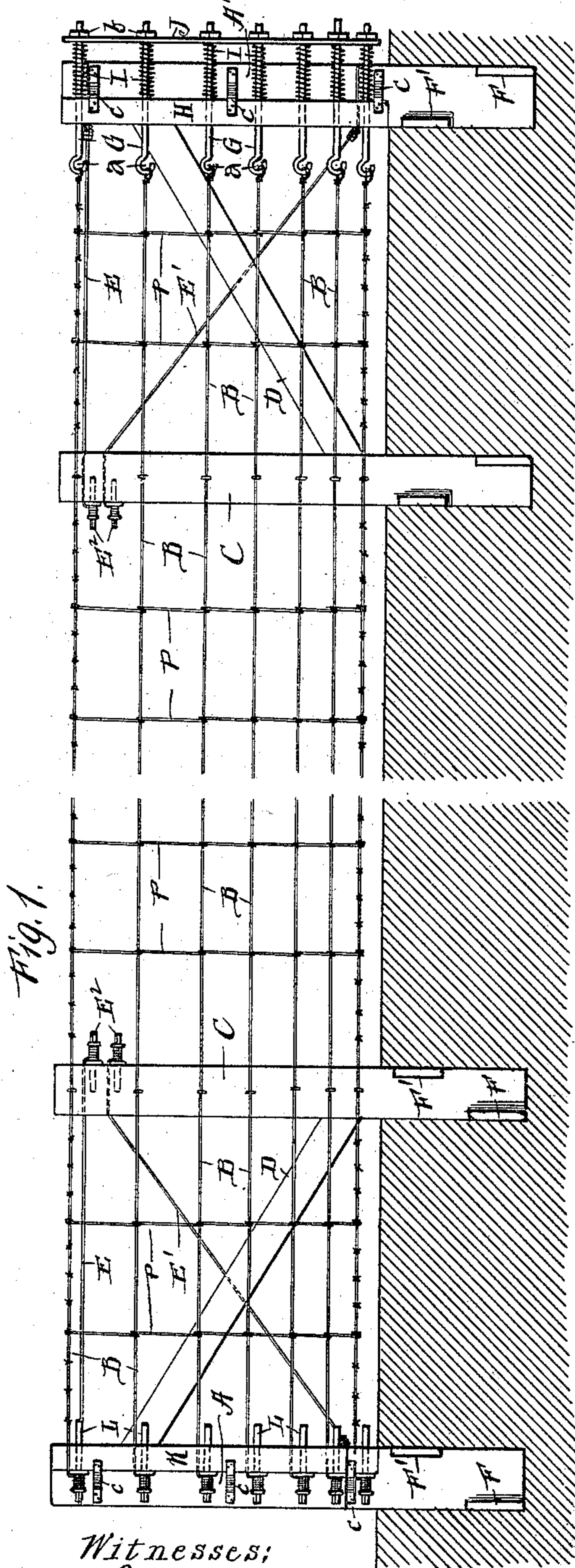


(No Model.)

M. YAKLEY.
WIRE FENCE.

No. 533,334.

Patented Jan. 29, 1895.



Witnesses;

G. M. Anderson
Philemisi.

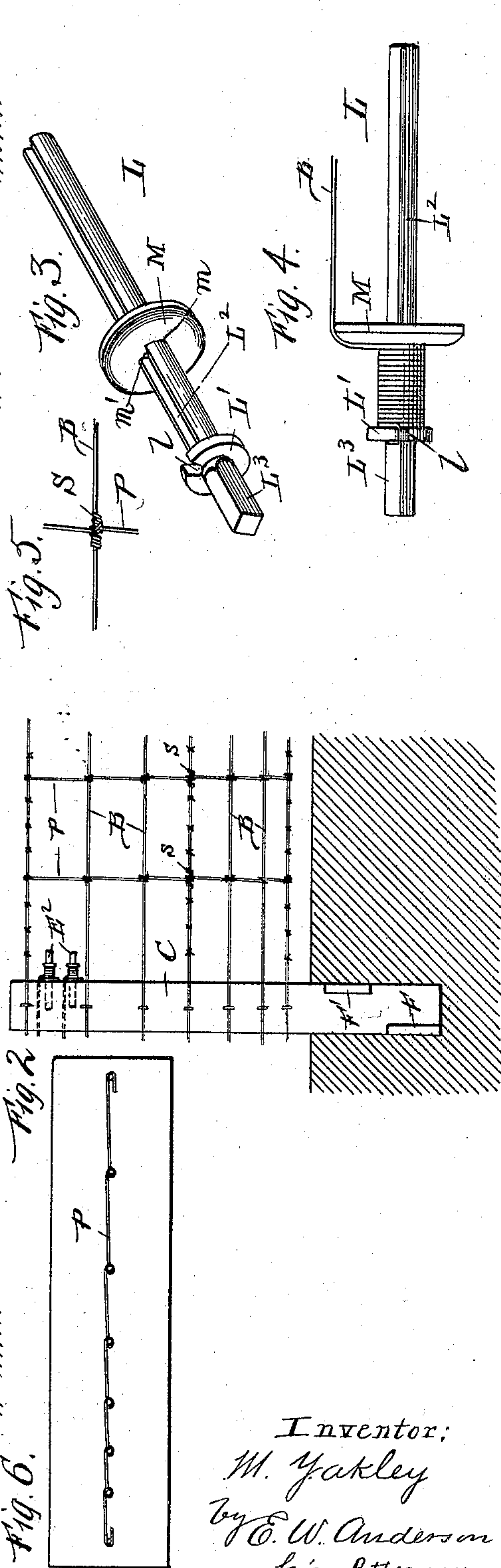
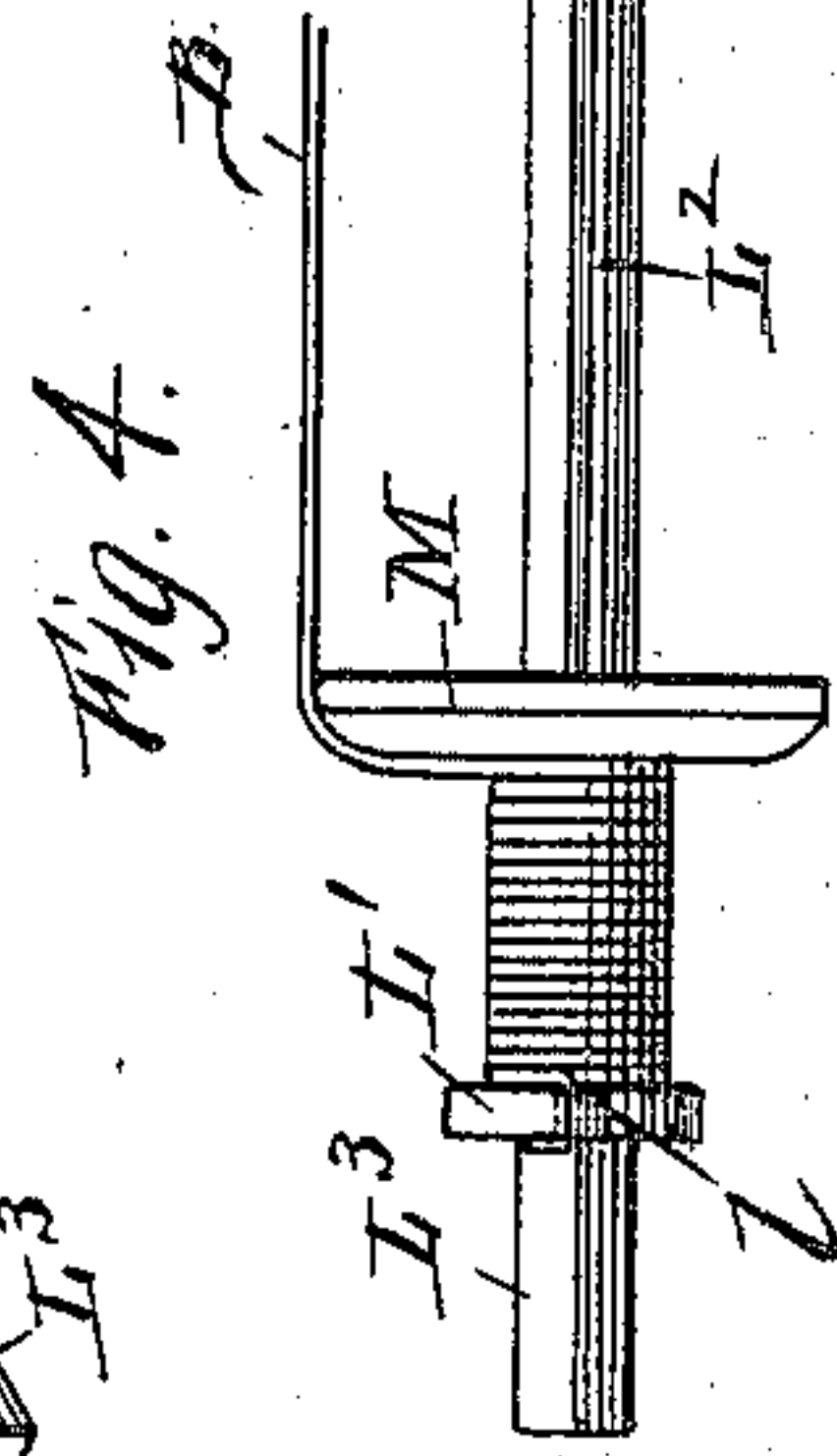
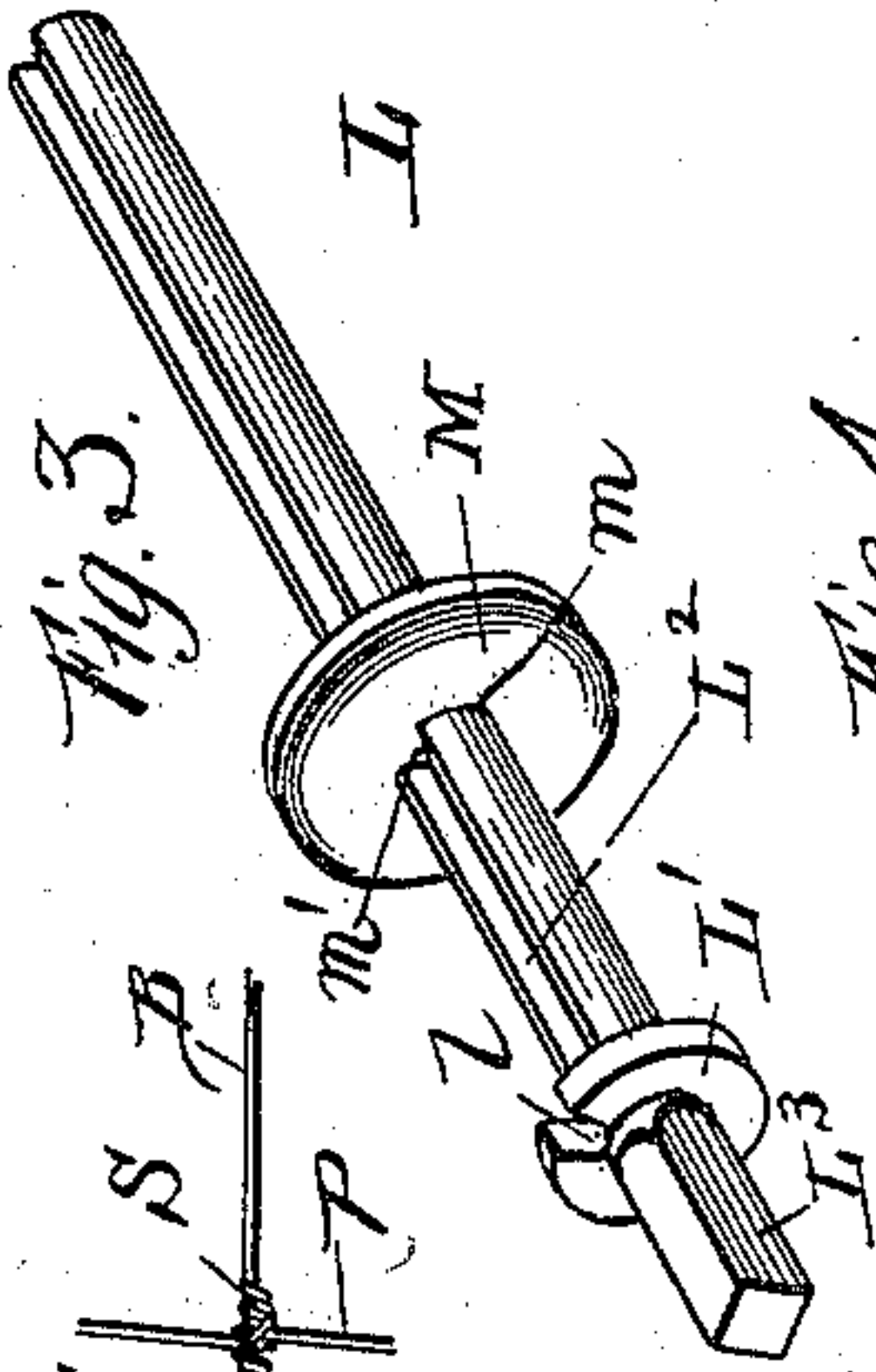


Fig. 3.



Inventor:
M. Yakley
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UNITED STATES PATENT OFFICE.

MORTIMER YAKLEY, OF CHELSEA, MICHIGAN.

WIRE FENCE.

SPECIFICATION forming part of Letters Patent No. 533,334, dated January 29, 1895.

Application filed August 31, 1894. Serial No. 521,840. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER YAKLEY, a citizen of the United States, and a resident of Chelsea, in the county of Washtenaw and State of Michigan, have invented certain new and useful Improvements in Wire Fences; 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 letters of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a side elevation of a section of fence broken in middle, with earth in section. Fig. 2 is a view of portion of fence showing middle wire barbed. Fig. 3 is a detail of winding shaft and disk. Fig. 4 is a side elevation of winding shaft and disk showing wire wound. Fig. 5 is a detail of additional fastening for stay. Fig. 6 shows bench on which stay is formed.

This invention has relation to certain new and useful improvements in wire farm fences, the object being to provide a strong, durable, practical and efficient wire fence, capable of being easily built, and having means whereby its horizontal wires may be readily and quickly tightened as occasion may require.

A further object of the invention is to provide a fence of the above named character having improved means for automatically compensating for the expansion and contraction of the horizontal wires arising from changes in temperature, such means acting as a guard to prevent the wires, or any single wire, from being broken or injured by cattle or other stock pressing against the fence.

Other minor objects of the invention will hereinafter appear.

With these objects in view, the invention consists in the novel construction and combination of parts, all as hereinafter described and pointed out in the appended claims.

Referring to the accompanying drawings illustrating my invention, and wherein I have shown a section of my improved fence, the letters A, A', designate respectively the two end posts of the fence, between which run the series of horizontal fence wires B. Each

post A, A' is provided with a brace post C, set a short distance in on the line of fence, and connected each with its respective end post by a diagonal brace or strut D the lower end of which is secured in the brace post, near the ground, and the upper end in the end post a little below the upper end of said post. Said posts are also connected by brace wires E, E', the former of which extends horizontally from the upper end portion of the end post, to the brace post, and the latter from the lower portion of the end post to a point in the brace post slightly below the point where the wire E is connected. Each of said wires is wrapped one or more times around the end post, and its opposite end portion is made to pass through apertures in the brace post, upon the farther side of which each wire is connected to a tightening device E², preferably of the character hereinafter to be described. By means of these wires and the tightening devices E², the posts may be kept in direct alignment. To prevent said posts A, A' and C, C from drawing or turning in the ground, each is provided with two short planks F, F', secured thereto at right angles to the line of the fence. The plank F of each post is secured thereto near the lower end of the post, and upon the rear face thereof, while the plank F' is just beneath the surface of the ground, and is upon that side of the post in the direction of the length of the fence.

Each of the wires B is connected to the post A' in the following manner:—A series of short, iron rods G are provided one for each of said wires, and having each an eye *a* at one end for connection therewith, and threaded upon its opposite end for the engagement of a nut *b*. These rods pass loosely through a series of apertures formed in a bar H, rigidly secured to a lateral face of the post A' in vertical position, and further held to said posts by braces *c*. The threaded end portions of said rods pass through holes made for the purpose in a vertical metallic spring draw bar J to the rear of the post, and are secured by the nuts *b*. Coiled around each of the rods G is a helical spring I which seats between the bars H and J and is pressed against the bar H by the tension of the wires B. The draw bar J being itself a spring, and combined with the

rods G and springs I in the manner described, will yield with said springs to all inequalities of unequal expansion and contraction of the fence wires. Such a condition often arises
 5 when the lower wires are buried in snow, and therefore not exposed to the same changes in temperature as the remaining wires; also when horses, cattle, or other stock run into the fence. In either event the draw bar J
 10 will yield with the springs I of those wires receiving the hardest shock, and prevent their being broken. Stock of any kind crowding against one wire cannot, therefore, cause it to yield to any great extent, it being resisted by
 15 the bar J and all the compression springs I. The connection with the post A is as follows:—Secured to the lateral face of the post is a bar K, held in the same manner as, and corresponding to, the bar H of the post A'. Through
 20 this bar are formed a series of apertures for the fence wires, and intermediate of the wire apertures are a second series of longer apertures, which receive winding shafts L, one for each wire. Each of said shafts has formed
 25 thereon a flange L', having a slot l therein, and running from said flange to the farther end of the shaft, is an angular or V-shaped groove L².

M is a disk of a considerably longer diameter than the shaft L, said disk having therein an opening m to receive the shaft. Offset into said opening is a tooth or projection m' , corresponding in form to the groove L² with which it engages. The end portion of the shaft L
 35 beyond the flange L', forms a wrench seat L³. The series of disks are applied to the outer faces of the bar K, and the fence wires, after passing through the said bar are made fast to the respective shafts by means of the slots l .
 40 When any shaft is rotated by the application of a wrench thereto, the respective disk M is also rotated by reason of the engagement of its tooth m' with the groove L². The slack of the wire is wound upon the shaft between the
 45 flange L' and the disk, drawing said shaft at the same time endwise through the bar K and the disk, and causing the winding to be but one turn deep on the shaft. In commencing the winding, the shaft may be rotated in either
 50 direction.

P designates a series of vertical stay wires which support the horizontal wires intermediate of the posts, and having each a series of eyes through which the fence wires loosely
 55 pass.

The upper and lower fence wires may be either plain or barbed, but they are preferably barbed for the reason that they then afford greater protection against large stock attempting to reach over the fence, and against
 60 small stock trying to get under.

In putting up the fence, the compensating devices are applied to the post A', and the upper and lower barbed wires are made fast
 65 to the respective rods G and are stretched from end post to end post and stapled, care being taken not to drive the staple quite up

to the wire. All barbs are then removed or cut off that would likely come in contact with the staples and prevent endwise movement
 70 of the wires. Each is then connected to its own winding shaft on the post A and given the proper tension. The vertical wire stays are then put on at any desired distance apart. Each end portion of every stay has a hook and
 75 these hooks are respectively engaged with and wound around the top and bottom wires. These stays may be conveniently made by means of a bench having a series of pins or
 80 pegs therein corresponding in number and position to the eyes to be formed. The wires are then cut to the proper length, and one end of the wire hooked around the first peg. It is then carried from peg to peg, being wound
 85 around each and its opposite end hooked around the last peg. The wire, when removed will then have the proper end hooks and intermediate eyes, and all the stays so formed will be exactly alike, so that when connected
 90 to the top and bottom wires as above described, all the eyes will be in perfect alignment. The next step is to staple the posts, the staples being driven in alignment with the eyes of the stays, care being taken not to
 95 drive the staple too far. The intermediate wires are now passed through the apertures on the bar K, and are then run through all the stay eyes and post staples, and their ends made fast to the respective rods G. The wires are then cut off at the winders, made fast
 100 thereto, and given the proper tension.

By employing the bars H and K herein described, instead of running the wires directly through the end posts, I avoid the necessity of boring the necessary holes through the
 105 said posts, a task of considerable magnitude. The said bars being of much less thickness, are more easily bored. Said bars may, if desired, form integral offset projections of the posts.
 110

I may, if desired, use a barbed wire in place of one of the intermediate smooth wires, about midway the height of the fence. This wire, on account of its barbs, cannot be run through the eyes of the stay, but it is run in
 115 alignment therewith, and is secured thereto by means of short pieces of wire s, (Fig. 2) which are passed through the eyes of the stay and wrapped around the barbed wire. The barbs on this wire are also removed where
 120 the wire runs through the staples on the post. This intermediate barbed wire will prevent cattle rubbing against the fence.

When all the intermediate wires are made smooth, as first described, it may sometimes
 125 be desirable to fix the vertical stays to one of such wires, and this may be done by wrapping with a short piece of wire S, as in Fig. 5.

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

1. In a fence, the end post having an apertured lateral bar or projection H of less thickness than the post, the series of fence wires,

the series of hooked rods to which said wires are respectively attached, and which work loosely through said bar or projection, the vertical metallic spring draw-bar J through which said rods also pass and upon the rear face of which they are secured by nuts, the springs seated around said rods between the bars H and J, a bracing post and bracing wires for said end post and anchors for said bracing and end posts, substantially as specified.

2. In a wire fence, the combination with a series of fence wires attached to a post at one end, of a post at the opposite end having a vertical, lateral bar or projection thereon through which said wires pass, a series of shafts movably supported in said bar or projection, and having each a groove therein, and means whereby a wire may be made fast thereto, and a series of disks having bearings against the said bar or projection, one of said disks fitting on each of said shafts and having

a tooth engaging said groove, substantially as and for the purposes specified.

3. In a fence, the combination with an apertured bar, supported by an end post of the fence, or fence section, and through which the fence wires pass, of a tightening device for each of said wires, said device comprising a shaft rotatably supported in said bar and longitudinally movable with relation thereto, a slotted collar on said shaft for making fast the wire thereto, a longitudinal groove in said shaft, and a disk fitted on said shaft and having a bearing against said bar, said disk having a tooth engaging the groove of said bar, substantially as specified.

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

MORTIMER YAKLEY.

Witnesses:

ALFRED DAVIS,
RUFUS C. PHELPS.