

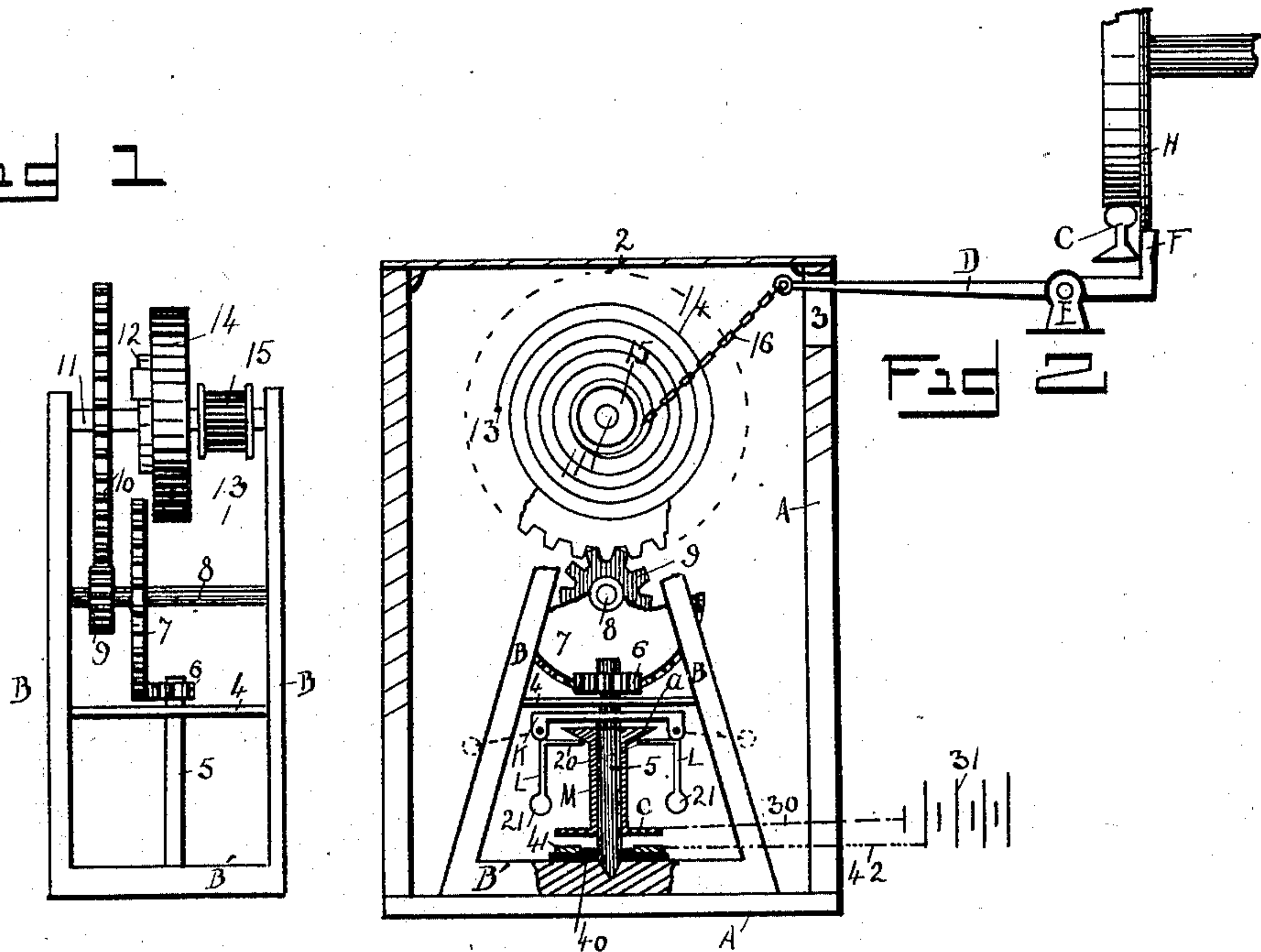
(No Model.)

L. J. EVEREST.  
ELECTRIC RAILWAY SIGNAL SYSTEM.

No. 559,576.

Patented May 5, 1896.

Fig 1



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## ELECTRIC RAILWAY-SIGNAL SYSTEM.

SPECIFICATION forming part of Letters Patent No. 559,576, dated May 5, 1896.

Application filed July 12, 1895. Serial No. 555,812. (No model.)

*To all whom it may concern:*

Be it known that I, LABAN J. EVEREST, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain useful Improvements in Electric Railway-Signal Systems; and I do hereby declare that the following is 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, reference being had to the accompanying drawings, which form a part of this specification.

This invention has relation to a new and novel electric signal, the object being to provide a device that shall be simple of construction and readily operated, as will be described more fully hereinafter.

In the accompanying drawings, Figure 1 shows a side elevation of my actuating mechanism with parts removed, while Fig. 2 shows a sectional elevation with parts removed of my alarm as used in connection with my railroad-signal.

A represents a suitable housing which can be placed conveniently adjoining the track C, for instance, and is provided with a slot 3 and a removable cover 2. Positioned within this housing 2 is a frame comprising the upwardly-extending standards B B and the base B'. This standard is further provided with a transverse bar 4, as is shown in the drawings. Working within this bar 4 and within the base B' is a shaft 5, provided above with a pinion 6, which pinion in turn meshes within the crown-gear 7, fixed upon a shaft 8, which shaft works within the standards B, as is shown in Fig. 1. This shaft 8 is further provided with a pinion 9, which pinion meshes with a main driving-pinion 10, mounted upon the main driving-shaft 11, which shaft is provided with a ratchet 12. Working upon the shaft and fixed to one of the standards B by means of a bar 13 is the driving-spring 14, which is nothing more nor less than an ordinary spring such as is used in driving clock-gearing. Fixed to the shaft 11 is a spool 15, over which is made to pass the chain 16, secured to a lever D, fixed within an ear E, positioned adjoining the track. The lever D has an upwardly-extending portion F, which is made to come adjoining the rail

C and in the path of the flange of the car-wheels H. This lever D is weighted so that normally the head F draws the lever portion D upward, so that the lever unconnected would be depressed and could not be reached by the wheel-flange. The chain 15 is connected to the spool, and this spool in conjunction with the chain and lever D acts as a key to wind up this train of gearing, which as it runs down or unwinds carries the spool 16 back into its original position, and the spring 14 is made strong enough so as to drag back lever D, so that this head F is held under the car-flange by virtue of this spring 14.

Secured to the shaft 5 is an arm K, which is provided with two depending ears giving movable support to the rectangular levers L, the upper arms 20 of which being adapted to extend in a horizontal plane. Below, these arms L are provided with the counterpoise or weights 21. Working upon this shaft 5 is a spool M, the upper head a of which is adapted to come above the arms 20 and be supported by these arms L while at rest. Below this spool is provided the disk c in connection with an electrical conductor 30, leading to one of the poles of a battery 31. Surrounding the shaft 5 is an insulated plate 40, upon which rests the disk 41 in electrical connection by means of the conductor 42, which is also in connection with the battery 31. An ordinary electric alarm-bell can be positioned at any point within the electric lines 30 or 42, so that normally there is provided an open circuit which, when said circuit is closed, rings the alarm.

The operation of my device when properly arranged would be as follows: The spring 14 when at rest carries with it the spool 15 into its extreme wound-up position, so that the chain-connected lever-head F would be carried up to its highest position as long as the stem D was held down by means of the spring 14. Now, however, as the flanged wheel H of a train passing over the rails C encountered this head F it would instantly throw this head F down, and, in carrying up the lever D, would wind up the train of gearing driven by the spring 14 and comprising the gear-connected shafts 11, 8, and 5. Now as



the spring began to unwind it would rapidly revolve the shaft 5, which would in turn revolve the bar K, and this revolving motion would carry out the weighted lever-arms L, so that they would assume almost a horizontal position, as is shown in the dotted line in Fig. 2. This would permit the spool M dropping upon the plate 41, so that a circuit would be formed, during which one or more alarms would be rung. It is of course understood that the movement of the lever can be regulated so that the clockwork is given a long or short movement, and by having the head F weighted so that it stays down the successive car-flanges will not pound this lever. The standard B can of course be readily removed for inspection or repairs.

Now, having thus described my said invention, what I claim as new, and desire to secure by United States Letters Patent, is—

1. In an electric alarm-signal, the combination of a spring-actuated train of gearing, an actuating-lever, said lever being in connection with said train of gearing, said gearing being normally in an unwound condition, said lever being so arranged to wind said train of gearing, when actuated by a car-wheel, said train of gearing terminating in a gear fixed to a vertical shaft, said shaft being provided with an arm, swinging rectangular levers secured to said arm, a contact-point normally suspended by the said arms, said contact-point comprising a spool mounted upon said vertical shaft, a second contact-point below said suspended contact-point, said contact-points forming electrical terminals in connection with a suitable electric circuit, said instrumentalities being so arranged that as the train of gearing is actuated the suspended electric terminal is permitted

to drop and complete the circuit, all substantially as and for the purpose set forth.

2. In an electric alarm, the combination of the following instrumentalities, to wit: a standard, an upright shaft working within said standard, a pinion upon said upright shaft, a transverse shaft above said upright shaft, a crown-gear working upon said transverse shaft and meshing with said pinion, a gear upon said transverse shaft, a main driving-shaft positioned above said transverse shaft, a driving-gear upon said shaft meshing with said gear, a driving-spring to actuate said driving-shaft, a pivoted lever positioned above said standard, a strand connecting said lever to said spring to actuate said driving-shaft, said lever being weighted so as to be normally held in one position in which said train of gearing is unwound, a drum provided with a flaring head loosely working upon said upright shaft, a supporting-bar secured to said upright shaft, angular bars secured to said supporting-bar, said angular drums being adapted to hold said flaring spool in an upward position while said train of gearing is at rest, an electro leading from said drum forming one of the terminals of an electric circuit, an electric terminal below said drum, said instrumentalities being so arranged that when said train is actuated said drum is permitted to fall and rest upon said electro, all substantially as and for the purpose set forth.

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

LABAN J. EVEREST.

Witnesses:

GEO. T. LINDLEY,  
T. DYER.