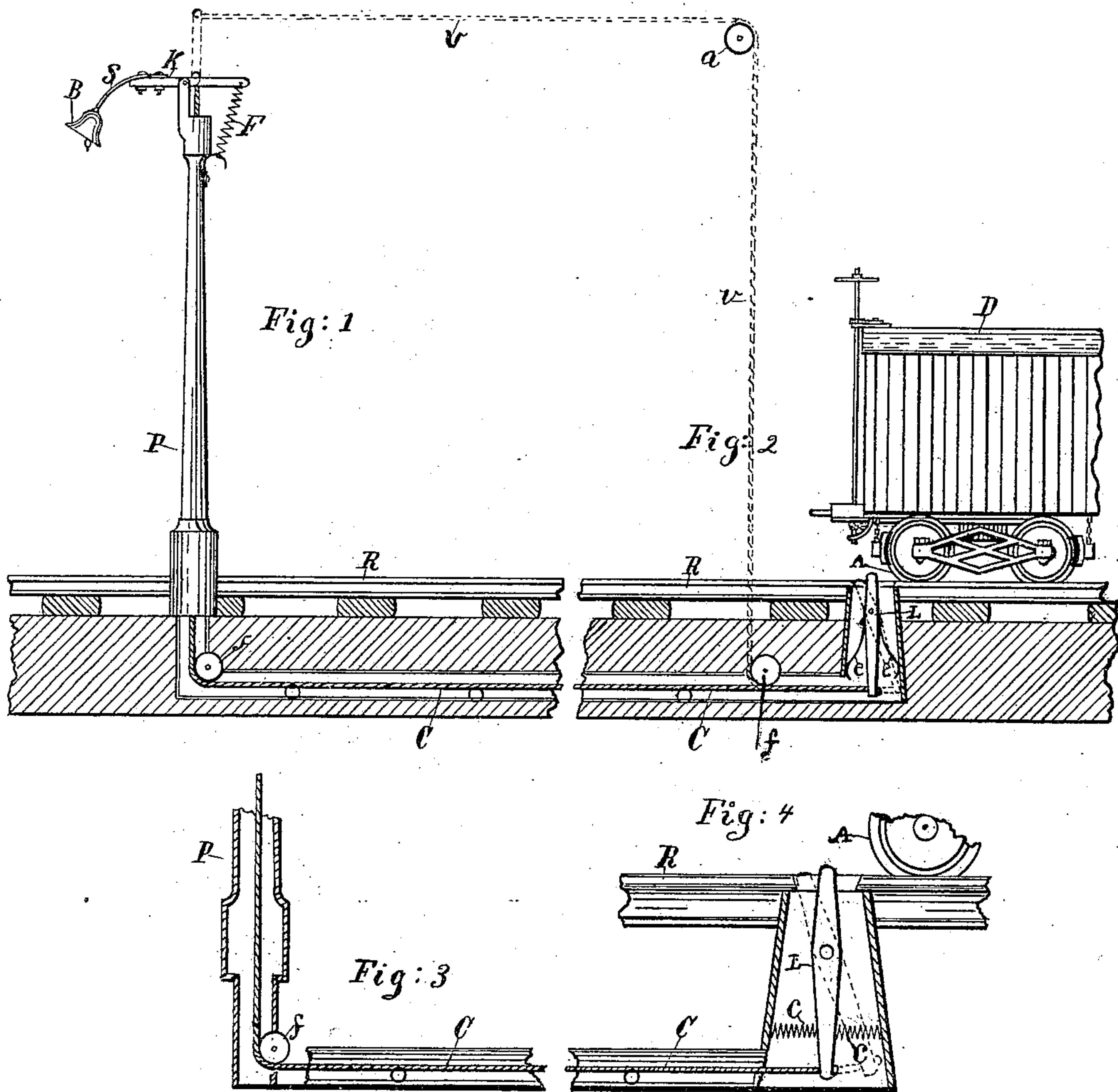


M. A. VOSBURGH.  
Danger-Signal.

No. 228,232.

Patented June 1, 1880.



Attest:

Inventor:

J. S. Perkins.

Marie A. Vosburgh.

H. L. Brownell

Per: Lucius C. West.

Atty.

# UNITED STATES PATENT OFFICE.

MARIE A. VOSBURGH, OF KALAMAZOO, MICHIGAN.

## DANGER-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 228,232, dated June 1, 1880.

Application filed January 8, 1880.

*To all whom it may concern:*

Be it known that I, Mrs. MARIE A. VOSBURGH, of Kalamazoo, county of Kalamazoo, State of Michigan, have invented new and useful Improvements in Danger-Signals, of which the following is a specification.

The object of my invention is the construction of a device for warning pedestrians at street-crossings of an approaching train of cars, also at dangerous curves and cuts along the line of a railroad, making it possible for one train to warn another approaching in an opposite direction, thus often preventing collisions. In connection with proper contrivances it may also be of utility in acquainting hotels and stations of an incoming train.

Its construction consists in a post or frame having a bell stationed at the top, from which bell connection is made, by means of a rope or chain, to a lever, which lever is acted upon by the wheels of the cars as they pass the point where it is located.

In the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate like parts, Figures 1 and 2 are perspective views of my invention, showing mode of operation; and Figs. 3 and 4 are enlarged sectional views, showing an equivalent feature of construction.

B is the bell, secured to a flat bar of metal, S, which allows the bell to vibrate after operating upon the same through the treadle-lever has ceased. This bar is fastened to lever K, which is pivoted to a standard on post P.

To this lever the rope or chain C is connected. F is a spiral spring, which holds the lever K in position and allows it to vibrate. One or more of these springs may be used, if desirable, on either side of post P.

The post P is made hollow to receive the rope or chain C; but in place of it a frame may be substituted, or the rope may be located outside of the post.

In Figs. 1 and 2, below rails R R of the road, it will be observed that a sectional view is shown, illustrating the location of rope C below the surface of the ground in a spout inclosure for the same. *f* in Figs. 1 and 2 illustrates pulleys in which rope C runs when turning angles. If deemed more practicable, the

rope may be elevated on posts above the ground, as illustrated by dotted lines *v v*, and pulley *a*, where a post may be stationed.

L is a lever located in a perpendicular position, the upper end being inserted in an open mortise in the side of a rail of the track, and projecting a little distance above the upper face of the rail, said lever being pivoted, upon which pivot it turns at a point which will allow its upper end, when acted upon by the wheels of a car, to traverse an ellipse of a distance, when contrasted with the length of the ellipse traversed by the lower end of said lever at the same time, as the ratio of two is to four, at the same time allowing the uppermost portion of the top of lever L to be brought on a level with upper surface of the rail. This lever L is provided with springs *e e*, one end of which is secured to the opposite edges of lever L near point of pivoting, and the other ends engage, with an easy friction, perpendicular standards or sides of the chest or inclosure surrounding said lever, which may be supplied to protect the same from the weather.

When the train approaches the signal, wheels A move lever L in a position indicated by dotted lines in Figs. 2 and 4, springs *e e* bringing the lever to a perpendicular position as every wheel passes over, by which means, as the rope C is fastened to the lower end of lever L, the bell B is kept ringing till the whole train has passed lever L, and by the use of bar S and springs F, as before specified, the bell continues to ring for a time afterward. By this arrangement a train of cars moving in the opposite direction will not ring the bell, as the rope C is slackened by lever L moving in the opposite direction; hence a signal on each side of a crossing will be necessary.

The lever L may be located at any distance the most practicable from the post P, the divisions between Figs. 1, 2 and 3, 4, respectively, illustrating an unlimited distance.

In Fig. 4, *c c* show an equivalent spring, which may be used in place of spring *e e* in Fig. 2.

I do not claim to be the first inventor of a railroad-signal constructed with a bell in connection with devices to be acted upon by the wheels of a car for the purpose of ringing the



same, but of an improved method of gearing the bell, and of improvements in the devices upon which the wheels act, as herein specified; hence I do not claim a railroad danger-signal  
5 operated by the car-wheels and using a bell, broadly; but

What I claim is—

1. The lever K, in combination with lever L, provided with springs *e e* or *c c*, engaging  
10 standards, as shown, all substantially as set forth, for the purpose specified.

2. Lever L, provided with springs *e e* or *c c*, engaging standards, as shown, and lever K,

provided with spring F, all constructed, arranged, and combined with the wheels of a 15 railroad-car, substantially as specified and shown, for the purpose set forth.

3. The combination of lever L, when provided with springs *e e* or *c c*, which engage standards, as shown, with lever K, when provided with springs F, one or more, all as  
20 and for the purpose set forth.

MARIE A. VOSBURGH.

Witnesses:

MARIE HORN,  
JOHN GALLIGAN.