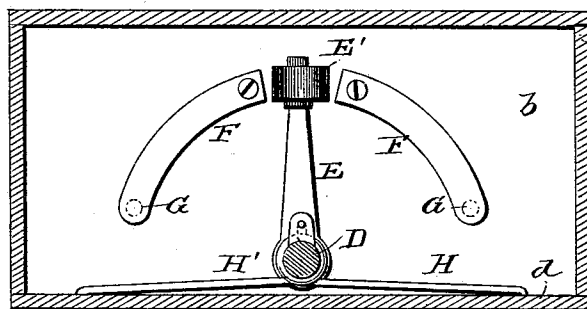
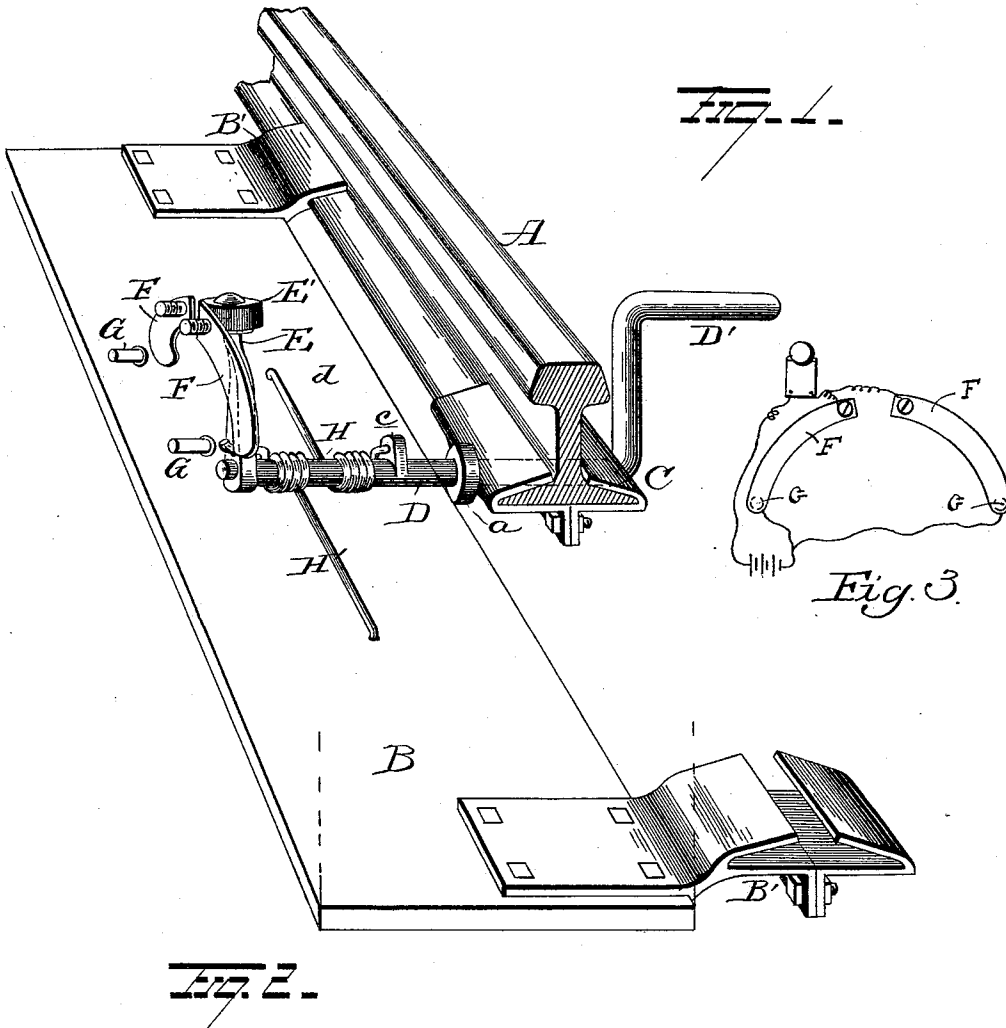


(No Model.)

W. NUTT.  
CIRCUIT CLOSER.

No. 543,966.

Patented Aug. 6, 1895.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM NUTT, OF CRAWFORDSVILLE, INDIANA.

## CIRCUIT-CLOSER.

SPECIFICATION forming part of Letters Patent No. 543,966, dated August 6, 1895.

Application filed November 6, 1894. Serial No. 528,085. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM NUTT, a resident of Crawfordsville, in the county of Montgomery and State of Indiana, have invented certain new and useful Improvements in Circuit-Closers; 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.

My invention relates to an improvement in electrical circuit-closers, and more particularly to improved track-instruments for use in connection with electrical railroad-signals, the object of the invention being to produce simple and efficient means for automatically making and breaking an electric circuit by the passage of a railroad-train.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view illustrating my improvements. Fig. 2 is a sectional view. Fig. 3 is a diagrammatical view of the circuits.

A represents a rail or a railroad-track, to one side of which a box or casing B is located and secured to the flanges of said rail by means of clips B' B'. Between the clips B' B' a clip C is secured to the flanges of the rail and constructed to produce a bearing for a shaft D, which is disposed under the rail. One end of the shaft D is made with a crank D' to be struck by the wheels of a passing train, the other end of the shaft extending into the box or casing B, longitudinal movement of the shaft being prevented by means of a collar a thereon adapted to engage one end of the clip C. To the free end of the shaft D, within the box or case B, an arm E is secured and provided at its free upper end with a roller E', of wood, metal, or other suitable material. The roller E' is normally disposed between two spring-plates F F, secured to the inner face of the side b of the box or casing, the free ends of said plates being normally disposed over or in line with contact-pins G, secured to the side b of the box or casing. A spring H is coiled on the shaft D and at one

end is secured to a lug c, projecting from said shaft, the other end of said spring being extended laterally from the shaft and secured to the bottom d of the box or casing. Another spring H' is coiled on the shaft and has one end secured to the arm E, the other end being extended laterally from the shaft at the opposite side of the shaft from the laterally-extending portion of the spring H and secured to the bottom d of the casing.

From the construction and arrangement of parts above described it will be seen that when the shaft D is rocked by the engagement of a wheel of a train (running in either direction) with the crank-arm D' the roller E', carried by the arm E, will engage one or the other of the spring contact-plates F and force it in electrical contact with the respective contact-pin G, whereby to close an electrical circuit, which may include a bell, gong, or other electrically-operated device. When the wheel of the car shall have passed the crank-arm D', the shaft will be made to assume its normal position by the spring H (or H') and the roller E' made to move out of contact with the spring contact-plate F, whereupon the latter on account of its resiliency will move away from the contact-pin G, and thus open the circuit. The electric circuit, including the bell or other device, will thus be opened and closed continuously during the passage of the train.

My improvements are exceedingly simple in construction, can be manufactured cheaply, can be easily applied to any rail, and are effectual in every respect in the performance of their functions.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not wish to limit myself to the precise details of construction herein set forth; but,

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

1. In a circuit-closer, the combination with a crank shaft, and an arm carried thereby, of spring contact plates adapted to be engaged by said arm, contact pins with which said contact plates are adapted to engage, and springs for maintaining said arm normally out of con-

tact with said contact plates and returning it to its normal position, substantially as set forth.

2. In a circuit closer, the combination with  
5 a crank shaft, of an arm secured thereto, a  
roller carried by said arm, spring contact  
plates adapted to be engaged by said roller,  
contact pins to be engaged by said plates, and  
springs for maintaining the roller out of con-  
10 tact with said plates and for returning it to  
its normal position, substantially as set forth.

3. In a circuit closer, the combination with  
a crank shaft, of an arm secured thereto, a  
roller carried by said arm, contact plates to  
15 be engaged by said roller, contact pins to be  
engaged by said plates, a spring coiled on said  
shaft, said spring being secured at one end to  
a lug on the shaft and at its other end to a de-  
vice independent of the shaft and to one side  
20 thereof, and another spring coiled on the shaft,  
one end of said last-mentioned spring being  
secured to a device independent of the shaft  
and at the side thereof opposite the first men-  
tioned spring, and the other end being secured  
25 to said arm, substantially as set forth.

4. The combination with a rail of a railroad,  
and a clip secured thereto, of a shaft mounted  
in said clip under the rail, a crank arm on one  
end of said shaft adapted to be engaged by a  
30 wheel of a car, an arm secured to the other

end of the shaft, a roller mounted in said last-  
mentioned arm, spring contact plates adapted  
to be engaged by said roller, contact pins  
adapted to be engaged by said contact plates,  
and springs adapted to maintain the roller 35  
normally out of contact with the contact plates  
and to return it to its normal position, sub-  
stantially as set forth.

5. The combination with the rail of a track,  
of a box or casing located to one side thereof, 40  
clips for securing said box or casing to the  
rail, a clip secured to the rail between the  
ends of a box or casing, a crank shaft mounted  
in said clip under the rail and adapted to be  
engaged by a wheel of a car, an arm carried 45  
by said shaft within the casing, a roller mount-  
ed on said arm, contact plates to be engaged  
by said roller, contact pins to be engaged by  
said plates, and springs adapted to maintain  
the roller normally out of contact with the 50  
contact plates and return it to its normal po-  
sition, substantially as set forth.

In testimony whereof I have signed this  
specification in the presence of two subscrib-  
ing witnesses.

WILLIAM NUTT.

Witnesses:

O'NEAL WATSON,  
CHAS. M. TRAVIS.