(No Model.)

R. O. OWEN.

AUTOMATIC ELECTRIC RAILWAY SIGNAL.

No. 441,773. Patented Dec. 2, 1890.

Fig. 1.

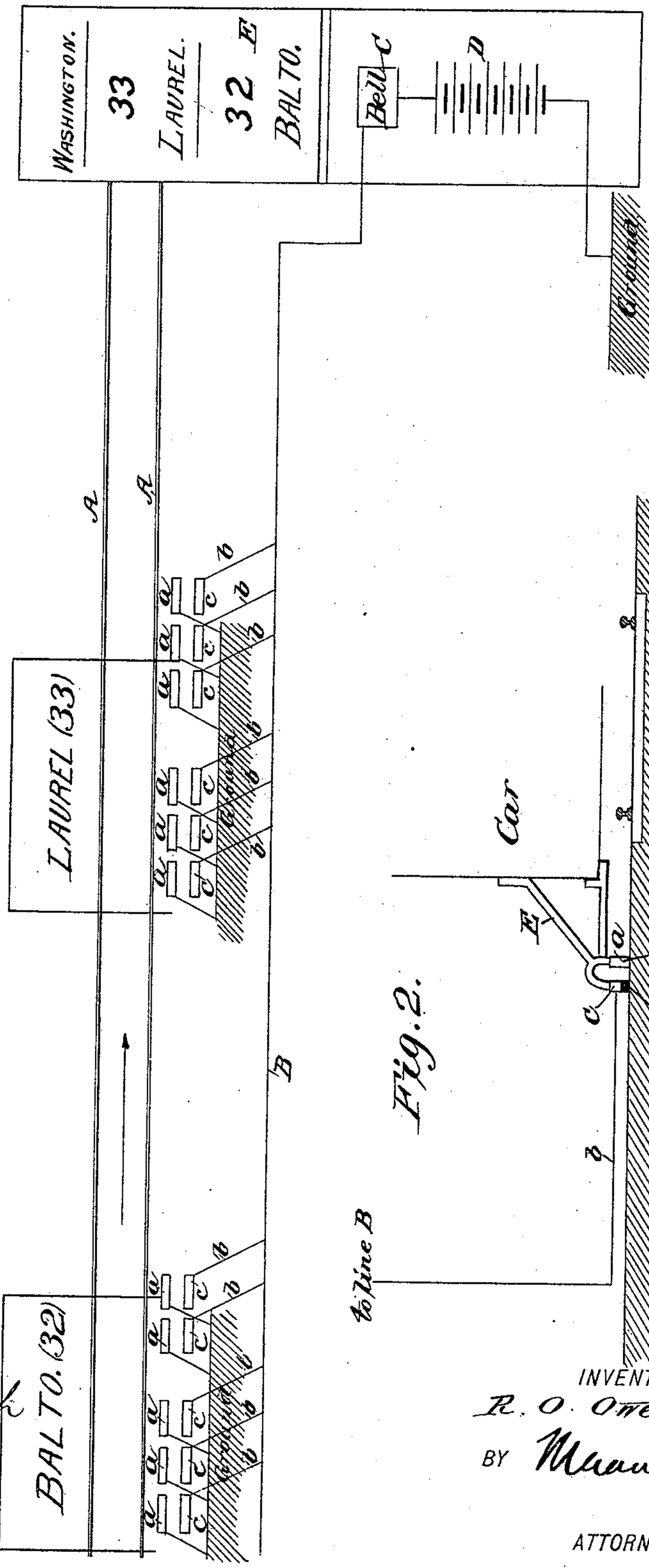

Fig. 2.

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ROBERT O. OWEN, OF LYNCHBURG, VIRGINIA.

AUTOMATIC ELECTRIC RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 441,773, dated December 2, 1890.

Application filed March 18, 1890. Serial No. 344,426. (No model.)

To all whom it may concern:

Be it known that I, ROBERT O. OWEN, of Lynchburg, in the county of Campbell and State of Virginia, have invented a new and useful Improvement in Automatic Electric Railway-Signals, of which the following is a specification.

The object of my invention is to provide an automatic telegraphic railway-signal in which the passage of each train past each station or section of track will automatically send a signal to the train-dispatcher's office, notifying said office of the fact that the train has passed said station.

It consists in the peculiar construction and arrangement of circuits, contacts, and signaling devices, as hereinafter fully described.

Figure 1 is a diagrammatic view of a line of railroad with three stations indicated thereon, and illustrating the arrangement of the circuits and contacts and the operation of my invention; and Fig. 2 is a cross-sectional view through the track, showing how the passage of the car makes contact with the terminal-plates and closes the circuit for sending the signals to the train-dispatcher's office.

In the drawings the three stations marked "Washington," "Laurel," and "Baltimore" will serve to illustrate my invention, the Washington end of the line being assumed to be the location of the train-dispatcher's office. In this office, upon a suitable index-board, is placed the names of the several stations on the road, with their arbitrary numbers and the times at which the trains should pass said stations. For the sake of illustrating this part of my invention I have shown at E a portion of such index-board, in which the station at Laurel is designated by the arbitrary number "33" and Baltimore by the number "32." In the dispatcher's office is arranged a signal-bell C and a battery D, arranged in the same circuit, with one pole grounded and the other one extending to the line B, which runs along the railroad-track, preferably, in elevated position past all the stations on the road. At the first station, Laurel, there are six branch wires *b*, leading down to the same number of insulated contact-plates *c*, and close beside them are an equal number of contact-plates *a*, connected with the ground and grouped in pairs with *c*, the contacts being arranged with a long break in the middle of the series to form three closures of the circuit, followed after a longer interval by three other closures, making the signal 33. The same general arrangement is made at Baltimore, except that the contact-plates are arranged in groups of three and two to give the signal 32. Upon one of the cars or the locomotive of the train is arranged a bracket E, carrying a metal contact plate, roller, or brush for closing the circuit through both plates *c* and *a* by contact with both at the same time. The arrangement of parts shown for this purpose may be varied, as desired. Now, when a train passes Baltimore, toward Washington, the battery-circuit is closed three times and then twice, by grounding the main line that number of times as the train passes the contact-plates *a* and *c*. The result is that the bell C in the train-dispatcher's office in Washington gives the signal 32 and the dispatcher is at once enabled to know that the train has just passed Baltimore, coming to Washington, and by consulting the time-table is enabled to know whether the train is on time or not. For trains running from Washington to Baltimore a similar set of contacts may be arranged upon the opposite side of the railroad-rails A A or beside the other track, if it be a double track..

Having thus described my invention, what I claim as new is—

The combination, with a main-line circuit and a battery and signaling device, of a series of terminal contacts *c*, having independent connection with the main line, a series of twin or companion contacts *a*, connected to ground, the pairs being spaced to represent the numbers of the stations, and a contact spring, wheel, plate, or brush mounted upon the car and arranged to close contact between the plates *a* and *c* to automatically transmit signals to the dispatcher's office, substantially as shown and described.

The above specification of my invention signed by me in the presence of two subscribing witnesses.

ROBERT O. OWEN.

Witnesses:
EDWD. W. BYRN,
SOLON C. KEMON.