(No Model.)

J. H. FILDES.

ELECTRICAL SIGNALING APPARATUS.

No. 545,469. Patented Sept. 3, 1895.

Fig. 4.

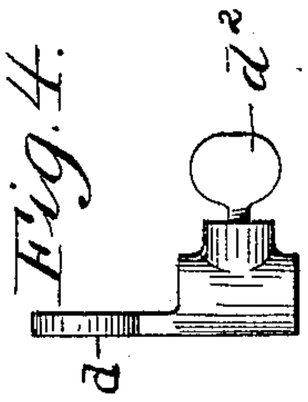


Fig. 3.

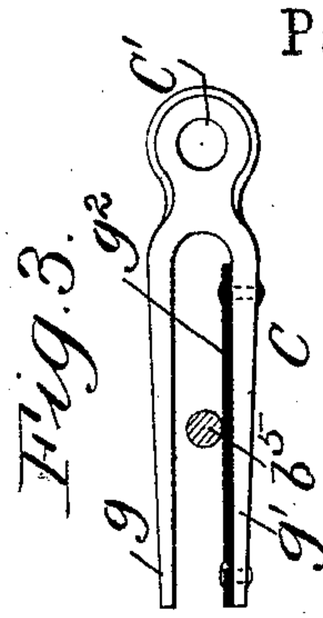


Fig. 5.

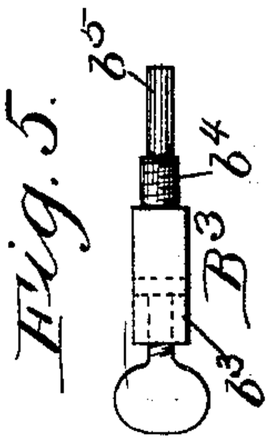


Fig. 1.

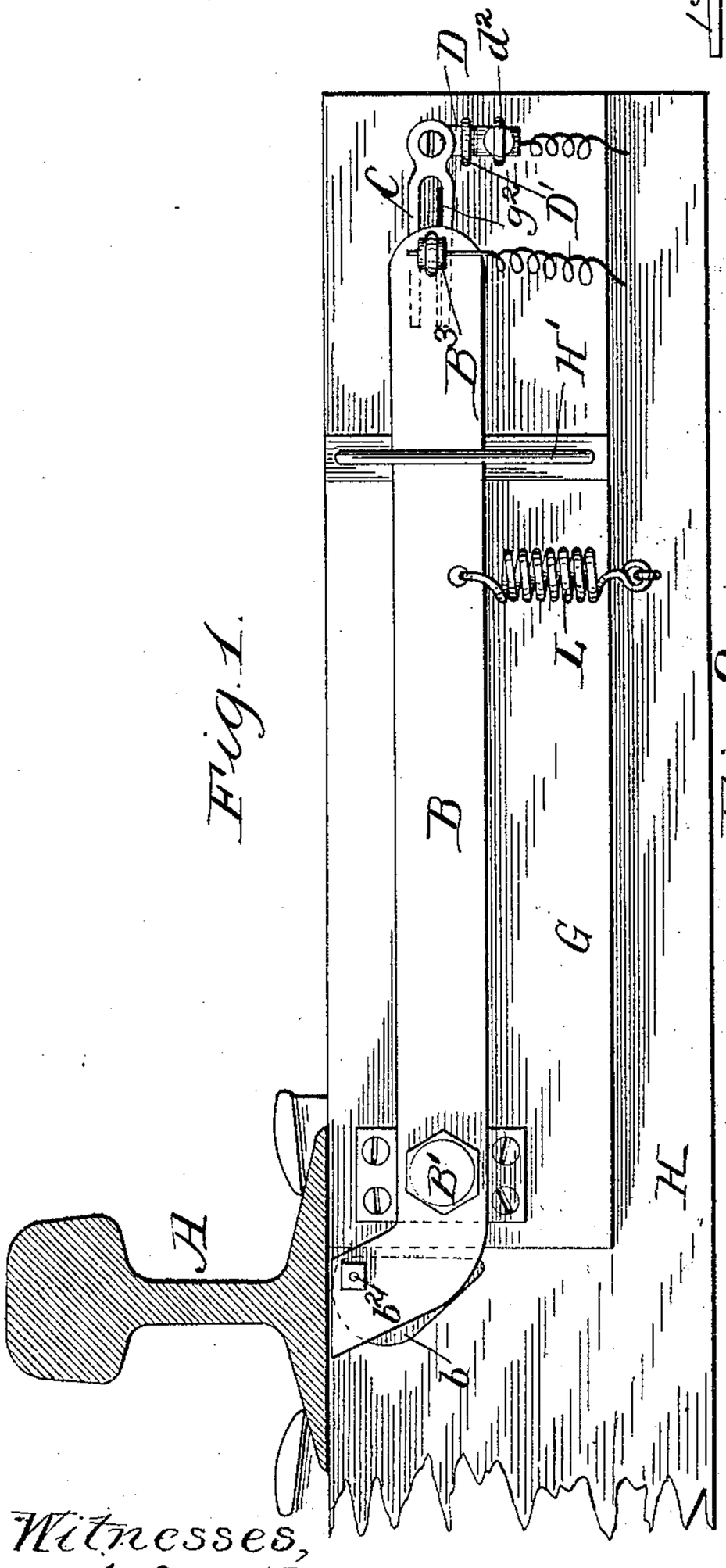
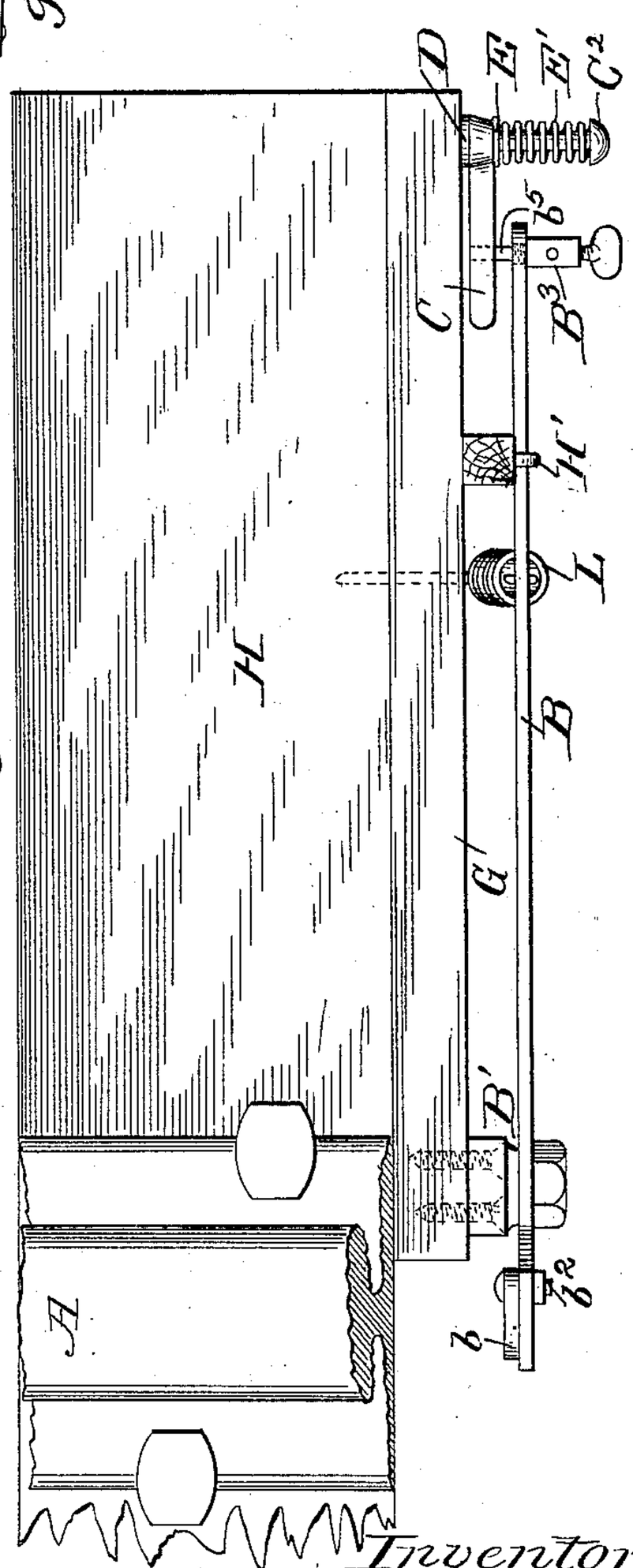


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN H. FILDES, OF CHICAGO, ILLINOIS.

ELECTRICAL SIGNALING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 545,469, dated September 3, 1895.

Application filed June 12, 1895. Serial No. 552,506. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. FILDES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Electrical Signaling Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an improvement in electrical signaling apparatus; and it consists more particularly in means for controlling the transmission of the signal actuated by a passing locomotive-engine or train.

The invention further consists in means by which the weight or load of a train passing over it produces no injury to any of its working parts, thereby insuring its perfect working at all times.

The object of my invention is to make an electrical signaling apparatus complete, positive in its working at all times, and requiring only to be fastened in place on a railroad-tie and wired, then covered with a suitable casing for protection against the weather when desired. This object is accomplished by placing the several working parts on a board for readiness of applying or being placed in working position on a railroad-tie, and for insuring against breakage or getting out of order a suitably-shaped connector is used in connection with an actuating-lever, which connector permits the actuating-lever to vibrate or move as desired with no injury resulting therefrom, as the connector is free to move any distance relative to the movement of the actuating-lever, as will be seen from the accompanying drawings, constituting part of this specification.

In the drawings, Figure 1 designates the invention in elevation and properly applied. Fig. 2 is a top plan view. Fig. 3 is a detail view of the forked contact or terminal. Fig. 4 is a similar view of the binding-post therefor, and Fig. 5 is a detail view of the binding-post on the actuating-arm.

In the drawings, A designates the rail, H the tie, G the supporting-board carrying the actuating parts and secured to the tie, and B designates the actuating-lever pivoted at B′.

b is an eccentric plate or cam bolted to the actuating-lever B at its shortest end by a pivot-bolt b^2, having for its object to make up any variation from the fastening of the board G to the tie, that the actuating-lever may be easily set straight with the tie, as shown, after the board G is fastened to the tie and adjustments to be afterward made thereby, if desired, due to any wear in bearing part of the cam or eccentric-plate *b*, where it rests against the rail A. It is not essential that the actuating-lever B be held straight, as shown, or bear exactly central under the rail A, as shown, but preferable. The outer end of the long arm of the lever is formed with a threaded perforation through which a binding-post member B^3 passes. This post is constructed with an enlarged portion b^3, having a central bore through which the terminal of the circuit is passed and secured in place by a thumb-screw passing longitudinally through an opening in the end. The portion of the post at the center is threaded as at b^4, which portion engages in the aperture in the lever. The opposite end of the post is cylindrical in cross-section, forming a pin-like extension b^5 projecting laterally beyond the lever. The opposite terminal of the circuit comprises a rocking U-shaped yoke C, having the parallel arms *g g′*. On the lower inner face of the latter is secured an insulated block g^2, while the upper arm is exposed to contact by the pin b^5, which is normally located between the arms of the terminal. The terminal C has an eye C′ at its outer end through which a pivot-screw C^2 passes into the support, the same passing through a washer E on the outer face of the terminal and the eye *d* of the binding-post D, located on the inner face or between the terminal and its support.

Between the washer E and the head of the screw is a spiral spring E′, by which a close contact is formed between the binding-post D and the terminal C, which is permitted a vertical movement on the screw. The post D has the cylindrical lower section through which the wire passes and a laterally-extending screw d^2 for clamping the wire in place.

D′ designates a staple for securing the binding-post in place against transverse movement.

H′ designates a vertical guide on the sup-

port, through which the outer end of the lever passes.

L designates a spiral spring secured to the lower edge of the tie, while its upper end is passed through and secured to the lever, the function of the same being to return the lever to its normal position after actuation.

In operation, as the rail is depressed, the outer end of the lever is thrown up, causing the cylindrical pin on the binding-post B^3 to engage the upper fork of the contact C and thereby close the circuit. As soon as the load is taken from the rail the spring L will return the lever to its proper position, at the same time turning the contact onto the inner face g' of the terminal C, thereby breaking the circuit. The device above described is used in connection with railways more particularly, and it is apparent that the rail will have diversity of vertical deflections, according to the load on the rail. It is therefore apparent that with the contact C a fixed contact, and were the lever to be moved a distance greater than the distance between the forks of the contact C, the latter would be broken or injured, and it would be impractical to maintain a fixed relation between the two contact-surfaces. To avoid such objections I pivotally support the contact C as above described and by friction hold it in its adjusted position, so that the same will move as much as required at all times without any injury from the movement of the pin B^3 on the actuating-lever. When the load is removed from the rail, the spring will return and hold the lever to its normal position, carrying the contact thereon to engage with the insulator-section of the terminal C, and as the latter has been moved upward on its pivot the same will be returned by the lever and the contact will remain in engagement with the insulated section of the terminal C, owing to the spring-pressed connection of the same. By the employment of a screw for securing the terminal C in place I am enabled to vary the spring-pressure on the terminal.

A suitable cover or boxing may be placed over the working parts, if desired.

It is evident that many minor changes can be made in the construction and arrangement of parts without in the least departing from the nature and principle of my invention.

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

1. In a circuit closer for railway signals, the combination with a rail of a railway track and a pivoted lever arranged to be actuated by a passing train, of a contact carried thereby forming one terminal of the circuit, a swinging terminal having a bifurcated extension in which the lever contact is placed, and an insulated section on the swinging terminal substantially as described.

2. In a circuit closer for railway signals, the combination with a lever adapted to be actuated by a passing train, of a contact on the lever, and a swinging bifurcated contact having an insulated section with which the lever contact normally engages, substantially as described.

3. In a circuit closer for railway signals, the combination with a lever adapted to be actuated by a passing train, of a contact on the lever, a swinging bifurcated contact having an insulated section with which the lever contact normally engages, a pivotal support for said swinging contact, and a spring pressing against said swinging contact, substantially as described.

4. In a circuit closer for railway signals, the combination with a lever arranged to be actuated by a passing train, an electrical contact carried by the lever, and a spring-pressed swinging terminal formed with a recess having an insulated wall section with which the contact normally engages, and a terminal wall section with which the contact engages upon the movement of the lever, substantially as described.

5. In a circuit closer, the combination with a rail of a railway track and an actuating lever arranged to be operated by a passing train, of a contact on the lever, a terminal loosely mounted and having a recess into which the contact projects, insulating material at one side of the recess, and means for limiting the movement of the terminal to the movement of the contact, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. FILDES.

Witnesses:

GEORGE D. HUNTER,

CHRISTOPHER DAY.