(No Model.)

M. W. PARRISH.

ELECTRIC TRACK SIGNAL

No. 457,058. Patented Aug. 4, 1891.

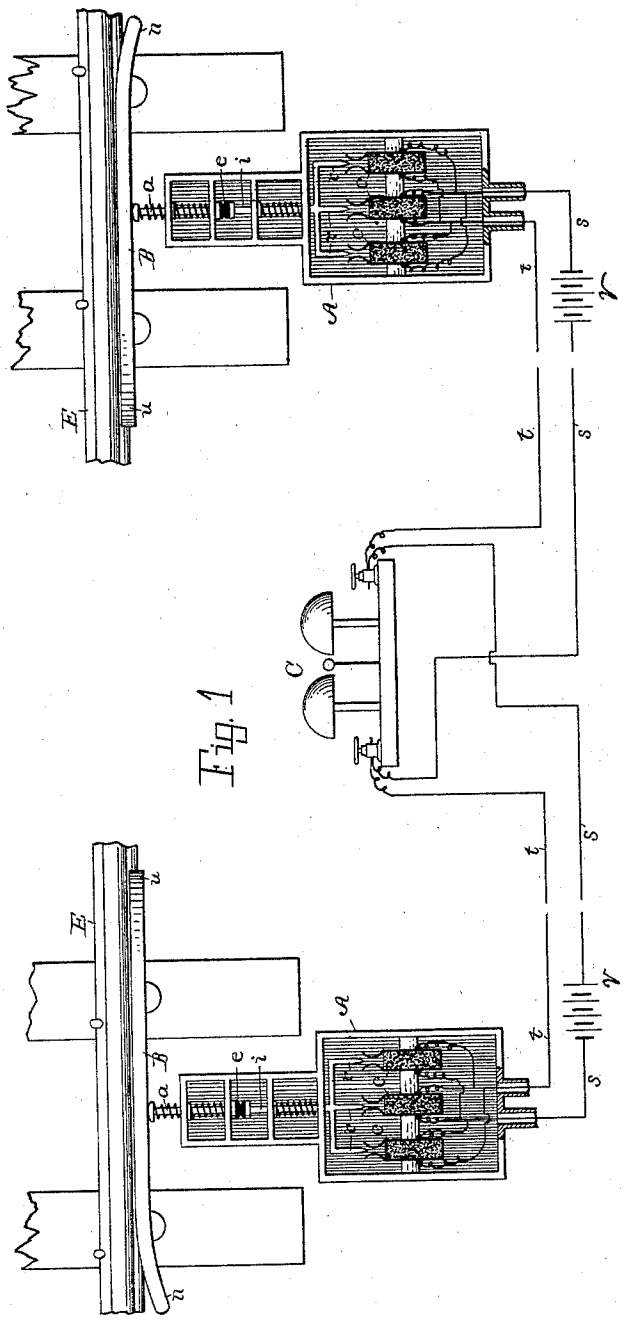


Fig. 1

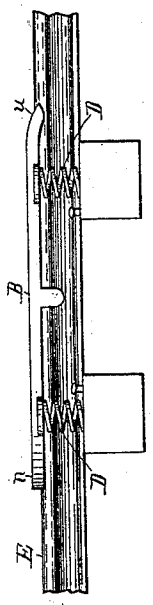


Fig. 2

Witnesses:
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UNITED STATES PATENT OFFICE.

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ELECTRIC TRACK-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 457,058, dated August 4, 1891.

Application filed August 8, 1890. Serial No. 361,418. (No model.)

To all whom it may concern:

Be it known that I, MYRON W. PARRISH, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a new and useful Electric Track-Signal, of which the following is a specification.

My invention has for its object certain improvements in that class of electric track-signals in which the incoming train gives the alarm and the outgoing train does not give the alarm, said improvement consisting in arranging the tread-bars by which the circuit-controllers are operated on the outside of the rails of the track higher than the upper surface of said rails and by the side thereof, so that the tread part of the wheels, instead of the flanges, will operate the said bars, and combining the same with peculiar circuit-controllers, substantially as below set forth in the claim.

In the drawings, forming a part of this specification, Figure 1 is a plan view of the operating parts with the circuits and signals shown diagrammatically, and Fig. 2 is an elevation of lettered details in Fig. 1.

Referring to the lettered parts of the drawings, E shows the rail of a track. By the side of this rail and parallel therewith is a bar B, curved downward at one end, as at *u*, and curved outward at the other end, as at *n*. This bar B is supported by springs D D, Fig. 2, or, of course, any suitable style of spring-support may be employed which will yield when the wheels of the cars bear down upon said bar and which will expand and raise the bar up to place again after the train has passed, and which springs will also yield laterally to allow the wheels of the cars to crowd said bar B laterally when approaching the station, as will appear more fully in the explanation of the operation. This bar B is arranged on the outside of the rail of the track, with the main portion of the upper surface of said bar located above the upper surface of the rail, so that the tread part of the wheels will come in contact with said bar and crowd it laterally from the rail, as before stated.

By the side of the track is a frame A, (or more properly a case, because the parts therein should be housed;) but in any event the part A is a support for the circuit-controllers and their connections, as will appear clear from the following detailed description. At *a* is a spring-actuated rod having reciprocating bearings in the case A, one end of said rod being in contact with the bar B, as in Fig. 1.

At *i* is another spring-actuated rod on a line with the rod *a*. The adjacent ends of these rods *a i* are insulated at *e* from each other, but are in contact with each other, so that when the rod *a* is pushed back it in turn will push back the rod *i*; but so far as these spring-actuated rods *a i* are concerned, a single rod may be employed, insulated from the bar B. The outer end of the rod *i* is provided with one or more prongs *r*. Three are here shown. At *c c* are separated metal bars, insulated from the case A. To these bars the wires *s t* of the circuit are connected. At *v v* are the batteries. The prong or prongs *r* and the bars *c* constitute the circuit-controllers. When the prongs *r* are brought in contact with the metal bars C, the circuit is "made," and when disconnected, as in Fig. 1, the circuit is "broken." The object of having a series of prongs *r* and spring-bars *c* in the signaling-instruments is to always insure the "making" of the circuits, whether one or more of the prongs contact with the bars *c* at a time, because one of the prongs, at least, is always sure to contact with the said bars. So far I have described, say, the construction at left of Fig. 1; but the right is the same, and circuits from both lead to the station or signal, which the signal-bell C will serve to illustrate.

The object of having a signaling-instrument each side of the station will of course be well understood—viz., in order that trains coming from either direction will give the signal. Three circuit-controllers are here shown for each signaling-instrument. The purpose of this is that in case from any cause one controller should fail to make the circuit some one or more of the others would not fail. Circuits may lead from these signaling-instruments to other points, such as street-crossings, &c.

In the operation, supposing a train to be coming from the right hand in the drawings, the wheels will crowd against the side of the bar B next to the rail E and force it away from said rail. This action of course pushes the rods *a i*, bringing the prongs *r* in contact with the metal bars *c* and making the circuit,

which of course rings the bell at C. After the train has passed the bar B assumes its normal position again near the rail. The action of the springs D beneath the bar B in assuming an upright position may be sufficient to carry this bar B back; but the expansion of the spring on the rod *a* will force said rod against the bar B with sufficient power to move said bar back again. When the train reaches the other signaling-instrument, the wheels will bear the bar B down, because the tread part of the wheels will run onto the inclined portion *u* of said bar, instead of crowding against the bar, as when the train is running in the opposite direction. On the other hand, a train coming from the left hand in the drawings and approaching the station will crowd the bar B of this signaling-instrument laterally and will ring the bell, and will bear down upon the bar B of the other signaling-instrument and not give the signal, because the downward pressure of the bar does not operate the circuit-controller. Thus it will be seen that the incoming train gives the signal at the station and the outgoing train does not give any signal. The importance of this will appear obvious, especially in instances at stations or crossings where the train which operates the signaling-instrument is not in sight.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination of a track, tread-bars on the outside of the rail of said track, at the side of and extending a little above the same, the ends of the tread-bars having the downward and outward curves, springs supporting said bars, signals, circuit-wires leading from said signals and provided with the end separated bars or terminals, and the spring-actuated rods provided at one end with a series of prongs for contracting with the terminals and the other end of said rods engaging the side of the tread-bars, substantially as set forth.

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

MYRON W. PARRISH.

Witnesses:
JOHN A. DICKEY,
HIRAM L. BROWN.