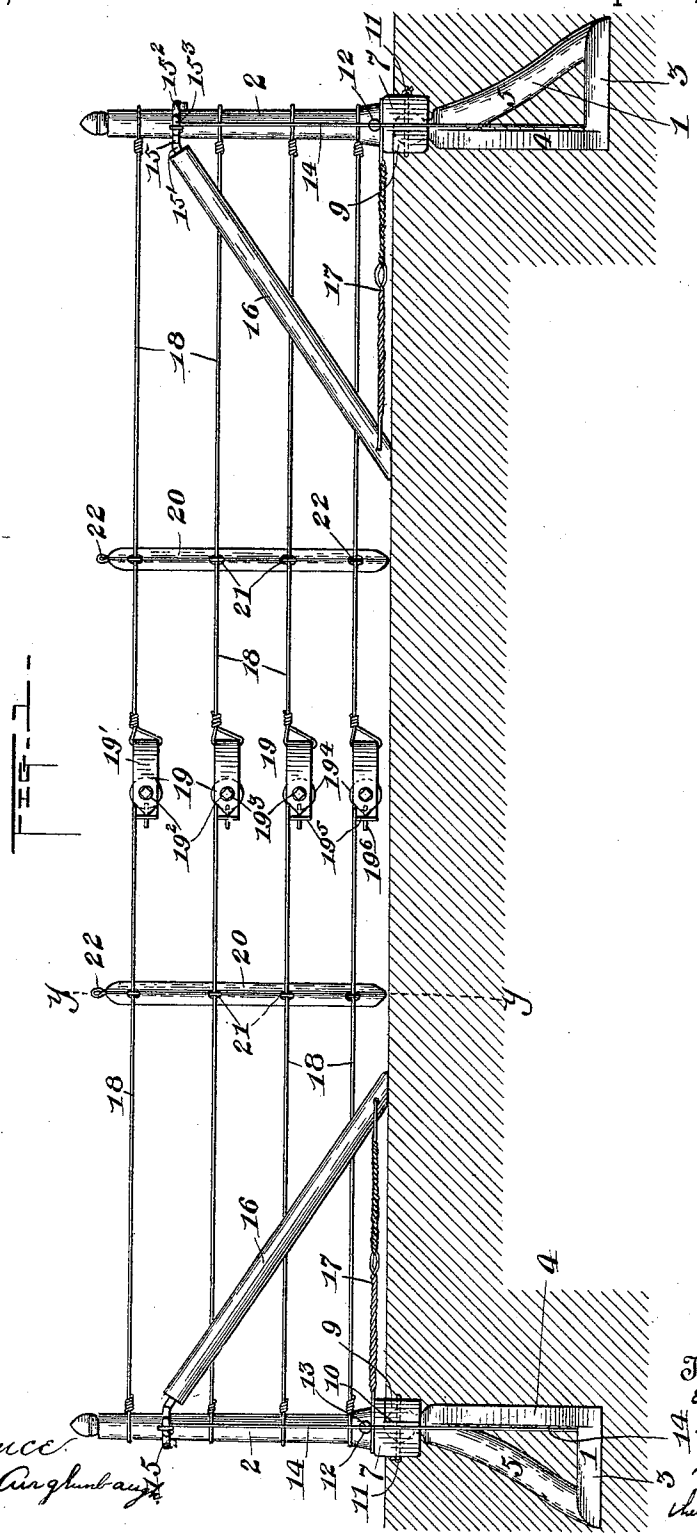
(No Model.) 2 Sheets—Sheet 1.

E. G. & S. M. STORM.

FENCE.

No. 481,980. Patented Sept. 6, 1892.



(No Model.) 2 Sheets—Sheet 2.

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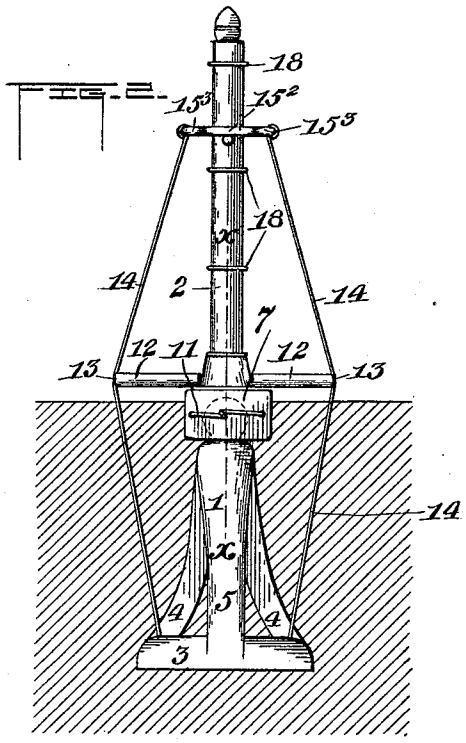

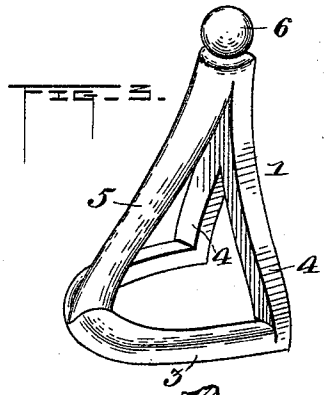

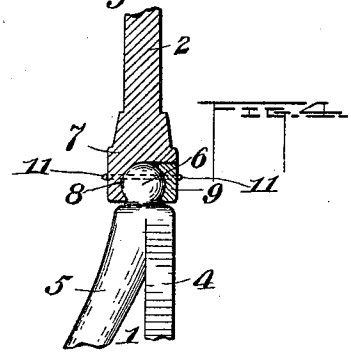

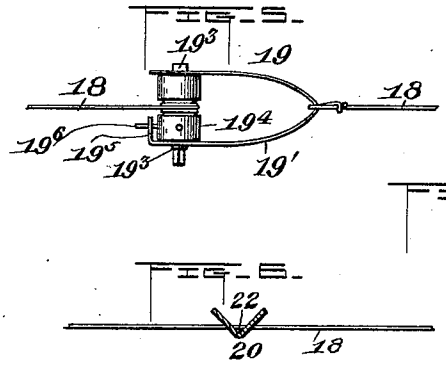

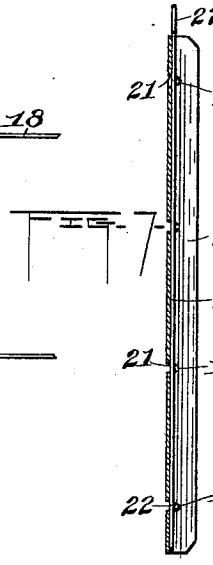

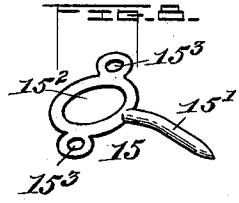

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Severance.
Arthur Cunningham.

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their Attorneys

UNITED STATES PATENT OFFICE.

EDWARD G. STORM AND SAMUEL M. STORM, OF LEBANON, INDIANA.

FENCE.

SPECIFICATION forming part of Letters Patent No. 481,980, dated September 6, 1892.

Application filed February 19, 1892. Serial No. 422,155. (No model.)

To all whom it may concern:

Be it known that we, EDWARD G. STORM and SAMUEL M. STORM, citizens of the United States, residing at Lebanon, in the county of Boone and State of Indiana, have invented certain new and useful Improvements in Fences; and we do hereby 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.

Our invention relates to certain new and useful improvements in fences, it having for its object to provide an improved construction of posts therefor, of means for bracing the post, and of means for stretching and holding taut the wires stretched between the posts; and for these purposes it consists in the construction, arrangement, and combination of the several parts of which it is composed, as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, in which corresponding parts are designated by similar letters, Figure 1 is an elevation of a panel of a fence having our improvement applied thereto, the surface-level of the ground being indicated by dotted lines. Fig. 2 is an end view thereof. Fig. 3 is a perspective view of the base of a post. Fig. 4 is a fragmental longitudinal vertical view through the post on the line $x\ x$, Fig. 2. Fig. 5 is a detail plan view of one of the tightening-windlasses for the wires. Fig. 6 is a detail horizontal section through one of the vertical ties, taken on the line $z\ z$ of Fig. 1. Fig. 7 is a vertical transverse section on the line $y\ y$, Fig. 1 Fig. 8 is a detail view of one of the pieces 15.

The posts consist, essentially, of two parts—the base 1, which is below the surface of the ground, and the upright post proper 2—the two parts being connected by a ball-and-socket joint, as will be hereinafter fully described, thus permitting the upright 2 to assume a vertical position irrespective of the inclination with which the base may be planted in the ground.

The base 1 is formed by a half-circle 3, from which the lateral wings or fins 4 arise, the said wings being connected together at their top and also connected with the upper end of the longitudinal wing 5, the base of which is connected with the central part of the half-circle 3, all of the said wings 4 and 5 terminating in a ball 6, it being evident that a base such as that described is capable of being readily cast in iron or any other suitable metal and that the wings 4 and 5 and the half-circle 3 will expose a large area to frictional contact with the ground, whereby the base 1 will be firmly held therein. The upright 2 has an enlargement 7 upon its lower end, the said enlargement being cut away, as at 10, upon its one side, and having in its base one-half of a spherical bearing 8, corresponding to the ball 6 upon the upper end of the base 1 and in which the said ball is adapted to be contained. The block 9 has the opposite half of the bearing therein and is adapted when inserted in the cut-away portion 10 in the enlargement to be held therein by means of bolts or wires 11, passing through it and the said enlargement, thus completing a spherical bearing, in which the ball 6 is contained, and forming a ball-and-socket joint between the two members of the post. In order that the upright may be secured at any lateral inclination desired, arms 12 project laterally from the lower end thereof and having grooves 13 in their outer ends in which guy-wires 14, having their lower ends secured to the half-circle 3 and their upper ends secured to the upper end of the upright 2, are adapted to be contained. It will thus be seen that by lengthening the wire 14 upon one side of the post and taking up the wire on the other that the upright may be secured at any inclination to the base 1. In securing the guys 14 to the uprights 2, we by preference make use of the piece 15, which is shown in detail in Fig. 8. It will be seen that this piece consists of a single piece of metal having a central eye 15^2, and on each side thereof an eye 15^3, to which latter eyes the upper ends of the guys 14 are connected, the central eye being slipped over the upright 2, as shown in Figs. 1 and 2, the said piece 15 having a projection $15'$ opposite the central eye 15^2. This projection $15'$ serves to penetrate the upper end of the brace 16, the lower end of which rests upon the surface of the ground, and which is adapted to be drawn toward the post by twisting the wires 17, whose opposite ends are connected to the lower ends of the brace

and the upright 2. It will thus be seen that as the piece 15 is prevented from rising on the post by reason of the guys 14, that if the lower end of the brace 16 be drawn upon the surface of the ground toward the post that the upper end of the upright will be forced backward to a corresponding extent. The longitudinal wires 18 are stretched between the posts at any suitable distance apart, and are adapted to be drawn taut by the windlasses 19, the construction of which is as follows: A strip 19′ of sheet-iron is bent into the form of a U, whose opposite members are perforated, as at 19^2, to form bearings for the studs 19^3 upon the ends of the drum 19^4, which is grooved and contained between the two members, one of the said studs being squared to receive a crank-handle for rotating it. One of the members of the U-shaped strip has its end continued and bent inward, as at 19^5, the said end being perforated and adapted to receive a pin 19^6, passing therethrough and into cavities in the drum, which latter can thus be locked against rotation. Each of the wires 18 is severed, it having one of its severed ends secured to the strip 19′ of one of the windlassed, while its opposite severed end is wrapped around and secured in the grooved portion of the drum 19^4. It will thus be seen that upon rotating the drum of the several windlasses that the wires 18 will be drawn taut, and upon inserting the pins 19^6 the drums will be locked and wires held taut. The ties 20 serve to steady the wires 18 and to hold them at the desired distance apart, for which purpose they each consist of an L-shaped strip of metal (preferably galvanized iron) and have slots 21 cut therein at their angle at the desired distance of the wires 18 apart, through which slots the wires pass, they being held therein by means of the vertical locking-wires 22, which preferably pass vertically between all of the said wires 18 and the inner surface of the angle of the tie, as seen in Figs. 6 and 7.

It will be seen that a durable and efficient fence is procured at a relatively small cost, the several members being capable of being cheaply produced, while they can be readily and rapidly assembled together by unskilled labor.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a fence-post, the combination, with a base and upright articulated together, of arms projecting laterally from the sides of the said upright and guys passing over the said arms and secured to the lower end of the said base and the upper end of the said upright, substantially as described.

2. In a fence-post, the combination, with a base formed of a half-circle having lateral and longitudinal wings arising therefrom, the wings having their upper ends connected together, of a ball rigidly secured to the upper ends of the said wings, an upright having in its lower end one half of a spherical bearing corresponding to the said ball, a block secured to the said bearing and having the opposite half of the said bearing therein, a piece 15, mounted on the said post and having an eye 15^2 on each side thereof, arms projecting laterally from the lower end of the said upright, and guy-wires passing over the said arms and having their lower ends secured to the said half-circle and their upper ends to the said eyes, substantially as described.

3. In a fence, the combination, with a base, of an upright articulated thereon, arms projecting laterally from the side of the said upright, a piece 15, mounted on the said post and having eyes on each side thereof, and guy-wires secured to the said base and to the said eyes and passing over the said arms, substantially as described.

4. In a fence-post, the combination, with a base and of an upright articulated thereto, of a piece 15, having a projection 15′ thereon and having an eye 15^2 surrounding the said upright and an eye 15^3 on each side of the said post, lateral arms projecting from the base of the said upright, guy-wires passing over the said arms and connected to the said base and to the said eyes 15^3, a brace having its upper end engaged by the projection 15′ and its lower end bearing upon the ground, and twisted wires having their opposite ends secured to the base of the said brace and of the upright, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD G. STORM.
SAMUEL M. STORM.

Witnesses:
CHARLES F. S. NEAL,
THOMAS W. LOCKHART.