

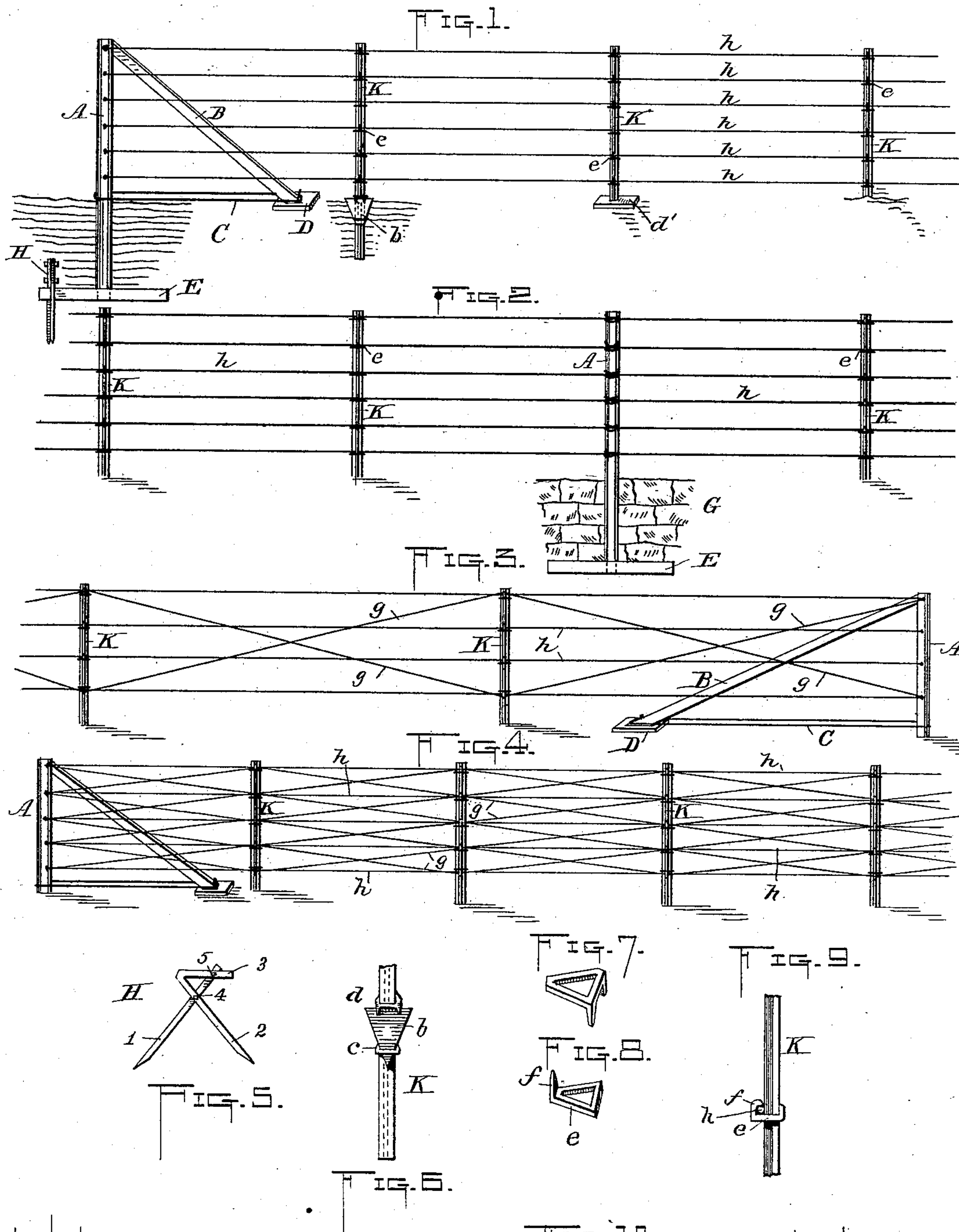
(No Model.)

E. R. POWELL.

FENCE.

No. 370,656.

Patented Sept. 27, 1887.



Witnesses_

Well again

Marvin A. Gust's

Inventory

Edwin R. Powell
by Maxwell Bailey
his attorney

UNITED STATES PATENT OFFICE.

EDWIN R. POWELL, OF BURLINGTON, VERMONT, ASSIGNOR OF TWO-THIRDS
TO DANIEL R. BALLOU, OF PROVIDENCE, RHODE ISLAND, AND JACOB C.
RUTHERFORD, OF BURLINGTON, VERMONT.

FENCE.

SPECIFICATION forming part of Letters Patent No. 370,656, dated September 27, 1887.

Application filed April 25, 1887. Serial No. 236,028. (No model.)

To all whom it may concern:

Be it known that I, EDWIN R. POWELL, of Burlington, in the State of Vermont, have invented certain new and useful Improvements in Fences, of which the following is a specification.

My invention relates to wire fences, and contemplates the employment of stay-posts placed at stated intervals apart, to which the wires are immovably attached, in connection with smaller uprights intervening between said posts, to which the wires are secured in such manner that they may have lengthwise movement independently of said uprights. I propose in practice to make all parts of the fence of metal, preferably steel; but the large stay-posts may be made of other material—such, for instance, as wood—if desired. The intermediate uprights above referred to have a T-shaped cross-section. In combination with them I employ what I term “adjustable clutch-grips” for holding the wires, which grips are made of metal of a shape to fit around the T-shaped intermediate upright to which they may be applied, and are provided with prongs, which, when bent over, will form in effect eyes to hold the wires in place. The part of the clutch-grip which surrounds the T-shaped upright is a collar of triangular shape, two sides of which, after the grip is adjusted to position, are crimped or bent inwardly, so as to cause the device to bind upon the three angles or edges of the T-upright. It is this feature which mainly characterizes my invention. The grip in this way can be easily and expeditiously fitted and applied to the upright, and when once adjusted to the desired position can be there held most securely and without the aid of any extraneous fastening devices.

My invention will be readily understood by reference to the accompanying drawings, in which—

Figure 1 is an elevation of part of a fence made in accordance with my invention. Fig. 2 is a like view of a continuation of the same fence. Figs. 3 and 4 are like views of the fence with brace or diagonal wires added. Fig. 5 is a view of what I term the “surface anchor.” Fig. 6 is an elevation of the lower portion of

an intermediate upright provided with device for preventing it from being inclined out of line. Fig. 7 is a view of one of the parts of said device. Fig. 8 is a view of the adjustable clutch-grip. Fig. 9 is a side elevation of a portion of one of the intermediate uprights having one of the clutch-grips in place thereon and holding a wire. Fig. 10 is a top view, on an enlarged scale, of the adjustable clutch-grip, representing the manner in which its sides are crimped or inwardly bent for the purpose of securing it in place upon the post after it has been applied thereto.

In the drawings, the stay-posts are lettered A. In the system of fencing represented substantially all the strain comes upon these posts, and they are therefore made of size and strength to resist the same. Each post has fixed to its foot a cross-piece, E, which, after being set in the ground, has stone packed above it, as seen at G in Fig. 2, or, where stone cannot conveniently be had, is held down by the surface anchor H, as seen in Fig. 1, which straddles the cross-piece on the end opposite the side of the post on which the strain comes. This anchor, as seen in Fig. 5, consists of two metal bars, 1 2, the latter provided with the bent arm 3, the two being united by bolts at the points 4 5. In setting this anchor the part 2 is first driven into the ground at an angle of about forty-five degrees. The part 1 is then driven in like manner and at a like angle into the ground, but in a reverse direction, so as to cross the part 2, and then, when it has been driven far enough to bring the corresponding bolt-holes in the two parts at the points 4 5 opposite each other, the bolts are inserted and the nuts applied thereto, so as to bind the two parts of the anchor immovably together. This anchor is shown as applied to the cross-piece E; but it can be applied to various parts of the fence and in various ways wherever it may be needed.

The end post, A, in Fig. 1 requires to be braced against the strain, to which end I employ the brace B C D, B being the diagonal brace-rod proper, attached at its upper end to the post and bearing at its lower end upon the foot rest or support D, where it is held by the stay wire or loop C, passing around the base

of the post and the lower end of the brace D, to which it may be secured in any convenient way. Indeed, if desired, the three parts C D B can be fastened together in any suitable manner.

The wires *h* are stretched between and immovably fastened to the post A in any desired manner.

The uprights, which intervene between the posts and serve to space and preserve the parallelism of the wires, are shown at K. They are made of iron or steel bars or rods of T cross-section, and as they are not required to be of very great strength, they need not weigh more than one-half of a pound to one pound per foot. They should be of such length, ordinarily, that they can be set into the ground, say, about two feet. To resist any tendency in the upright to tilt or incline forward or back, or in a plane at right angles to the line of fencing, I employ a triangular plate, *b*, which is applied to the flat face of the upright with one of its sides horizontal and uppermost and in such position that it will be about at the surface of the ground when the upright is set. In this position the triangular plate is held below by means of a triangular collar, *c*, which encircles and fits upon the upright and embraces the point of the triangular plate, and above by means of a triangular collar, *d*, which likewise fits upon the upright, and also is provided with prongs or fingers, which overlap the top edge of the plate. These collars, after having been adjusted to place, are secured by compressing their sides upon or toward the upright, thus causing them to be clamped firmly in position. The plate *b* thus placed resists any tendency to incline the upright to the front or rear.

Where the surface of the ground is stony or rocky, the uprights K need not enter the ground, but may at their lower ends rest upon a base or hard substance, *d*, as indicated in Fig. 1. Whenever such conditions exist, the "surface anchor" is required at each and every low point of the fence in passing over and through sharp hollows; but when the ground is level and smooth the anchor may be used not more than once in every two hundred or three hundred feet, all that is required being to afford such support as will prevent the fencing from being deflected by side pressure, this being comparatively easy to accomplish in view of the fact that the large stay-posts, between which the wires are stretched, are set usually about one thousand feet apart, more or less. The wires are held to the uprights K by adjustable clutch-grips, each consisting of a triangular collar or sleeve, *e*, of metal, of a shape to fit upon and around the upright, which collar is provided at its apex with a prong, *f*.

In applying this device to the upright it is slipped over the same until it reaches the desired point, and is then clamped there by compressing or inwardly bending the two sides

which extend from its apex to its base, as indicated in Fig. 10, pinchers, as shown in figure referred to, or other suitable means being applied for the purpose. The prong is left open or unbent until after the wire has been inserted between the prong *f* and the upright. The prong is then bent over the wire, as shown in Fig. 9. The placing of the wire and the bending over of the prong can be most easily and expeditiously effected. The wire in this position is held from rising or falling, but at the same time is entirely unrestrained in its endwise movement.

In the style of fence shown in Figs. 1 and 2, having horizontal wires only, all the clutch-grips are placed upon the uprights prongs uppermost; but in fences having, in addition to these wires, inclined or diagonal stay-wires, as seen at *g*, Figs. 3 and 4, the bottom grip on each upright is placed prong downward.

In Fig. 3 the inclined stay-wires run from the bottom of one upright to the top of the next, and so on, being held by the same clutch-grips which hold the top and bottom horizontal wires, the two stay-wires crossing at the center of each panel and forming a very strong fence.

In Fig. 4 the uprights K are placed nearer together and the incline of the stay-wires is more gradual, rising or descending in each panel only a distance equal to that which separates one grip from the next. In this fence all the adjustable clutch-grips, except the top and bottom ones, (which hold only two wires,) hold three wires each. The horizontal wires might be omitted, in which case each grip encircles one less wire. The inclined wires are not fully stretched and tightened until after they are placed in the grips, and for this reason it is not practicable to use the ordinary barbed wire for these wires or strands.

Having described my invention and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the upright K, having a T cross-section, of the metallic clutch-grip consisting of a pronged collar of triangular shape encircling the upright and fastened thereon by crimping or inwardly bending its sides into the space included between them and the central rib of the upright, as and for the purposes hereinbefore set forth.

2. The intermediate uprights of T cross-section and metallic clutch-grips consisting of pronged collars of triangular shape encircling said uprights and secured thereon by crimping or inwardly bending their two opposite sides, in combination with the end stay-posts and wires stretched between and immovably fastened to said end posts and passing through the eyes formed by the prongs of the said clutch-grips, as and for the purposes hereinbefore set forth.

3. The end stay-posts, A, and the fence-wires, in combination with the intermediate uprights,

K, of T cross-section, the metallic clutch-grips consisting of pronged collars *e*, encircling said uprights and secured thereon by crimping or inwardly bending their two opposite sides, 5 and the plates *b* and collars *c d*, applied and secured to said uprights, all substantially as hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 9th day of April, 1887.

EDWIN R. POWELL.

Witnesses:

HARVEY T. RUTTER,
CARROLL DOUBLEDAY.