

A. C. ECHARD & G. S. ALDERSON.

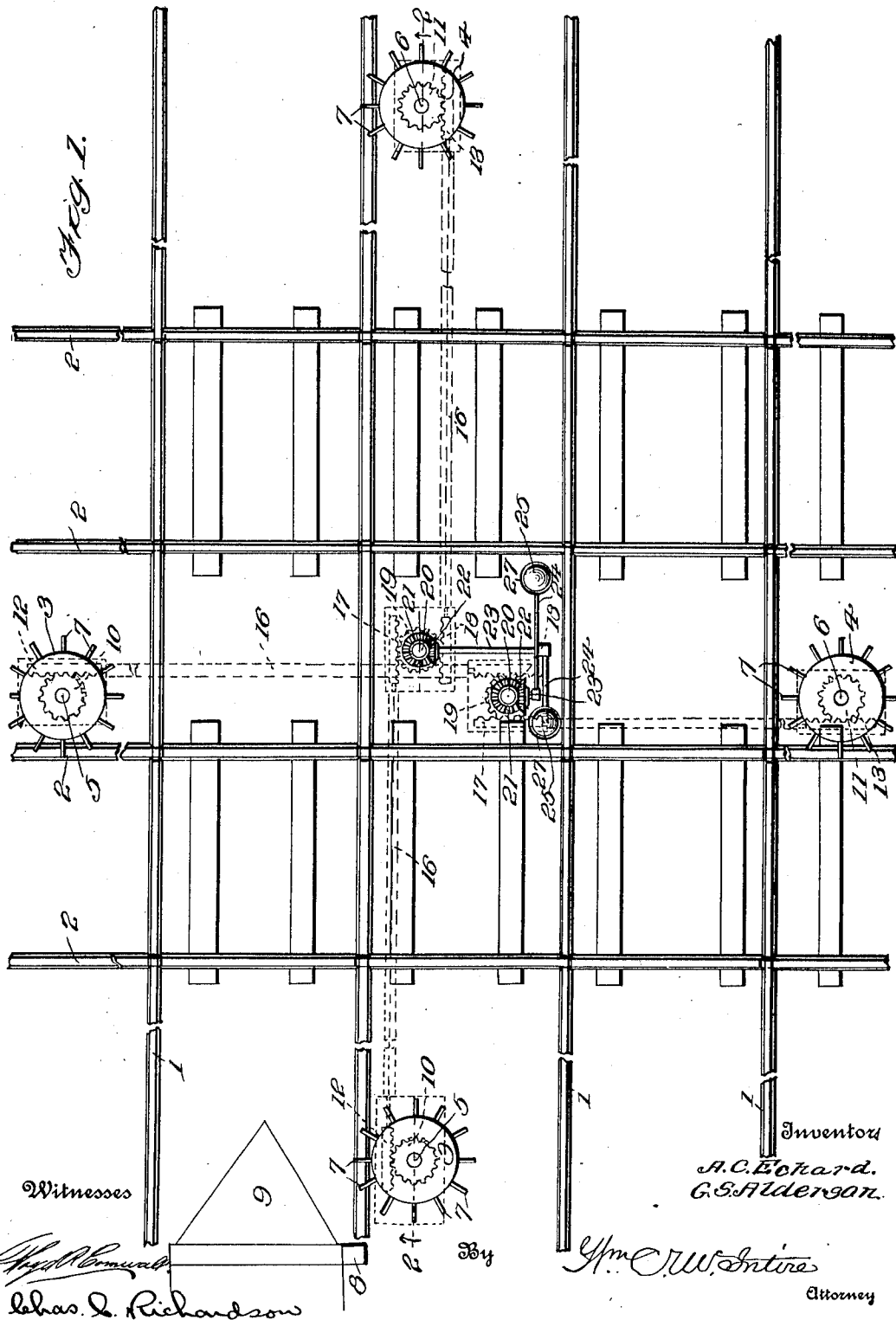
RAILWAY SIGNAL.

APPLICATION FILED NOV. 22, 1910.

1,019,885.

Patented Mar. 12, 1912.

2 SHEETS—SHEET 1.



A. C. ECHARD & G. S. ALDERSON.
RAILWAY SIGNAL.

APPLICATION FILED NOV. 22, 1910.

1,019,885.

Patented Mar. 12, 1912.

2 SHEETS—SHEET 2.

Fig. 2.

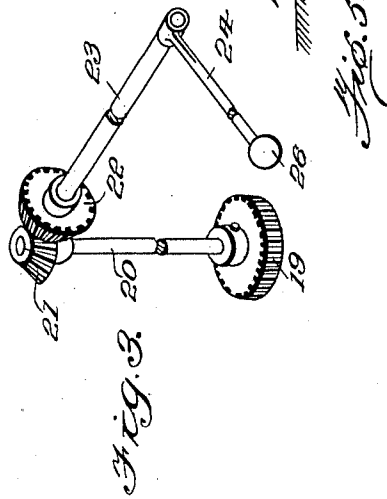
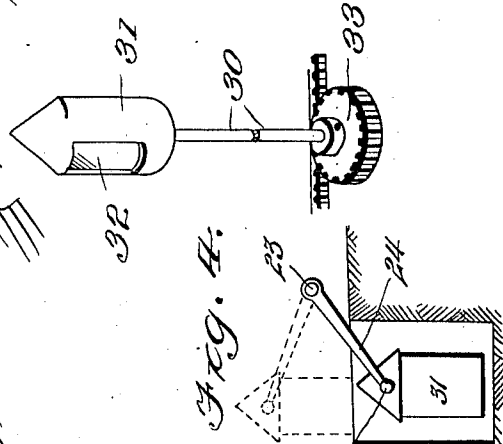
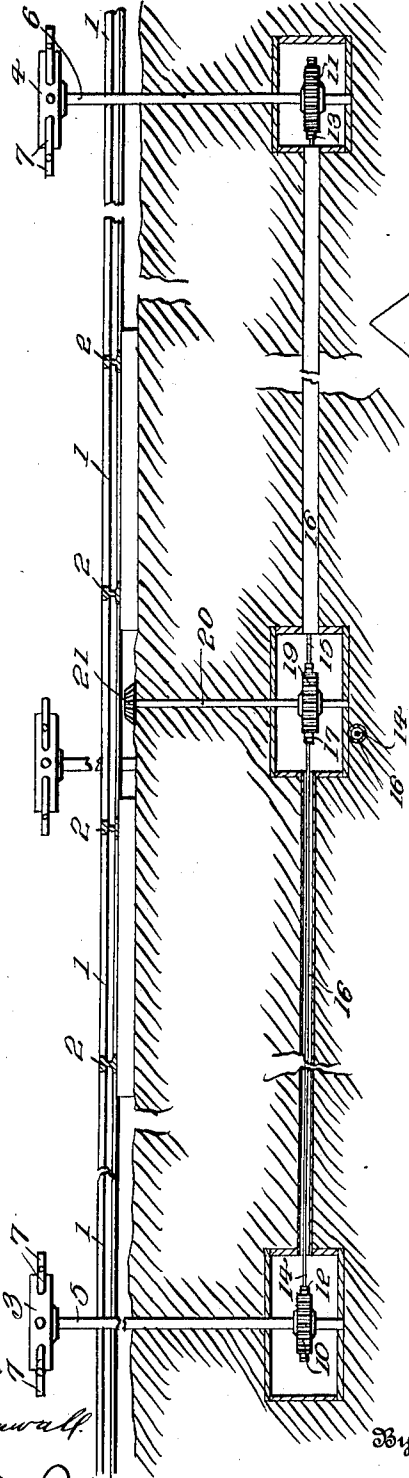


Fig. 5.

Witnesses

Thos. A. Cornwall

Chas. L. Richardson

Inventors
A. C. Echard,
G. S. Alderson.

Wm. C. W. Irvine

Attorney

UNITED STATES PATENT OFFICE.

ANDREW C. ECHARD AND GRANVILLE S. ALDERSON, OF ALDERSON, WEST VIRGINIA.

RAILWAY-SIGNAL.

1,019,885.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed November 22, 1910. Serial No. 593,690.

To all whom it may concern:

Be it known that we, ANDREW C. ECHARD and GRANVILLE S. ALDERSON, citizens of the United States, residing at Alderson, in the county of Monroe and State of West Virginia, have invented certain new and useful Improvements in Railway-Signals; and we 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.

This invention relates to new and useful improvements in signals, and more particularly to that class adapted to be used in connection with railway crossings.

An object of this invention is the provision of a device of this character which will be so constructed as to produce a light upon the track upon which a train is approaching, and thus warning persons attempting to cross the track, or the crew upon an approaching train.

Another object of this invention is to improve and simplify devices of this character, rendering them comparatively simple in construction, cheap to manufacture, reliable and efficient in use, and readily operated.

With the above and other objects in view this invention resides in the novel features of construction, formations, combinations and arrangements of parts to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which—

Figure 1 is a plan view of a railroad crossing with our improved device mounted adjacent thereto; Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1, and Fig. 3 is a detail perspective view of the lantern lifting lever detached. Fig. 4 is a detail perspective view illustrating a modified form of our invention.

As the devices embodied in our invention are adapted to be applied to several tracks and are identical in construction, a detailed description of but one is deemed all that is necessary.

Referring to the drawings by characters of reference, the numerals 1 and 2 designate the separate tracks composed in a railway crossing. Trip wheels 3 and 4 are mounted upon vertical shafts 5 and 6 adjacent the side of one of the tracks, and are provided with radially extending trip arms 7, for en-

gagement with an extension 8, formed upon the side of a suitable car 9 adapted to run over the said track sections. Spur wheels 10 and 11 are keyed to the lower ends of the vertical shafts 5 and 6 for the engagement with racks 12 and 13, formed upon the outer ends of longitudinally operative rods 14 and 15, located in pipes, or other suitable casings, 16 embedded in the ground adjacent the sides of the said tracks. Racks 17 and 18 are provided upon the inner ends of the rods 14 and 15 respectively, for the engagement with the opposite sides of a pinion 19, keyed to the lower end of a vertical shaft 20, to the upper end of which, at a point above the ground and substantially intermediate the track, is a beveled pinion 21, which meshes with a beveled pinion 22, formed upon one end of a shaft 23, the opposite end of which is bent to form a crank arm 24, which is pivotally secured as at 26 to one end of a lamp 25, the said lamp being adapted to be lowered within a depression 27 located between the tracks.

The operation of the device is as follows: As the extension 8, formed upon the side of the car 9, engages one of the arms 7, located upon either of the trip wheels 3 or 4, the said trip wheel will be rotated, carrying with it one of the shafts 5 and 6 and pinions 10 and 11, which will obviously, through the medium of the racks 12 or 13, move the rods 14 or 15 longitudinally of the track and rotating the pinion 19 by means of the racks 17 or 18. As this pinion 19 is rotated, the crank arm 24 will obviously be operated by means of the beveled pinions 21 and 22 and the shafts connected thereto, swinging the lantern 25 upon the pivots 26 until the said lamp will be moved to a position above the said track sections, where it may be seen by a person crossing the track, or by an approaching train.

Referring to Fig. 4 of the drawings, which illustrates a modified form of our invention, the numeral 30 designates a vertical post, upon the upper end of which is mounted a casing 31, provided in one face or side with an opening 32, through which a light may be displayed. Secured to the lower end of this rod is a pinion 33, which is adapted to mesh with the teeth formed upon the rack 17. The casing in which the lamp is displayed is normally held so that the light will be turned away from an approaching train, and manifestly when the said

train strikes against one of the arms 7, carried by the operating wheels 3, the said casing will be rotated so that the lamp will be displayed to the crew of a train approaching from an opposite direction obviously notifying them of the approach of a train.

Having thus fully described this invention, what we claim and desire to secure by Letters Patent is:

The combination with a railway crossing, of a lantern located in a recess formed adjacent the said crossing, a horizontally disposed shaft mounted adjacent the recess, a crank arm formed upon one end of the shaft and engaging the lantern, a beveled pinion located upon the opposite end of the horizontal shaft, a vertical rod, a pinion formed upon said vertical rod and engaging the before-mentioned beveled pinion, a spur gear located upon the lower end of the vertical rod, vertical shafts mounted upon

either side of the recess, spur gears formed upon the lower ends thereof, trip wheels keyed to the upper ends thereof, longitudinally movable rods located adjacent the crossing, racks formed upon the ends of these rods for engaging the spur gears carried by the vertical shafts which support the trip wheels and also the opposite sides of the spur gear on the vertical rod located adjacent the lantern, whereby the said lantern will be successively raised out of and lowered into the recess upon the turning of the trip wheels, substantially as and for the purposes set forth.

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

ANDREW C. ECHARD.
GRANVILLE S. ALDERSON.

Witnesses:

P. E. CONNER,
J. W. HEDRICK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."