(No Model.)

C. R. ALSOP.

ELECTRIC RAILWAY SIGNAL.

No. 521,455. Patented June 19, 1894.

Fig. 1

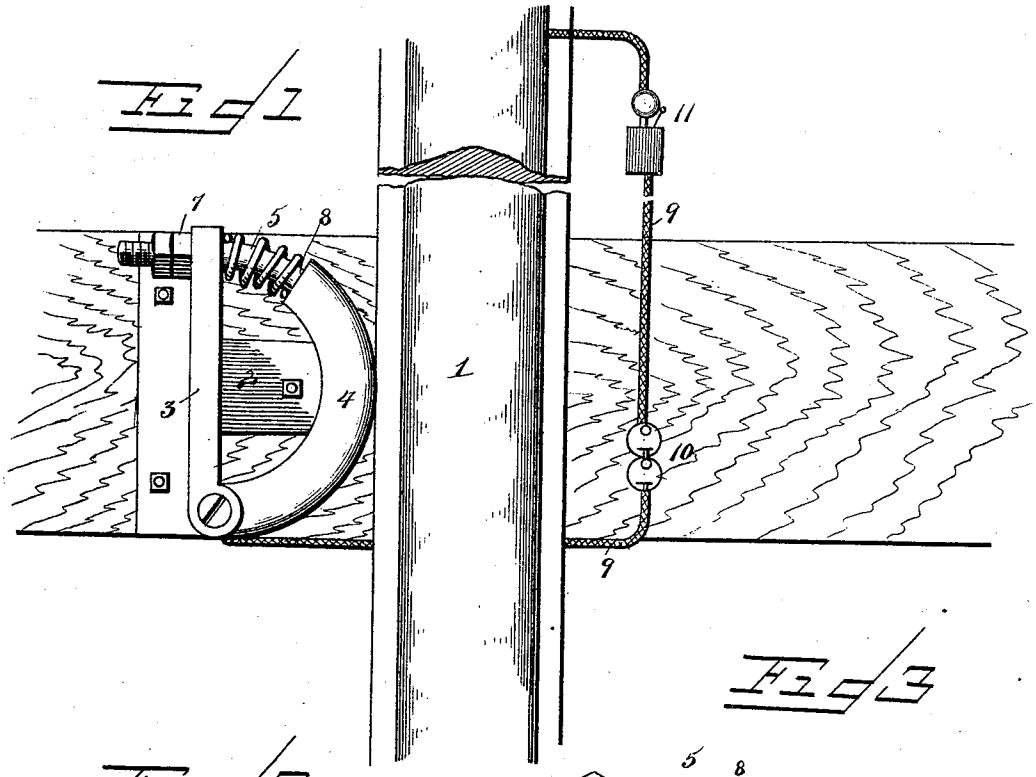


Fig. 3

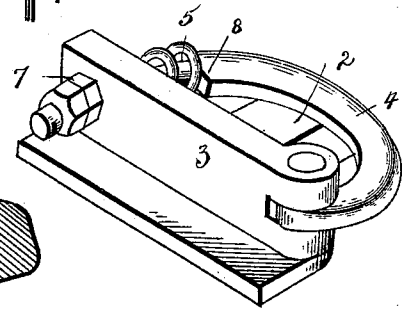


Fig. 2

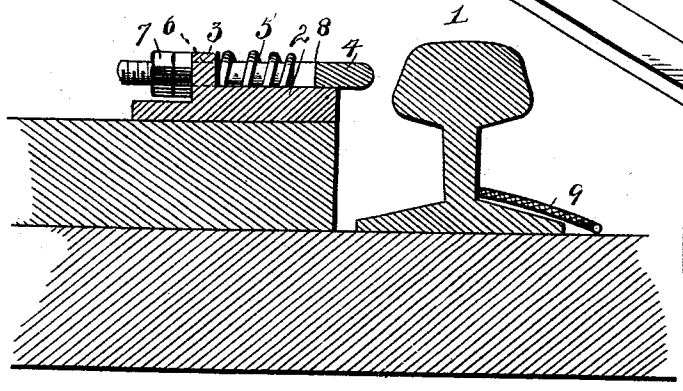
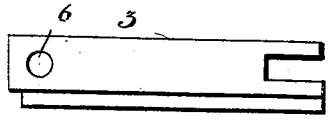


Fig. 4



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ELECTRIC RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 521,455, dated June 19, 1894.

Application filed October 12, 1893. Serial No. 487,963. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RICHARD ALSOP, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented a new and useful Electric Railway-Signal, of which the following is a specification.

My invention relates to that class of electric rail-way signals in which a contact device is employed, and is operated by the wheel of a car to complete the circuit with a signal bell or visible signaling apparatus, and it has for its object to provide a contact device which is engaged by the flange of the wheel, and with said flange and the rail forms a part of the circuit, to avoid the use of auxiliary mechanism for communicating the motion of the wheel-operated device to a remote "circuit-controller," and to provide for a direct and positive operation of the parts resulting from the interposition, between the rail and the contact device, of the flange of a wheel.

Further objects and advantages of my invention will appear in the following description and the novel features thereof will be particularly pointed out in the claims.

In the drawings: Figure 1 is a plan view of a signaling apparatus embodying my invention, applied in the operative position to a rail. Fig. 2 is a transverse vertical section of the same. Fig. 3 is a detail view of the contact bar and chair. Fig. 4 is a rear view of the chair.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates the rail and 2 a chair which is located upon and firmly secured to the ties between the rails. This chair is provided with an up-standing support 3 in the form of a bar which is arranged parallel with the rail 1, and to one extremity of this bar is pivoted one end of a pivotal contact-bar 4, which is curved from the rail at its ends, and at its center is arranged, in normal position, contiguous to the same; the distance being somewhat less than the thickness of the flange of an ordinary car-wheel. The free end of the contact-bar is provided with a reduced stem 5 which extends through a guide opening 6 in the end of the bar 3 and is fitted with an adjusting-nut 7. A coiled actuating spring is arranged upon the stem 5 between the outer side of the bar 3 and the shoulder 8 of the contact-bar to normally hold the latter in operative relation with the rail, and the nut 7 may be adjusted to regulate the interval between the contact-bar and the rail to compensate for wear, shrinkage, &c.

The contact-bar and the rail are in the circuit, indicated by the conductor 9, the battery 10 and the bell or other signal 11, such circuit being broken, normally, by the separation of the contact-bar from the rail. When, however, the flange of a wheel is interposed between the contact-bar and the rail, said flange completes the circuit and operates the bell or other signal.

The adjustable feature of the contact-bar which I employ in connection with my improved signal apparatus is important, in that it provides for compensating the wear produced by the frictional contact of the wheels with the contact-bar. It should be observed furthermore, that the contact-bar and connections are arranged below the plane of the treads of the rail, and are therefore out of the way of passing objects, and in addition thereto the contact-bar rests firmly upon a stationary chair and is thus held from vibration and is supported to prevent disarrangement by a superimposed weight.

Various changes in the form, proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing the advantages of the invention.

Having described my invention, what I claim is—

1. In an electric railway signal, the combination with a track rail included in an electrical signal circuit; of a horizontally movable contact bar pivoted at one end adjacent to the track rail and included in the same signal circuit therewith, a suitably arranged spring for normally adjusting said contact bar in close proximity to the track rail, said contact bar and the track rail being adapted to be simultaneously engaged by the flange of a car wheel which forms the circuit closing plug therebetween, substantially as set forth.

2. The combination with a rail, of a chair provided with a support arranged parallel

with said rail, a contact-bar pivotally connected to said support and in circuit with a rail, a battery and a signaling device, said contact-bar being provided at its free end with a reduced stem fitting in a guide opening in said support, an actuating spring connected to the contact-bar, and an adjusting-nut threaded upon the extremity of said stem to regulate the interval between the contact-bar and the rail, substantially as specified.

3. The combination with a rail in electrical circuit with a signaling device and a battery, of a laterally movable spring-actuated contact-bar, in the same circuit with the rail and normally spaced from the inner side of the rail, whereby the circuit is completed through the rail and contact bar by the interposition of the metallic flange of a car wheel, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES RICHARD ALSOP.

Witnesses:

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FRANK B. WEEKS.