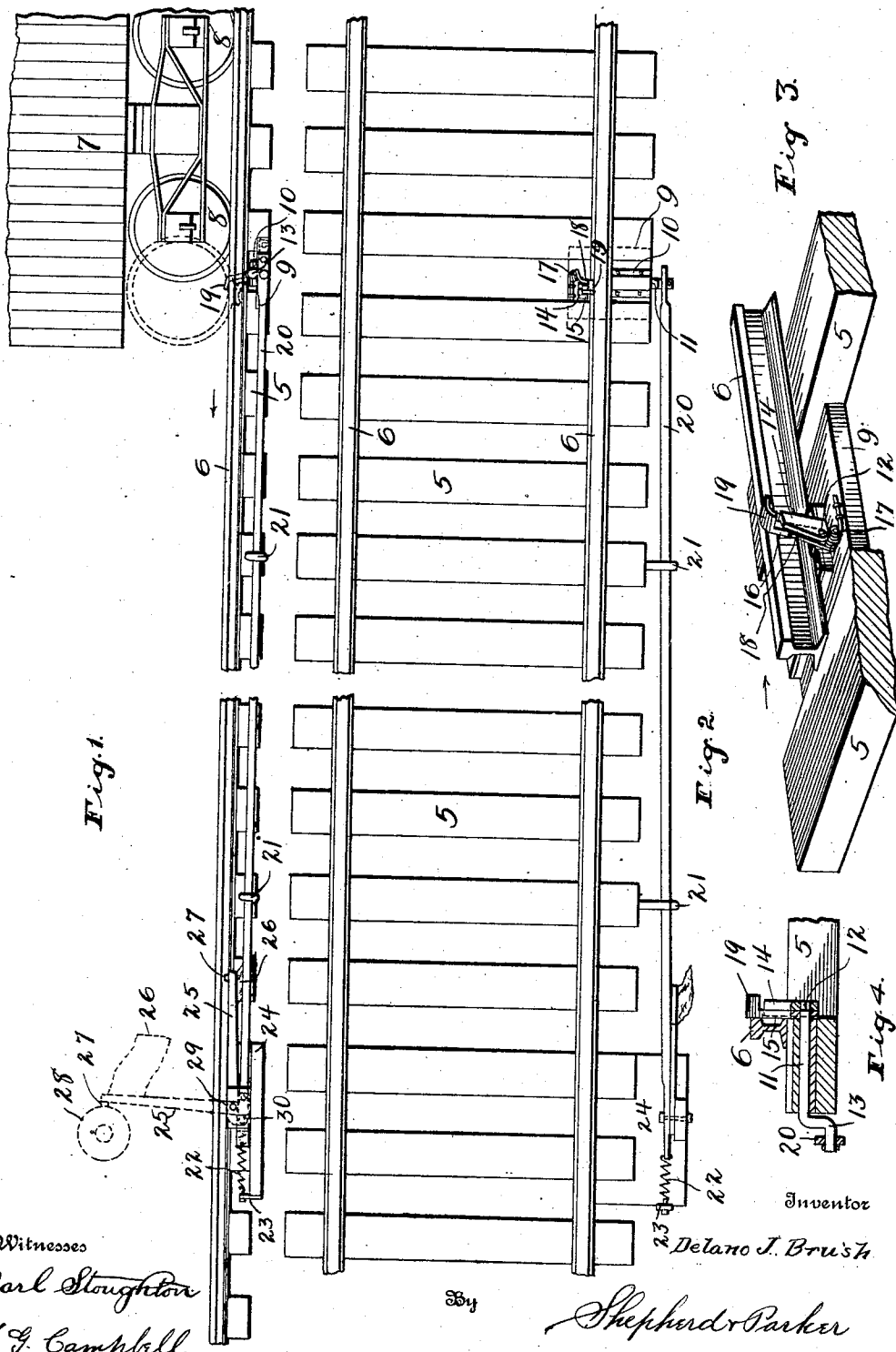


No. 849,046.

PATENTED APR. 2, 1907.

D. J. BRUSH.  
RAILWAY CROSSING SIGNAL.  
APPLICATION FILED OCT. 29, 1906.



Witnesses  
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# UNITED STATES PATENT OFFICE.

DELANO J. BRUSH, OF COLUMBUS, OHIO.

## RAILWAY-CROSSING SIGNAL.

No. 849,046.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed October 29, 1906. Serial No. 340,953.

*To all whom it may concern:*

Be it known that I, DELANO J. BRUSH, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Railway-Crossing Signals, of which the following is a specification.

My invention relates to a railway-crossing signal, and has for its object the provision of a device of this character adapted to be actuated by the wheels of a train and constructed in such manner as to effectually attract the attention of persons approaching the crossing.

A further object of the invention is the provision of a device of the character described constructed in such manner as to wave a flag at the crossing some time ahead of the arrival of the train at said crossing.

Further objects and advantages of the invention will be set forth in the detailed description, which now follows:

In the accompanying drawings, Figure 1 is a side elevation of the device constructed in accordance with the invention. Fig. 2 is a plan view. Fig. 3 is a detail perspective view of the actuating mechanism which is engaged by the car-wheels, and Fig. 4 is a detail sectional view through said mechanism.

Like numerals designate corresponding parts in all of the figures of the drawings.

Referring to the drawings, the numerals 5 designate the usual ties, and 6 the rails comprising a railroad-track. A car 7 is mounted upon wheels 8 in the usual and well-known manner. These wheels serve to actuate the signal, as will be hereinafter described. Mounted upon a block 9 are bearing-plates 10. A shaft 11, having an angular inner end 12, is mounted to turn in the bearings provided by the plates 10. A crank 13 is formed upon the outer end of this shaft. An arm 14 is secured upon the angular end of the shaft 12 and moves therewith, said arm 14 being provided with a flange 15, which extends toward the rail and lies behind an arm 16, which is loosely mounted upon the shaft 11. A spring 17, carried by the block 9, has its free end 18 bearing against the arm 16 to normally hold said arm against the flange 15 of the arm 14. The upper end of the arm 16 is provided with a rounded lug 19, which is adapted to be engaged by the car-wheels when the train is moving in the direction of the arrow in Fig. 3.

The crank 13 engages with a rod or bar 20, which is slidably disposed in keepers 21, which may be carried by the ties or may be supported in any other convenient manner. At its forward end the rod 20 is connected to a spring 22, said spring being in turn secured to a fixed plate 23, which is carried by a block 24. An oscillatory arm 25 carries a flag (indicated at 26) upon its outer end. This arm is provided with a striking-lug 27, which is adapted to strike against a bell 28 when the arm is thrown to the position illustrated in dotted lines in Fig. 1. This arm is pivoted, as at 29, and is pivotally connected, as at 30, to the bar 20.

The operation of the device is as follows: When the train is moving in the direction of the arrow in Fig. 1 or in the direction of the arrow in Fig. 3, as the case may be, the wheels of the train strike in rapid succession against the lug 19. This throws the arm 16, by which said lug is carried, over to the dotted-line position illustrated in Fig. 1 and throws the bar 20 to the right, the engagement of the arm 16 with the flange 15 of the arm 14 imparting movement to the crank 11, as will be readily understood. When the bar 20 is thrown to the right, the arm 25 is thrown to the dotted-line position illustrated in Fig. 1 by virtue of the engagement of the rod 20 with the pivot 30 of said arm. It is apparent that this movement of the rod 20 will be against the tension of the spring 22. As soon as a wheel clears the lug 19 the spring 22 acts to throw the parts to their original position in readiness to again repeat the operation. It is apparent, therefore, that a rapid oscillatory movement will be imparted to the arm 25. This will result in waving the flag 26 before approaching pedestrians or vehicles and will warn them that a train is approaching the crossing. The lug 27, striking against the bell 28, also serves as a warning. It is a well-known fact, however, that many deaf persons have been killed at railroad-crossings when bells alone have been relied upon to warn them of the approach of a train, and for this reason it is desirable to provide a visual signal which will be actuated in so positive a manner that it will certainly be seen. The waving flag provided by my structure is particularly adapted to serve this purpose, for it gives a warning which all who see it will readily understand. It would not be feasible to rely upon a semaphore or like device to accomplish this purpose, for to do

so would render it necessary that all persons should be familiar with the meaning indicated by the position of the semaphore.

It will be seen that the signal will only be  
5 actuated when the train is approaching the crossing. When the train is moving away from the crossing, the wheels strike the front edge of the lug 19, and the arm 16 is thrown over against the tension of the arm 18 of the  
10 spring 17 without actuating the arm 14.

It will of course be understood that these actuating mechanisms may be arranged upon both sides of the crossing and far enough away from the crossing to give reasonable  
15 notice of the approach of the train.

What I claim is—

1. In a device of the character described, the combination with an oscillatory arm, of  
20 a signal adapted to be actuated by said arm, a rod connected to said arm and adapted to impart movement thereto, a spring for imparting movement to said arm in one direction, a crank to which one end of the rod is  
25 connected, a shaft to which said crank is connected, a fixed arm carried by said shaft, and

an arm loosely mounted upon said shaft and adapted to be actuated by the wheels of a train.

2. In a device of the character described, the combination with an oscillatory arm, of a  
30 signal adapted to be actuated by said arm, a rod connected to said arm and adapted to impart movement thereto, a spring for imparting movement to said arm in one direction, a crank to which one end of the rod is  
35 connected, a shaft to which said crank is connected, a fixed arm carried by said shaft, an arm loosely mounted upon said shaft and adapted to be actuated by the wheels of a  
40 train, and a spring normally tending to throw the last-named arm into such position that it will be engaged by the wheels of a train.

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

DELANO J. BRUSH.

Witnesses:

FRANK G. CAMPBELL,  
A. L. PHELPS.