

(No Model.)

F. R. PAYNE.
RAILWAY SIGNAL.

No. 528,797.

Patented Nov. 6, 1894.

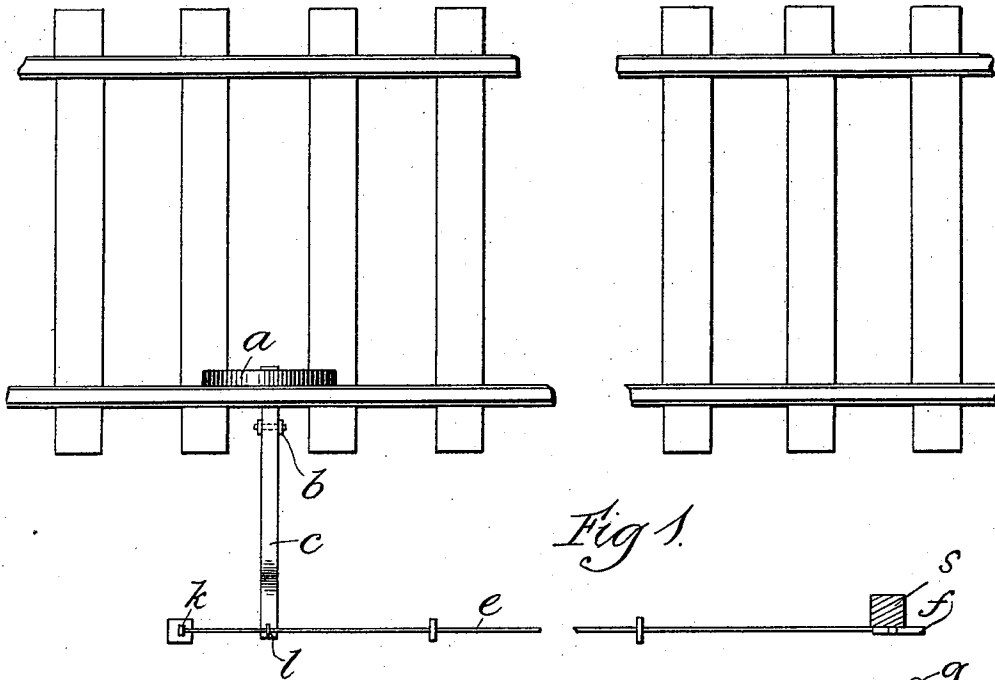


Fig 1.

Fig 2.

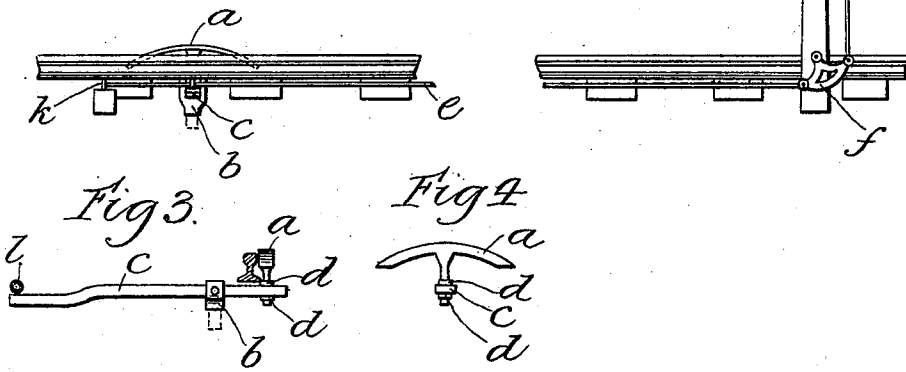


Fig 3.

Fig 4.

Witnesses
Wm. J. Hamming
S. M. Rheem.

Inventor
Frederick R. Payne
by Brown & Darby
Attys.

UNITED STATES PATENT OFFICE.

FREDERICK R. PAYNE, OF CHICAGO, ILLINOIS.

RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 528,797, dated November 6, 1894.

Application filed November 6, 1893. Serial No. 490,186. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK R. PAYNE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Railway-Signals, of which the following is a specification.

This invention relates to an improvement in railway signals, and its object is to automatically give an alarm by means both effective and simple.

The invention consists substantially in the construction shown in the accompanying drawings, hereinafter described and more particularly pointed out in the claim.

Like letters refer to the same parts in the several figures of the drawings, in which—

Figure 1 represents a plan view of the device applied to a railway with the posts supporting the bell or other alarm shown in cross section. Fig. 2 represents a side view of said apparatus. Fig. 3 represents a cross section of the rail and a side elevation of the lever adapted to be operated by an arm upon which the wheel of the locomotive treads. Fig. 4 represents an end view of the lever and front view of the arm on which the wheel of the locomotive or car treads.

In the drawings, the letter *a* designates an arm which I prefer to arrange adjacent to the inside of one of the rails as shown, and to construct of a curved form so as to better adapt it to the tread of the depending flange upon the wheel of the locomotive. It is manifest, however, that this arm may be of another form and placed in a different position, always remembering that it must be in such position as that it may be operated by some passing part of the locomotive wheel or car wheel.

As shown, the highest point of the curved arm projects slightly above the rail. This arm is secured in any suitable way as by securing devices *d, d*, to a lever *c* which latter is pivoted to a support *b* which support has a foundation in the road bed. The lever may be of any suitable length, but is preferably fulcrumed at a point adjacent to the outside of the rail and extends some little distance beyond such rail, and its outer end is loosely connected in any suitable manner to a wire

cord or similar device, the function of which will be presently described.

A convenient manner of applying the lever to the wire is shown which consists in securing a staple to the outer end of the lever which contains a hole somewhat larger than the wire through which the latter may pass, as is shown at *l* in the drawings. This wire may be supported at suitable intervals by brackets such as are shown at *k* or in any other convenient manner. The wire or cord is carried to the vicinity of a post *s* which post is to carry the bell *h* or other suitable alarm whether visible or audible. Either upon this post, or any other suitable support, is pivoted a proper device for changing the direction of motion of such cord, as a bell crank lever *f* to one arm of which is to be connected the wire or cord *e* and to the other arm of which is to be connected the vertical wire or cord *v*. The vertical wire or cord is in turn secured in a proper manner to operate the bell or other signal and in this instance I have shown it connected with one arm of a pivoted lever *g*, which latter carries a bell *h* or other signal device. Of course these signals are to be placed in succession at suitable intervals along the railway, the distance apart being determined by the exigencies of the service and the judgment of the skilled constructor.

Many variations may be manifestly made in the details of the apparatus without departing from the principle of my invention.

It will be observed that lever *C* is pivoted so as to have a short arm and a long arm. The short arm is adjacent to the track and carries the shoe or arm lying normally in the path of the car wheels. At the outer end of the longer arm of said lever is located the means of attachment of said lever to the wire or cord extending along the direction of the track. This arrangement is particularly advantageous for a particularly long sweep is thus given the end of the lever to which the cord is attached by a comparatively slight depression of the shoe end of said lever. Moreover the long end acts as a weight to keep the shoe end normally pressed upwardly to be acted upon by the passing wheels.

What I claim as new, and desire to secure by Letters Patent, is—

In a railway signal the combination with a track and a road bed, of a bifurcated support secured to said road bed, adjacent to the track, a lever pivoted intermediate its ends
5 in the bifurcations of said support and nearer the track end than the outer end thereof, said lever adapted to pass underneath the rail, a curved arm or shoe rigidly secured to the track end of said lever and arranged adjacent
10 to the inside of the track, and in the path of the flange on the car wheel, a wire extending alongside of the track in proximity to the ground and loosely connected to the outer end of said lever, by means of a staple secured to
15 said lever having a perforation through which said wire is adapted to pass, an upright post near the track and at a distance from said

pivoted lever, a bell or other signal device pivoted in the upper end of said post, a pivoted lever attached to said signal device, a
20 bell crank lever pivoted to the lower end of said post, a connection between one arm of said bell crank lever and the pivoted signal operating lever, the first mentioned wire connected to the other arm of said bell crank lever, substantially as and for the purpose set
25 forth.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

FREDERICK R. PAYNE.

In presence of—

FRANK T. BROWN,
J. LAWRENCE GERRY.