M. A. STEVENS.

Railroad-Signal.

No. 199,234. Patented Jan. 15, 1878.

Fig. 1.

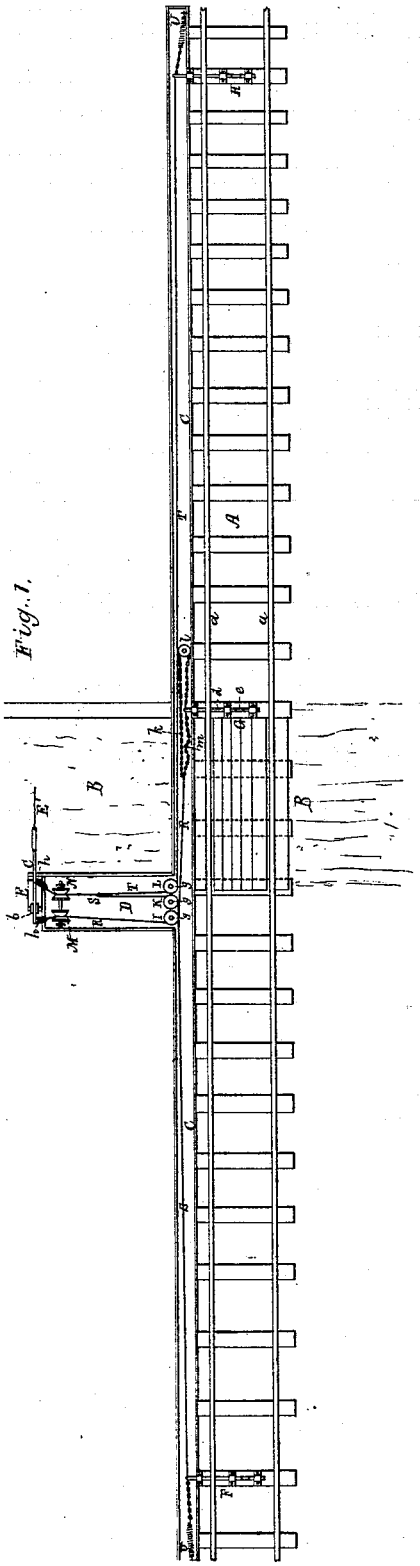
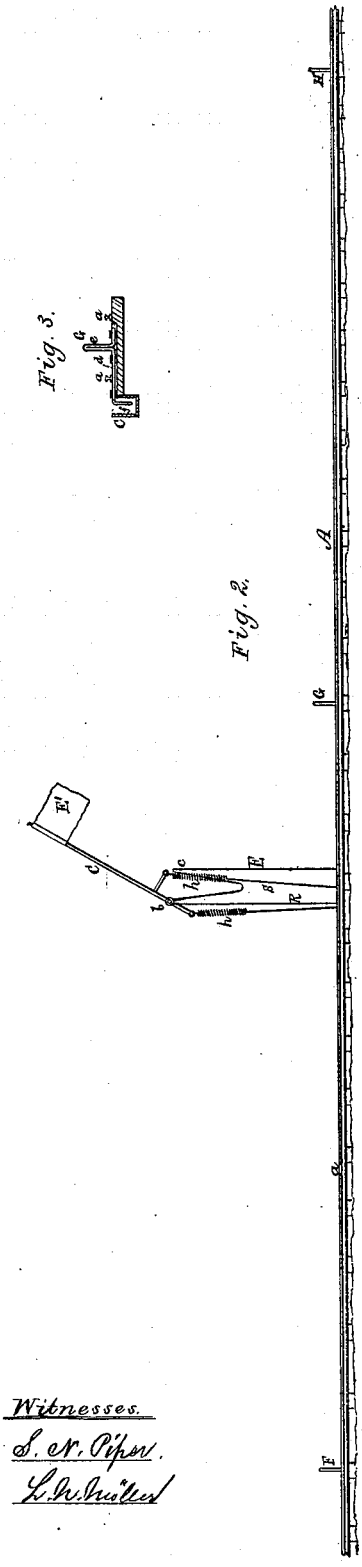


Fig. 3.

Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

MOODY A. STEVENS, OF COHASSET, MASSACHUSETTS.

IMPROVEMENT IN RAILROAD-SIGNALS.

Specification forming part of Letters Patent No. **199,234**, dated January 15, 1878; application filed December 26, 1877.

To all whom it may concern:

Be it known that I, MOODY A. STEVENS, of Cohasset, of the county of Norfolk and State of Massachusetts, have invented a new and useful Automatic Signal Mechanism for the Road-Crossings of Railways; and do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, and Fig. 2 an elevation, of a railway-track and a road-crossing with my invention applied thereto.

The object of my invention is not only to indicate to a person or vehicle at or approaching the crossing that a train or railway-car is in the vicinity of and about passing the crossing, but to thereby prevent accidental collision of such car or train with such party or vehicle.

My invention consists in the combination of three trippers, applied to the railway-track, with a flag-staff pivoted to a post at the crossing, and with certain tripper-setting springs and lines, chains, and guide-rollers, all arranged substantially in manner and to operate as explained.

In the drawings, A denotes the railway-track, and B the road-crossing, the two lines of rails of the track being shown at *a a*.

Aside of the track is a trench or passage, C, out of which, alongside of the roadway B, is another trench or passage, D, leading to a vertical post, E. Upon the upper end of such post there is pivoted, at *b*, the staff C of a flag, E′. When the staff is horizontal or down it rests on a stop, *c*, at the top of the post.

The trenches are to be covered, so as to prevent the mechanism within them from being obstructed by ice or snow, or otherwise.

Near the crossing is a tripper or bent lever, G, composed of a shaft, *d*, and two arms, *e f*, projecting from it, as shown, (see Fig. 3,) which is a transverse section of the track, the trench, and such tripper.

Two other such trippers, F H, are arranged in the track and trench, at suitable distances from the tripper G, which is between them.

At the mouth of the lateral trench are three sheaves or guide-rollers, I K L, which are supported on vertical spindles *g g g*, arranged as shown. Furthermore, at or near the foot of the post E, there are two grooved sheaves or guide-rollers, M N, to turn freely on a horizontal axis.

To the flag-staff, on opposite sides of its fulcrum, there are fixed two helical springs, *h h*, from which lines or ropes R S depend, and extend under and partially about the guide-rollers M N, and thence to the rollers I K. These lines are carried partly around such rollers and crossed on each other, and led in opposite directions in the main trench. One of these lines, S—viz., that going around the guide-roller K—is fastened to the shorter arm of the tripper F. The other line, R, is fastened to a chain, *k*, which, arranged as shown, is carried partially around another guide-wheel, *l*, and is fastened to the lower arm of the middle tripper G. From such arm another chain, *m*, is extended directly to and fastened to the said line or to the chain *k*, near its connection therewith.

Furthermore, there is fixed to the line S, between the guide-wheels K N, another line, T, which, after being led partially around the guide-wheel L, is extended along in the main trench, and secured to the lower arm of the tripper H.

Each of the outermost trippers F H has applied to it, and arranged in manner as shown, a spring, U, for setting it, or effecting the elevation of its longer arm into a position perpendicularly, or nearly so, to the track.

While a car or train, in approaching the road-crossing, may pass over either of the outer trippers F H, such tripper will be moved so as to cause the flag-staff to be thrown down into a horizontal position across the roadway, in which case the flag will indicate that a train or car is near and in the act of approaching the crossing. In passing over the middle tripper G it will be so moved by the car or train as to cause the flag-staff and flag to be thrown up into an inclined position. The train or car, while continuing its advance movement, will pass the succeeding tripper without causing it to draw on its line in a manner to effect any change in the position of the flag-staff.

Thus it will be seen that, in whichever direction the train may be moving, the flag will first be depressed, and next will be raised, after which the train, in passing the most ad-

vanced tripper, will go over it and move it, without there being produced in consequence thereof any movement of the flag-staff.

I claim—

The combination of the three trippers F G H, applied to the railway-track A, with the flag-staff C, pivoted to the post E at the crossing B, and with the setting-springs U U and the lines R S T, chains *k m*, and guide-rollers I K L M N *l*, all being arranged substantially in manner and to operate as and for the purpose specified.

MOODY A. STEVENS.

Witnesses:

R. H. EDDY,

JOHN R. SNOW.