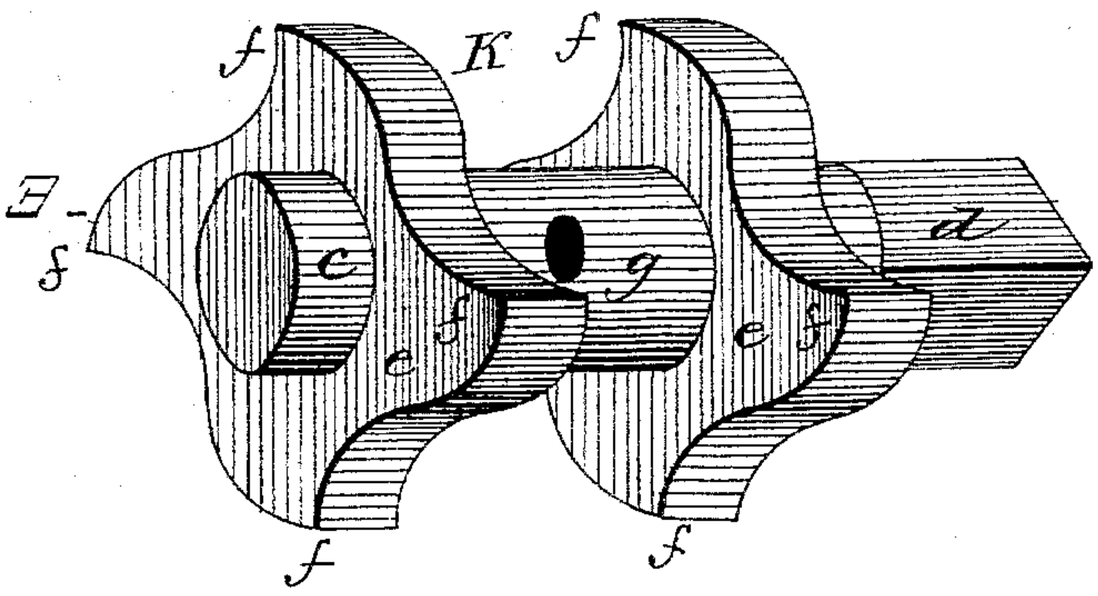


Fig 3.



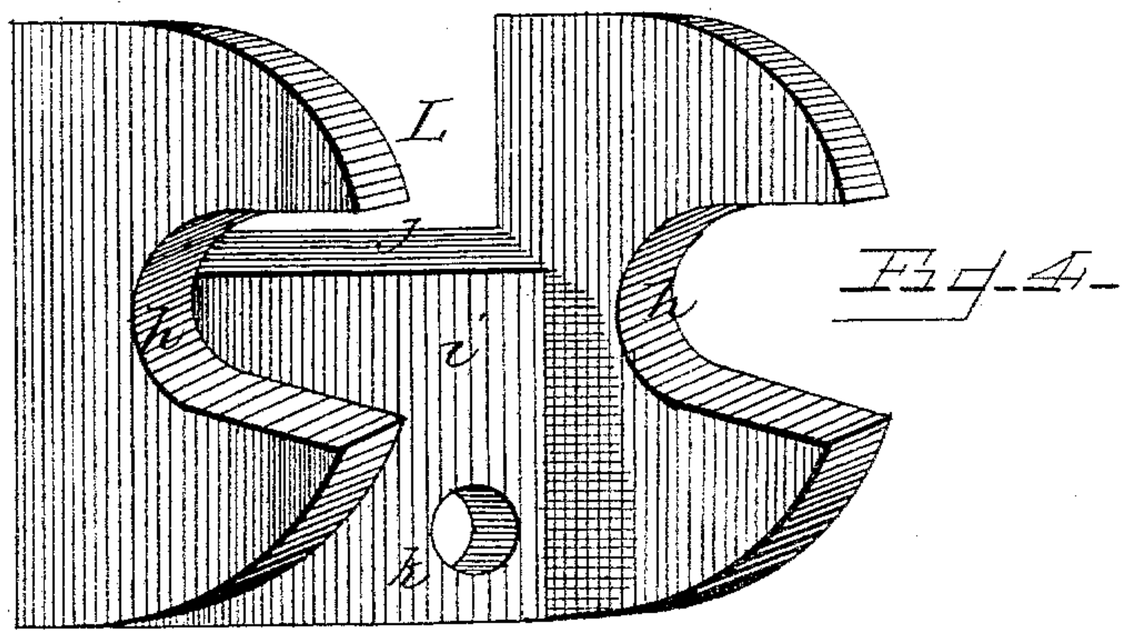
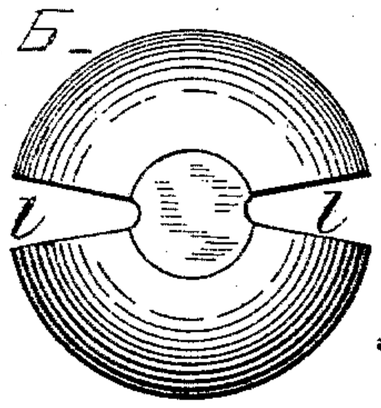


Fig 4.

Fig 6.



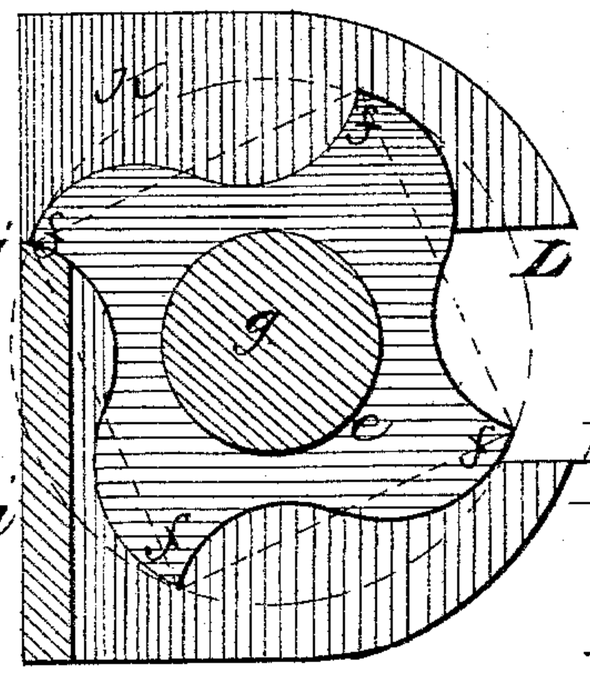


Fig 5.

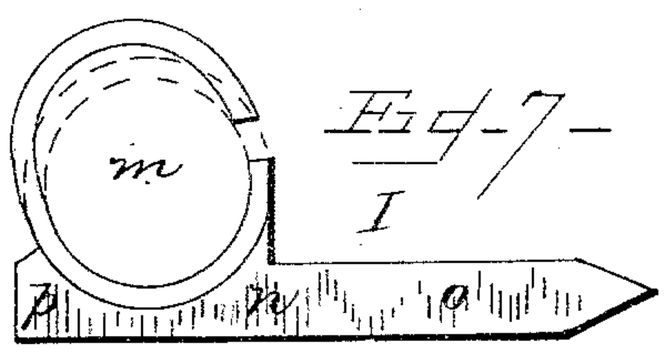


Fig 7.

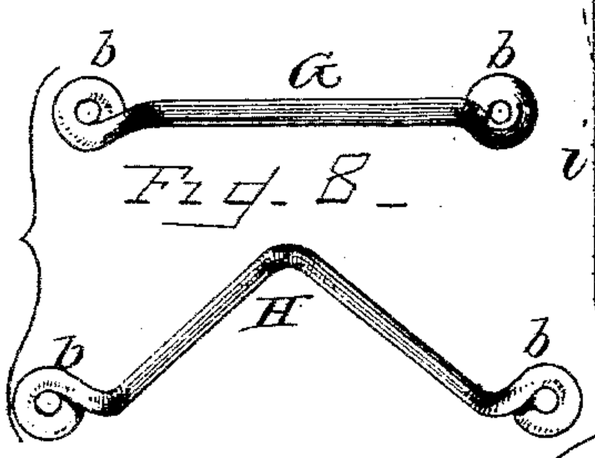


Fig 8.

Fig 12.

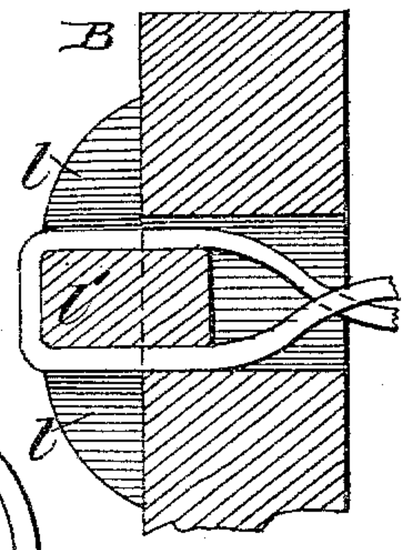
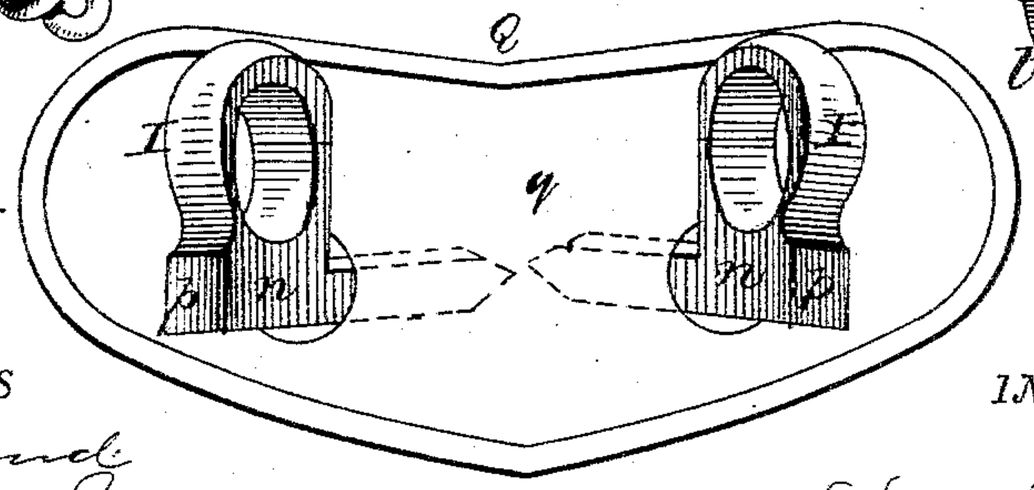


Fig 9.



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD WESTOBY GOODWIN, OF MULBERRY, OHIO.

FENCE.

SPECIFICATION forming part of Letters Patent No. 315,767, dated April 14, 1885.

Application filed March 7, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WESTOBY GOODWIN, of Mulberry, in the county of Clermont and State of Ohio, have invented a new and useful Improvement in Fences, of which the following is a clear, full, and exact description, reference being had to the annexed drawings, forming a part of this specification.

My invention relates to novel improvements on wire fences, which will be fully understood from the following description when taken in connection with the annexed drawings, in which—

Figure 1 is a perspective view of my improved fence, the broken line indicating ground-surface. Fig. 2 is a perspective view of my corner post. Figs. 3 and 4 are detail views of my clutch-reel and its bearings. Fig. 5 is a cross-section of clutch-reel and chair. Fig. 6 is a face view of the button for holding the wires. Fig. 7 is a view of a friction-hanger. Fig. 8 is a detail view of the eyed link. Fig. 9 is a view of a friction-plate and two hangers. Fig. 10 is a view of a stay-rod. Fig. 11 is a view of a ring. Fig. 12 is a vertical section of part of the post B, showing a wire secured to a notched buttton, also in section.

In the annexed drawings, A and B are tension-posts; C, a corner post, and D designates an intermediate post.

E E are anchor-braces, which are blocks of wood placed horizontally in an excavation at the foot of the post at *a a*, one end of each brace abutting against the side, or, in case of a corner post, against the sides of a post opposite from which the wires are to exert their tension and firmly spiked thereto. The outer end of each brace E is embraced by a stirrup, F, the ends of which pass up to and through eyes *b*, turned at the ends of a bar of round metal constituting a collar, which is countersunk in the case of a tension-post on the opposite side and in a corner post on the inner corner at the requisite height, and these ends, being provided with nuts, may be tightened as required.

K designates a clutch-reel constructed of metal and provided with journals *c* at either end and a crank-shaft, *d*, by the aid of which and a crank the reel can be revolved. The reel-heads constitute a pair of true wheels, each having four teeth, *f*, so constructed that they act as clutch-teeth when placed in suitable bearings, and yet offer no obstacle to being revolved backward, the spindle *g* being intermediate and perforated for the passage and attachment of wires to be wound thereon. The reels are provided with chairs constructed of metal, having metal bearings *h* for journals *c* and backs *i*, extending midway their height, by which they may be applied by the aid of orifice *k* to the tension-post A, the upper edge, *j*, being so beveled inwardly that it will engage and hold the teeth *f* of the wheels *e* when they bear against it.

The buttons, Figs. 6 and 12, are single disks of metal of a size to cover the apertures in the distal post B, and are provided with two slots, *l*, extending toward their centers, which latter are slightly extended beyond the inner surfaces. These buttons are adapted to receive the inner ends of the wires and be securely attached to them, and are intended as a substitute for a second set of chairs and reels at post B.

I I designate friction-hangers. (Shown in Figs. 1, 7, and 9.) These are made of metal, and each consists of an eye or opening, *m*, which is capable of being closed, superimposed upon the shank *n* of the spike O, provided with a head, *p*, by the aid of which and a hammer it may be driven into posts.

Q Q, Figs. 1 and 9, are oval friction-plates having a smooth convex outer surface, *q*, provided near each end with an orifice for the passage of the spikes O of the hangers I, by the aid of which they may be attached to and caused to embrace the outer angle of the corner post, C. The intermediate posts, D, are placed at such intervals as may be deemed necessary to aid in bearing the fence-wires, and they are provided with the friction-hangers I, attached to their outer plane surfaces, one above another. When the posts are set at the foot of an ascent, or in low ground, the tension of the wires will be exerted in an upward direction, and the position of the hangers should be reversed, and, in addition, the posts are to be anchored by boring two holes at right angles—one above the other—at their lower ends, and driving spikes therein in such manner that their protruding ends shall form an X, and finally be firmly embedded in the ground. The corner posts, C, are each provided

with an anchor-brace, E, and stirrup-rod F, with its accompanying angular-shaped collar H, which are to be placed diagonally to the lines of tension in such manner that the post shall be braced against the strain to be exerted by the wires. The corner posts, C, are also provided with a series of friction-plates, Q, and friction-hangers I, as shown in Fig. 1. A controlling tension-post, A, and a distal tension-post, B, are used in each line of fence, one at each end. The posts are provided with a series of orifices for the passage of the wires. The chairs L of the clutch-reels having been attached to the controlling tension-post A, just below the several orifices through this post by the aid of screws passing through the holes in their backs *i*, and the journals *c* of the reels having been placed in their bearings *h*, the clutch-teeth *f* will be found protruding beyond the inner plane surfaces of the chair-backs, and resting upon the upper beveled edges, *j*, thereof, and by now passing the ends of the wires through the apertures provided in the spindles *g* of the reels, and fastening them thereto, the latter may, by the aid of a wrench, be revolved backward and the slack of the wires wound thereon.

At the beginning of each quarter-revolution of a reel a tooth, *f*, on each wheel *e* engages with the plane surface of the chair-back *i*, thereby disengaging the journals *c* from their bearings *h h*, and increasing the leverage used in turning the same, and upon the completion of said quarter of a revolution the journals *c* return to their bearings *h* by reason of the tension of the fence-wires, and the two clutches *f f* engage with the beveled edge *j* of the chair-back. I intertwine at proper intervals stay-rods O′, provided with recesses *r*, situated alternately on opposite sides thereof, into which the fence-wires are sprung and held, and as a further protection against detachment of the wires from the rods O′, I employ the open rings N, Fig. 11, which are clamped at each intersection of the wires with the stay-rods by a suitable instrument. The stay-rods O′ are vertically applied to the fence-wires, their lower ends, S, being inserted into the ground.

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

1. The combination, with the wires, of the posts A B, having anchor-braces E at their lower ends to anchor and brace them in the ground, the stirrup-rods F, encircling the anchor-braces, and the links G, embracing the posts and bracing them above the ground, substantially as shown and described.

2. The combination, with a fence-post, of a wire-tightener consisting of a chair having notched cheeks and a shoulder or edge, *j*, cast entire, and a reel having hooked teeth adapted to engage with said shoulder or edge, substantially as described.

3. The combination, in a fence, of the anchored and braced posts A B, the friction-hangers I, attached to the post D, the wires placed in engagement therewith and passed through perforations in the posts A B, the slotted buttons attached to the ends of the wires at the post B, the chairs L, attached to the post A, and the reels K, connected to the opposite ends of the wires, substantially as shown and described.

4. The combination, with the wires, of the anchored and braced posts A B, the corner post, C, and the friction-plates Q, attached thereto by the aid of the friction-hangers I and the wires placed in engagement therewith, and passed through perforations in the posts A B, and a slotted button-holder, substantially as shown and described.

5. The combination, in a fence, of the tension and corner posts A B, and C, anchored and braced as described, the friction-hangers I, and friction-plates Q, attached to the posts, the wires placed in engagement therewith and passed through orifices in the tension-posts, the slotted buttons attached to the ends of the wires at the distal tension-post B, the clutch-reels attached to the other ends of the wires at the controlling tension-post A, and the chairs of the clutch-reels, substantially as shown and described.

EDWARD WESTOBY GOODWIN.

Witnesses:
FRANK SCOTT,
WALTER E. SCOTT.