

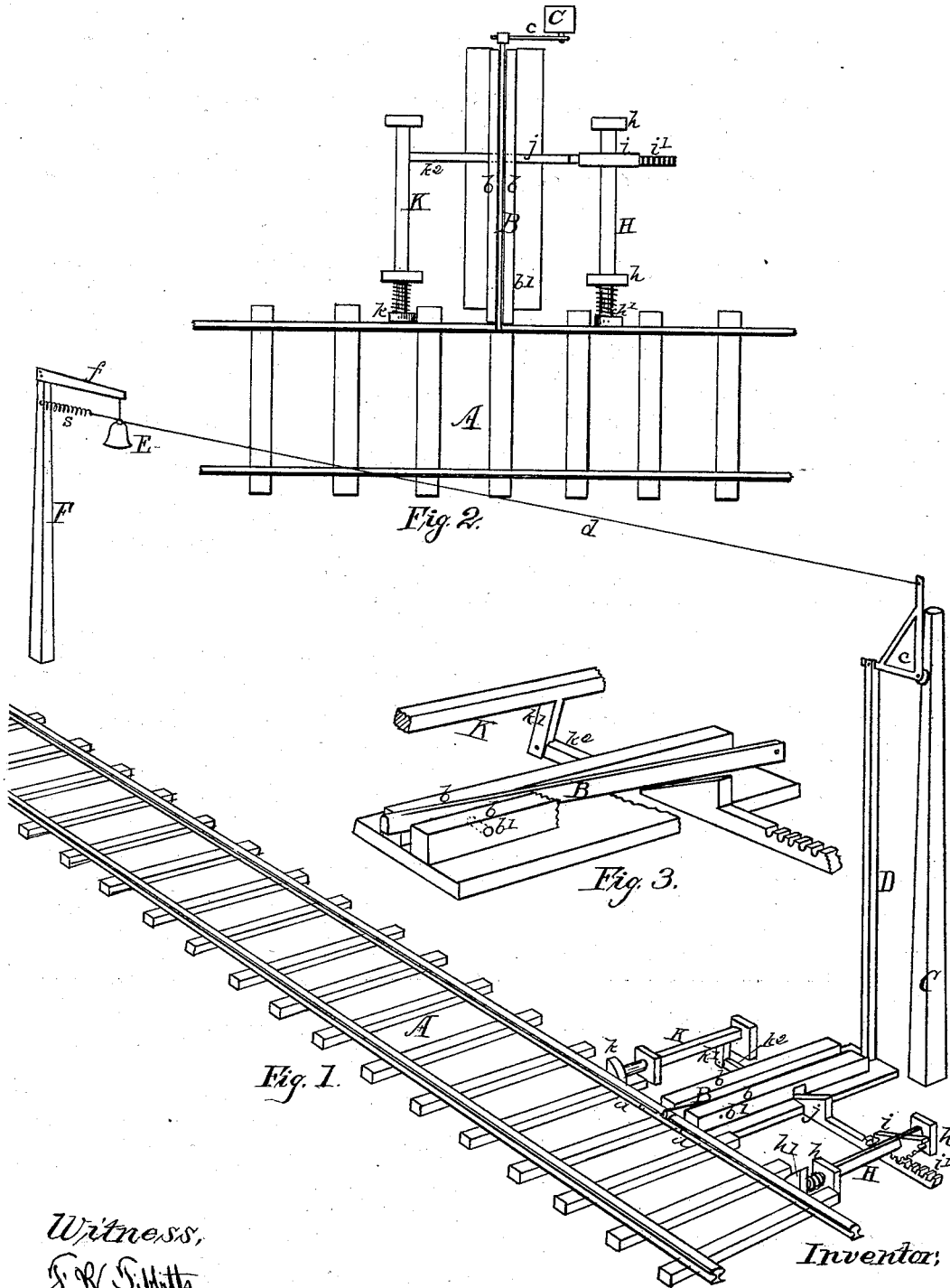
(No Model.)

J. BIEDER.

RAILWAY CROSSING ALARM AND SIGNAL.

No. 264,129.

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JACOB BIEDER, OF ASHTABULA, OHIO.

RAILWAY-CROSSING ALARM AND SIGNAL.

SPECIFICATION forming part of Letters Patent No. 264,129, dated September 12, 1882.

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To all whom it may concern:

Be it known that I, JACOB BIEDER, of Ashtabula, in the county of Ashtabula and State of Ohio, have invented a new and useful Improvement in Railway-Crossing Alarm-Signals, of which the following is a specification.

The nature and objects of this invention are to provide a means for giving timely notice at the crossings on railroads of approaching trains, so that people at or near the railroad may be enabled to be guarded against the dangers attendant upon crossing railway-tracks.

This invention consists in the arrangement of a lever and attendant suitable appendages by the side of the track, which is to be operated by the car-wheels passing over and depressing the short arm of said lever, the long arm of which is connected by wires or other suitable means fixed upon posts for ringing a bell or gong at the crossing to give warning, the said lever and its appliances being located at a sufficient distance from the crossing to give ample time for any one approaching the railway to take the warning and be on their guard.

The invention also consists in a device for holding the long arm of the lever up, and so depress the short arm thereof that the wheels of a passing train would not strike the lever, and thus avoid giving the alarm, the object of this being to avoid giving the alarm after a train has passed the crossing, and thus avoid the misapprehension of the direction of passing trains. This is intended for single-track railways, one set of the device being attached on both sides of the crossing. On double tracks only one of these devices would be required for each track, as the trains run but one way on each track.

To enable others to fully understand my invention, I will proceed to describe the same in detail.

Referring to the accompanying drawings, Figure 1 is a perspective view, showing my devices located alongside of a railway-track. Fig. 2 is a top or plan view of the same. Fig. 3 is a detached view of the lever and some of its connections.

A represents a railway-track.

B is a lever arranged by the side of said track, to be operated by the wheels of a locomotive or car in passing over the track.

The rails *a a*, where they are united, have a

small space cut out about two thirds across the end of a rail to provide a recess for the end of the lever to play in. This recess need be only one inch wide, so as not to cause any jarring of the train in passing over.

The said lever B lies between two bars, *b b*, and is pivoted at *b'*, so as to present the short arm to and within the aforesaid recess in the rails *a a*, while the long arm of said lever B shall have considerable motion given to its outer end, so as to insure ample movement to the alarm-bell at all times.

Near the outer end of said lever B is located a post, C, to the upper end of which is pivoted a right-angle lever, *c*, the horizontal arm of which is connected by a vertical connecting-rod, D, to the outer end of the said lever B.

To the vertical arm of said lever *c* is attached a wire, *d*, connecting it with an alarm-bell, E, hung by suitable means to the arm *f* of a post, F, located at the road crossing the railway-track. The said bell E is provided with a spring, *g*, connecting it with the post, for the purpose of counteracting the pull of the aforesaid wire *d* and assist in the ringing of the bell. The distance between the operating-lever and the alarm-bell must be sufficient to give ample time for the alarm to sound before a train reaches a crossing.

Now, when desired to throw the device out of gear and prevent the sounding of the alarm when a train has passed a crossing, I provide as follows: H is a rock-shaft set in suitable bearings, *h h*, with one end next to the rail *a* of the track, and having a short arm or lever, *h'*, to be operated upon by the wheels of a locomotive to turn said lever *h'* down. Said shaft H is also provided with a segmental gear, *i*, meshing with a rack, *i'*, on the arm of a wedge, *j*, which is fitted to play in a slot cut in the under side of the bars *b b*. The purpose and object of this wedge, it will be observed, is to lift and hold up the long arm of the lever B, and thereby depress the opposite or short end within the aforesaid recess in the railway-rails, and thus prevent the said lever being operated upon by the wheels of the cars in passing over the same. This shaft H is placed on the side of the lever B farthest away from the crossing. On the opposite side of the lever B is arranged a second rock-shaft, K, having a short arm or lever, *k*, located alongside of the

railway-rail, to be operated upon by the wheels of the locomotive in like manner to that of *h'*. The said rock-shaft has a depending arm, *k'*, with a sliding push-rod, *k²*, pivoted thereto, for the purpose of pushing the aforesaid wedge *j* back again from under the lever B, and thereby allow the same to drop down into its original position and again bring it into working order for giving an alarm.

Thus it will be seen that this device works automatically both in giving the alarm and in adjusting it into and out of gear.

For the safety and protection of the lower working parts of this device from the weather, or from becoming clogged with dirt, snow, or ice, and to prevent being tampered with, I make a suitable box, housing, or platform over the same, the whole being arranged so as to bring the top of the platform on a level with the railway.

Having now described my invention, I claim as follows:

1. The combination, with the railway-rails *a a*, having the recess, as described, of the lever B, pivoted between the bars *b b*, with its

short arm resting in said recess, and the outer end or long arm connected by connecting-rod D to a right-angle or bell-crank lever, *c*, pivoted to the top of post C, said lever *c* being connected by wire *d* to a bell, E, with spring, hung to an arm, *f*, on the top of F, located at the crossing, whereby the wheels of a passing train shall operate upon the said lever B to operate the said bell to give the alarm and signal, as and for the purpose specified.

2. The combination, with the rails *a* of a railway, of the shafts H and K, set in suitable bearings, *h h*, having respectively arms *h'* and *k*, the shaft H having a segmental gear, *i*, working in a rack, *i'*, on the arm of a wedge, *j*, and the shaft K having depending arm *k'*, with a sliding push-rod, *k²*, the said shafts operating through the medium of the wheels of the locomotive to throw the said lever B into and out of gear, as and for the purpose specified.

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Witnesses:

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