E. J. PATTERSON.

Railway Crossing.

No. 164,759. Patented June 22, 1875.

Fig. 1.

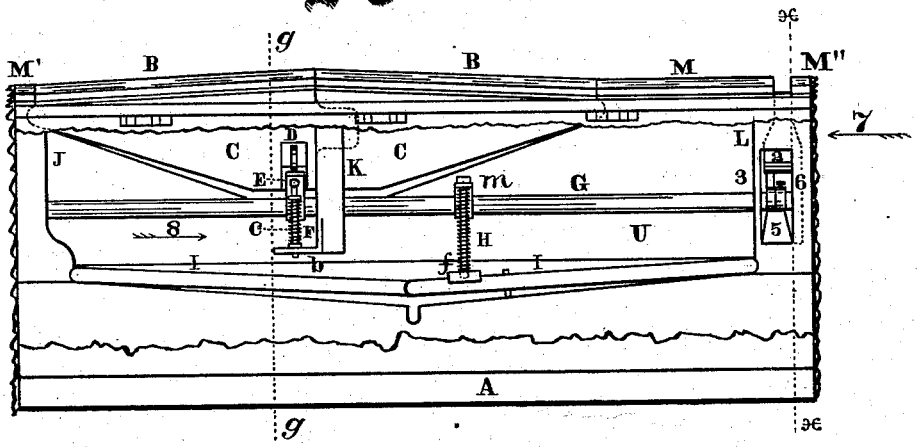


Fig. 2.

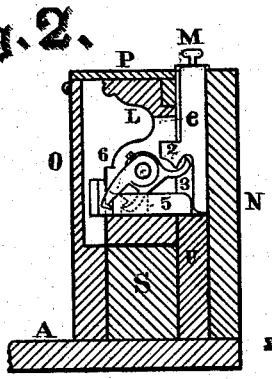


Fig. 4.

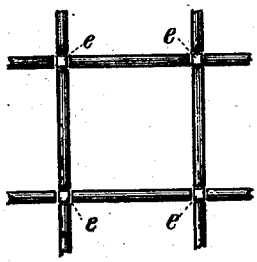
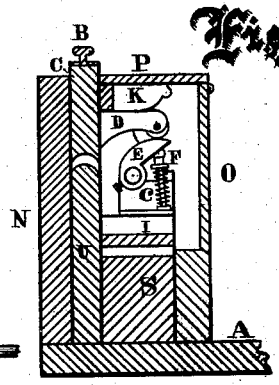


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

EMMET J. PATTERSON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN RAILWAY-CROSSINGS.

Specification forming part of Letters Patent No. **164,759**, dated June 22, 1875; application filed October 17, 1874.

To all whom it may concern:

Be it known that I, EMMET J. PATTERSON, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Automatic Railroad-Crossings, of which the following is a specification:

The object of the present invention is to shut the flange-spaces of railroad-rails at their crossings — that is, where one track crosses another — when trains are passing, and thus prevent jarring the cars and wearing the track.

The nature of the invention consists in the employment of vertical panels, which support sections of track, and are arranged, by vertical movements, suitable mechanism, and the weight of the cars, to automatically place plugs or short sections of rails in the flange-spaces while the train is passing the panels, being elevated by springs, when the weight of the train is removed, to drop the plug, as the whole is hereinafter described and shown.

Figure 1 is a longitudinal sectional elevation of my improvement in automatic railroad-crossings; Fig. 2, a transverse section on line *x*, Fig. 1, looking in the direction indicated by dart 7; Fig. 3, a transverse section on line *y*, same figure, looking in direction indicated by dart 8. Fig. 4 represents a plan or top view of my improvement in connection with the crossing tracks.

S A represent the foundation; N O P, the box-frame, supporting and protecting my device, any suitable material—such as wood or iron—being used in their construction. M represents a short piece of rail or a frog adjoining the ordinary flange-opening, and M′ is a section of one of the main rails, and M″ is a section of a short rail between the tracks. C C are two panels, which support sections of track B B, filling the space between the rail or frog M and rail M′.

The outer ends of the panels are, respectively, tongued into the frog M and rail M′, as shown by dotted lines, so as to oscillate, and their inner ends are tongued together, and extend down to a considerable width, and when a train is passing over the rails M they bear on seats U, which are convex on their top edges, so that the concave edges of the panels, as shown in section at Fig. 3, will find a correct center.

To one of the panels at D is attached an arm, which supports a roller, Figs. 1 and 3, which, when the panels are being depressed, turns a cam-lever, E, which is fast to the shaft G. This cam-lever is provided with a rod, F, and coil-spring, C; but any suitable spring may be used which elevates it when depressed.

A bridge, K, supports the middle of the shaft G, and also a stop, *b*, for supporting the lower end of the spring *c*. One end of the shaft G is supported by a bridge, L, and it is provided with cam-levers 6 3, Figs. 1 and 2.

The function of the cam-lever 3 is to elevate the plug *e*, having a shoulder, 2, for said lever to operate against; and the function of the cam-lever 6 is to shove a block, 5, under the plug *e* after it is elevated by cam-lever 3, and support it for a train to pass over.

I I represent flat strips or valves, which are held to the bridges L J by socket-joints, and are jointed together in the middle by a socket, as shown at Fig. 1, and they have given to them a vertical oscillating motion by rod H, with socket-joints resting in a footplate, *f*, and in an arm, *m*, projecting out laterally from the shaft G, so that when the shaft turns the strips I I will be depressed or elevated, as the case may be, the coil-spring on the rod H preventing the strips from cramping the parts, if any hard substance should get under them.

The function of the strips is to force out any water or other substance falling on foundation-piece S.

In practice, four sections like the one described are to be employed on each main track—that is, two sections on each side of the cross-track—and placed so as to bring the plug *e* in the flange-openings of the track.

I claim and desire to secure by Letters Patent—

1. The panels C C and supporting-rails B B, in combination with arm D, rod and spring F *c*, cam-levers 3 and 6, shaft G, plug *e*, and block 5, as and for the purpose specified.

2. The combination of shaft G, rod and spring H, arm *m*, and strips I I, substantially as set forth.

EMMET J. PATTERSON.

Witnesses:

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