

H. HULL.
ELECTRIC SWITCH.
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986,714.

Patented Mar. 14, 1911.

Fig. 1.

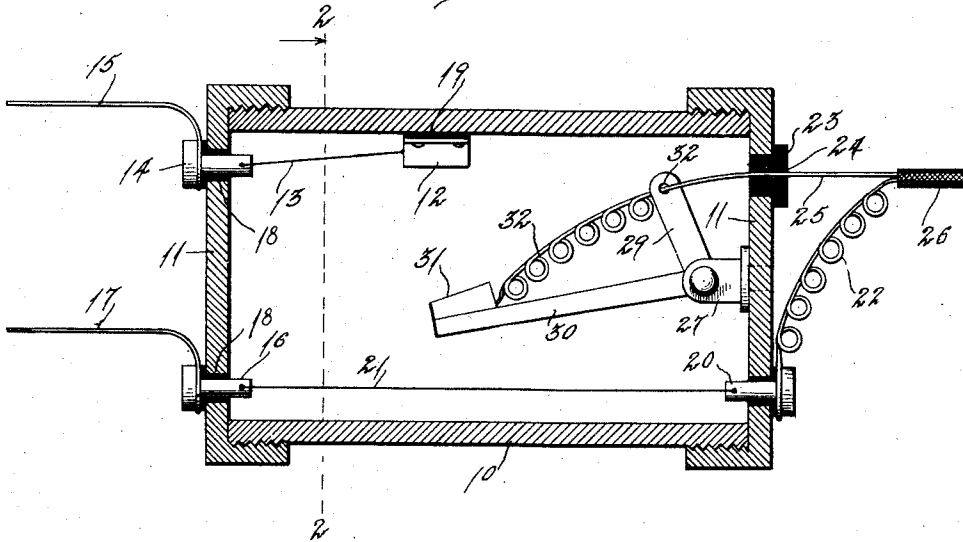
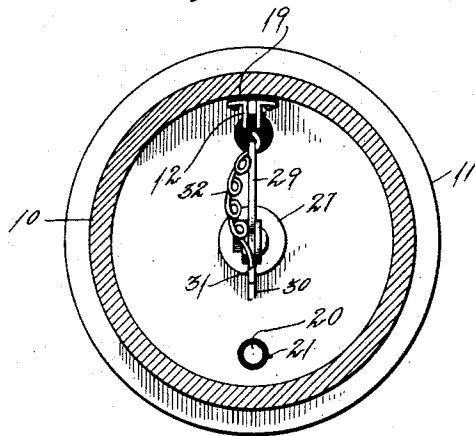


Fig. 2.



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UNITED STATES PATENT OFFICE.

HORACE HULL, OF DENVER, COLORADO.

ELECTRIC SWITCH.

986,714.

Specification of Letters Patent.

Patented Mar. 14, 1911.

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To all whom it may concern:

Be it known that I, HORACE HULL, a citizen of the United States, residing at Denver, in the county of Denver, State of Colorado, have invented certain new and useful Improvements in Electric Switches; 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 appertains to make and use the same.

This invention relates to circuit closers, more particularly to circuit closers designed for use in that kind of animal traps wherein an explosive cartridge is employed with means for firing the cartridge in the event of an animal snapping the bait.

The object of the present invention is to provide a novel form of portable circuit closer that will positively discharge the cartridge regardless of whether the animal simply "noses" the bait or attempts to carry off the bait bodily.

In the accompanying drawings forming part of this specification:—Figure 1 is a cross sectional view through a circuit closer constructed in accordance with my invention. Fig. 2 is a cross sectional view through the circuit closer taken on the line 2—2, Fig. 1.

Referring now to the drawing, the circuit closer is shown to comprise a cylindrical shell 10 having flange caps 11 threaded on to its opposite ends and forming closures therefor. Fixed to the inner wall of the shell is a stationary contact 12, this stationary contact being connected by means of a conductor wire 13 to a binding post 14, projecting through one of the caps 11, and from this binding post leads a conductor wire 15 which is attached to one of the battery poles (not shown). A second binding post 16 is fixed in the cap 11 and a conductor wire 17 leads from this binding post to the other pole of said battery. The binding posts and stationary contact are insulated as shown at 18 and 19 from the shell but should the shell be formed of insulating material, this it is obvious will be unnecessary. Arranged in the opposite cap is a binding post 20, this binding post being connected to the binding post 16 by a conductor wire 21 and being further equipped with a conductor wire 22 which is coiled as shown to permit of considerable slack in the wire for a purpose which will hereinafter

appear. Fixed in this cap is an insulating element 23 having an axial opening 24, through which a small extremely flexible conductor wire 25 is loosely fitted, this wire being secured to the wire 22 by means of an insulating covering 26 of any preferred construction. The wires 25 and 22 lead to the explosive element in the cartridge and it will be observed that an outward pull upon these wires will draw the wire 25 through the opening in the insulating element 23 and will expand somewhat the convolution in the wire 22. This outward pull upon the wires is made to close an electric circuit formed by these wires.

Pivotally mounted at its elbow in a bracket 27 is a bell crank lever 28 having a short leg 29 and a long leg 30, the latter being equipped at its extremity with a contact 31 which when the bell crank lever is rocked upon its pivot engages the before mentioned insulated contact 12. The conductor wire 25 above described is led through a minute opening 32 formed in the short leg and is fixed at its extremity to the long leg of the lever adjacent the contact thereon. That portion of the wire intermediate the short leg and long leg of the lever is formed in a spiral as shown at 33, this spiral preventing of the wire being snapped off when the bell crank lever is rocked to closed position.

When the parts are arranged as shown in the drawing, the circuit is broken. When an animal attempts to bodily remove a bait in which the explosive cartridge is embedded, the wires 22 and 25 are pulled outwardly, thereby rocking the bell crank lever into closed position and when the bell crank lever is in this position the circuit is closed and the cartridge fired by the electric current.

By forming the shell cylindrical and the caps circular if an animal should simply "nose" the bait, it will cause the shell to roll along the ground and it will be observed when the shell is moved to a position half way around from that shown in the drawing, the bell crank lever will gravitate by virtue of the long leg of the lever being weighted with the contact 31, and will close the circuit. Thus it is seen that when an animal simply "noses" the bait, the circuit closure operates to close the circuit as effectively as when the animal attempts to bodily carry off the bait.

What is claimed is:—

In a circuit closer, a shell, caps closing the ends of said shell, a stationary contact in said shell, a bell crank lever mounted to
5 swing upon one of said caps and having legs of unequal lengths, a contact carried upon the extremity of the longest leg of said bell crank lever and engaging with the station-
ary contact when the lever is actuated, a
10 combined pull and conductor element connected to the free extremity of the shorter

leg of said lever and extending through one of said caps, and a conductor element connected to said stationary contact and extending through the other of said caps. 15

In testimony whereof, I affix my signature, in presence of two witnesses.

HORACE HULL.

Witnesses:

CARL E. GARRETT,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
