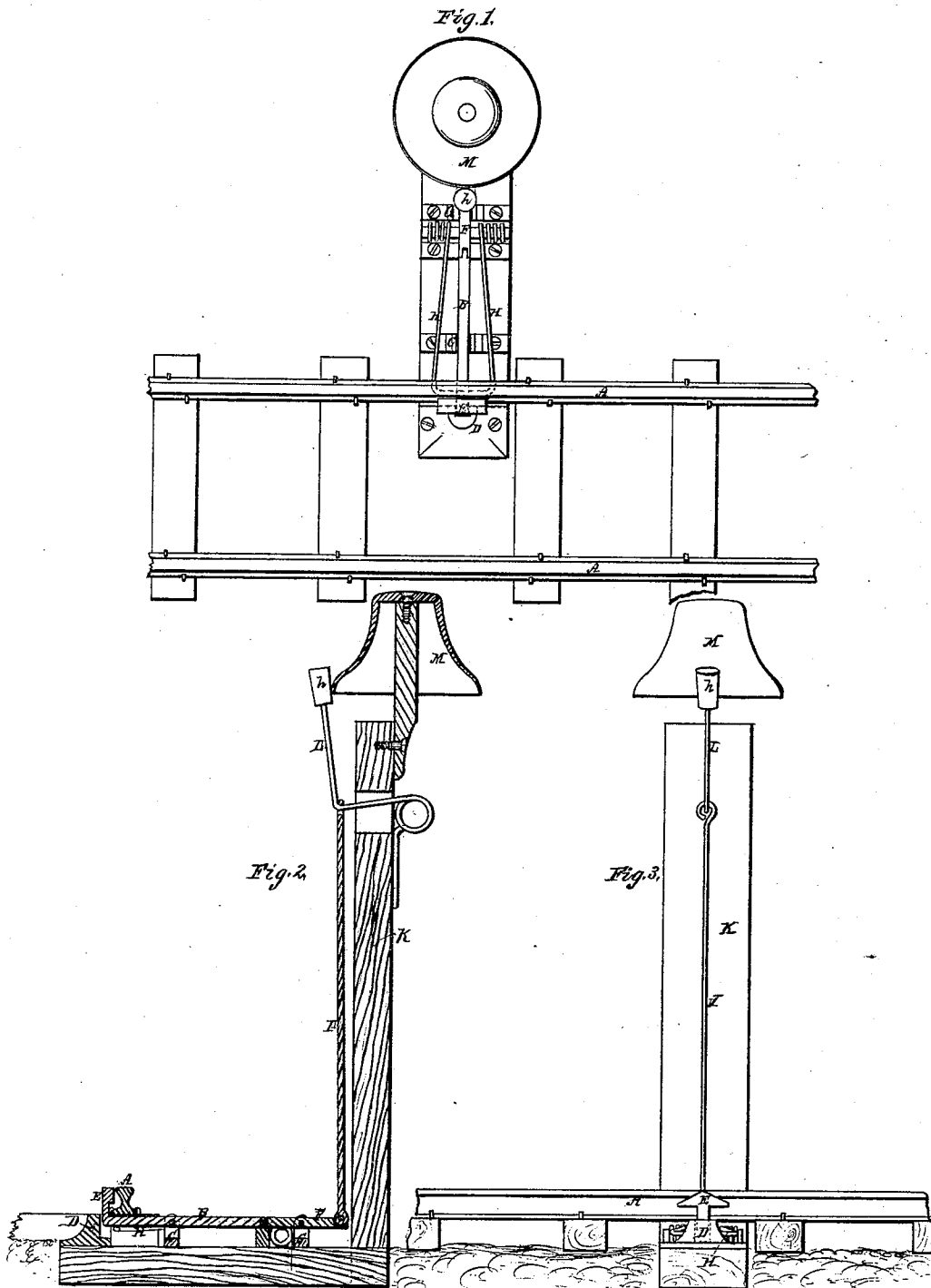


N. WHITNEY.
Railroad Signal.

No. 105,154.

Patented July 5, 1870.



Witnesses
S. N. Piper
L. A. Miller

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United States Patent Office.

NELSON WHITNEY, OF BELLINGHAM, MASSACHUSETTS.

Letters Patent No. 105,154, dated July 5, 1870.

IMPROVEMENT IN SIGNALS FOR RAILWAYS.

The Schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents may come:

Be it known that I, NELSON WHITNEY, of Bellingham, of the county of Norfolk and State of Massachusetts, have invented a new and useful Alarm Apparatus for Railways; and do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawing, of which—

Figure 1 denotes a top view, and

Figure 2 is a vertical section of it as applied to a railway-track.

The purpose of such apparatus is to sound an alarm by means of the flanges of the wheels of a train while such may be in the act of passing by the apparatus, the object of such an alarm being to give notice or warning to the brakemen or other persons on the train, when the latter may be nearing a low bridge or place of danger, or may have reached a spot where it may be necessary to throw the brakes into action on the wheels.

In the drawing—

A A denote the rails of a railway-track.

B is a bent lever, pivoted in a standard, C, and being arranged at right angles, or thereabouts, with one of the rails.

One arm of the said lever extends underneath the rail and into a guide-chair, D, and has a double inclined plane head, E, projected up from it, and against the inner side of the rail, the form of the head and its arrangement with the rail being more particularly shown in Figure 3, which denotes a longitudinal section of the track.

The opposite arm of the said lever is jointed to one arm of a second lever, F, having its fulcrum sustained by a standard, G.

A bow-spring, H, is applied to the inner arm of the lever B, so as to force it upward.

A connecting-rod, I, jointed at its lower end to the outermost arm of the lever F, is extended upward alongside of a post, K, and hooked upon a spring hammer, L, which, formed as represented, is fastened to the post, extends through a slot in it, and has a metallic head, h, to strike upon a bell, M, arranged at the upper part or top of the post.

As the wheels of one side of a train of cars may, in succession, pass over the head E, it will be depressed, whereby the hammer will be drawn away from the bell. Immediately after the passage of each wheel beyond the head, the elastic force of the spring of the hammer will cause the head of the hammer to strike the bell, the bow-spring H, in the meantime, serving to actuate the lever B in a manner to effect the raising of its head, E, up to its higher or normal position.

Thus it will be seen that, at a passage of a wheel over and by the head E, the bell will be struck. By means of the second lever F, the connecting-rod I will be operated by a direct tractive or tensile strain, and, consequently, will be preserved in its due relation to the hammer of the bell.

The above-described apparatus is not for giving notice to persons at a station or road-crossing of the approach of a car or train while such may be at a distance therefrom, but is specially designed for the object or objects, as hereinbefore explained, viz., to give warning or notice to a person or persons on a car or train in motion.

I am aware of the alarm-signal for railway draw-bridges for which, on May 3d, 1855, Richard Keeling filed an application for a patent, such application having been subsequently rejected. I make no claim to any combination or arrangement of devices described or represented in the specification or drawings of such application.

The bent lever, as used by the said Keeling to strike a bell, would be an unwieldy and impractical affair, and, when operated by a train of cars, would swing to its rigidity, and so force the bell out of position as to prevent it from being sounded. The spring over which the car-wheels roll serves merely to depress the lever-arm.

In carrying out my invention, I use an elastic or spring hammer, L, two rigid levers, and a connecting-rod I, and spring H, the object of the two levers being to actuate the spring of the hammer by a tensile strain on the rod I, the whole being thus rendered a practical apparatus.

In Keeling's alarm mechanism the bent lever used to strike the bell remains out of contact with the bell after the passage of a train by it, but with my apparatus the hammer is always in contact with the bell after the train may have passed it, and is drawn away from the bell by the action of the wheels, and discharged upon it by the spring of such hammer. The spring H operates to actuate the levers, so as to admit the hammer-spring to actuate the hammer-head.

I claim—

The apparatus, as described, to be applied to a railway, as and for the purpose as explained, such consisting of the head E, the two levers B F, the spring H, the connecting-rod I, the spring hammer L, and the bell M, all constructed and arranged in manner with respect to each other and with the track, substantially as explained.

NELSON WHITNEY.

Witnesses:

R. H. EDDY,
S. N. PIPER.