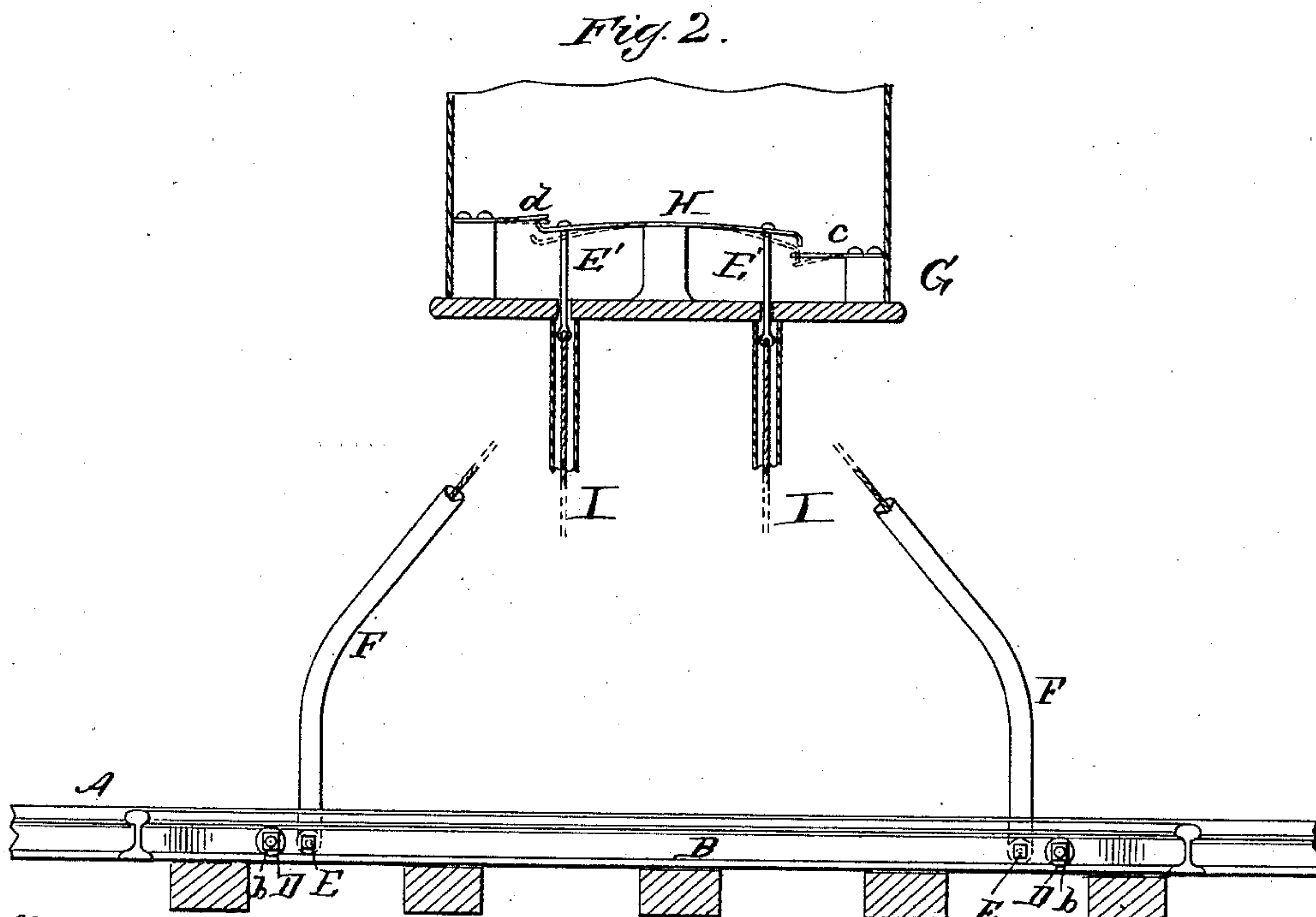
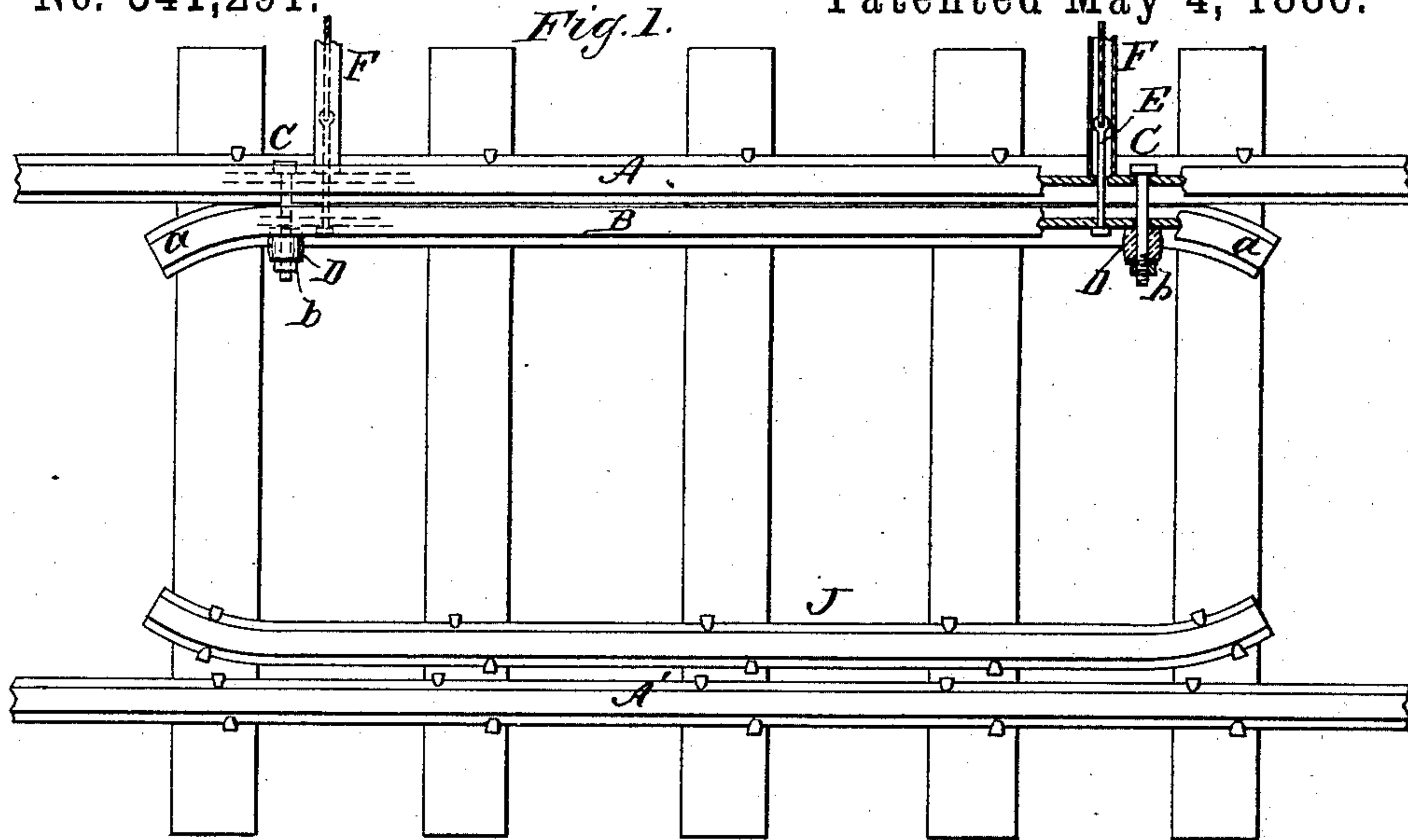


(No Model.)

C. D. TISDALE.
TRACK INSTRUMENT.

No. 341,291.

Patented May 4, 1886.



Witnesses.
H. F. Parker.
H. C. Hagen.

Inventor.
C. D. Tisdale.
By Geo M. Hopkins
Atty

UNITED STATES PATENT OFFICE.

CHARLES D. TISDALE, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE STANDARD ELECTRIC RAILWAY SIGNAL COMPANY, OF NEW YORK, N. Y.

TRACK-INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 341,291, dated May 4, 1886.

Application filed December 6, 1884. Serial No. 149,699. (No model.)

To all whom it may concern:

Be it known that I, CHARLES D. TISDALE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Track-Instruments for Railway Signaling Apparatus, of which the following is a specification, reference being had to the annexed drawings, in which—

Figure 1 is a plan view, partly in section, of an auxiliary rail-connection; and Fig. 2 is a side elevation, partly in section.

In track-instruments for railway signaling apparatus, as ordinarily constructed, the electrodes are necessarily in close proximity to the track, and are liable to injury from the jarring of the passing train. They are also liable to become inoperative through the effects of snow, rain, and mud, so that a signaling system depending on track-instruments attached to or located near the track are apt to become inoperative from the causes mentioned.

The object of my invention is to remove the electrical connections of the track-instrument from proximity to the track to a point sufficiently distant and elevated to render these parts free from disturbances which effect track-instruments of the ordinary kind.

My invention consists in a curved bar or rail resting on the ties and pressed toward the inner surface of the railroad-rail by means of strong springs, and located with reference to the rail so that the flange of the wheel of the passing train will pass between the railroad-rail and the spring-acted bar and move it laterally, so as to draw a cable extending through a pipe to an electric-circuit breaker or closer, which is operated by motion imparted to it by the cable.

Within the track-rail A, and resting on the ties, is placed a bar, B, which may be a section of ordinary rail having its ends *a a* curved inward toward the center of the track. Bolts C pass through the rail A, and are provided with springs D, held in place by nuts *b* on the ends of the bolts, and tending to push the bar B toward the track-rail A. The bar B and the rail A are apertured at points near the end of the bar B to receive eyebolts E, which extend through the bar and through the rail into iron tubes F, which are connected with the rail A and extend to a casing, G, which is sup-

ported conveniently near the railroad-track and contains the circuit-closing and circuit-breaking spring H. The wire cables I, connected with the eyebolts E at their lower ends, are secured at their upper ends to eyebolts E', which are connected with the spring H. One end of the spring H is supported above a contact-spring, *c*, but not in contact with it. The opposite end of the spring H rests normally in contact with the spring *d*. The spring H and the springs *d c* form parts of an electric circuit, and when the spring H touches the spring *c* it closes the circuit, and when the said spring is withdrawn from the spring *d* it opens the circuit of which the spring *d* forms a part.

A guard-rail, J, is secured to the ties near the rail A' at the opposite side of the track, to prevent the train from leaving the track should the car-wheels ride over the bar B instead of pressing it away from the track-rail A. The casing G may serve merely for covering the electrical contact-springs, or it may serve the double purpose of a lantern-case and a casing for the contact-springs.

My improved track-instrument, as herein described, is designed more particularly for use in connection with railway signaling systems using both circuit-closing and circuit-opening instruments; but it is obvious that it may be used with any form of signaling apparatus in which an electric circuit is to be either opened or closed.

When the train passes over the railway-track in which my improved track-instrument is connected, the flanges of the wheels rolling between the bar B and the track-rail A push the bar B away from the track-rail, first at one end and then at the other, drawing first upon one of the cables I and then upon the other, in both cases drawing down the ends of the spring H and making or breaking the circuit, according to the requirements of the case.

As my improved track-instrument is designed only for controlling the electric circuit, I shall not enter into any detailed description of any system of electric signaling.

It is obvious that any connector, either flexible or rigid—such as a wire or chain or rod—may be substituted for the cable. Therefore I

do not in this invention confine myself to the use of a cable only for transmitting motion from the track-bar to the circuit opener or closer.

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

1. In track-instruments for railway signaling apparatus, the combination of a spring-
10 actuated bar, B, located near the track-rail of a railroad, connected with the rail by yielding connections, and arranged to be moved by the wheels of a passing train, of a flexible connector and an electric-circuit opener or
15 closer removed from the track and connected with and operated by the flexible connector, substantially as herein specified.

2. The combination, with the track-rail A, of the bar B, placed parallel with the track-rail, bolts C, connecting the rails A B, springs 20 D, placed on the bolts, one or more cables, I, the inclosing tube or tubes F, and an electric-circuit closer or opener connected with the cables, substantially as herein specified.

3. The combination, with the track-rail A, 25 of the bar B, provided with curved ends *a*, the tube F, cable I, inclosed by the tube, the electric-circuit opener or closer, and the guard-rail J, placed near the opposite track-rail, A', as described.

CHAS. D. TISDALE.

Witnesses:

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