No. 892,882.

PATENTED JULY 7, 1908.

J. PERNAT & J. KERKOWITZ.

ELECTRIC SAFETY SIGNAL FOR RAILWAYS.

APPLICATION FILED JAN. 25, 1908.

2 SHEETS—SHEET 1.

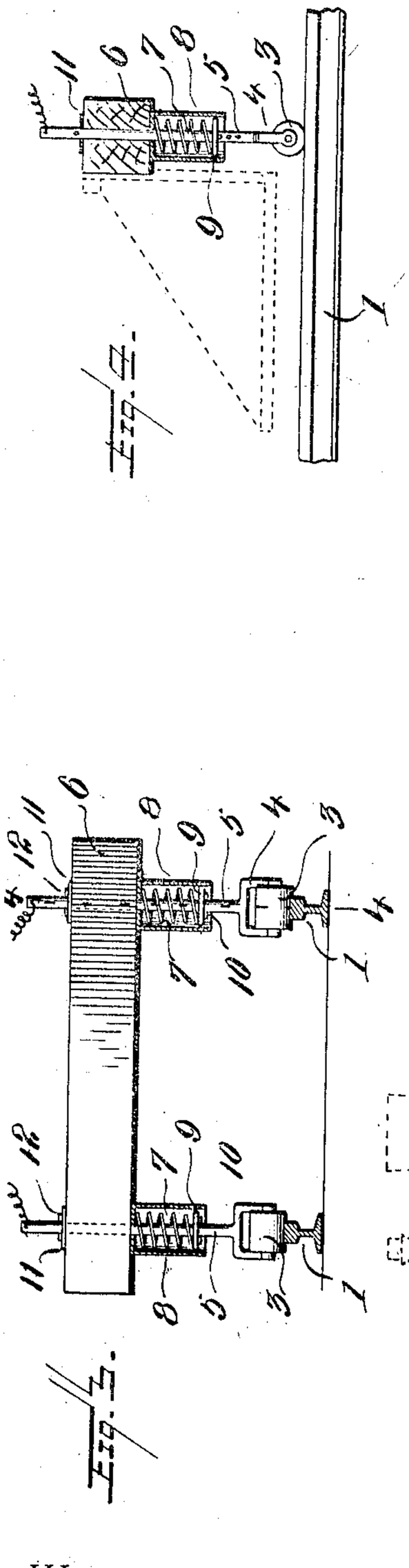

Fig. 4.

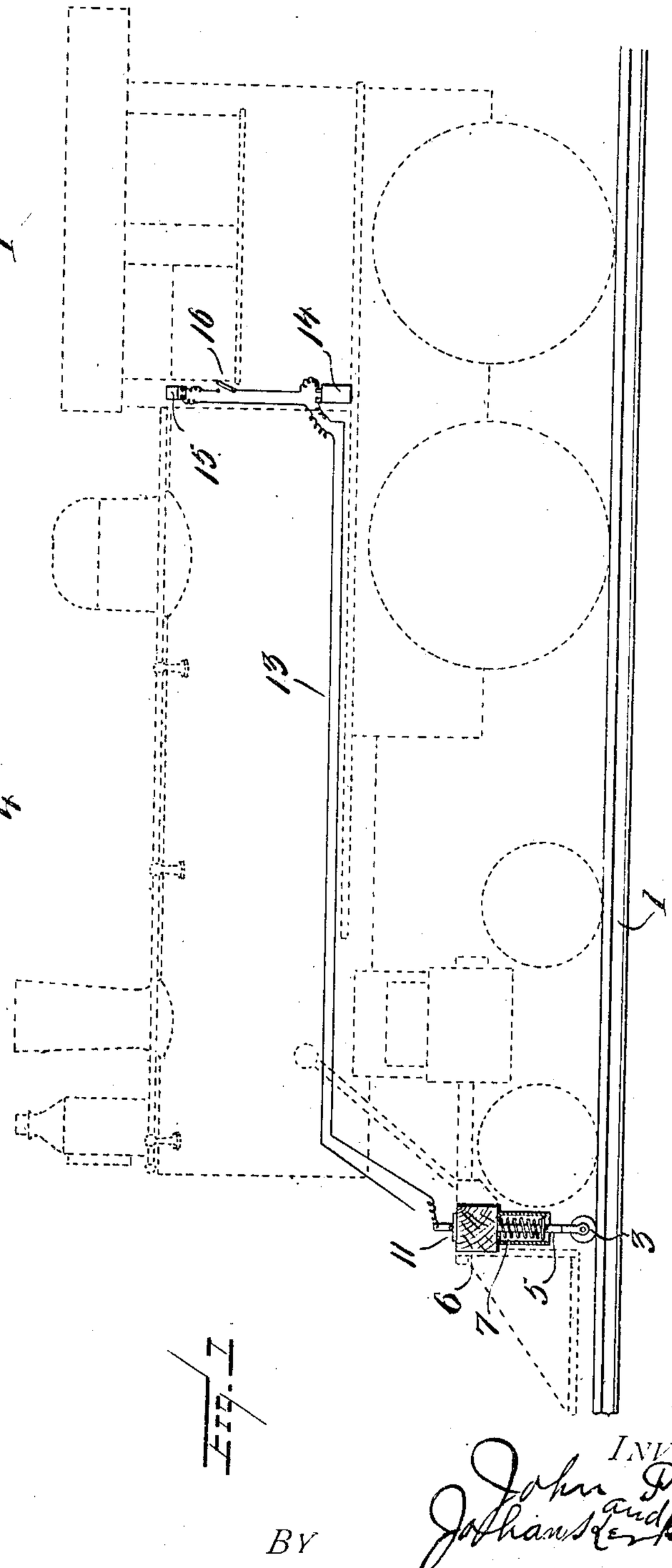

Fig. 5.

Fig. 6.

Fig. 7.

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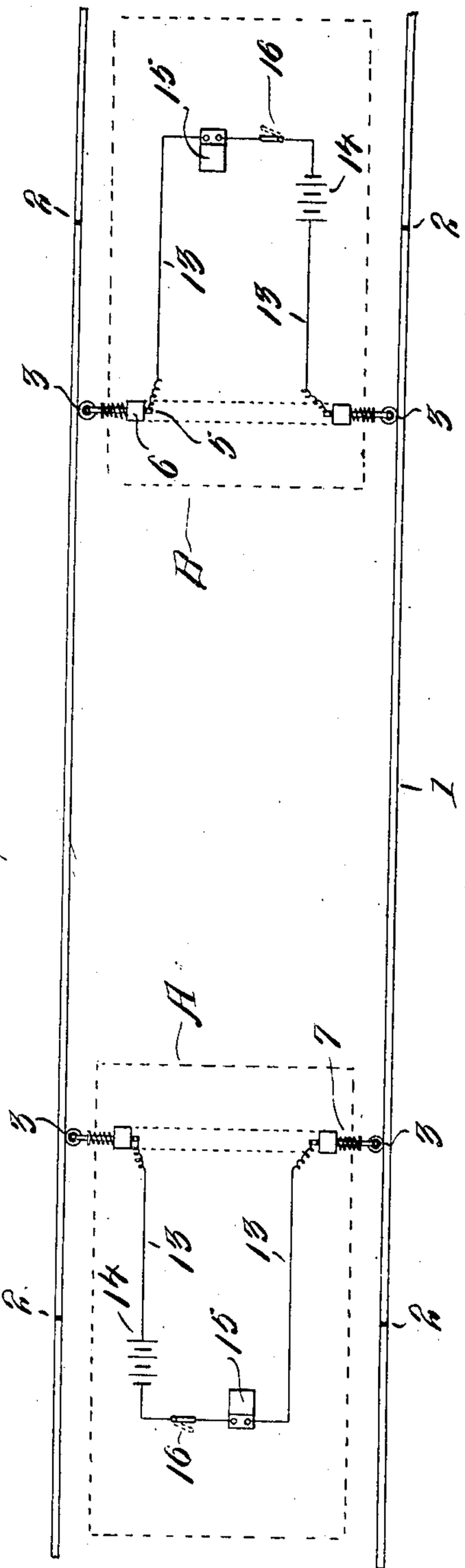

Fig. 5.

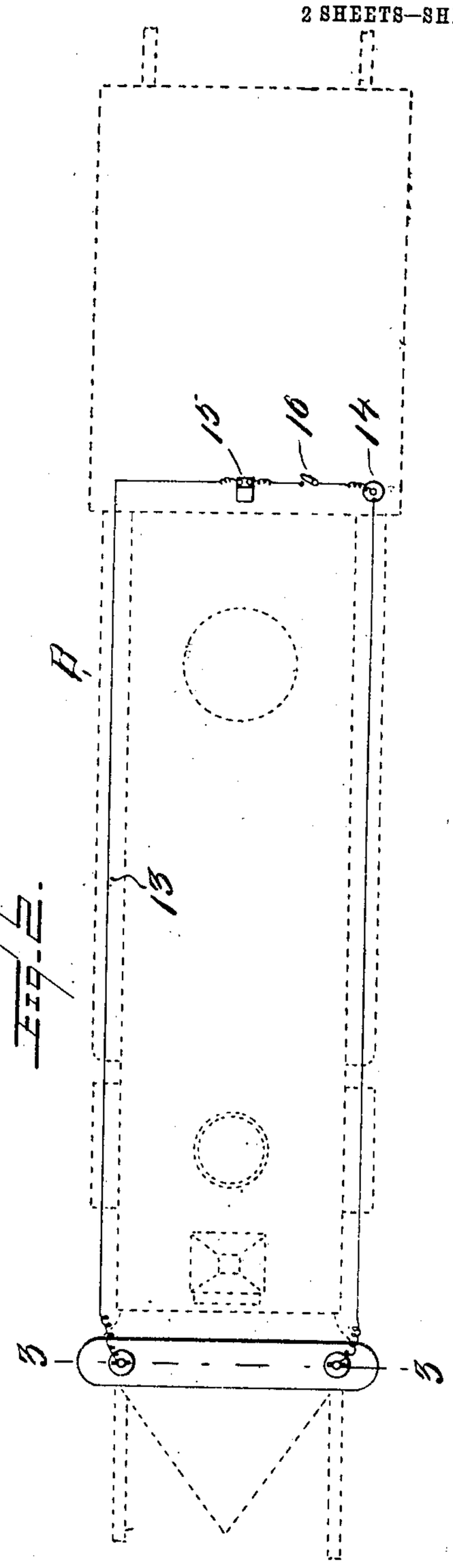

Fig. 2.

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ELECTRIC SAFETY-SIGNAL FOR RAILWAYS.

No. 892,882. Specification of Letters Patent. Patented July 7, 1908.

Application filed January 25, 1908. Serial No. 412,604.

To all whom it may concern:

Be it known that we, JOHN PERNAT and JOHAN KERKOWITZ, citizens of United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Electric Safety-Signals for Railways, of which the following is a specification.

Our invention relates to electric safety signals for railways, and it consists of the features of novelty hereinafter fully described and claimed.

The object of the invention is to provide a simple, inexpensive and reliable electric signal in which alarm devices on approaching locomotives will be simultaneously operated the instant the locomotives enter the same block or section of the track so that the engineers will be notified of the approach of another train.

The above and other objects of the invention are attained in its embodiment illustrated in the accompanying drawings in which:—

Figure 1 is a view partly in elevation and partly in section of our improved signal apparatus showing the same arranged on a locomotive which latter is indicated in dotted lines; Fig. 2 is a top plan view of the same; Fig. 3 is a vertical section on the line 3—3 in Fig. 2; Fig. 4 is a detail section on the line 4—4 in Fig. 3; and Fig. 5 is a diagrammatical view illustrating the electric circuit.

In the practice of our invention we divide the railway track 1 into blocks or sections which are insulated from each other as at 2, and we provide upon each locomotive or other vehicle that travels over the track, two electrical contact members in the form of wheels or rollers 3 adapted to engage the track rails. The wheels 3 are journaled in the forked lower ends 4 of rods 5 arranged for vertical sliding movement in a beam 6 on the locomotive. Said wheels are pressed in contact with the rails 1 by coil springs 7 which surround the rods 5 and are arranged in cylindrical tubes 8 depending from the beam 6 and adapted to serve both as casings for said springs and as guides for the lower portions of said rods. Said springs have their upper ends bearing against the closed upper ends of the tubes 8 and their lower ends bearing against circular collars 9 which slide within the said tubes and are retained in position upon said rods by cross pins 10. The downward movement of the rods is limited by similar collars 11 and cross pins 12 located upon the projecting upper ends of the rods 5.

Upon each locomotive we also provide a normally open electric circuit 13 in which are included a battery 14 or other electric generator, an electrically operated alarm or signal 15, a switch 16 and the two contact members or wheels 3. The alarm or signal 15, may be an electric bell or buzzer, an electric light or any other audible or visual signal; and it is located in the locomotive cab, as is also the generator 14 and the switch 16 which latter may be of any suitable type that will enable the circuit to be broken at the will of the engineer. The terminals of the conductors of the circuit 13 are attached to the upper ends of the rods 5 as shown in Figs. 2 and 3.

The operation of the invention will be readily understood upon reference to Fig. 5 in which two locomotives indicated at A and B are in the same block or section of the track so that the open circuit 13 on each one will be completed through the other locomotive and the intermediate track rails. When the two locomotives enter the same block moving either towards each other or in the same direction, both of the signals 15 will be operated to notify both engineers of danger and said signals will continue to operate until one of the locomotives leaves the block.

Having thus described our invention what we claim is:—

In an electric signal for railways, the combination with track rails divided into insulated blocks or sections, of a locomotive or the like, a wooden cross beam upon the locomotive and formed adjacent to its ends with vertical openings, bars vertically slidable in the openings in said beam and having their lower ends forked, contact wheels journaled in said forked ends of the bars and adapted to run upon the track rails, tubular guide casings surrounding the rods and depending from the bottom of said beam, lower collars upon the portions of the rods within the guide casings and adapted to slide within the latter to guide said rods, cross pins in said rods for limiting the downward movement of said collars, coil springs within the casings and upon said rods, said springs having their upper ends engaged with the bottoms of said casings and their lower ends with said lower

collars, upper collars upon the rods above said beams, cross pins in said rods for limiting the upward movement of the upper collars, an electric generator, an electric signal, a switch, and electrical conductors connecting said rods, said generator, said signal and said switch, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN PERNAT.
JOHAN KERKOWITZ.

Witnesses:
J. D. YOAKLEY,
W. P. PRESTON.