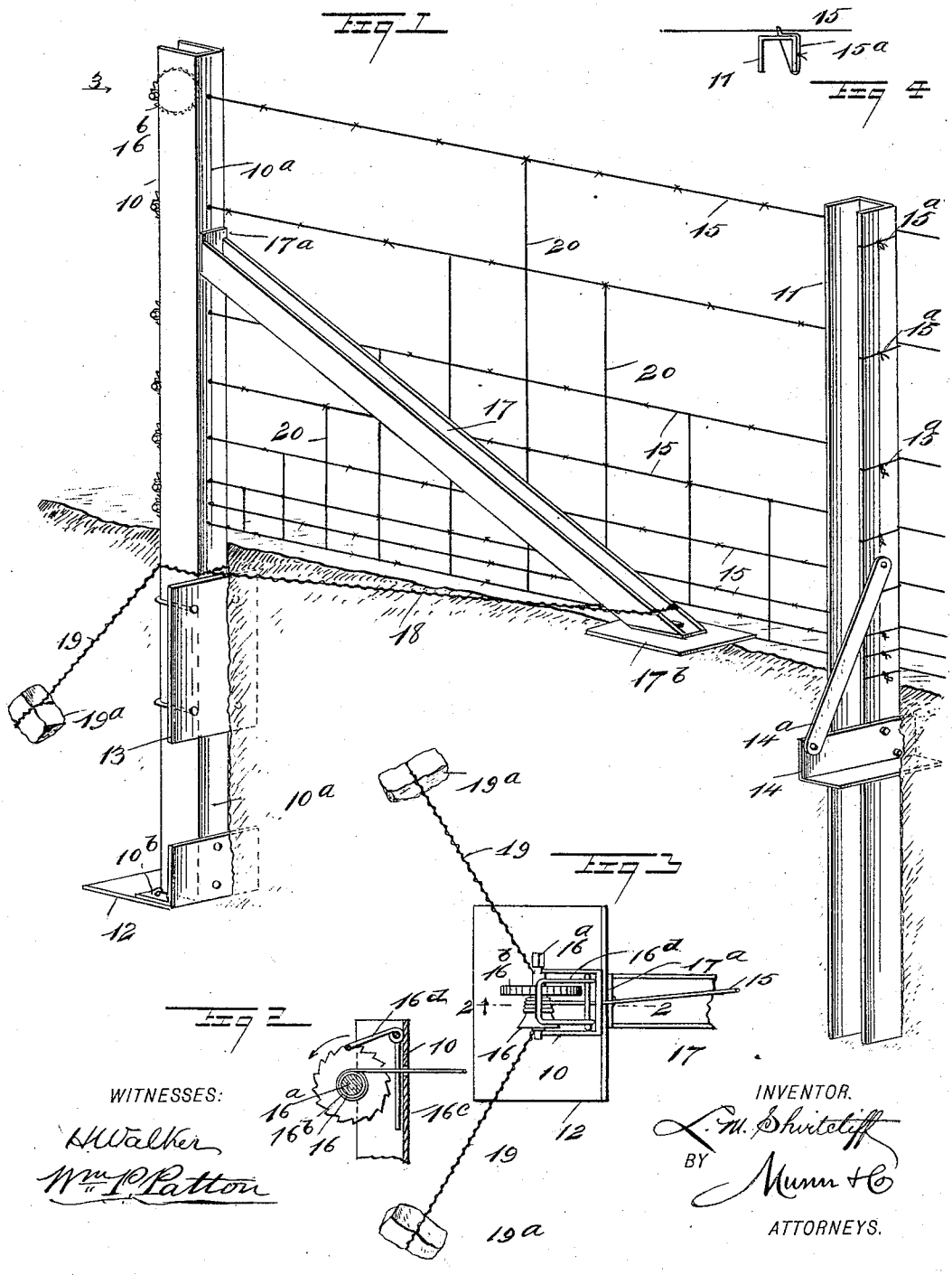
(No Model.)

L. M. SHIRTCLIFF.

FENCE.

No. 532,292. Patented Jan. 8, 1895.



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FENCE.

SPECIFICATION forming part of Letters Patent No. 532,292, dated January 8, 1895.

Application filed April 27, 1894. Serial No. 509,195. (No model.)

To all whom it may concern:

Be it known that I, LORENZO M. SHIRTCLIFF, of Lynnville, in the county of Morgan and State of Illinois, have invented a new and useful Improved Fence, of which the following is a full, clear, and exact description.

My invention relates to improvements in barbed or other wire fences, and has for its objects to produce a strong, durable fence of the character indicated, which will be convenient to erect, and be capable of barring the passage through or over it of large or small animals.

To these ends my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views shown.

Figure 1 is a perspective view of a panel of fence embodying the improvements. Fig. 2 is a transverse sectional view of parts, on the line 2—2 in Fig. 3, showing the upper portion of a fence post, and attachments thereto. Fig. 3 is a plan view of one of the improved fence posts and novel parts connected with it, taken opposite the arrow 3 in Fig. 1; and Fig. 4 is a plan view of another fence post and a fence wire in part, showing improved means for connecting the fence wires to the intermediate posts of the improved fence.

The posts 10, 11, that are provided for the erection of the wire fence, are preferably made of wrought metal bars that are substantially U-shaped in cross section, said material which is rolled into form, being technically known as channel iron, or steel. A sufficient length is afforded the post 10 of a fence line or panel, so that it will project vertically of a proper height above the surface of the ground in which the lower portion of said post is embedded, the portion below in the ground having a foot flange 10^b projected from its lower end at a right angle to the web portion 10^a of the post, or part that integrally joins its parallel flanges.

There is a plate metal anchor plate 12, secured to the foot flange 10^b of the post 10, as indicated in Fig. 1. Preferably, said plate is formed from a substantially rectangular slab of metal in L-shape its upright flange being affixed upon the web portion 10^a of the post 10, by rivets or bolts, the foot flange of the post that is seated upon the horizontal part of the anchor plate being secured to it in a similar manner. Above the anchor plate 12, a preferably rectangular plate metal wing piece 13 is secured upon the web portion 10^a of the post 10, the width of the wing piece being proportioned to afford a lateral wing of proper area at each side of the post, as indicated in Fig. 1.

The post 11 is formed of the same material as the post 10, and of an equal length therewith, and at a point that will dispose it below and near to the surface of the ground when the post is planted, an anchor-plate 14, L-shaped in cross section is secured to one side flange of the channel iron post 11. The posts 11 are provided in sufficient number to support a series of fence wires 15 at proper intervals in a line of fence of any desired length, the spaces between these posts representing fence panels, as also does the interval between the posts 10 and 11, shown in Fig. 1.

The anchor plate 14 is bolted or riveted upon the side flange of the post 11, near one of its ends, so that the main portion of the angle bent anchor plate will be projected beyond the free edge of the post flange it is fastened to, of a sufficient length to afford stability to the post when it is erected, a brace bar 14^a being diagonally extended between the outer end of the anchor plate 14 and the post 11, and secured by its ends to these parts, as represented in Fig. 1.

It will be seen that the post 10 is so stationed that its web portion 10^a will face toward the nearest post 11 of the line of fence, and that the latter named post has its web portion located in a vertical plane at right angles to the plane of the web 10^a.

Any suitable number of the fence wire strands 15, are provided, and as represented in Fig. 1, these are arranged in close order near the ground to prevent the passage through the fence of small animals. The terminals of the fence wires 15 which engage the post 10, are introduced through properly spaced perforations formed in the web 10^a for their reception, and between the flange

walls of said post opposite each perforation, a wire straining device is located, these similar devices each comprising the following parts:

A coniform drum 16 is provided, which is secured on or formed integral with a central shaft 16^a, and said shaft having a loose engagement with the free edges of the parallel flange walls on the post 10, projects outside of the post at one side for rotation, a ratchet wheel 16^b being also mounted upon and secured to the shaft 16^a at the smaller end of the drum, thereby affording an end wall for the latter to prevent a displacement of wire wound on the drum. The teeth of the wheel 16^b face toward the wall 10^a of the post 10; and on the transverse bar of a loop-shaped spring carrier 16^c that is located between the teeth of the wheel and the inner side of the wall 10^a, a U-shaped pawl 16^d is loosely secured, by forming ring eyes on its ends which are placed on the transverse bar of the spring carrier, as indicated in Figs. 2 and 3.

It will be seen that if the inserted end of one of the fence wires 15 is attached to the drum 16 that is opposite the hole in the post that the wire occupies, and the shaft 16^a is rotated in the direction indicated by a curved arrow in Fig. 2, the wire strand will be wrapped upon the drum and retained in a wrapped condition by the U-shaped pawl 16^d, the slidable loop bent carrier frame 16^c permitting the pawl to be vertically adjusted if the frame is slid to effect this, so that the pawl and its frame may be moved down and thus be detachably but firmly secured in place between the wheel 16^b and web 10^a of the post 10. The fence wires when drawn taut by the similar devices provided for each one retain said device in locked condition by their weight and draft strain on the shafts 16^a.

The formation of the posts 10, 11, from channel bar material, which is an article of merchandise cheaply produced by rolling process from iron or steel, enables the posts to be made at a moderate cost, and affords light, strong posts that are very stiff, the double spaced walls of the end posts 10 serving to support the ratchet devices for straining the fence wires in a safe position.

The fence wires, that are shown broken, may be extended to have any convenient length, and at proper distances apart the posts 11 are connected to said wires, preferably as shown in Figs. 1 and 4; the spaced wire strands that have contact with the outer face of the web wall on the post 11, being each independently fastened thereto. Preferably the means for connecting the fence wires 15 to the posts 11, comprises a tie wire 15^a. This is a single wire piece of a suitable length and thickness, which is inserted through a perforation made in the web wall of the post close to the fence wire that is to be attached to said post. The tie wire is drawn upon so that its center of length will be nearly opposite the fence wire 15, over which it is wrapped to produce a looped engagement of the two wires, the tie wire end portions being then wrapped around one flange wall of the post and twisted together at their terminals.

To afford additional stability to the end post 10 of a fence line, a diagonal brace bar 17 is furnished for said post, said brace being constructed of channel bar material, and secured at the upper end to the web wall 10^a of the post mentioned, as represented in Figs. 1 and 2, the brace bar having an integral transverse flange 17^a formed on it that is riveted or bolted upon the side of the post. The lower end of the diagonal brace bar 17 is affixed upon a base plate 17^b, that is of such an area as will afford effective support for the brace where said base has contact with the ground.

There is a guy wire rope or chain 18, employed to prevent the post 10 and its brace bar 17 from yielding under strain produced by the fence wires 15, and as shown in Fig. 1, the guy wire is doubled near one of its ends, and at its bight is engaged with opposite notches formed in the edges of the flange walls of the brace bar, the wrapped end portion being suitably secured thereto. From the brace 17, the guy rope or chain 18 is extended toward the post 10, and downwardly inclined as it trends in said direction, so that it will be partly buried in the ground and be adapted for a secure engagement of its extended end portion with a guy chain or rope 19.

The guy chain or rope 19 is secured to the post 10 above the wing plate 13, near the center of length of said wire, and its main portions are crossed so as to permit their diagonal extension outwardly and downwardly from the post said chain or rope encircles, the outer ends of the latter having a secured engagement with blocks of stone 19^a, or these blocks may be of any other durable heavy material. When a line of the improved fence is erected, the guy rope or chain 19 is, with its anchor-blocks 19^a, firmly embedded in the ground, with the diagonal members of said guy rope stretched taut and properly spaced apart so as to locate the blocks a correct distance from the fence line, on each side of the same.

It will be seen that if a fence having the improvements is erected, and all the longitudinally extended wire strands 15 are attached to the post 10, and wire straining attachments, such as have been described, are provided for each wire, they may all be drawn taut and be thus disposed in parallel planes. The provision of the anchor plate 12, for the foot of the end post 10 at each end of a fence line, or at the corners of a rectangular fence, will afford great stability to the corner posts, the wing plates 13, by their lateral engagement with the packed soil serving to prevent a twisting movement of the posts 10.

By providing the guy ropes 18, 19, for each end or corner of a fence of the improved construction, the diagonal brace bars 17 are pre-

vented from rising, and the base plate 17^b on each bar is drawn into forcible contact with the surface of the ground, the diagonal trend of the guy ropes 19 and the anchor blocks 19^a provided for the members of said guy ropes, affording support for the posts 10, to counteract the strain put on the fence wires 15 by the stretching devices.

It will be seen that the laterally-projecting L-bent anchor plates 14, keep the posts 11 in a vertical position, prevent them from twisting in the ground, and counteract any tendency to sink into or rise from the ground in which they are embedded.

Preferably when the fence has been erected, spaced upright stay wires 20 are attached to the horizontal fence wires 15, and arranged as shown, these vertically-disposed wires affording braces which prevent animals from spreading the longitudinally-extending wires 15, to crowd their heads through between any pair of wires.

It is claimed for this fence that it is of moderate cost, convenient to erect, and very strong, being adapted to resist lateral, longitudinal, or vertical strains applied to it.

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

1. In a wire fence, the combination, with a metal channel-bar post and a foot flange thereon, of an angle-bent anchor plate whereon the foot flange is seated, which plate is attached to the side of the post and foot flange, substantially as described.

2. In a wire fence, the combination, with a corner or end post, an angle-plate anchor fastened at the foot of said post, and a wing plate secured to the same side of the post as the upright flange of the anchor plate, of a diagonal brace bar, a base plate thereon at the lower end, a flexible guy connection between the lower end of the brace bar and the post, a flexible guy connection wrapped on the post above the wing plate and outwardly and downwardly projected, and anchor blocks on the ends of the wrapped guy connection, substantially as described.

3. In a wire fence, the similar wire stretching devices for the end or corner post, each device comprising a drum supported to rotate by a shaft that is journaled in parallel walls of the post, a ratchet wheel secured on said shaft, a spring carrier frame slidable between the side walls of the post behind the drum, and a loop-shaped pawl loosely secured by its ends on the carrier frame, substantially as described.

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