

W. V. TURNER.
ELECTRIC SIGNAL SYSTEM.
APPLICATION FILED FEB. 23, 1907.

1,011,527.

Patented Dec. 12, 1911.

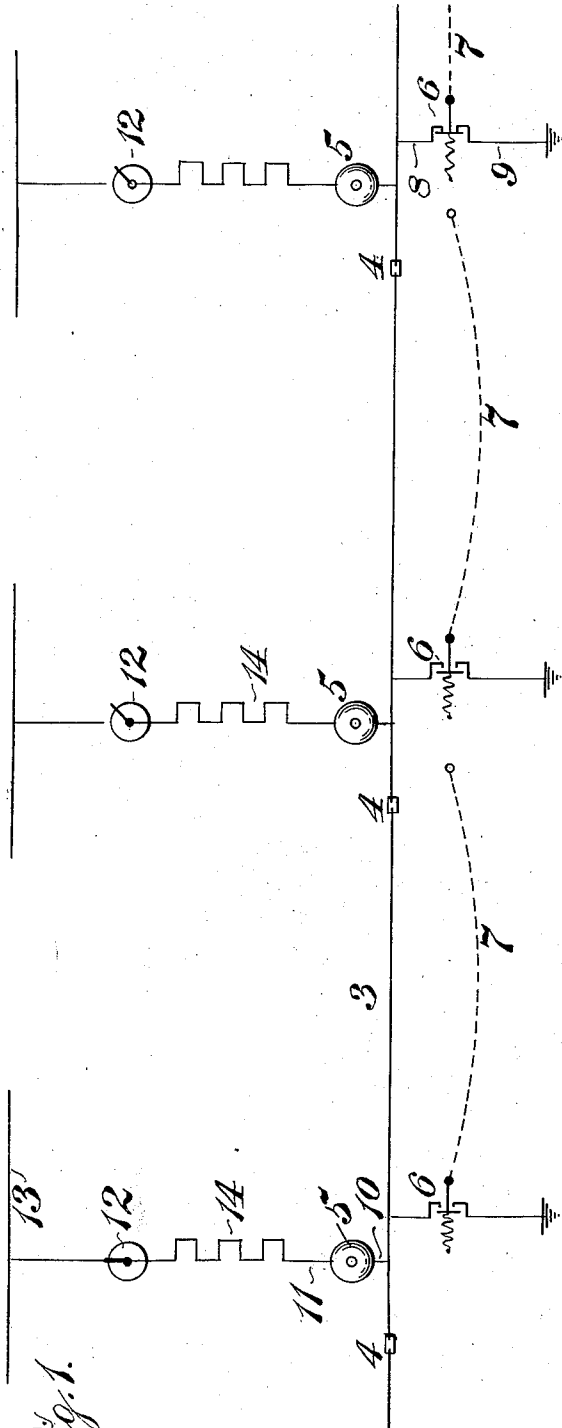


Fig. 1.

WITNESSES

J. S. Custer
B. Mac Donald

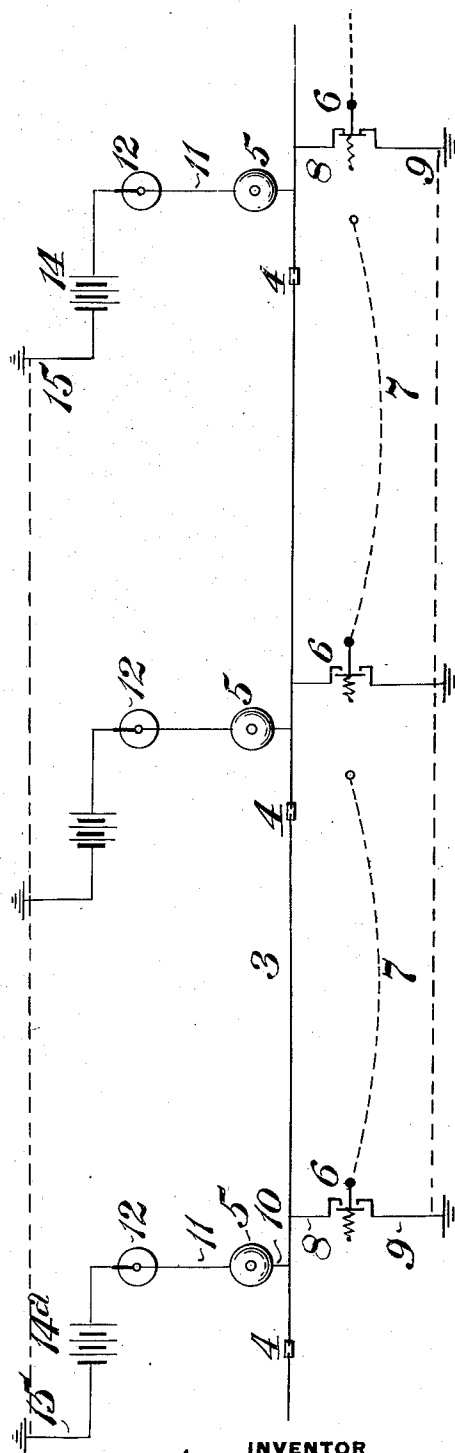


Fig. 2.

INVENTOR

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UNITED STATES PATENT OFFICE.

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ELECTRIC SIGNAL SYSTEM.

1,011,527.

Specification of Letters Patent.

Patented Dec. 12, 1911.

Application filed February 23, 1907. Serial No. 358,826.

To all whom it may concern:

Be it known that I, WALTER V. TURNER, a citizen of the United States, residing at Edgewood, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Electric Signal Systems, of which the following is a specification.

My invention relates to electric signal systems used in connection with a train of cars, and its objects are: to provide a system in which but a single train wire is used to make connections between the cars; to provide a system in which a signal may be transmitted from any point on a train to any one car or all of the cars by manipulation of a single operating device on any of the cars; to provide a system in which all of the cars are provided with annunciators but in which, if desired, all of the cars but the first, may be cut out in such a manner that while the signal may be operated from any car as before it will be sounded only upon the first car; and to provide a signal system of the class described which may make use either of a current drawn directly from the trolley wire or one derived from a battery carried upon the train. These objects and other advantages which will hereinafter appear, I attain by means of the construction illustrated in preferred form in the accompanying drawings, wherein:—

Figure 1 is a diagrammatic illustration of a preferred form of apparatus in which the current is drawn directly from the trolley wire, and the signal is operated only upon the forward or left hand car, and Fig. 2, is a similar view of the apparatus illustrating its application to a system in which the current is taken from a battery carried upon the train.

By reference to Fig. 1 of the accompanying drawings, it will be seen that in the practice of my invention I provide each car with a train wire 3, which may be connected at either end to the corresponding wire of another car by means of suitable mechanism 4, of any preferred form. Each car is also provided with a bell or annunciator 5, and an operating switch 6, manipulated through the medium of a cord or its equivalent 7, and which normally remains open. The switch 6 has one pole connected to the train wire 3, by means of a wire 8

and its other pole is provided with a ground connection 9. The bell or annunciator 5 is also provided with a connection 10 leading to the train wire 3, and a connection 11 leading to the source of current, and in order that each car may be thrown in or out of circuit, as desired, said connection 11 is opened and closed by means of a snap switch 12, of any preferred type.

As shown in Fig. 1, it will be seen that when it is desired to use a current from the trolley wire 13, a suitable resistance 14, for reducing the current is interposed between the annunciator 5 and snap switch 12, and when the current is derived from a battery 14^a, as shown in Fig. 2, such resistance is dispensed with and the battery is provided with a ground connection 15, of any preferred form. The ground connections may, if desired, be connected in the usual manner by a return wire, as shown in dotted lines in Fig. 2.

From the foregoing paragraph it will be seen that with the exceptions noted the devices in either case are essentially similar in construction and their operation is as follows. The operating switches 6 are normally open, in which position no current can pass through the annunciators 5, which consequently remain silent, if, however, any one of the switches 6 should be closed, as for instance the right hand switch as shown in Fig. 1, current will then pass from the source of supply through switch 12, connection 11, annunciator 5, connection 10 to the train wire 4 thence along the latter to connection 8, through switch 6 and ground wire 9 when the circuit will be completed and the annunciator at the left hand only will be operated as long as the snap switches 12, controlling the central and right hand annunciators remain open, as in Fig. 1. It will be obvious, however, that if each of said switches is closed as shown in Fig. 2, all of the annunciators would be thrown into operation by closing any one of the switches 6, and furthermore, that by proper manipulation of the switches 12, the annunciators on any of the cars may be thrown into operative condition.

Other advantages of the device will readily occur to those familiar with the art.

Annunciators are of course usually located at the end or cab of the motor car and

it is obvious that in case of double ended cars adapted to run in either direction, annunciators would be located at both ends. It will also be obvious that any of the well known forms of annunciators or electric indicators, such as bells, whistles, etc., may be employed in connection with my invention.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:

1. In a train signaling system, the combination with a plurality of car signal equipments each comprising a local circuit, an electrically controlled signal device, a grounded source of current, and a switch connected in said circuit, said switch being adapted to complete an electric circuit from said source of current through the signal device to ground, of a train wire connected to the local circuit of each car signal equipment to thereby cause the actuation of each

signal device upon closing one of the switches.

2. A train signaling system comprising a plurality of signal equipments each consisting of a local circuit, a signal device, a grounded source of current, and a switch connected in said local circuit, said switch being adapted to ground and thereby complete the local circuit containing said signal device, and a train wire in electrical connection with each local circuit to thereby effect the actuation of all the signals throughout the train upon the closure of one of the switches.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

WALTER V. TURNER.

Witnesses:

R. F. EMERY,
J. B. MACDONALD.