

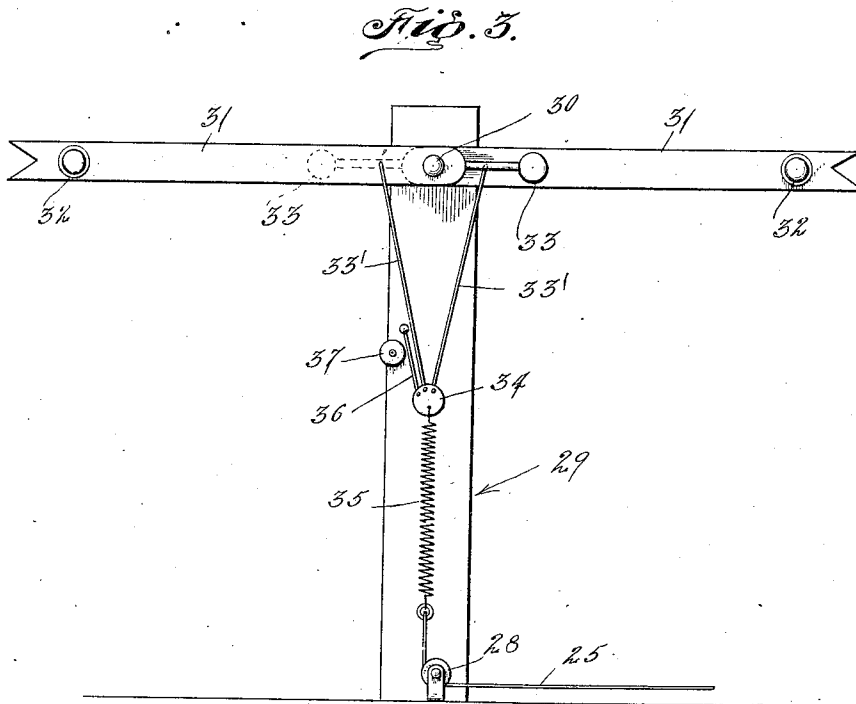
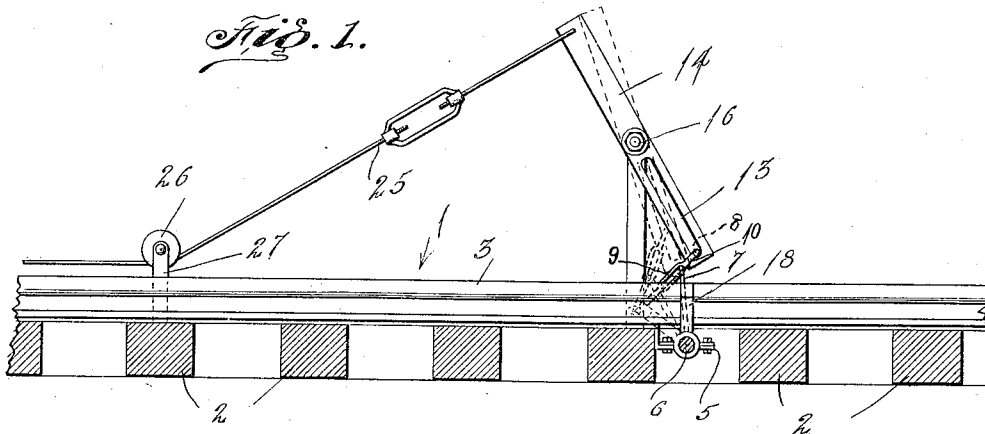
E. S. GARRETT.
RAILWAY CROSSING SIGNAL.

APPLICATION FILED NOV. 23, 1910. RENEWED FEB. 21, 1913.

1,060,544.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 1.



Witnesses
J. A. Howard.

Inventor
Edward S. Garrett
By *W. H. Chandler* Attorney

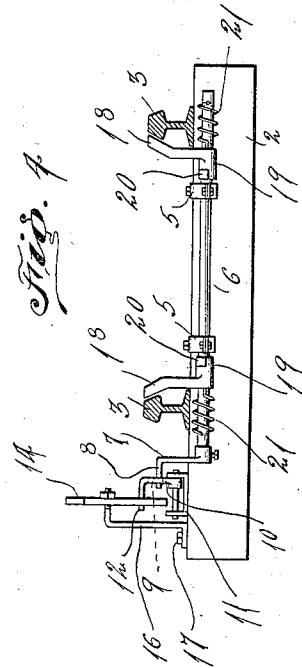
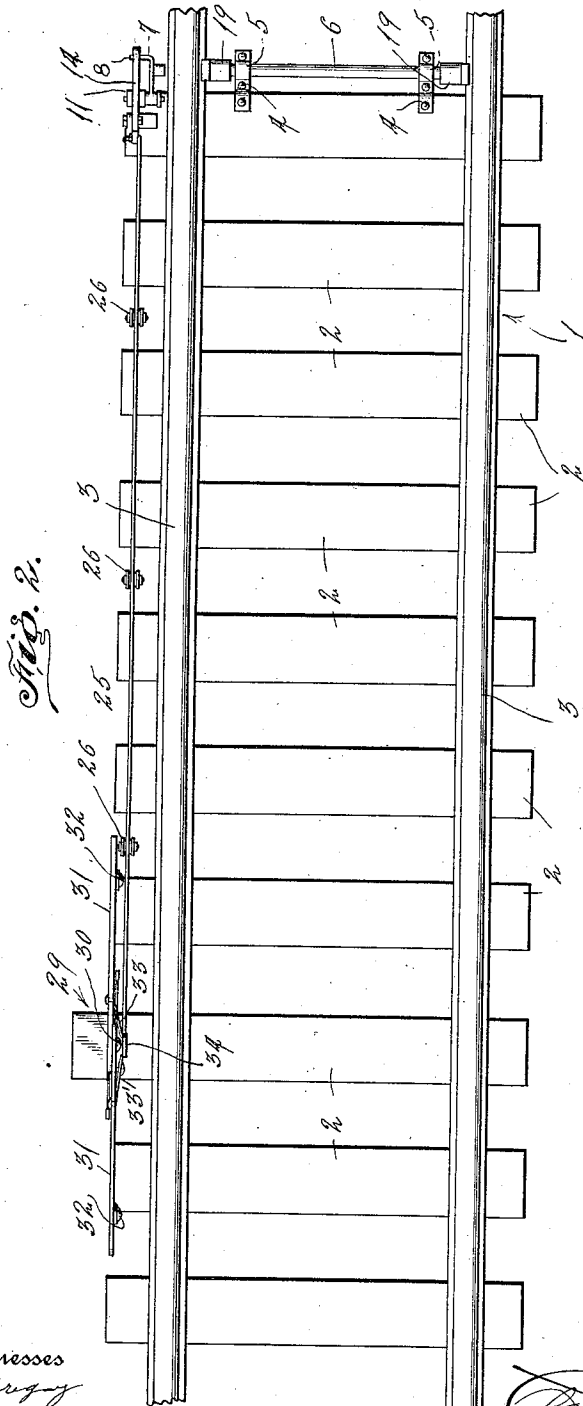
E. S. GARRETT.
RAILWAY CROSSING SIGNAL.

APPLICATION FILED NOV. 23, 1910. RENEWED FEB. 21, 1913.

1,060,544.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 2.



Witnesses
Jas. G. Howard
F. C. Howard

By

Inventor
Edward S. Garrett
Edward S. Garrett
Attorneys

UNITED STATES PATENT OFFICE.

EDWARD S. GARRETT, OF FARMLAND, INDIANA, ASSIGNOR OF ONE-HALF TO CHARLES O. FLEMING, OF HARTFORD CITY, INDIANA.

RAILWAY-CROSSING SIGNAL.

1,060,544.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed November 23, 1910, Serial No. 593,961. Renewed February 21, 1913. Serial No. 750,038.

To all whom it may concern:

Be it known that I, EDWARD S. GARRETT, a citizen of the United States, residing at Farmland, in the county of Randolph, State of Indiana, have invented certain new and useful Improvements in Railway-Crossing Signals; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to railroad crossing signals and more particularly to a combined visible and audible signal and my object is to improve the construction and increase the efficiency of devices of this character.

With the above and other objects in view, the invention consists primarily in a rock shaft journaled beneath the rails, arms on said shaft adapted to be moved by the passage of a train to rotate said shaft, a signal column having a pair of pivoted semaphore arms and a gong, and a connecting cable between the column and the rock shaft.

The invention further consists in a certain construction, combination and arrangement of parts which will be hereinafter more fully described, specifically pointed out in the appended claim and shown in the accompanying drawings which are attached to and form a part of this application.

Referring to these drawings, which are illustrative of a preferred embodiment of the invention, Figure 1 is a side elevation of the rock shaft and multiplying linkage showing the method of securing the same to the road bed. Fig. 2 is a plan view of the same. Fig. 3 is a front elevation of the signal column and, Fig. 4 is a transverse sectional view of the road bed showing the construction of the rock shaft and its co-acting parts.

Referring more specifically to these views, in which similar reference numerals designate corresponding parts throughout, 1 indicates in general the track which comprises the ties 2 and rails 3, all of the conventional type. Secured to the upper face of one of these ties is a pair of Z-shaped members 4, the outwardly extending leg of the Z being spaced some distance below the bottom surface of the rails in order to form journals 5 for a rock shaft 6 which extends transversely of the track and beneath said

rails. At one extremity of the shaft 6 it is provided with a crank arm 7 bearing a crank pin 8 which engages the slot 9 of an intermediate lever 10, said lever being journaled in a bracket 11 secured to the upper face of a tie. The extremity of the intermediate lever 10 is outturned as at 12 to form a crank pin engaging the slot 13 of the main or cable lever 14. This lever is pivotably mounted on a stud formed on a comparatively heavy bracket 16 which, as shown at 17, is firmly secured to the upper surface of the tie by a heavy lag-screw.

Loosely mounted on the rock shaft are two rocker arms 18 and on the end face of each is formed an outwardly extending lug 19. As shown in Fig. 4 of the drawings these lugs engage similar lugs 20 formed on the rock shaft. In order to hold the rocker arms in the vertical position shown and in engagement with the lugs of the rock shaft, helical torsion springs 21 have one end caught through openings in the rock shaft and the other secured to the rocker arms.

The mechanism so far described is adapted to transfer the motion imparted by the wheel flanges to the rocker arms 18 into a rocking motion of the lever 14. Secured to the upper end of this lever is a cable 25 running over a plurality of spaced bearing rollers or pulleys 26 which are supported by suitable brackets 27 secured to posts set in the roadbed. The other end of this cable takes a ninety degree turn over the last pulley 28 and connects with the mechanism of the signal pillar, which will in general be designated as 29.

Adjacent the upper end of the signal pillar a stud 30 serves as a shaft for two oppositely disposed semaphore arms 31. These arms are provided near their outer extremities with small bull's-eye lights conventionally shown at 32 and the inner extremities of the arms are provided with counterweights 33, the moment of the counterweights being slightly greater than that of the arms so that the normal tendency of said arms is to assume a vertical position, the weight being at the bottom. Secured through eyes in the arms are a pair of connecting links or cables 33' which extend downwardly and are pivotally mounted at their lower extremities in a ring or disk 34 which is connected with the end of the cable 28 by a relatively stiff helical spring 35. It

will be seen that a pull on the cable 25 will be transmitted through the spring 35 and connecting link 33 to the semaphore arms which will thus be made to tilt downwardly.

5 In order to give at the same time audible warning of the approach of a train a cable 36 is secured in the ring 34 and passed through a suitable aperture in the pillar, its free end being secured to the operating
10 lever of a gong, conventionally illustrated at 37.

In the operation of the device, the wheel flanges of the train swing the rocker arms 18, and by means of the jaws 19 and 20
15 this motion is communicated to the rock shaft 6, which through the multiplying linkage described operates the cable lever 14. The movement of the cable lever is transmitted by the cable to the signal pillar and
20 it will be seen that as each pair of wheels passes over the rock shaft the semaphore arms will vibrate and the gong be sounded. The movements above described will take place only when the train approaches in a
25 direction toward the signal pillar from the rock shaft. For trains approaching in the opposite direction the apparatus will be inoperative, the arms 18 turning loosely upon the rock shaft 6 since the lugs will not en-
30 gage when rotated in this direction. After the train has passed the arms 18 will be returned to their normal positions by the torsion spring 21, the tension of said spring being sufficient for this purpose although
35 not great enough to actuate the signal mechanism.

The above described signal will attract attention both through the movement of the semaphore arms and the sound of the gong,
40 the combination of the two forming a signal

which is certain to attract the attention of travelers upon the highway and the duplicate effect is preserved after nightfall or in foggy weather by lighting the bull's-eye lamps as described.

What I claim is:

A railway crossing, comprising in combination, a signal pillar, a semaphore arm pivotably secured thereto and counter-weighted to assume a normally vertical position, a rock shaft journaled transversely of and beneath said railway track, lugs formed on said rock shaft, rocker arms carried by said shaft and adapted to be operated by the flanges of wheels passing over said track, lugs formed on said rocker arms and co-acting with the lugs on said rock shaft, springs retaining said rocker arms normally in operative position, a crank secured upon one end of said shaft and provided at its
60 free end with a crank pin, a multiplying linkage adapted to be operated by said crank, said linkage consisting of a lever pivoted by one end to a tie and rotatably mounted intermediate its length upon the
65 said crank pin, the free end of said lever being provided with a pin, a second lever pivotably mounted intermediate its length, one arm of said lever being slotted longitudinally by means of which it is engaged
70 by the pin of the first mentioned lever, and a cable connecting the free end of said latter lever with said semaphore.

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

EDWARD S. GARRETT.

Witnesses:

H. H. DAVIS,

A. A. FRIEDLINE.