(No Model.)

H. A. PARRISH.

ELECTRIC TRACK SIGNAL.

No. 464,655. Patented Dec. 8, 1891.

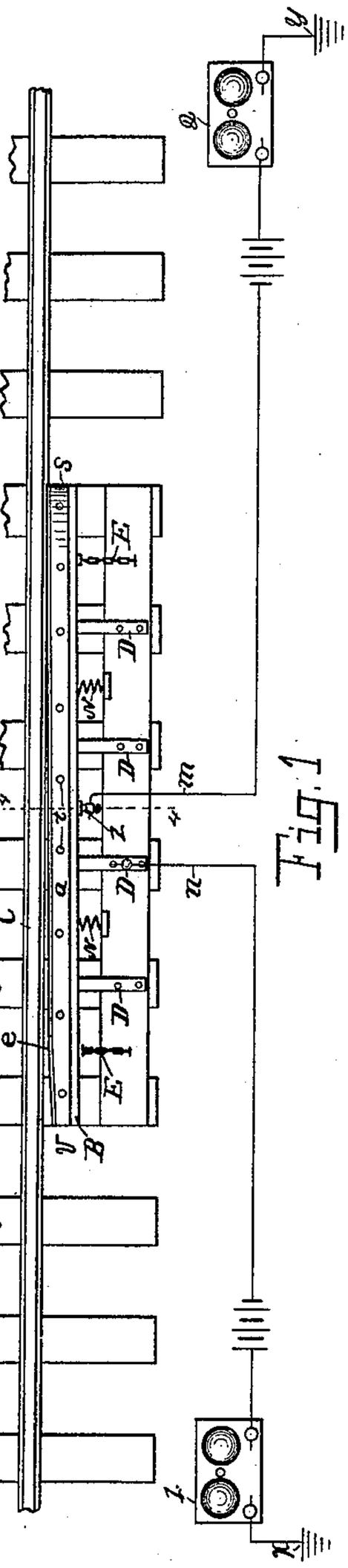

Fig. 1

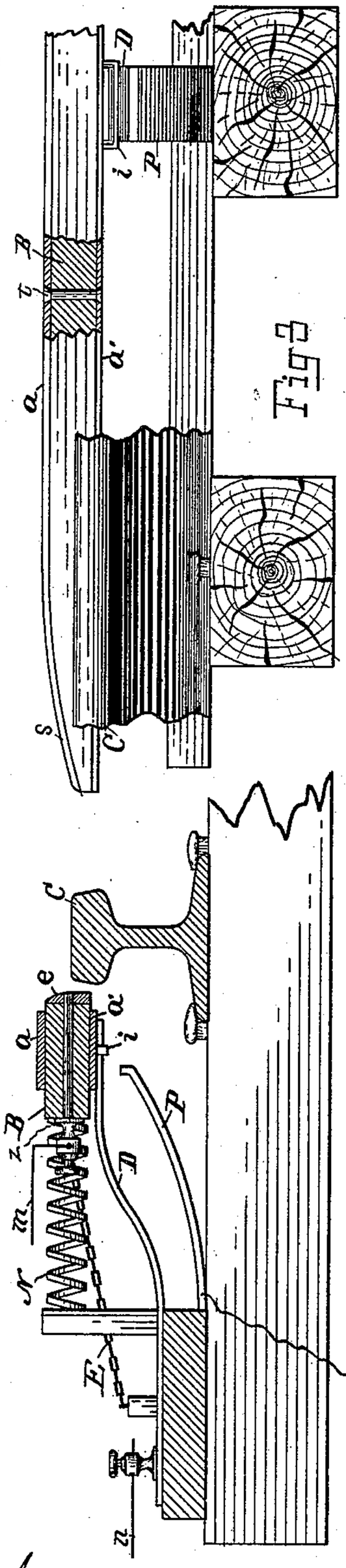

Fig. 3

Fig. 2

Witnesses:
Walter S. Wood
Edith Perkins

Inventor.
Homer A. Parrish
By Lucius C. West
Att'y.

UNITED STATES PATENT OFFICE.

HOMER ALTON PARRISH, OF JACKSON, ASSIGNOR TO THE PARRISH ELECTRIC TRACK SIGNAL COMPANY, OF DETROIT, MICHIGAN.

ELECTRIC TRACK-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 464,655, dated December 8, 1891.

Application filed March 9, 1891. Serial No. 384,213. (No model.)

To all whom it may concern:

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

This invention relates to that class of electric track-signals employed in systems in which the incoming train gives the signal and the outgoing train does not give the signal.

The object of the invention consists in a construction in which certain features of improvement are shown, as below described and claimed, one of the leading features being that the contact of the outside rim of the car-wheels with the side of the tread-bar of the signaling-instrument "makes" one circuit instead of depending on the lateral movement of said bar to operate "circuit-controllers," as heretofore.

In the drawings forming part of this specification, Figure 1 is a plan view; Fig. 2, a cross-section on line 4 4 in Fig. 1, enlarged, looking from a point at the right; and Fig. 3 shows lettered details looking from a point at the right of Fig. 2.

Referring to the lettered parts of the drawings, C shows one of the rails of the track. The tread-bar B is arranged on the outside of the track, said bar being inclined downward at one end, as at S, and outward at the other end, as at *v*, as heretofore. This tread-bar B is metal-faced on the upper and lower sides, as at *a* and *a'*, said metal surfaces being in communication with each other through the medium of the bolts or rivets *t*. This tread-bar is supported at the side of the rail by the elastic spring-bars D, which are loosely confined by loops *i* on the under side of the tread-bars, which, together with the elastic metal bar P beneath the bar D, constitute circuit-controllers for any circuit which may be connected with a given bar D. To illustrate, in this case the metal bar P is grounded, the rail C being indirectly the ground, and the circuit-wire *n* leads from the spring-bar D to the signal 1. This circuit has a battery therein and said circuit is grounded at *x*, as in Fig. 1. In the operation of this circuit the train approaching signal 1 would press down the tread-bar B, and the coming together of the ends of the circuit-controllers D P would make the circuit. So, also, would the contact of the wheels with the metal face *a* and with the rail C make the circuit, whether the controllers D P operate or not. The edge of the tread-bar B next to the rail is metal-faced, as at *e*. In this circuit the wire *m* is connected to the metal face *e* by means of the bolt or post *z*, which post extends through the bar B and is attached to said metal face *e*. This circuit-wire *m* leads to the signal 2, which signal is located at a point along the track in the opposite direction from the signal 1. There is a battery in this circuit, which circuit is grounded at *y*, thus making the rail and metal face *e* the circuit-controller for this circuit. To illustrate, when a train approaches the signal 2 the rim of the wheels will engage the metal face *e* of the tread-bar B and of course the wheels engage the rail *c* at the same time, and this engagement of the wheels with the rail C and metal face *e* makes this circuit and gives the signal 2. It will be seen that the tread-bar B is held at a proper distance laterally from the rail C against a spring resistance N. This is to allow the tread-bar B to yield sufficiently to permit the wheels to pass, and at the same time to sustain an engagement with said wheels in order to make the circuit *m*. Chains are shown at E, attached to the tread-bar B, to prevent the springs N from expanding too far and thereby crowd the tread-bar B too near the rail.

I find for the most practical working of the signaling-instrument, in so far as the front edge of the tread-bar B is concerned, that the upper corner next to the rail must be beveled or inclined, as in Fig. 2, for the reason that if said corner is left square the frictional engagement of the wheels with said corner tends to bear the tread-bar B downward frequently to a degree sufficient to give the wrong signal or give both signals at once as the signals are herein arranged. This peculiar feature of beveling said corner of the tread-bar is applicable to tread-bars which are not metal-faced next to the rail, but which have the circuit-controllers connected to them, and which controllers are operated solely by

the lateral movement of said tread-bar when crowded away from the rail by the wheels and forced back again by the spring, as in prior construction.

This signaling-instrument may be used in connecting with signals at stations, railway-crossings, or at mile-posts; or it may be employed for any other signaling for which it is found applicable. As arranged in Fig. 1, it is applicable for street-crossings, which, if here shown, would be at each end of said figure. It will be readily seen that a series of circuits may be connected with either or all of the circuit-controllers here shown, each one of the said circuits being employed with signals at different points—such as at several crossings at once—or at stations and crossings both, &c.

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

1. In an electric track-signal, the combination of a rail of the track, the tread-bar metal-faced on the upper and lower surface, said metal surfaces being connected, said bar being on the outside of the rail and held by a spring-resistance against lateral displacement, and the spring-bar supporting said tread-bar from beneath and the spring-bar below the former-named spring-bar, said spring-bars constituting the circuit-controllers, substantially as set forth.

2. In an electric track-signal, the combination of a rail of the track, the tread-bar metal-faced on the upper and lower surface, said metal surfaces being connected, said bar being on the outside of the rail and held by a spring-resistance against lateral displacement, the tread-bar being provided with the loop, the spring-bar supporting said tread-bar from beneath and loosely passed through said loop, and the spring-bar below the former-named spring-bar, said spring-bars constituting the circuit-controllers, substantially as set forth.

3. In an electric track-signal, the combination of a rail of the track, the tread-bar adapted to yield laterally against a spring-resistance, said bar being provided with a metal face on the side next to the rail, and the circuit-wire connected with said metal face, substantially as set forth.

4. In an electrical track-signal, the combination of a rail of the track, the tread-bar adapted to yield laterally against a spring-resistance, said bar being provided with a metal face on the side next to the rail, said metal face being beveled at the upper edge, and the circuit-wire connected with said metal face, substantially as set forth.

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

HOMER ALTON PARRISH.

Witnesses:
CHARLES D. HOBART,
CHAS. A. PARRISH.