914,611.

T. W. STANAGE.

RAILWAY SIGNALING MEANS.

APPLICATION FILED JULY 13, 1908.

Patented Mar. 9, 1909.

2 SHEETS—SHEET 1.

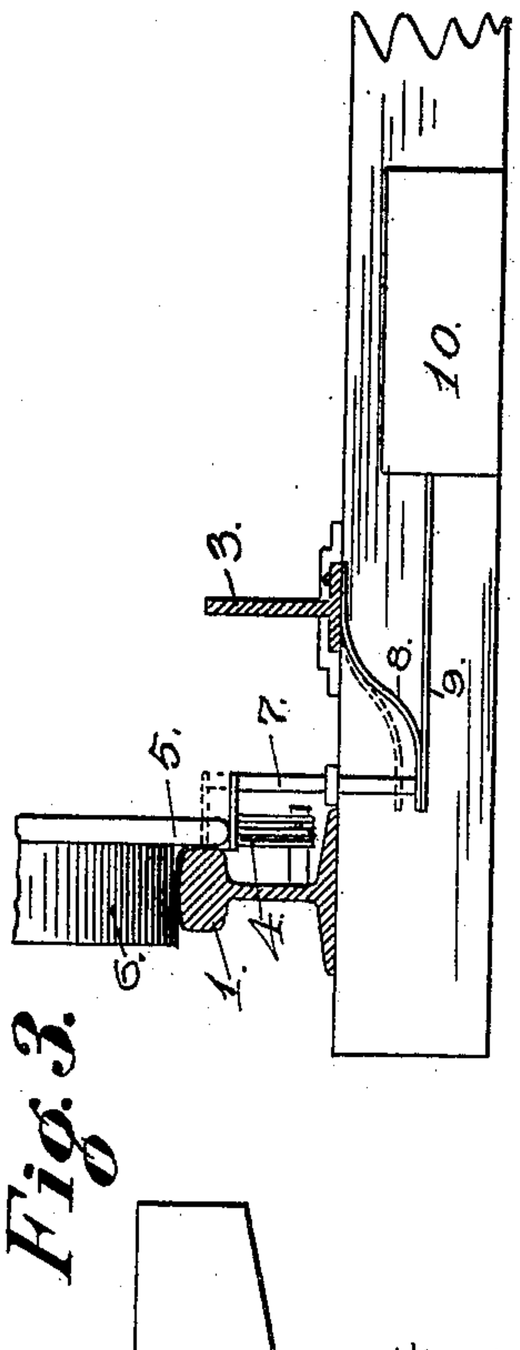
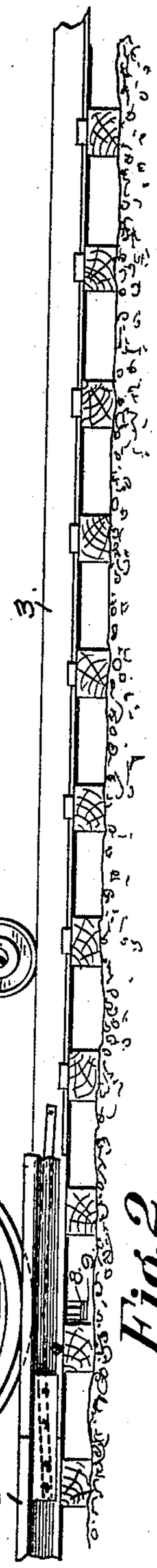


Fig. 3.



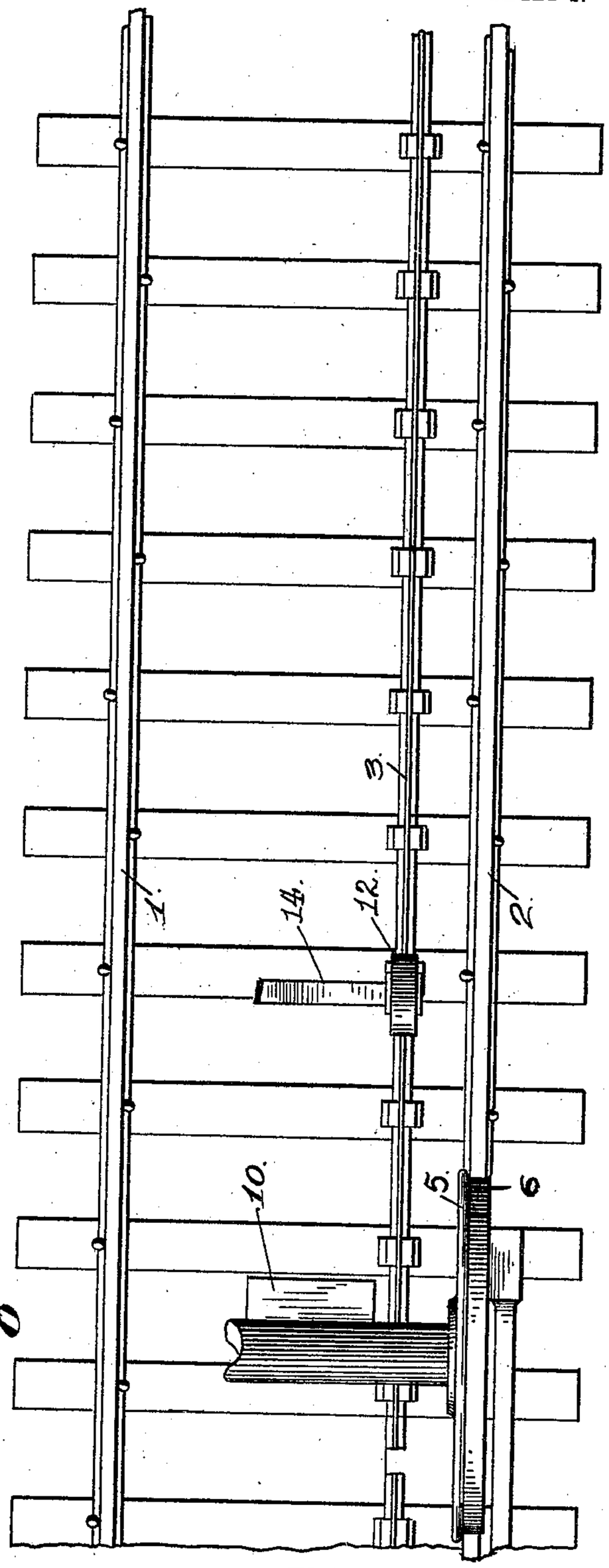


Fig. 2.

Fig. 1.

WITNESSES.

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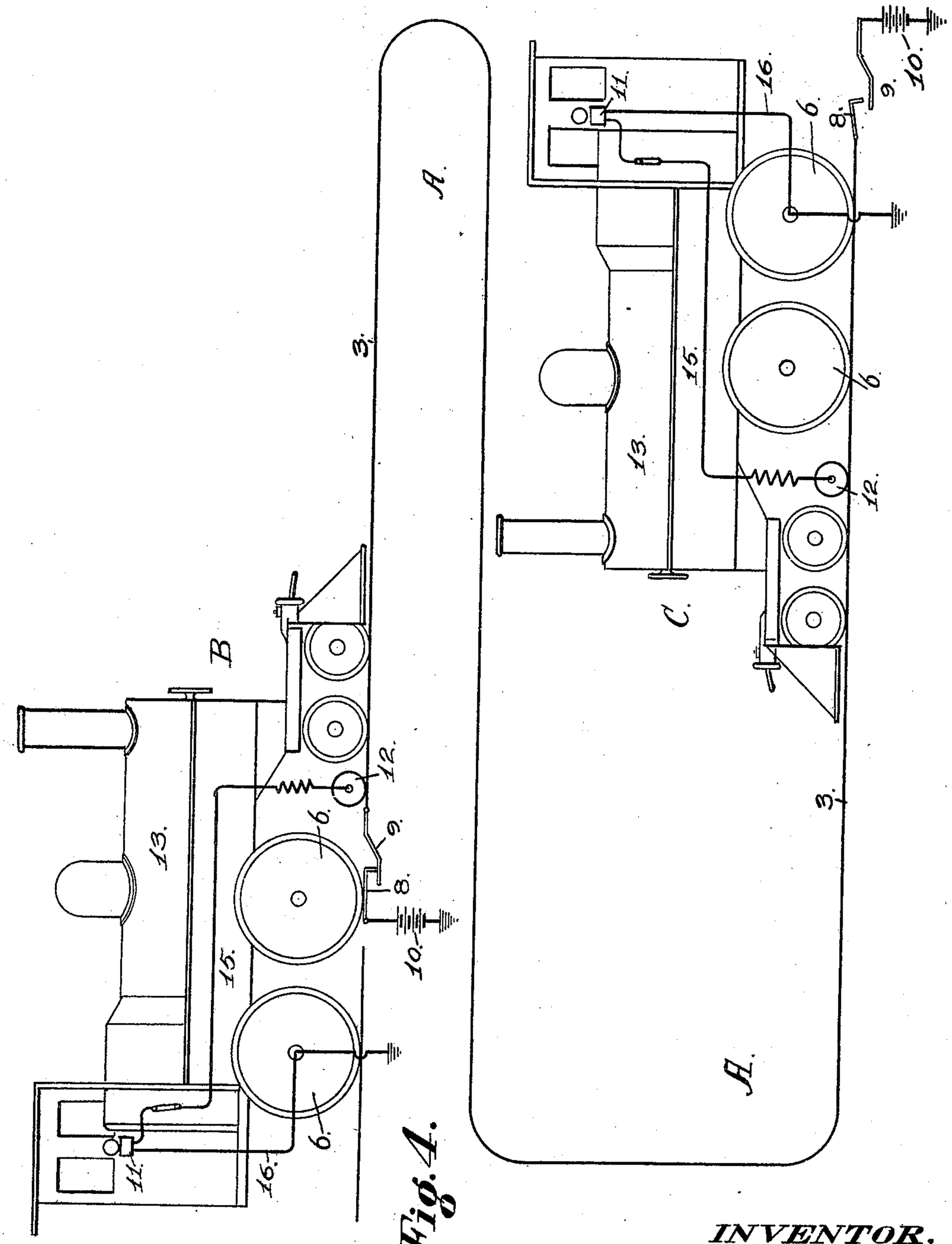

Fig. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

THOMAS W. STANAGE, OF PORTERVILLE, CALIFORNIA, ASSIGNOR OF ONE-HALF TO AUBREY M. LUMLEY, OF PORTERVILLE, CALIFORNIA.

RAILWAY SIGNALING MEANS.

No. 914,611. Specification of Letters Patent. Patented March 9, 1909.

Application filed July 13, 1908. Serial No. 443,239.

To all whom it may concern:

Be it known that I, THOMAS W. STANAGE, a citizen of the United States, residing at Porterville, in the county of Tulare and State of California, have invented certain new and useful Improvements in Railway Signaling Means, of which the following is a specification.

The present invention relates to an improved railway signaling means for use in connection with railways generally, for enabling the engineer of one train, within a block of the railway system, to ascertain the entrance of another train into the same block, irrespective as to whether the trains are moving in the same direction on a single track, or approaching from opposite direction.

The object to be accomplished by the invention, is notification to an engineer of a train within a block, the moment a second train enters into the same block, so that the engineer receiving such notification as to the approach of a second train into the block within which his train is located, may, by means of suitable mechanism forming no portion of the present invention, designate to the engineer of such approaching train, the fact as to the presence of his train within such block.

To comprehend the invention, reference should be had to the accompanying sheets of drawings, wherein:—

Figure 1 is a broken detail view of a road-bed with the current rail in position, said view illustrating one of the contact switches, and a portion of a locomotive positioned thereon; also the trolley carried thereby, in contact with the current rail. Fig. 2 is a plan view of the feature disclosed in Fig. 1 of the drawings, the frame portion of the locomotive therein illustrated, being broken away. Fig. 3 is a detail view of one of the contact switches in closed position, the open position thereof being indicated by dotted lines. Fig. 4 is a diagrammatic view illustrating the application of the invention.

In the drawings, the numerals 1—2 designate the usual rails of a railway, and 3 what I shall term the current rail, which rail is situated inside of and parallel to the rail 1, the same extending the entire length of the railway. The current rail 3 is broken at given intervals throughout the length thereof, and at such points is located a hinged switch plate 4, which is positioned to be engaged by the flange 5 of the wheels 6, traveling over the rail 1. The switch plate 4 is provided with a depending extension 7, so that when the same is depressed by an engine or car wheel 6 passing thereover, engagement is made with the flexible contact or switch plate 8, secured to and extended laterally from the current rail 3 at such point, Fig. 3 of the drawings. As contact is made with said flexible switch plate 8, the same is depressed to engage the contact plate 9, extended from the battery box 10, so as to close the circuit at such point between the battery and the current rail 3, which circuit is completed to an electric signal bell 11, located in the cab of a locomotive, through the medium of the trolley wheel 12, suspended from the locomotive 13 by the trolley pole 14, connection between said pole and the signal bell 11, being made by the wire 15. The grounding of the said circuit is through the frame of the locomotive, to which the return wire 16, leading from the signal bell 11, is connected. Thus, as each of the wheels 6 of the locomotive and the cars of the train traveling over the rail 1 close the contact switch by depressing the switch plate 4, the circuit is completed and the signal bell 11 within the cab of the locomotive operated to sound an alarm or signal, indicating to the engineer that he is passing within a block. After the entire train has passed into the block, the circuit remains open and the signal bell within the cab ceases to ring. However, in case of a second train entering a block occupied by a train or locomotive, then the circuit completed by such second train moving into the block, not only rings the signal bell, within the cab of its locomotive, but, inasmuch as the momentarily closed circuit energizes the section of the current rail 3 within such block, also the signal bell in the cab of the locomotive of the train within the block, and thus notifies the engineer of such train as to the approach of an oncoming train. In this manner, the last train to enter a block of the railway system, signals the fact to the engineer of a train within the same block, giving the engineer of the first train an opportunity, by the employment of suitable means not herein shown, to notify the engineer of the oncoming train of his presence within the same block.

In the diagrammatic illustration contained in Fig. 4 of the drawings, two locomotives 13 are disclosed within a given block, section A of the railway; said locomotives representing respectively, an incoming train B and, a train C within the block section A. The incoming train B is illustrated as entering the block section A, and closing the contact switch, the closing of which switch completes the circuit for actuating the signal bell within the cab of the locomotive of such train, and at the same time energizes the current rail or connection 3, so as to operate the signal bell 11, located in the cab of the engine of the train within the said block section; thereby indicating to the engineer of such train, that another train has entered into the block or section within which he is running or located.

Each block section comprises in length the usual number of miles allowed for a block, consequently, the engineer of a train within a block section is made aware on his signal bell ringing, after having passed into a block, that an approaching train is somewhere within a given distance of his train, and is thereby cautioned to signal the fact to the oncoming train as to his presence within such block.

The described invention is simple of construction, inexpensive as to installation and maintenance, and positive in its working.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:—

1. In a railway block signaling system for indicating to the engineer of a train within any block of the system, the entrance of an oncoming train therein, the same comprising a current connection or rail extended the length of the system parallel to the rails thereof, contact connections with the said current rails at pre-determined points throughout the length thereof indicative of block sections, a switch adjacent each contact connection for closing the same as a train passes thereover, said switch being depressed by the wheels of the train, and means thrown into action in the passing of a train over said contacts for operating a signal within the cab of the engine.

2. In a signal system of the described character, the combination with a current rail arranged parallel to the rails of a railway system throughout the length thereof, contact switches associated with said current rail at pre-determined points throughout the length thereof indicative of block sections, a trolley carried by an engine and engaging with the current rail, connections between said trolley and a signal bell located in the engine, and a movable device adjacent the contact switches actuated by the wheels of an engine passing thereover, to close the contact switches and establish a circuit for operating the signal bell of the engine passing thereover and the signal bell of an engine within such section of the current rail.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS W. STANAGE.

Witnesses:
AUBREY M. LUMLEY,
GEO. G. MURRY.