

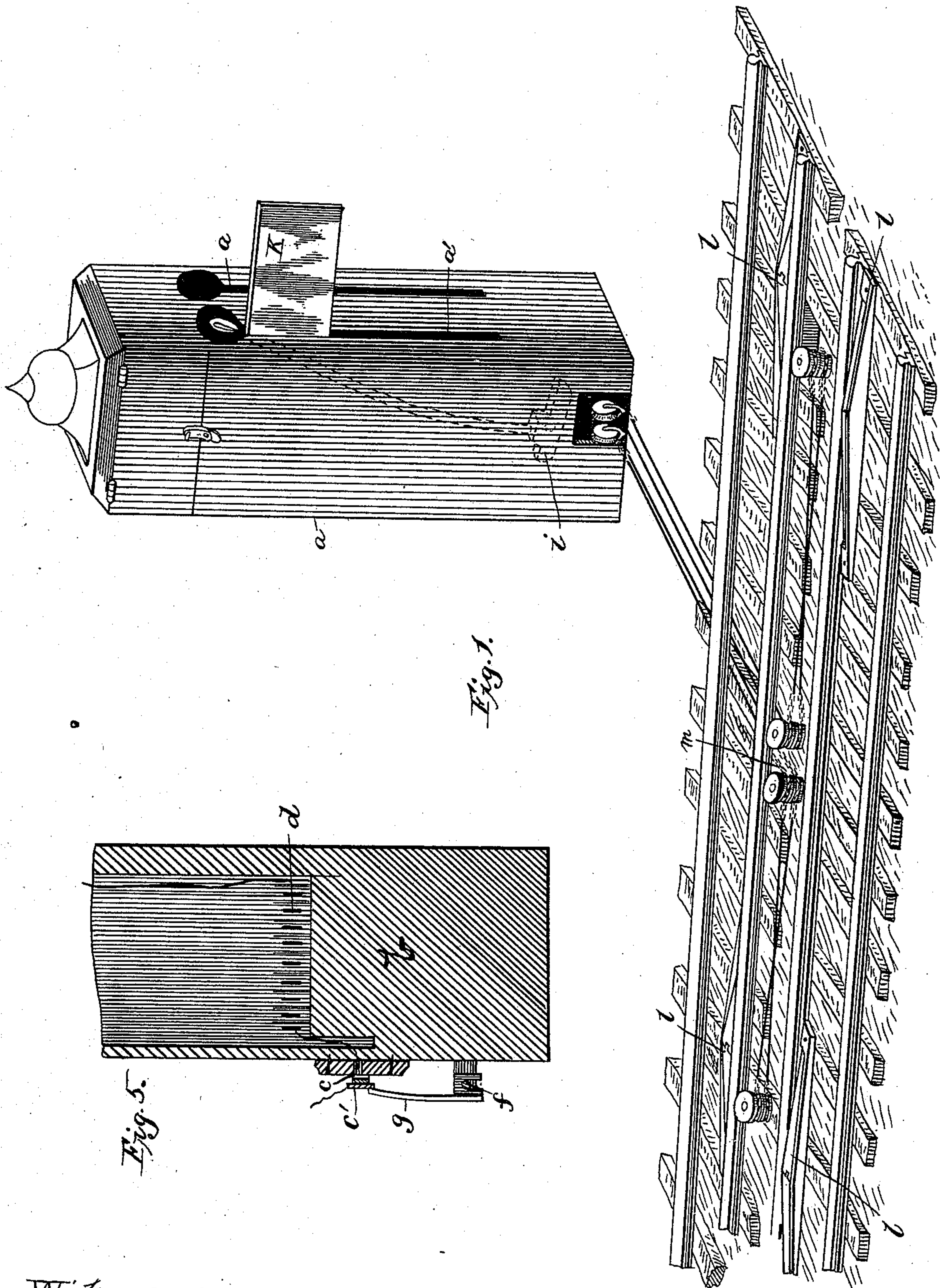
(No Model.)

2 Sheets—Sheet 1.

J. T. CARTER.
ELECTRIC SIGNAL.

No. 402,506.

Patented Apr. 30, 1889.



Witnesses:
E. B. Duff
H. E. Peck.

Inventor:
J. T. Carter
Att'y. E. B. Duff

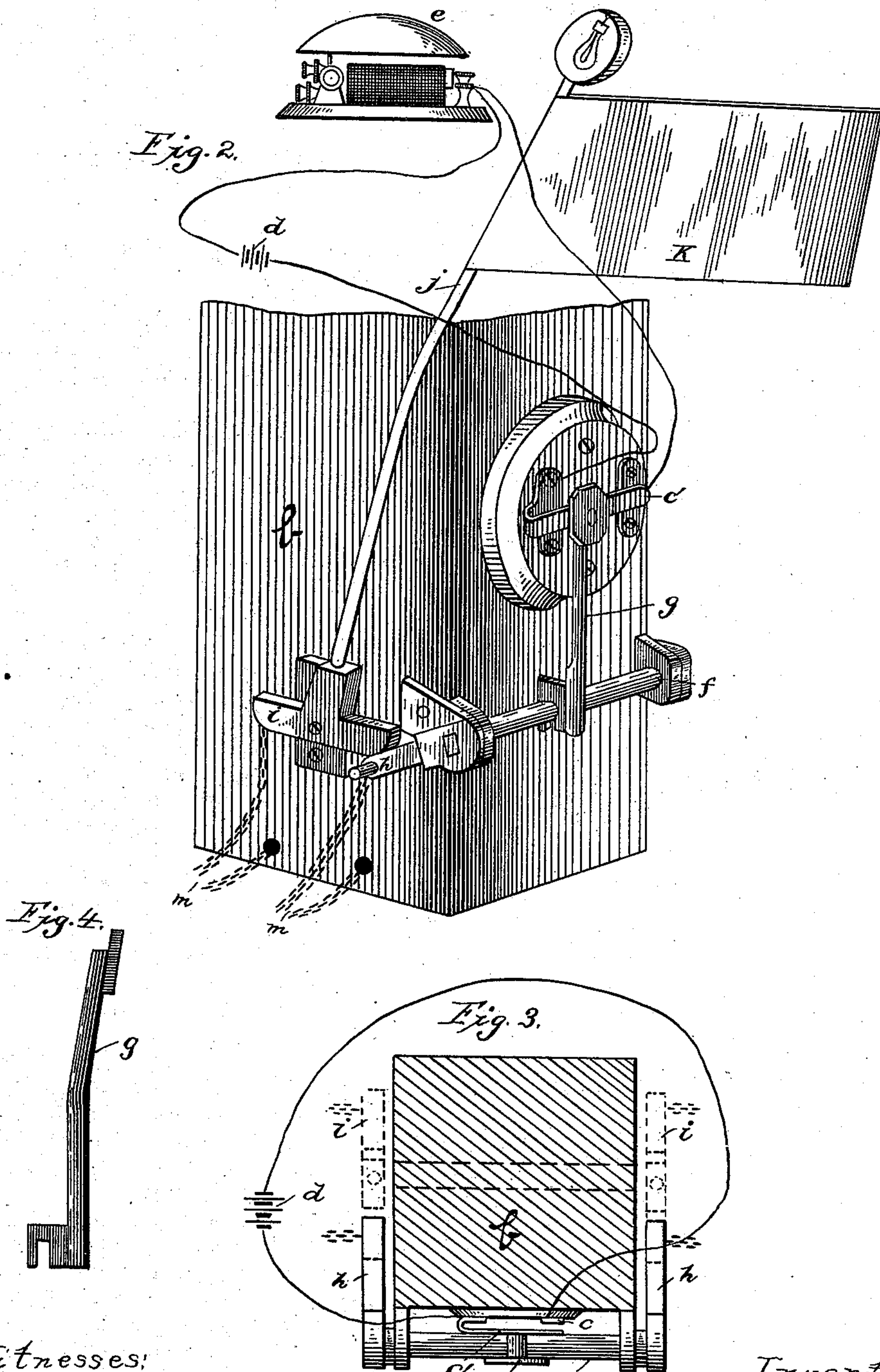
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Inventor:
John T. Carter
per E. E. Duff
atty

UNITED STATES PATENT OFFICE.

JOHN T. CARTER, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF
TO FRANK J. HILBERT, OF SAME PLACE.

ELECTRIC SIGNAL.

SPECIFICATION forming part of Letters Patent No. 402,506, dated April 30, 1889.

Application filed January 22, 1889. Serial No. 297,225. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. CARTER, of Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Electric Signals; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to an improvement in railway danger or caution signals.

The object of the invention is to provide an improved danger or caution signal especially adapted for use at railway street-crossings or the like places, to notify passers-by of the approach of cars or trains, and wherein the trip located upon the track and operated by the passing train is connected with and actuates a circuit-closer in a normally-open circuit including a gong or other audible signal, which is sounded as the train approaches.

These objects are accomplished by and my invention consists in certain novel features of construction and combinations of parts, more fully described hereinafter, and particularly pointed out in the claim.

Referring to the accompanying drawings, Figure 1 is a perspective view of a portion of a railroad-track, representing a railroad street-crossing, a signal-box located thereat in a conspicuous position, so as to be readily seen by persons approaching the track from either direction, and the trips upon the track actuated by passing cars to operate the signals. Fig. 2 is a detached detail view of the support within the signal-box and the signals carried thereby. Fig. 3 is a cross-section of the support, looking down. Fig. 4 is a detail elevation of the arm carried by the rock-shaft which operates the circuit-closer. Fig. 5 is a vertical section of a portion of the support within the signal-box, showing a battery located therein and the circuit-controller.

A signal-box, *a*, is placed at a point where a street crosses the tracks *b*, and in such position that it can be seen by all on the street approaching the track from any direction.

The signal-box is preferably, although not necessarily, closed, and its side toward the street is provided with one or more vertical slots, *a'*, through which the visual signals (if employed) of the system can be displayed.

A vertical post or support, *b*, is located within the signal-box. A circuit-closer is mounted upon this support, and consists of a stationary contact, *c*, and a movable contact, *c'*, formed of a spring-plate rigidly secured at one end and extending over in front of the stationary contact, and tending to spring away from the same. These two points are connected with the opposite poles of a battery, *d*, thus forming a normally open circuit, in which an electric bell or gong, *e*, is included. The battery can be located at any desirable position, either at a distance or in the signal-box, or in a recess in the support, as shown in Fig. 5. The gong is of such size as to ring sufficiently loud to be easily heard and immediately attract attention, and it can be located upon or in the signal-box or in any other desirable position.

The circuit-closer is operated by a rock-shaft, *f*, extending across the support and mounted to rock in suitable bearings thereon beneath the circuit-closer, and this shaft is provided with an upwardly-extending arm, *g*, preferably weighted at its upper end, which extends up to engage the movable contact and pass the same into contact with the stationary point. The opposite ends of the rock-shaft extend beyond the sides of the support, and are provided with inwardly-extending toes *h*, preferably upon each end, and these toes bear against the under side of the ends of the levers *i*, centrally pivoted to the opposite sides of the support to swing in vertical planes. Each lever carries a rod, *j*, extending upwardly from the same a suitable distance, and carrying at its upper portion a suitable visual signal or semaphore, *k*, adapted to be displayed through slots *a'*, or withdrawn into the box, and these rods are preferably weighted at their upper ends to assist their swinging movement.

The signal is operated by suitable trips, *l*, located on each track (where there is a double track) a suitable distance from and upon each

side of the crossing, so that the train as it approaches will operate the signals by depressing the trip located on that track and side of the crossing, and connected with the signals by chains and rods or other means, and after the train passes the crossing it will depress the mechanism upon that side and throw the parts to their normal positions. Each lever *i* has its opposite ends connected with trips upon opposite sides of the crossing by means of chains *m* or other means, so that when the train depresses the trip upon one side of the crossing it will pull down one arm of a lever, *i*, by means of the connection, which will throw out the semaphore, and at the same time its end will press down a toe of the rock-shaft and rock said shaft, so that its arm will operate the circuit-closer and close the circuit and sound the alarm. Thus the visual signal is displayed and the alarm sounded simultaneously, and when the train reaches the other trip the lever *i* is rocked in the opposite direction and the circuit opened.

It is evident that where a single track is used but one semaphore and lever *i* will be employed, and that any suitable trip can be used.

The peculiar system and the visual signal proper are not claimed in this application, but form the subject-matter of an application filed by me November 8, 1888, Serial No. 290,283.

It is also evident that various changes might

be made in the form and arrangement of the parts described without departing from the spirit and scope of my invention; hence I do not limit myself to the precise construction herein set forth; but

What I do claim is—

An electric railway-signal comprising a normally-open circuit, a gong included in the same and located at or near a crossing, a support located at or near the crossing, a circuit-closer on the same, a rock-shaft mounted on the support and provided with an arm to engage the circuit-closer and close the circuit when the shaft is swung in one direction, said shaft being provided with a toe at one end, a lever pivoted to the support to swing in a horizontal plane and engage said toe to rock the shaft to close the circuit when swung in one direction, a pair of trips located on the track on opposite sides of the crossing, and each connected with an opposite end of said lever, whereby when one trip is operated one end of the lever is drawn down and the circuit closed, and when the other trip is depressed the opposite arm of the lever is drawn down and the circuit opened.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN T. CARTER.

Witnesses:

O. E. DUFFY,

HUBERT E. PECK.