

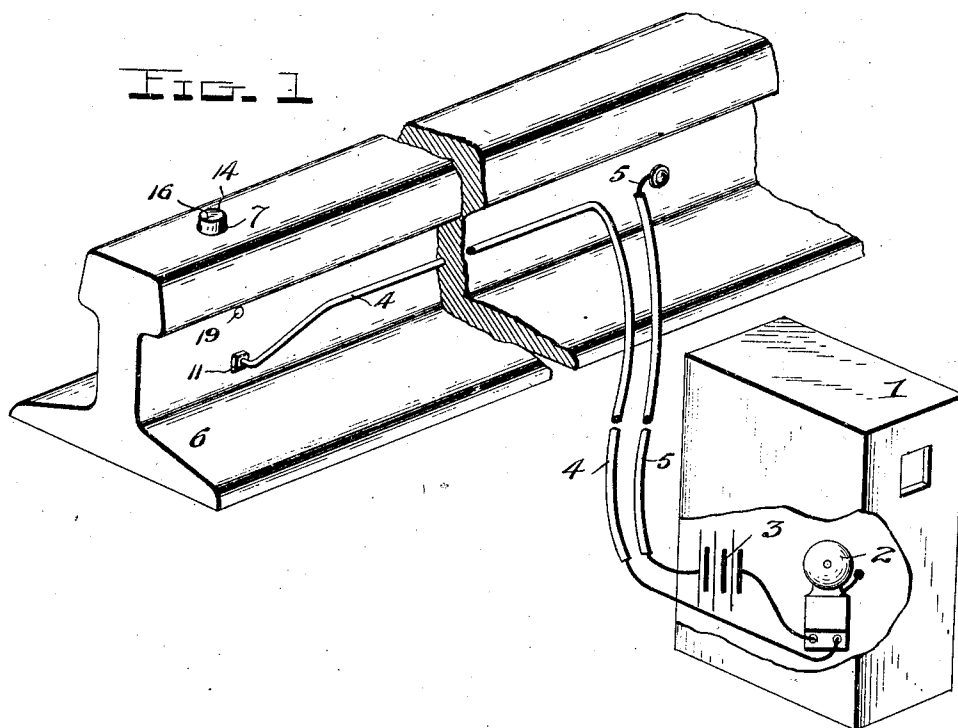
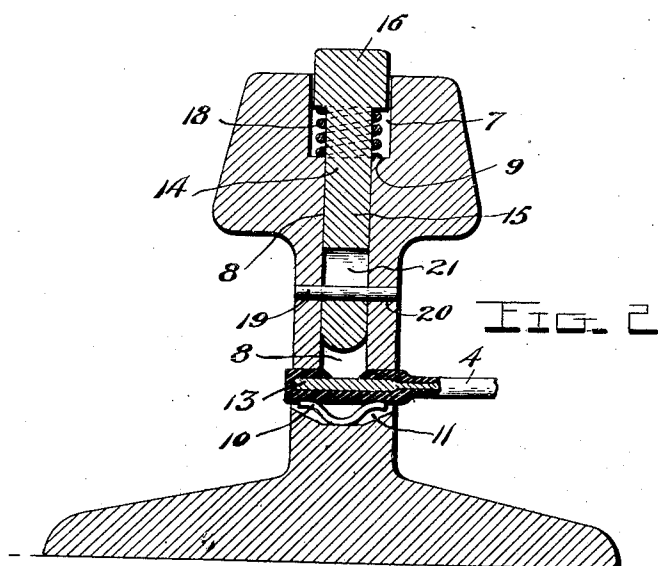
No. 732,559.

PATENTED JUNE 30, 1903.

G. F. HILTON.
ELECTRIC SIGNAL.

APPLICATION FILED JULY 21, 1902.

NO MODEL.



Inventor

G. F. Hilton

Witnesses

J. L. Grieshaber Jr.
J. E. Wilson

By

A. B. Wilson & Co.
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE F. HILTON, OF ST. AUGUSTINE, ILLINOIS.

ELECTRIC SIGNAL.

SPECIFICATION forming part of Letters Patent No. 732,559, dated June 30, 1903.

Application filed July 21, 1902. Serial No. 116,343. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. HILTON, a citizen of the United States, residing at St. Augustine, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Electric Signals; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to electric signals of the audible type and more especially intended for use on railways, at crossings thereof, to notify persons of the approach of a train.

The object of the invention is to provide a signal of this character which shall be simple of construction, durable in use, comparatively inexpensive of production, and efficient in action.

With this and other objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, which will be hereinafter more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a diagrammatic view illustrating the application of the invention, and Fig. 2 is a vertical sectional view through the railroad-rail.

Referring to the drawings, 1 denotes the battery-box, which contains the bell 2, the battery 3, and the circuit-wires 4 and 5.

6 denotes a railroad-rail having a socket 7 in its tread, which communicates with a bore 8 and is provided with a shoulder 9. The bore 8 terminates in a transverse passage or opening 11 in the web of the rail. The circuit-wire 5 is electrically connected to the rail, and the circuit-wire 4 is led along the side of the rail to that point where it is desired to complete the circuit and has its end connected to a contact plate or button 13, which lies in the opening or passage 11 and is completely insulated from the rail. A portion of the upper face of said plate is not insulated, so that the circuit-closer 14 may contact with it to complete the electrical-circuit. The circuit-closer 14 is in the form of a stem 15, that projects down through the bore and is adapted to engage the bore or exposed portion of the plate 13 and is provided with a head 16, which has a free

sliding movement in the socket 7 and is held normally above the tread of the rail by a coiled spring 18. This spring 18 is coiled about the stem and is confined between the shoulder 9 and the head of the stem. A bow-spring 10 is located in the passage 11 below the plate 13 to hold said plate elevated and prevent the battering of the lower end of the circuit-closer upon the plate when the same is operated. The wheels of the train engaging the head of the stem will depress the same until it is flush with the tread of the rail, thus forcing the lower end of the stem into contact with the exposed end of the plate 13 and completing the circuit through the wire 4, the stem, the spring, the rail, the wire 5, and the bell, thus sounding the alarm. The stem 15 may be made to carry the current directly from it to the rail if said stem fits the bore to a nicety. The spring is preferably added as a safeguard, so as to insure an electrical connection, and in order to limit the upward movement of the stem under the stress of the spring I insert a pin 19 transversely through an aperture 20 formed in the web of the rail to engage a longitudinal aperture 21 formed in said stem.

From the foregoing description, taken in connection with the accompanying drawings, the construction, mode of operation, and advantages of the invention will be readily understood without requiring an extended explanation.

Various changes in the form, proportion, and details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

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

1. The combination with a battery-signal and circuit-wires, of a railroad-rail having formed in its tread a socket which communicates with an aligned bore, one of said wires being connected direct to said rail and the other wire insulated from the rail and led into the bore, a stem for closing said circuit when depressed and having a vertical movement in said bore and provided with a head which moves in said socket, a spring confined between the head of the stem and the base

of the socket, and means for limiting the upward movement of said stem, substantially as set forth.

2. The combination with a battery-signal and circuit-wires, of a railroad-rail having formed in its tread a socket which communicates with an alined bore, one of said wires being connected direct to said rail and the other wire insulated from the rail and led into the bore, a stem for closing said circuit when depressed and having a vertical movement in said bore and provided with a head which moves in said socket, a spring confined between the head of the stem and the base

of the socket, and means for limiting the upward movement of said stem, said means comprising a slot and pin, the former formed in the stem and the latter extending transversely through the web of the rail and through the slot, substantially as described. 15 20

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GEORGE F. HILTON.

Witnesses:

G. H. PALMER,
CHAS. V. GALLET.