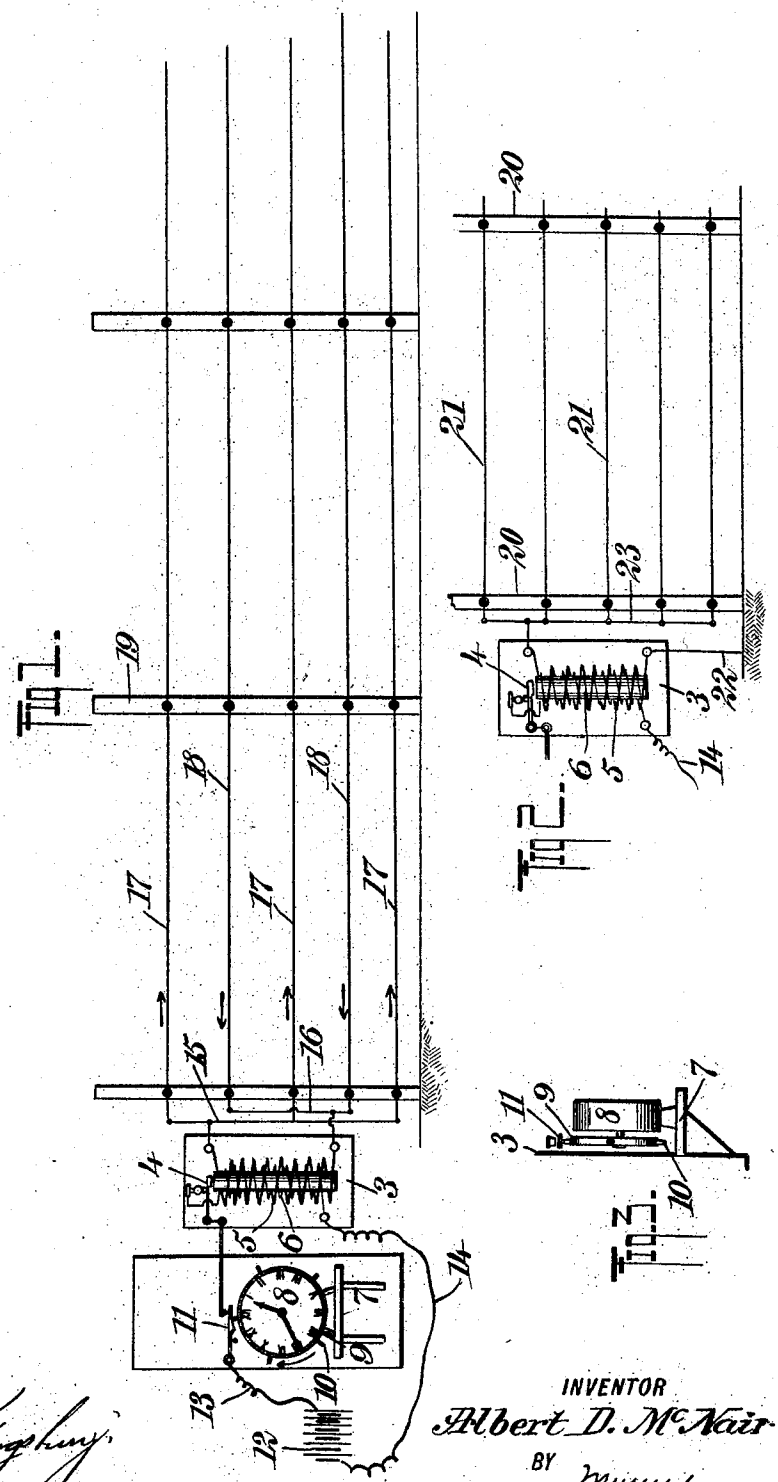
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A. D. McNAIR.

ELECTRICALLY ENERGIZED FENCE.

APPLICATION FILED NOV. 4, 1904.



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ALBERT DÜY McNAIR, OF DALLAS, TEXAS.

ELECTRICALLY-ENERGIZED FENCE.

No. 796,241. Specification of Letters Patent. Patented Aug. 1, 1905.

Application filed November 4, 1904. Serial No. 231,420.

To all whom it may concern:

Be it known that I, ALBERT DÜY McNAIR, a citizen of the United States, and a resident of Dallas, in the county of Dallas and State of Texas, have invented a new and Improved Electrically-Energized Fence, of which the following is a full, clear, and exact description.

My invention relates to fences and admits of general use, but is of special value as applied to fences intended to prevent the escape of animals—such as cattle, horses, and hogs—therethrough,

My invention further relates to means for exciting the wires of the fence electrically, so as to give the animals the sensation of pain upon making proper contact with the wires.

My invention also relates to time-controlled mechanism for rendering the electric action of the fence intermittent, so as to save the battery-current.

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

Figure 1 is a diagrammatic side elevation showing a fence energized by one form of my invention. Fig. 2 is a diagrammatic representation of another form of my invention, in which the wiring connections are somewhat different; and Fig. 3 is a side elevation of the time-controlled mechanism for rendering the action of the interrupter intermittent.

An induction-coil 3, preferably a small Ruhmkorff coil, is provided with an interrupter 4 and with primary and secondary windings 5 6, these parts being of the usual construction. Mounted upon a board 7 is a clock 8, provided with a contact-wheel 9, adapted to rotate several times per minute. Upon the periphery of this wheel are contact-pins 10, adapted to successively close a contact 11. The primary winding 5 of the coil is connected by a wire 14 with a battery 12, the latter being connected by a wire 13 with the contact 11. The terminals of the secondary winding 6 are respectively connected with distributing-wires 15 16, the distributing-wire 15 being connected with certain fence-wires 17 and the distributing-wire 16 being similarly connected with the remaining fence-wires 18, so that the wires of opposite polarity are disposed alternately, as indicated by the arrows in Fig. 1. By this means any two successive wires 17 18 when energized have opposite polarity, and when the body of an animal comes into engagement with both of these wires, the coils being in action, the animal receives a shock from the electric current, and is thus prevented from passing through the fence. The wires 17 18 are supported upon fence-posts 19.

In the form shown in Fig. 2 the terminals of the secondary winding are respectively connected with a ground-wire 22 and a distributing-wire 23, this distributing-wire being connected with all of the fence-wires 21, which are supported upon posts 20. With this form of the device the alternating currents generated in the secondary winding are caused to flow in parallel through the fence-wires, the latter having sufficient static capacity to enable the reversals to take place. The reversals are practically simultaneous in all of the wires shown in this figure.

The office of the clockwork is to save battery-power, which it does by throwing the primary circuit out of action. For instance, if the clockwork closes the contact 11 at the rate of fifteen times per minute and upon each closure of the circuit the interrupter is allowed to vibrate for one-fourth of a second, the device is about as effective in preventing the escape of cattle as when the interrupter acts continuously.

The invention is used as follows: A fence of either type described having been erected, the clockwork is set in motion. Each time a contact-pin closes the contact 11 the current passes from the battery 12 through the primary winding and is continuously broken by the interrupter 4. By the action of the primary winding alternating currents are induced in the secondary winding, and these alternating currents energize the fence-wires 17 18. At the moment when any particular wire, such as 17, is energized in one sense the wire 18 immediately adjacent is energized in the opposite sense, the reversals in the direction taking place in all of the wires at practically the same moment.

While in the form indicated in Fig. 1 the circuit is completed from one wire to another wire by the body of the animal endeavoring to pass through the fence, in Fig. 2 the circuit is completed by the animal standing on the ground and coming into contact with any one of the wires, the currents passing through the body of the animal to the ground, or vice versa.

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

1. In a device of the character described, the combination of an electric circuit, a fence to be energized thereby, means for enabling said circuit to control the potential of said fence, a contact for opening and closing said circuit, and clockwork provided with a member for opening and closing said contact.

2. In a device of the character described, the combination of a Ruhmkorff coil provided with a primary winding and with a secondary winding, a fence connected with said secondary winding, a circuit for energizing said primary winding, said circuit being provided with a contact, and time-controlled mechanism for throwing said primary winding into and out of circuit.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT DÜY McNAIR.

Witnesses:
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