

(No Model.)

C. R. ALSOP.
RAILWAY ANNUNCIATOR.

No. 527,098.

Patented Oct. 9, 1894.

FIG. 1.

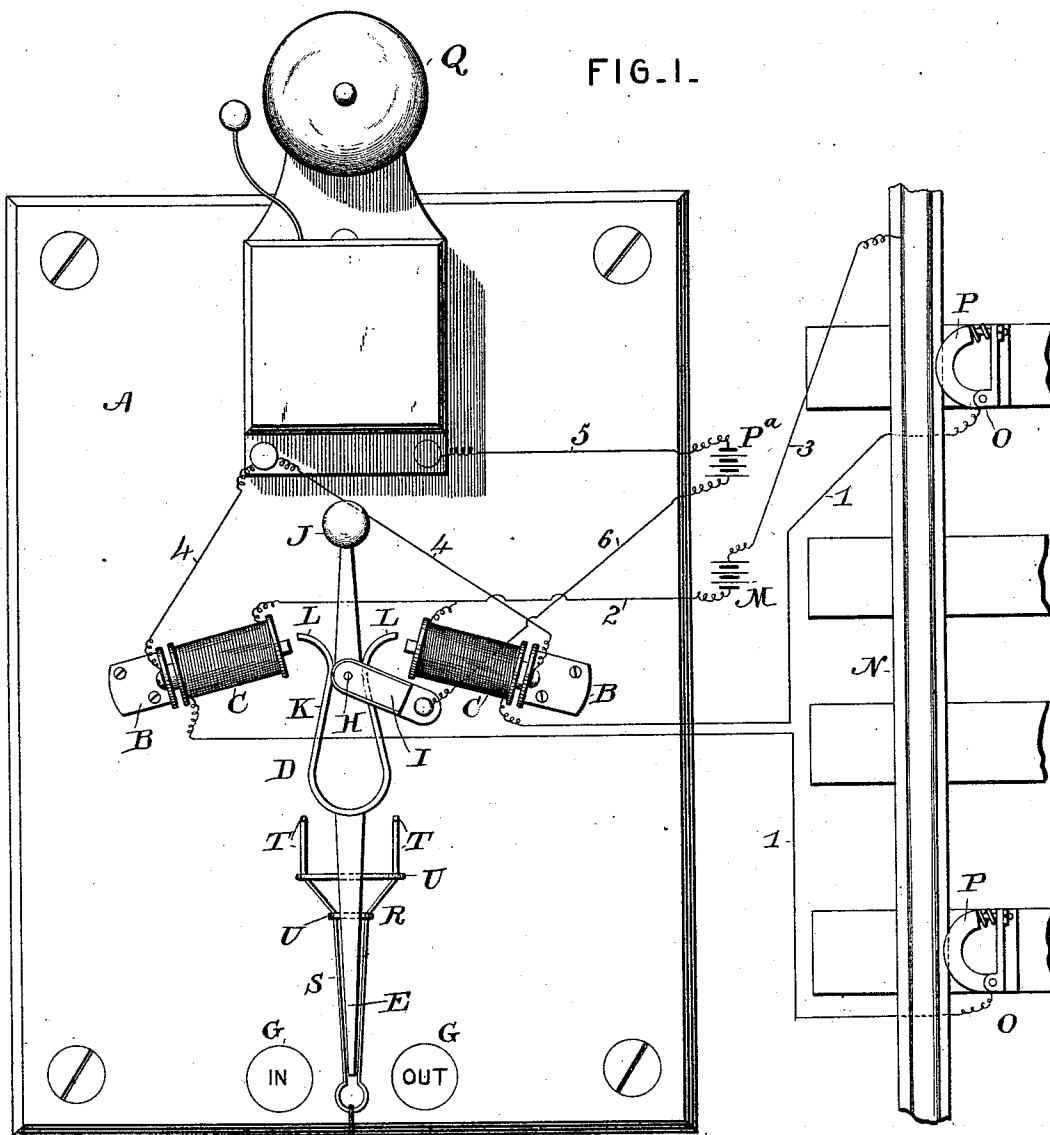
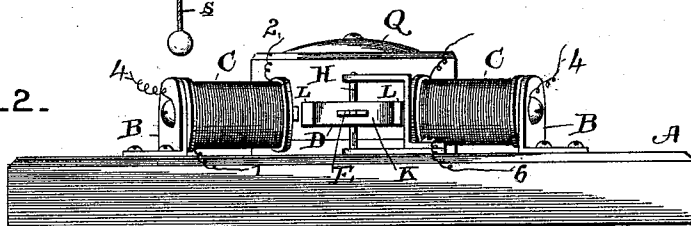


FIG. 2.



Inventor

Witnesses

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By His Attorneys.

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UNITED STATES PATENT OFFICE.

CHARLES RICHARD ALSOP, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO
LUCY C. ALSOP, OF SAME PLACE.

RAILWAY-ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 527,098, dated October 9, 1894.

Application filed November 2, 1893. Serial No. 489,863. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RICHARD ALSOP, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Railway-Annunciator, of which the following is a specification.

This invention relates to railway annunciators; and it has for its object to provide an improved annunciator used in connection with track signals, whereby the direction of a train moving on the track will be automatically indicated to the operator, and such indication called to the operator's attention by means of a simultaneously operated signal or call bell forming a part of the apparatus.

To this end the main and primary object of the invention is to effect certain improvements in railway annunciators, whereby the signal or call bell part thereof will continue to be active until the bell circuit is mechanically broken, thereby preventing the possibility of the signal being accidentally unnoticed by the operator, and also to provide an apparatus of this character, the several parts of which shall be sensitively arranged so as to insure an effective operation.

With these and other objects in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a plan view of a railway annunciator constructed in accordance with this invention. Fig. 2 is an end elevation thereof.

Referring to the accompanying drawings, A represents a suitable annunciator base adapted to be inclosed in any suitable casing (not shown), and on which are mounted the several working parts of the annunciator herein described and claimed.

At an intermediate point on the base board A, are mounted the magnet brackets B, to which are secured one end of the oppositely arranged electro magnets C.

The electro magnets C, are set at an angle with their cores disposed convergently toward each other, and have their inner adjacent ends sufficiently apart to accommodate

the movement of the armature indicating hand D.

The armature indicating hand D, is provided at one end with a pointer E, adapted to work over either one of the indicating marks G, such as "in" and "out," which are placed at one end of the base board and are intended to be located opposite holes or openings in the casing before referred to, so that when the hand pointer is thrown over either one of these marks the operator will be informed whether the train is an ingoing train or an outgoing train as the case may be.

The armature indicating hand D, is mounted at a central point on a pivot pin H, the extremities of which are fitted in the metallic pivot bracket I, secured to the base board A, and said indicating hand is extended at one side beyond its pivotal connection with the bracket I, and carries at such extremity the counter-balancing weight J, which counter-balances the weight of the indicator hand and renders the same extremely sensitive to a tendency to move or swing in either direction. The said armature indicating hand D, is further provided at a point between its weighted extension and the pointer E, with a permanent horse shoe armature magnet K, having out-turned extremities L, which are adapted to move in a circle which brings them in contact with the inner exposed ends of the electro magnet cores, and to secure the proper attraction of the cores for the extremities of the hand magnet K, the inner exposed ends of the cores are within the radial distance of the magnet ends from the axis or pivot of the indicating hand.

The electro magnets C, are adapted to be energized separately so as to attract the armature hand in one direction at a time whereby the proper indications will be made, and to effect this each magnet winding has one terminal thereof connected to a signal wire 1, while the other terminals of the magnet are connected to a common or single circuit wire 2, which is connected to one pole of the signal battery M, the other pole of which battery has connected thereto the circuit wire 3, leading from one of the rails of a track N. The signal wires 1 which are connected to different electro magnets each run to a sep-

arate track signal O. These track signals O, are arranged sufficiently far apart on the same track whereby one will act before the other, so that the proper indications and signal will be given to the operator before the other signal can come into play, and these track signals O, are of that type in which the contact portions P, thereof are out of contact with the rail and the circuit is adapted to be closed therewith and the track rail by the flange of the car wheel as it passes at one side of the signal contact arm. Now it will be readily seen that as the car wheel engages either one of the track signals, that electro magnet in circuit with such signal will be energized and cause the permanent magnet of the indicating hand to be attracted thereto and move the hand pointer over the indicating mark G. By this means the direction of a train may be readily and effectively indicated.

The swinging indicating hand not only serves to indicate the direction of travel of the train, but also acts in the capacity of a circuit closing arm for closing an alarm circuit simultaneously with the closing of the signal circuit, and this alarm circuit is completed through the metallic cores of the electro-magnets C, which cores have connected therewith the alarm circuit wires 4, which lead to one of the binding posts of an ordinary electric bell Q, to the other binding post of which is connected a battery wire 5, leading to one of the poles of the alarm circuit battery P^a, the other pole of which has connected thereto the wire 6, leading to the metallic pivot bracket I, so as to include the indicating hand in the alarm circuit. When the out-turned extremities of the hand magnet K, comes in contact with the exposed end of the core of either electro magnet, an alarm circuit is completed over the wires 4, 5 and 6 so that an alarm will be given and the operator's attention thereby attracted to the indication of the annunciator or the indicating hand D.

By reason of the hand magnet K, being a permanent magnet, the same remains in contact with the core of the magnet to which it is attached and thereby causing the bell Q, to ring continuously until said magnet is released mechanically by the operator from the magnet core. After the train has passed one of the track signals and caused one of the magnets to become active and to attract the indicating hand, and then comes to the next track signal, this last signal will become active and energize the other magnet, but this second magnet will not have the power to draw the hand magnet K, from the first energized magnet owing to the permanent magnetism of the hand magnet K, and the increased distance there-between and the said second or last energized electro magnet, so for this reason the indicating hand remains in the position in which it is placed by the first signal until mechanically released.

In order to conveniently and mechanically release the magnet of the indicating hand

from either of the electro magnets, I employ the spring wire releasing frame R. The spring wire releasing frame R, is of a substantial U-shape having a narrowed extension S, projected beyond the closed end thereof and also angularly disposed strike arms T, at the terminals of the side portions thereof. The said substantially U-shaped spring wire releasing frame R, is mounted on the base board A, directly behind the pointer end of the indicating hand by means of the different sized guide loops U, secured in the base board and allowing the spring wire frame to have a longitudinal play therein.

With the indicating hand in an inclined position against either one of the electro magnets it is simply necessary to grasp the narrowed end S, of the releasing frame and pull the same downward through the smaller one of the guide loops U, thereby contracting the upper wider portion of the frame and bringing one of the arms T, against one side of the hand pointer and thereby releasing the indicating hand from the electro-magnet. By releasing the grip on the extension S, the spring wire frame resumes its normal position.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. In a railway annunciator, the combination with suitable track signals arranged at distances apart on a track; of separate adjacent electro magnets each included in a separate signal circuit with said track signals, an indicating hand mounted to play between said electro magnets and having a permanent armature magnet, and a separate alarm circuit including therein the metallic cores of the electro magnets and the armature magnet of the indicating hand, said alarm circuit being closed by the movement of the indicator against the core of either magnet substantially as set forth.

2. In a railway annunciator, the combination of oppositely arranged electro magnets each of which is included in a separate signal circuit and both of which are included in a common alarm circuit, a pivotally supported indicating hand mounted to play between the adjacent ends of the magnets and having a polarized armature portion adapted to contact with the magnet cores, and a suitably supported compressible spring-wire releasing frame having separate strike arms adapted to engage at one side of the indicating hand to release the same from either of the electro magnets, substantially as set forth.

3. In an annunciator, the combination of oppositely disposed electro magnets included in suitable signal circuits, an indicating hand mounted pivotally and having an intermediate permanent armature magnet adapted to

play between the exposed core ends of the electro magnets, an alarm circuit including therein the metallic cores of the electro magnets and the permanent indicating hand magnet, and a separate hand-operated mechanical releasing device for releasing the indicating hand from either magnet, substantially as set forth.

4. In an annunciator for railway signals, the combination of a pair of electro magnets oppositely arranged and each included in a separate circuit with a separate track signal, a metallic pivot bracket, a counterbalanced indicating hand pivotally mounted in said bracket and having an intermediate polarized armature portion with outturned extremities playing between the exposed core ends of the electro magnets, and a weighted extremity extended above its point of pivot, and a bell or alarm circuit having its wires connected to the metallic cores of the electro magnets and said metallic pivot bracket, whereby such circuit is closed by the move-

ment of the polarized armature against the magnet cores, substantially as set forth.

5. In an annunciator, the combination with the oppositely arranged electro-magnets and the indicating hand having a permanent armature magnet; of a substantially U-shaped spring wire releasing frame mounted for longitudinal movement below the indicating hand and having a narrowed extension at one end and angularly exposed strike arms at its opposite terminals adapted to engage the sides of the indicating hand, and different sized guide loops embracing said releasing frame to provide for the contraction thereof, substantially as set forth.

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

CHARLES RICHARD ALSOP.

Witnesses:

FRANK C. WHITTELSEY,
GEO. A. COLES.