No. 767,190. PATENTED AUG. 9, 1904.

J. F. WEINSCHENK & C. H. BLODGETT.

ELECTRICAL SIGNALING DEVICE FOR RAILROAD CROSSINGS.

APPLICATION FILED JAN. 14, 1904.

NO MODEL.

Fig. 1.

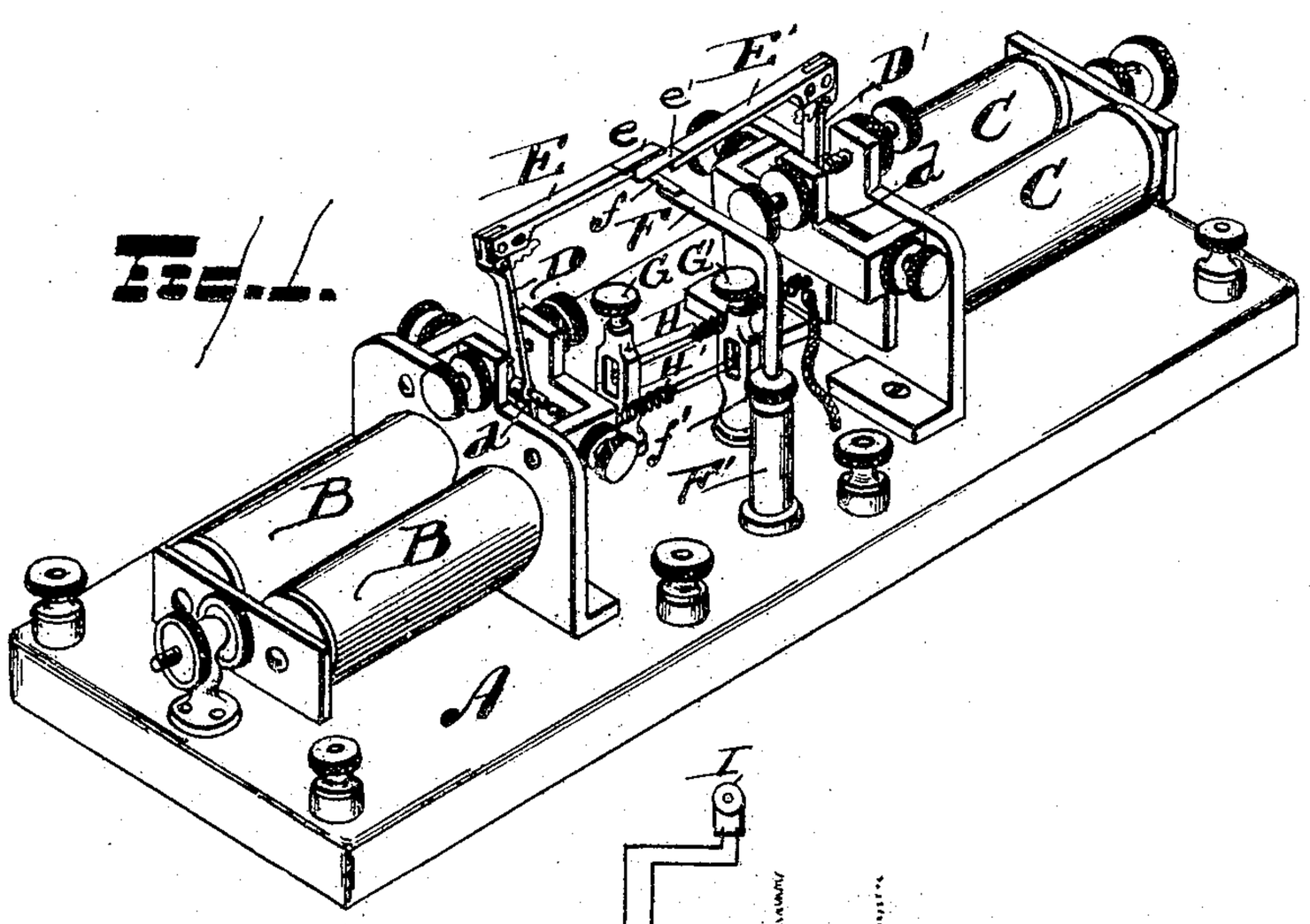


Fig. 2.

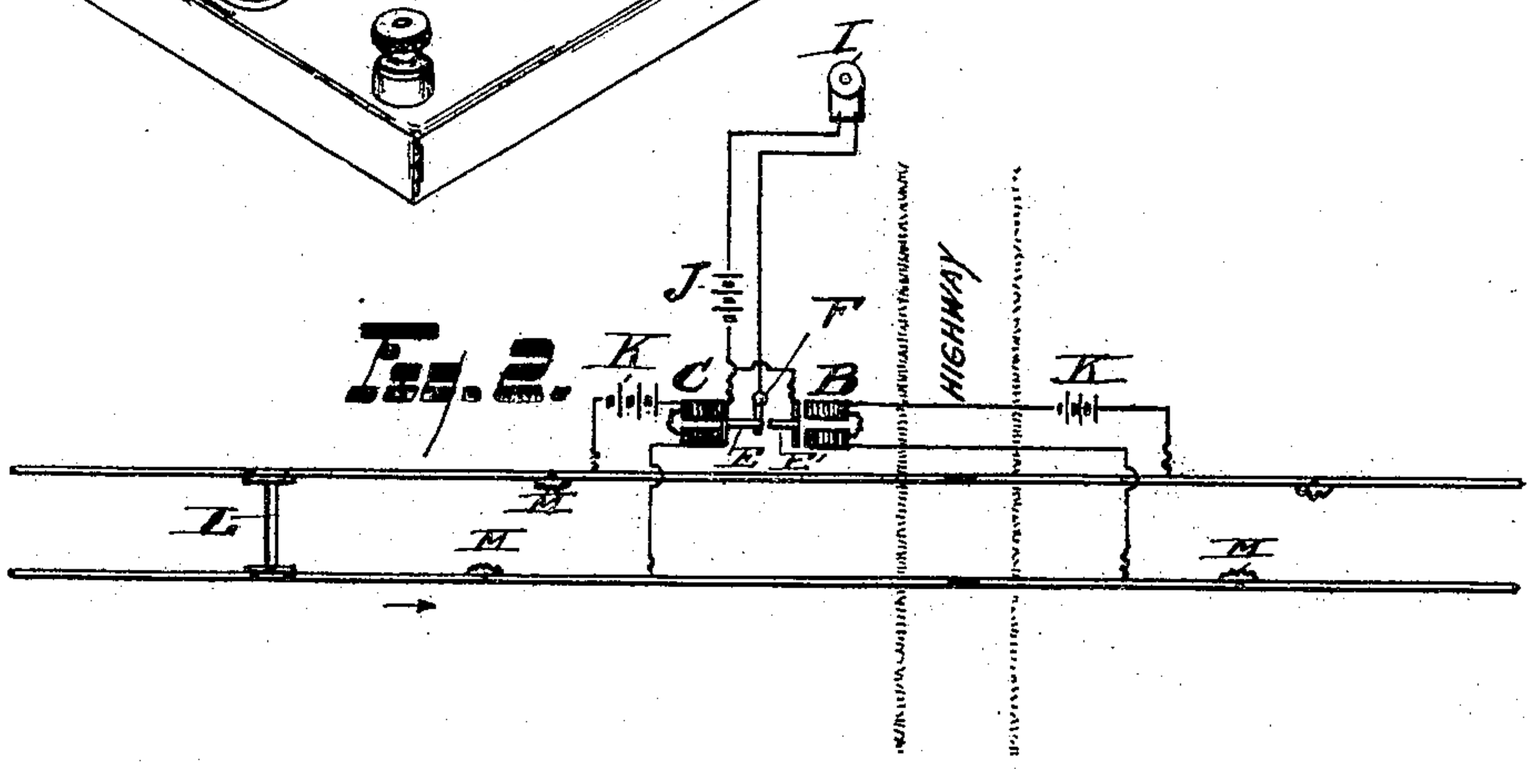
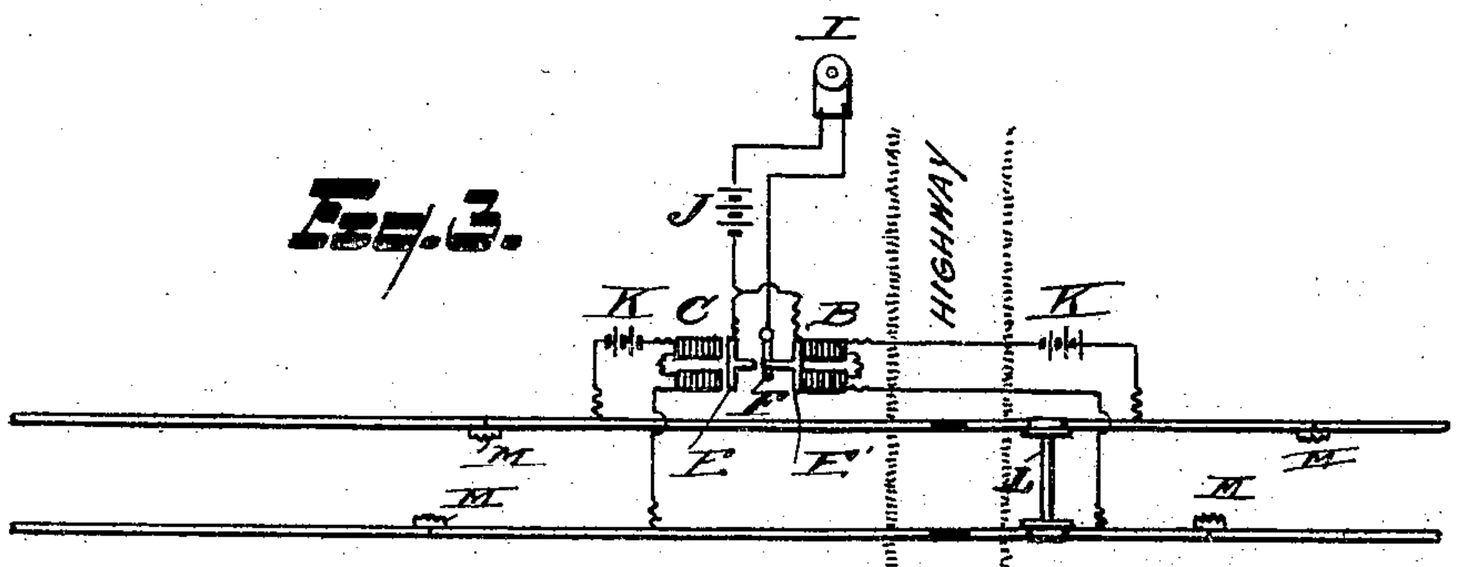


Fig. 3.



WITNESSES.

Henry E. Villert

Chas. Timm.

INVENTORS

Joseph F. Weinschenk

and

Clifford H. Blodgett

By Fisk & Thomas

ATTORNEYS

No. 767,190. Patented August 9, 1904.

UNITED STATES PATENT OFFICE.

JOSEPH F. WEINSCHENK AND CLIFFORD H. BLODGETT, OF DURAND, MICHIGAN.

ELECTRICAL SIGNALING DEVICE FOR RAILROAD-CROSSINGS.

SPECIFICATION forming part of Letters Patent No. 767,190, dated August 9, 1904.

Application filed January 14, 1904. Serial No. 188,941. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH F. WEINSCHENK and CLIFFORD H. BLODGETT, citizens of the United States, residing at Durand, county of Shiawassee, State of Michigan, have invented a certain new and useful Improvement in Electrical Signaling Devices for Railroad-Crossings; and we 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to an improvement in electric signaling devices for railroad-crossings shown in the accompanying drawings, and more particularly set forth in the following specification and claims, in which—

Figure 1 is a perspective view of the relays. Fig. 2 is a diagrammatic view showing the condition of the electrical circuits before the train has passed the crossing. Fig. 3 is a diagrammatic view showing the condition of the electrical circuits when the train is moving in the opposite direction.

The object of our invention is to provide an appliance which will signal the approach of a train in which the electrical circuits connecting the relays with the tracks and those controlling the signal-bell are open circuits until closed between track and relay by the wheels and axles of the approaching train, the closing of which energizes one pair of the electromagnets of the relay, thereby closing the circuit through the signal-bell and sounding the alarm. When the train passes the crossing and bonded track leading to it, the apparatus will again resume its normal condition.

Referring to the letters of reference shown on the drawings, A is a suitable base on which are mounted the relays, B B being one pair of electromagnets and C C an oppositely-disposed pair of electromagnets.

D D′ are swinging arms secured to the armatures of the electromagnets and pivoted at *d d*.

E E′ are projecting arms hinged to the arms D D′ and provided with suitable contact-points *e e′*.

F is a projecting arm having a suitable contact-point *f*. The arm F is supported in the standard F′ and is provided with an adjusting-screw *f′*, whereby the altitude of said projecting arm may be regulated with reference to the arms E E′.

The electrical connection between the several parts of the apparatus is more clearly shown in the diagrammatic views.

G G′ are capstans mounted on the base A.

H H′ are springs engaging the armatures of the electromagnets and provided at their opposite ends with cords secured to their respective capstans, the object being that by giving the cord two or three winds on the capstan the tension may be increased, or vice versa.

Referring to Fig. 2 of the drawings, it will be seen that the rails composing the track on each side of the crossing are bonded together, as indicated at M, being insulated from the track lying beyond the crossing, which is connected with the oppositely-disposed relay, the electromagnets of one relay being connected with each of the rails of the track on one side of the crossing, while the electromagnets of the other connect each of the rails of the track beyond the crossing. I is a signal-bell, included in the circuit of which is a battery J. A connection being established with the arms E or E′, hinged to the swinging arms D and D′, secured to the armatures of the electromagnets and with the projecting arm F supported in the standard F′ through the bell and battery, it will be seen that as the train L, traveling in the direction indicated by the arrow in Fig. 2, enters on the bonded section it will close the circuit through the battery K and the relay, energizing the electromagnets C and attracting the armature, to which is engaged the swinging arm D′. This closes the circuit through the bell by means of the contact-points *e′* and *f*, thereby sounding the alarm. When the train passes over the crossing, the circuit having been broken between the relay and the track, the spring H draws the armature away from the electromagnets

cured to the swinging arm D', and with it the overlapping contact-point secured to the arm E, thereby breaking the connection through the arm F to the bell.

It will be noted that the operation of the oppositely-disposed relay controlling the same signal-bell will be identical with that just described when the train is moving in the opposite direction.

Having thus described our invention, what we claim is—

1. In an electric signaling device for railroad-crossings, a signal-bell, electromagnets placed in circuit with the rails on each side of the crossing, a swinging arm secured to each armature of the electromagnets, an arm hinged to each of the swinging arms provided with a contact-point to overlap the contact-point of the arm first operated, an arm provided with a suitable contact-point to close the circuit to the signal-bell through the contact-point of the hinged arm, and springs engaging the swinging arms to break the circuit through the contact-points of said hinged arms when the train passing the crossing breaks the circuit through the electromagnets, substantially as described.

2. In an electric signaling device for railroad-crossings, a signal-bell, electromagnets placed in circuit with the rails on each side of the crossing, a swinging arm secured to each armature of the electromagnets, an arm hinged to each of the swinging arms having contact-points overlapping each other, an adjustable cross-arm having a contact-point to close the circuit to the signal-bell through the contact-points of the hinged arms, and springs engaging the swinging arms to break the circuit through the signal-bell when the train, passing the crossing breaks the circuit through the electromagnets, substantially as described.

3. In an electric signaling device for railroad-crossings, a signal-bell, electromagnets placed in circuit with the rails on each side of the crossing, a swinging arm secured to each armature of the electromagnets, an arm hinged to each swinging arm having contact-points overlapping each other, an adjustable cross-arm having a contact-point to close the circuit to the signal-bell through the contact-points of the hinged arms, springs engaging the swinging arms to break the circuit through the signal-bell after the train has passed the crossing, and means for adjusting the tension of said springs, substantially as described.

4. In an electric signaling device for railroad-crossings, electromagnets to be placed in circuit with the rails on each side of the crossing, a swinging arm secured to each armature of the electromagnets, an arm provided with suitable contacting points hinged to each of the swinging arms, an adjustable cross-arm to close the circuit to a signal-bell through the contact-points on the swinging arm, when actuated by energizing the electromagnets, substantially as described.

5. In an electric signaling device for railroad-crossings, the electromagnets B C, swinging arms D D' secured to the armatures of the electromagnets, arms E E' hinged to the swinging arms D D' an adjustable cross-arm F, means for supporting and adjusting same, the constitution being such that by energizing the electromagnets the arms E E' will close a circuit leading to a signal-bell through the cross-arm F, substantially as described.

In testimony whereof we sign this specification in the presence of two witnesses.

JOSEPH F. WEINSCHENK.
CLIFFORD H. BLODGETT.

Witnesses:
S. E. THOMAS,
HENRY E. VILLEROT.