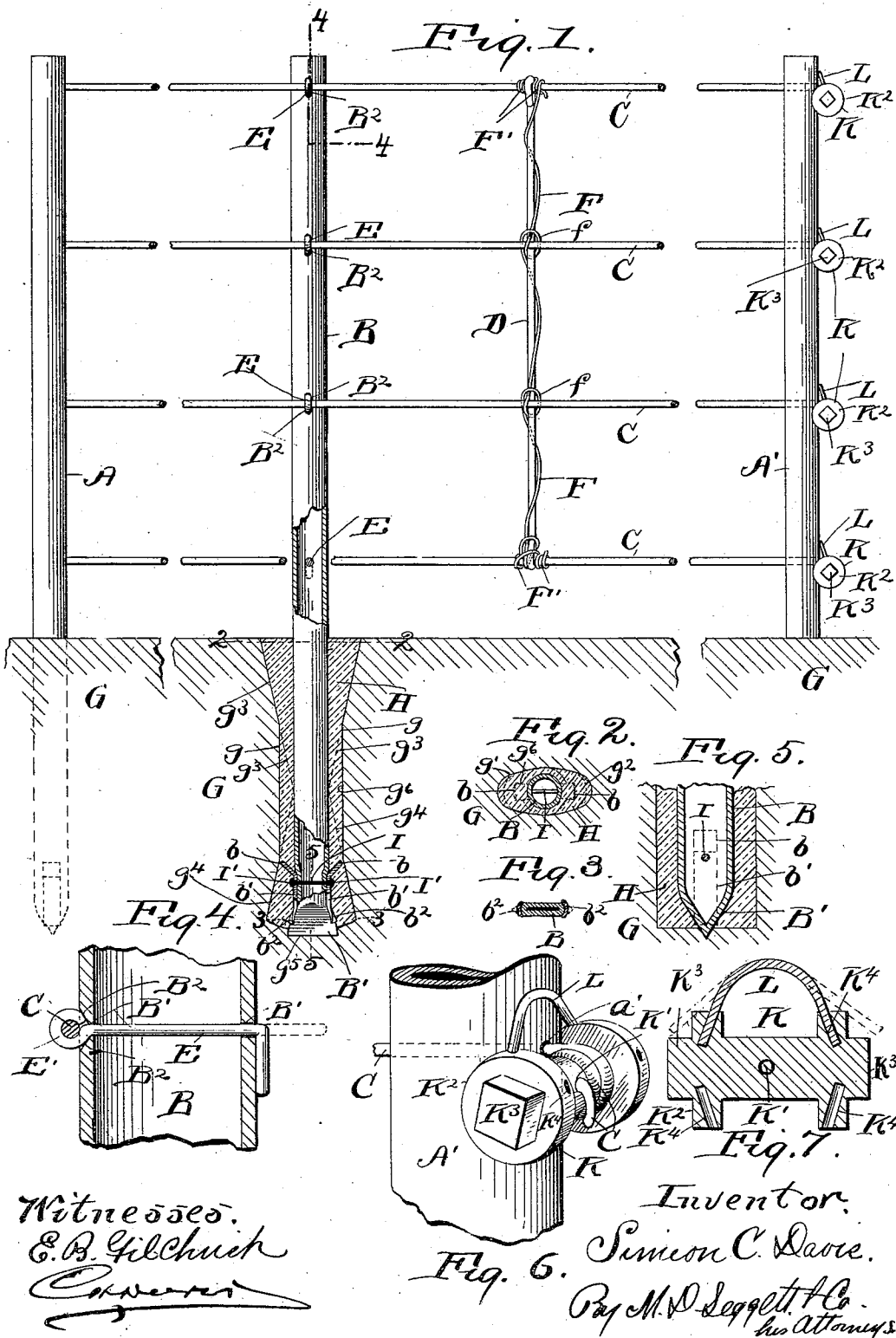


(No Model.)

S. C. DAVIS.
FENCE.

No. 543,853.

Patented Aug. 6, 1895.



UNITED STATES PATENT OFFICE.

SIMEON C. DAVIS, OF CLEVELAND, OHIO.

FENCE.

SPECIFICATION forming part of Letters Patent No. 543,853, dated August 6, 1895.

Application filed February 11, 1895. Serial No. 537,959. (No model.)

To all whom it may concern:

Be it known that I, SIMEON C. DAVIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Fences; and I 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 pertains to make and use the same.

My invention relates to improvements in fences, more especially to what are known as "wire" fences.

The invention consists, first, in a novel construction of metallic post—a construction that involves exceedingly simple and inexpensive means for preventing upheaval or displacement of the post from any cause.

My invention also comprises simple and inexpensive means for securing the line-wires to the intermediate metallic posts of the fence.

My invention furthermore consists in an improvement in the means employed for holding and bracing apart the horizontal or line wires of the fence.

My invention comprises, also, the combination, with the tightening-spool operatively connected with one end of each horizontal or line wire, of simple and efficient means for preventing said spool from such movement as would loosen the connected wire.

A preferable construction of fence embodying my invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation, partly in section, of a portion of a fence embodying my invention, showing the application of one of my improved metallic posts, the manner of securing the horizontal or line wires to said post, and the manner of holding and bracing apart said wires. Figs. 2 and 3 are transverse sections on lines 2 2 and 3 3, respectively, Fig. 1. Fig. 4 is an enlarged vertical section on any one of lines 4 4, Fig. 1. Fig. 5 is an enlarged vertical section on line 5 5, Fig. 1. Fig. 6 is an enlarged view in perspective of a portion of one of the end posts of the fence, showing my improved spool for tightening the horizontal or line wires and retaining them in their tightened condition. Fig. 7 is a longitudinal central section of said spool.

Referring to the drawings, A A', Fig. 1, designate the end posts of the fence; B, one of

my improved intermediate metallic posts; C, the horizontal or line wires; D, one of the stay-rods employed to hold and brace apart wires C; E, the fastening devices employed in securing wires C to post B, and F the wire employed in securing rod D to wires C and in such a manner as to prevent displacement or bending of said rod laterally without interfering with the tightening of the horizontal or line wires.

G designates the ground; g, the hole made in the ground for the reception of post B and the cement H, that surrounds the lower portion of the post.

Post B consists, preferably, of a metallic tube or piece of pipe V-shaped at its lower end, as shown more clearly in Fig. 5, which V-shaped end B' is preferably formed by suitably crushing said end of the pipe.

Post B is preferably set in the earth with its V-shaped lower end arranged in line with the fence, as shown in Fig. 1.

Post B, a suitable distance from its lower extremity, is provided with two projecting members b, located at opposite sides, respectively, of the post and projecting in the direction of the line of the fence and preferably inclining somewhat upwardly, as shown in Fig. 1. Members b are preferably formed upon and integral with plates b', that are arranged up and down the outer side of the lower portion of the post, and are preferably secured to the post by means of a single pin I, that extends through the post and has a head I' formed upon each end thereof. One head engages the outer side of one of plates b' and the other head I' engages the outer side of the other plate b'. By the construction hereinbefore described the cost of the application of members b is reduced to a minimum. Plates b', in order to more securely hold them against displacement, are preferably bent at their lower ends, as at b², Fig. 3, to partially embrace the edges of the V-shaped lower end of the post.

In applying post B a hole g, having a shape not unlike the form of an hour-glass, is first made in the ground with a crowbar or other suitable tool or instrument. Said form of hole is easily and naturally formed when a crowbar or similar tool is used for the purpose. Hole g is preferably somewhat ellip-

tical or oblong at its upper and lower ends in the direction of the line of the fence, as shown in Figs. 1 and 2, wherein g' designates the outline of the upper extremity of said hole and g^2 the outline of the lower extremity of the hole. Hole g is preferably only a little larger than the thickness of the post in a direction crosswise of the fence, and said hole centrally between its ends is preferably only a little larger than the thickness of the post all round, as shown in Figs. 1 and 2. The two side walls g^3 of the upper portion of said hole, that face in the direction of the line of the fence, preferably diverge from the central portion of the hole toward their upper extremity, as shown in Fig. 1, and the two side walls g^4 of the lower portion of said hole, that are located directly below walls g^3 , preferably diverge from the central portion of the hole toward their lower extremity, as shown in the same figure. After the hole has been made the post is introduced into the hole, preferably in such a manner that the lower end of the post shall be somewhat embedded in the bottom wall of the hole, as shown at g^5 , Fig. 1. Of course when the post is lowered into the hole, as just hereinbefore described, projecting members b thereof will cut through opposing walls of the central portion of the hole and form recesses g^6 in said walls, as shown in Figs. 1 and 2. The portions of the hole that are not occupied by the post are then filled with cement H , so that projecting members b of the post will be completely embedded in the cement.

The introduction of the post into a hole having undercut walls—and walls g^4 are undercut—and the formation of laterally-projecting members b on the portion of the post that extends through said hole, and the filling of said hole with cement, as hereinbefore described, are features of no inconsiderable importance. In fact, when the post is set and secured in the ground, as hereinbefore described, it cannot possibly become upheaved or displaced accidentally or from natural causes.

The fastening devices employed for securing wires C to the intermediate posts, and consequently to post B , in such a manner as to avoid interference with the subsequent tightening of said wires, consist, respectively, of a pin E . Referring to Fig. 4, that more clearly shows the construction and manner of applying said pin, it will be observed that the pin at one end is provided with an eye E' , through which the respective wire C extends, said eye being formed upon the pin after said wire C is strung. The pin extends through the post that is perforated laterally, as at B' , for the purpose. The shank of the pin is straight, as indicated in dotted lines, Fig. 4, to accommodate its passage through the post. The eye E' of the pin engages the outer surface of one side of the post, and the length of the shank of the pin is such that it will extend through and a suitable distance beyond the

outer surface of the opposite side of the post. The inner portion of the eye of the pin snugly fits into a recess B^2 , formed in the adjacent side of the post, which recess is formed by an enlargement of the outer end of the pin-engaging hole B' in said side of the post. When the pin has been introduced, with its eye slightly engaging recess B^2 , the free end of the shank of the pin is bent laterally against the outer surface of the adjacent side of the post, as shown in solid lines, Fig. 4, thereby securing the pin both against turning and endwise displacement.

Wires C are secured to end post A of the fence in any approved manner, and said wires, at the other end post A' of the fence, are operatively connected, respectively, with a tightening-spool K , that engages the outer side of said post A' , (see Fig. 1)—that is, a spool K is provided for each wire C . The end of the wire extends through a hole K' in the central portion of the spool, (see Fig. 6,) and, after being coiled once or twice around the spool, extends through a hole a' in the end post. The spool at each end is provided with a head K^2 . Each head K^2 at its outer face is preferably provided with a polygonal lug K^3 , (see also Fig. 7,) whereby, it will be observed, two wrenches can simultaneously be applied to opposite ends, respectively, of the spool, by which simultaneous application of two wrenches the wire is nicely wound upon the spool, as desired, without liability of subjecting the wire to torsional strain during the tightening operation. When the wire has been tightened, as required, the spool is locked against turning in the direction that would loosen the wire. The simple and inexpensive lock that I have provided for the purpose consists of a bow-shaped rod or staple L , composed, preferably, of spring metal and removably attachable to the spool, said staple, when attached to the spool, being adapted to engage the outer side of the post, and thereby prevent the spool from turning that would loosen the wire. Said spool-locking staple is preferably applied as follows: The ends thereof are inserted into two corresponding inwardly-diverging holes K^4 , respectively, provided in the two heads, respectively, of the spool—that is, holes K^4 extend from the periphery of the respective head inwardly and in the direction of the outer end of said head. The normal shape of the staple is that shown in dotted lines, Fig. 7, wherein the ends of the staple are shown separated a greater distance than the two staple-receiving holes in the spool, necessitating the pressure of said ends toward each other in order to render them capable of entering said holes, and hence it will be observed that the tendency of the ends of the staple to spread apart when the staple is applied will securely hold the staple to the spool. The two heads of the spool are provided at suitable intervals with staple-receiving holes to accommodate the locking of the spool in the different circumferential po-

sitions that it may be caused to assume in tightening the engaging-wire.

Referring, lastly, to the improved manner of applying wire F to rod D and wires C, so as to prevent lateral displacement of said rod D upon wires C, and cause said wires C to be properly held and braced apart, I would remark that I wind said wire F spirally around rod D, and secure said wire F to the uppermost wire C and lowermost wire C by tightly coiling the same any suitable number of times around said wires C, as at F', at opposite sides of rod D. To prevent the bending of rod D laterally at points intermediate of its ends, I fasten the same by means of wire F to the intermediate horizontal or line wires in such a manner as to brace apart said wires and avoid interference with the subsequent tightening of said wires. The improved manner of thus securing rod D to the intermediate horizontal or line wires consists, preferably, in forming a knot or loop *f* in wire F at each point where rod D traverses said intermediate horizontal or line wires, which knots or loops *f* embrace said rod D and said horizontal or line wires, as shown in Fig. 1, sufficiently snugly to prevent the bending of rod D laterally, but not so tightly as to interfere with the subsequent tightening of the line-wires.

Referring again to members *b* of the post, I would remark that it is important to have said members rigid with the post and incline upwardly from the post, as hereinbefore indicated, in order to facilitate the passage of said members through the surrounding wall or walls of the central portion of hole *g* in lowering the post into the proper position within said hole; and I would have it understood that my invention embraces, broadly, a metallic post having the portion adapted to enter the ground provided with a laterally and upwardly projecting member *b*.

Referring again to the formation of the hole made in the ground for the reception of the post, I would remark that a hole just large enough at its central portion to accommodate the lowering of the post through said portion of the hole and gradually enlarged from said restricted portion both upwardly and downwardly not only renders the post secure against vertical displacement after the introduction of the cement, but the surrounding walls of the restricted portion of the hole

afford bearing for the post, so that the post does not require to be supported by hand or otherwise during the introduction of the cement.

What I claim is—

1. A metallic fence-post, that, at the portion adapted to enter the ground, is provided with two plates *b' b'* secured to the outer surface of opposite sides, respectively, of the post, said plates being bent laterally and outwardly to form members *b b*, substantially as and for the purpose set forth.

2. The combination with the body-portion of a metallic fence-post, of two plates *b' b'* engaging the outer surface of opposite sides, respectively, of the post, and a pin or member extending through the body-portion of the post and instrumental in securing both of said plates in position, said plates being bent laterally and outwardly to form members *b b*, substantially as shown, for the purpose specified.

3. The combination with a metallic fence-post provided with a V-shaped lower end, of the two plates *b' b'* engaging the outer surface of opposite sides, respectively, of the post, a pin extending through said plates and post and provided with heads engaging the outer surfaces of the plates, said plates extending downwardly and having their lower ends bent to partially embrace the edges of the V-shaped end of the post, said plates being also bent laterally and outwardly to form members *b b*, substantially as shown, for the purpose specified.

4. The combination with the metallic post extending into the ground and provided with laterally-projecting members below the surface of the ground, of an anchorage of cement engaging and surrounding the underground portion of the post, said anchorage being gradually enlarged in thickness from the central part of said portion of the post both upwardly and downwardly, substantially as shown, for the purpose specified.

In testimony whereof I sign this specification, in the presence of two witnesses, this 5th day of February, 1895.

SIMEON C. DAVIS.

Witnesses:

C. H. DORER,
ELLA E. TILDEN.