Dec. 29, 1942. E. J. GENGLER 2,306,661

ELECTRIC FENCE GATE

Filed May 31, 1938

Fig. 1.

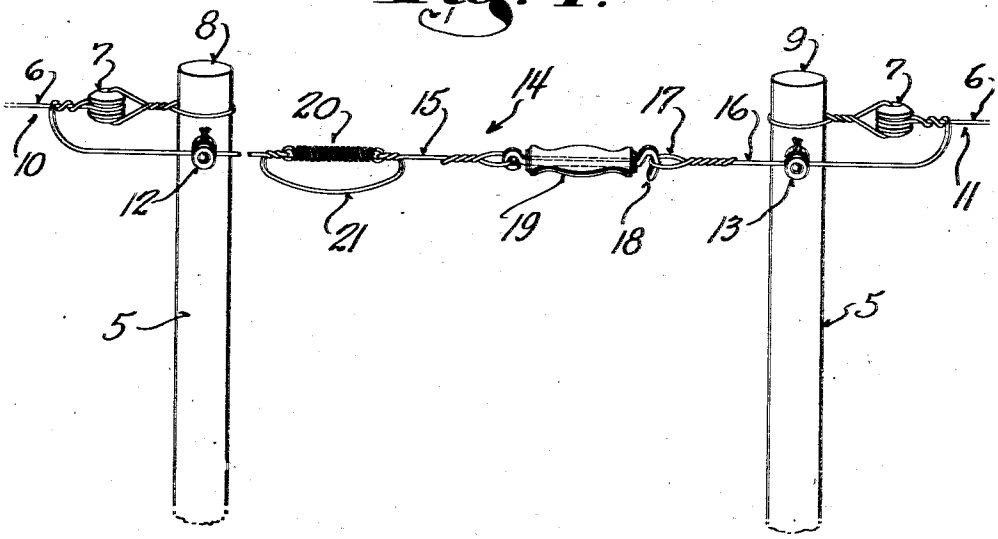


Fig. 3.

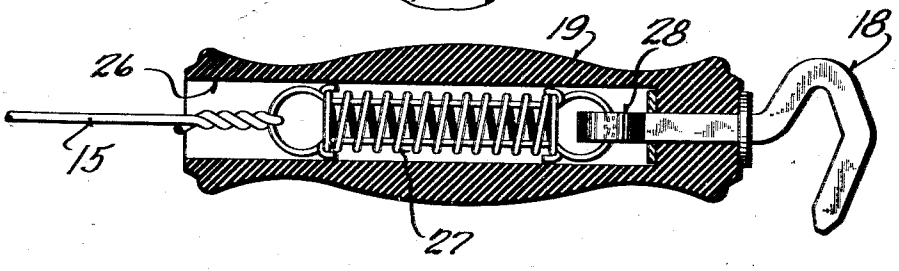
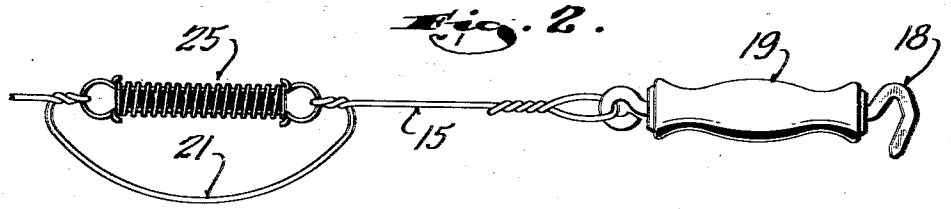


Fig. 2.



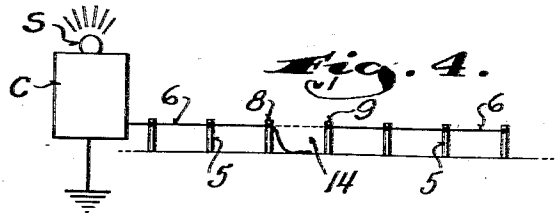


Fig. 4.

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ELECTRIC FENCE GATE

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3 Claims. (Cl. 256—10)

This invention relates to electric fences and refers particularly to gates for such fences.

It is an object of this invention to provide a gate which, when closed, is effective in the same manner as the charged portions of the fence.

Another object of this invention is to provide a gate for electric fences which is so constructed that, when open, it actuates the ground indicator of the charger in the same manner as any other grounded condition of the fence.

A further object of this invention is to provide a gate of the character described, which may be safely opened and closed without danger of shock.

With the above and other objects in view which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

The accompanying drawing illustrates several complete examples of the physical embodiment of the invention constructed in accordance with the best modes so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a perspective view of a portion of an electric fence showing the gate in closed position;

Figure 2 illustrates a modified form of spring for holding the gate taut;

Figure 3 is an enlarged detail view of a portion of the gate showing a modified form of handle; and

Figure 4 diagrammatically illustrates how the open gate actuates the ground indicator.

Referring now particularly to the accompanying drawing in which like numerals indicate like parts, the numeral 5 designates the posts of an electric fence, only a portion of which is shown. The posts are spaced in the usual manner and support a fence wire 6 as from insulators 7. The wire 6 is adapted to be charged by a charger "C," as shown in Figure 4.

Between two adjacent posts 8 and 9, the wire is interrupted to provide a gateway. The fence wire is thus divided into charged and uncharged sections 10 and 11, respectively, the charged section being, of course, connected to the charger "C." The ends of the sections 10 and 11 are secured to the gateposts 8 and 9 by insulators 12 and 13, respectively.

The gateway is adapted to be closed by a gate indicated generally by the numeral 14. It is the purpose of the gate to electrically connect the fence sections and have the same efficacy as any other portion of the fence. Consequently, the gate is formed by a bare flexible conductor 15 anchored at one end to the gatepost 8 by being attached to the insulator 12 and electrically connected to the adjacent end of the charged section 10.

The other or free end of the conductor is detachably connectible with the uncharged section of the fence. For this purpose, it has been found convenient to provide a short substantially rigid conductor 16 having a loop 17 on its outer end. The inner end of this conductor is anchored to the gatepost 9 by securing one end thereof to the insulator 13, and is electrically connected to the adjacent end of the uncharged fence section 11. The free end of conductor 15 has a metal hook 18 adapted to be engaged with the conductor 16 to close the gate. An insulated handle 19 surrounding the hook affords protection against shock as the gate is opened or closed.

As a result of this novel construction, it is possible to close or open the gate 14 easily and quickly by the use of merely one hand and without any danger of shock. The only part that need be grasped for this purpose is the insulated handle 19 by which the hook 18 is engaged in or removed from the loop 17. Since the loop 17 is sustained in position, it requires no manipulation and is always ready to receive the hook when the gate is open.

Interposed medially of the ends of the conductor 15 is a closely wound coil spring 20. The spring 20 places the conductor under tension upon engagement of the hook 18 with the loop 17 and thus insures good electrical contact between the hook and loop. The hook 18 may be polygonal in cross section or rectangular as shown so as to engage the loop 17 at two or more points and bite into the same thus affording better electrical contact than if a hook of circular cross section were used.

It is to be noted that the conductor 15 need not be broken to accommodate the coil spring 20, it being merely necessary to provide a slack portion 21 to compensate for the lengthening of the spring upon closing of the gate.

Attention is also directed to the fact that the conductor 15 is permanently connected to the charged section of the fence. Thus accidental

opening of the gate will be indicated by the signal "S" on the charger in the same manner as any other grounded condition of the fence; for upon such opening, the conductor **15** drops to the ground, as shown in Figure 4. The weight of the hook **18** and the handle **19** make this indication positive, as they insure contact with the ground notwithstanding the presence of tall grass or other similar obstructions.

Figure 2 illustrates a modified form of spring **25** for holding the conductor taut and providing a good electrical connection between the hook and the loop **17**. This spring performs the same function as the spring **20** but employs a compression spring with which it is possible to obtain greater tension on the wire.

Figure 3 illustrates another embodiment of this invention wherein the spring for maintaining the gate taut is concealed within the handle. To this end the handle has a chamber **26** of a size to accommodate the compression spring **27**.

The hook **18** extends through the closed end of the handle and terminates in a loop **28** at the inner end of the chamber and the spring, which is preferably like that shown in Figure 2, is corrected at one end to the conductor **15** and at its other end with the loop **28**. The attachment of the spring to the conductor is preferably inside the handle.

The chamber **26** is of sufficient length to accommodate the increase in length of the spring structure when compression is applied thereto during connection of the gate so that the handle at all times surrounds the spring.

From the foregoing description taken in connection with the accompanying drawing, it will be readily apparent to those skilled in the art that this invention affords a practical gate for electric fences.

What I claim as my invention is:

1. In a one-wire electric fence structure including charged and uncharged bare wire sections, a pair of spaced uprights providing a gateway and supporting the respective adjacent ends of said charged and uncharged sections, a bare flexible conducting lead electrically connected with one of said sections and being of a length to stretch as an electric gate across the space between the posts, a conducting hook member electrically connected to the free end of said flexible lead and having an insulating handle by which it can be grasped for manipulation without imparting a shock from the fence to the manipulator, the remaining section of the fence wire having a part sustained in position adjacent its supporting post adapted to be engaged by the hook in a one-hand hooking manipulation of the hook and handle assembly for electrically connecting the sections together, and means to place the flexible lead under tension as an incident to moving the hook into hooking relation to said sustained part and to cause the hook to be pulled into firm electrical contact with said part after being hooked thereto.

2. A one-wire electric fence structure substantially as set forth in claim 1 in which the bare flexible lead forming the gate is electrically connected to the charged section and is of such length that the hook will fall to the ground if it is unhooked from the sustained part of the remaining section and dropped, the hook and handle assembly being of such weight as to insure engagement thereof with the ground notwithstanding the presence of tall grass or similar obstructions, and the handle is so proportioned and related to the hook that the hook will definitely contact the ground when the gate is down and thus ground the charged section of the fence.

3. A one-wire electric fence structure substantially as defined in claim 1 in which the hook-engaged part of the remaining section of the fence wire comprises a conducting member electrically connected thereto and having a loop extending relatively rigidly a short distance from the adjacent post to receive the hook by a simple relative hooking movement of the hook and handle assembly, and the tensioning means comprises a spring permitting limited longitudinal movement of the hook and handle assembly to facilitate hooking and unhooking thereof.

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