

1,067,407.

The diagram illustrates a three-wire system for electric lighting. It consists of two parallel circuits sharing a common central neutral wire. The top circuit includes a switch (W), a battery (H), and a lamp (L). The bottom circuit includes a switch (W), a battery (H), and a lamp (L). The central wire is labeled P and P'. The wires are labeled S, T, and P for the top circuit, and S, T, and P' for the bottom circuit. The lamps are labeled L and L'.

Fig. 1.

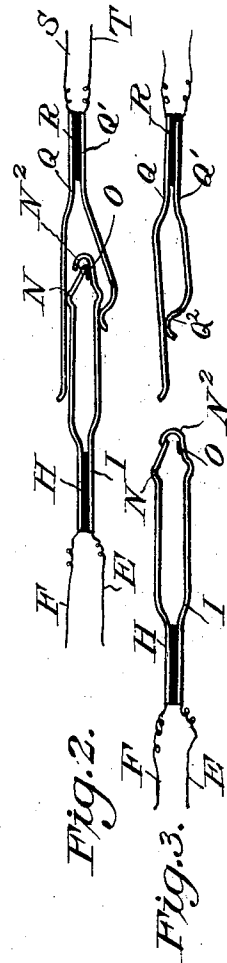


Fig. 2.

Fig. 3.

WITNESSES

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SIGNALING DEVICE FOR LOCOMOTIVES.

1,067,407.

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To all whom it may concern:

Be it known that I, CHARLES H. COBB, a citizen of the United States, residing at Great Falls, in the county of Cascade and State of Montana, have invented certain new and useful Improvements in Signaling Devices for Locomotives; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in apparatus for signaling between the cab of a locomotive and a train of cars connected to the locomotive and in the provision of means for causing a signal to be made in different cars in the event of the cars becoming uncoupled for any reason, and comprises various details of construction, combinations and arrangements of parts which will be hereinafter fully described, shown in the accompanying drawings and then specifically defined in the appended claim.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a diagrammatic view showing the circuit and signaling apparatus. Fig. 2 is an enlarged view in elevation showing the circuit making and breaking connection between the cars, and Fig. 3 is a detail view showing the closing means for each individual circuit.

Reference now being had to the details of the drawings by letter, A designates the throttle lever of a locomotive and B the valve cylinder in which the usual valve mechanism is provided for regulating the fluid pressure to the brakes of the train. Mounted upon the throttle lever are the two terminals C and D, the latter being spring-pressed and having connected thereto one of the conductor wires E, while a second wire F is connected to the terminal C. The two wires E and F are connected to the resilient conductor contact fingers H and I respectively, the finger H having an outwardly curved projecting portion N, and the end finger I is curved or bent to form a hook N², while the end of the other finger is insulated from the finger I adjacent to its curved end by means of the insulation

O, as shown clearly in Fig. 2 of the drawings.

Resilient connector fingers Q and Q' are fastened together, suitable insulation R intervening between the same and to which the wires S and T respectively are connected. The end of the finger Q' is inwardly bent and curved as at Q² and is adapted, when the two sets of contact fingers are in engagement, to contact with the finger I, while the finger Q bears yieldingly against the curved projection N, thus making an electrical contact. The two sets of contact fingers have a suitable casing L for protection. A signal bell W is provided for each car connected electrically with the wire S, while each car is provided with a battery K to which the wire T is connected, and wires L and P' connect the battery K and bell respectively with the contact fingers M and M', separated by suitable insulation M², thus making up an individual circuit for each car.

The operation of my apparatus will be readily understood and is as follows:—In the event of it being desired to signal from the locomotive to the various cars of a train connected to a locomotive, when each car is connected up with apparatus shown in the diagrammatic view, the engineer by throwing the spring-pressed contact point D against the terminal C may cause the entire circuit to be closed in which the various signals are disposed and, in the event of any car or cars being disconnected for any reason, the sets of resilient contact points may be allowed to withdraw from each other and the contact fingers H and I will spring apart, the end contacting with the hook end of the curved or hooked end N² of the finger I, thus closing a circuit, while the fingers Q and Q' will come in contact, thus closing the next circuit and so on throughout the entire system, thus causing each alarm upon each car to be sounded, apprising the occupants of the various cars of the disconnection thereof.

By the provision of a signaling means comprising the features of my invention, it will be readily noted that a simple and efficient means is afforded whereby the engineer in the cab, in case of mishap or for any other reason, may by bringing the terminals together upon his throttle lever cause a signal to be sounded in the various cars of the train connected to the locomotive

or, in the event of the cars becoming disconnected from one another for any reason, individual alarms will be sounded in the various cars.

5 While I have shown a sounding alarm, it will be understood that a visual alarm may be displayed, if desired, instead of a bell, by placing a light or other indicating means which might be substituted for the
10 bell.

What I claim to be new is:—

In combination with resilient fingers arranged in pairs and insulated from each other, electrical connections with said fin-
15 gers, the fingers of one pair having out-

wardly projecting portions and one finger terminating in a hook and the other end adapted to move intermediate said hook and an insulation upon the other, the second pair being straight and the other curved 29. and adapted to engage over and contact with the fingers upon the first referred to pair, as shown and described.

In testimony whereof I hereunto affixed my signature in the presence of two wit- 25 nesses.

CHARLES H. COBB.

Witnesses:

JOHN E. MORAN,
A. E. CANFIELD.