

(No Model.)

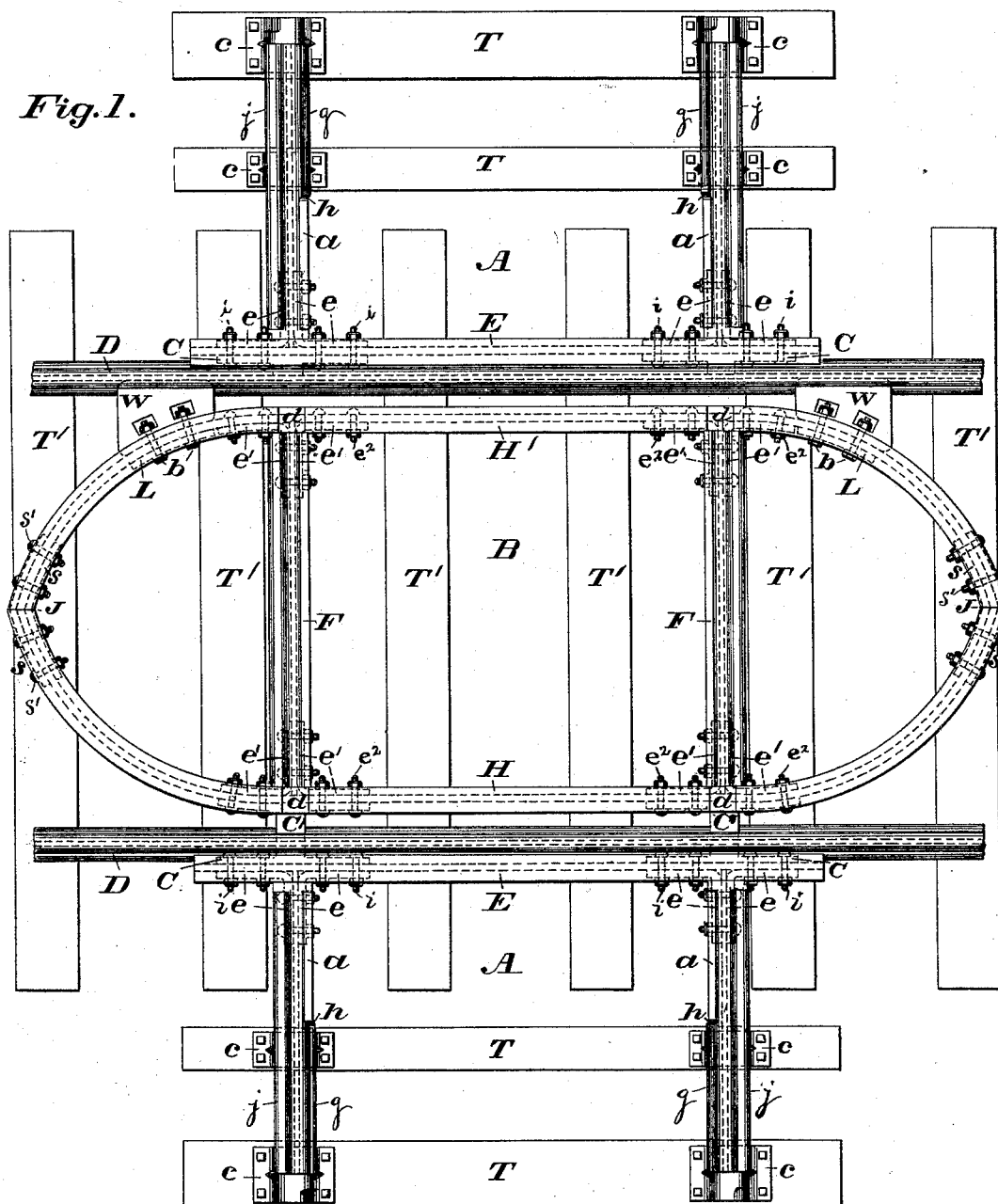
2 Sheets—Sheet 1.

A. J. MOXHAM.
RAILROAD CROSSING.

No. 477,682.

Patented June 28, 1892.

Fig. 1.



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(No Model.)

2 Sheets—Sheet 2.

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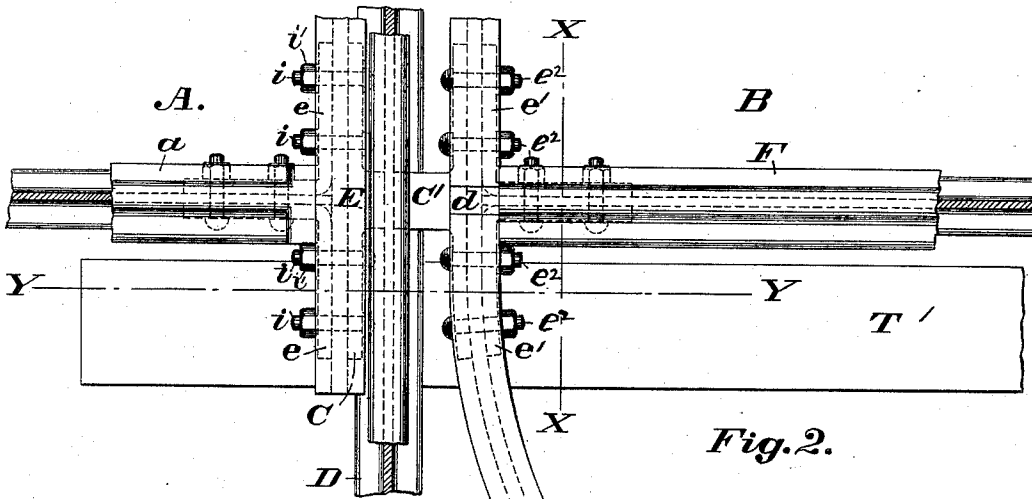


Fig. 2.

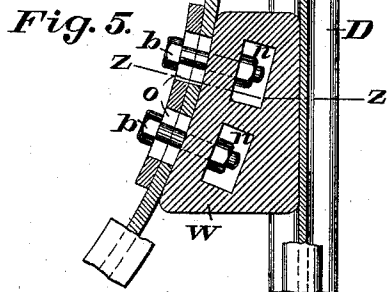


Fig. 5.

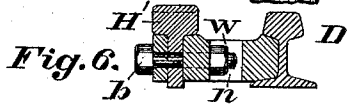


Fig. 6.

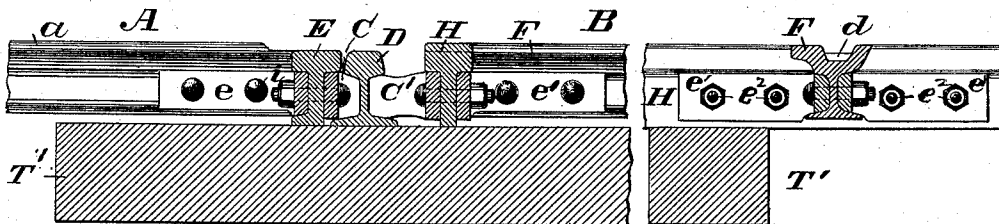


Fig. 3.

Fig. 4.

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UNITED STATES PATENT OFFICE.

ARTHUR J. MOXHAM, OF JOHNSTOWN, PENNSYLVANIA.

RAILROAD-CROSSING.

SPECIFICATION forming part of Letters Patent No. 477,682, dated June 28, 1892.

Application filed September 22, 1891. Serial No. 406,498. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR J. MOXHAM, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Railroad-Crossing, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The objects of this invention are to provide a strong, safe, and durable crossing for street-cars over or across steam-railroad tracks which can be put in place without disturbing the latter track, and also to provide a strong and efficient guard for wheels passing over the steam-railroad track.

The invention will first be described in detail and then particularly set forth in the claims.

In the accompanying drawings, Figure 1 is a view in plan of the crossing. Fig. 2 shows in detail, enlarged, the corner of the crossing at the lower right-hand side of Fig. 1. Fig. 3 is a vertical cross-section taken through Fig. 2 at the line Y Y. Fig. 4 is a vertical cross-section taken through Fig. 2 at the line X X. Fig. 5 shows in plan, enlarged, partly in section, certain details hereinafter described. Fig. 6 is a vertical cross-section taken through Fig. 5 at the line Z Z.

In said figures the several parts are respectively indicated by reference-letters, as follows:

The crossing consists of two outer portions A A and the center portion B, between the through-rails. In each of said outer portions the letters *a* indicate the rails of the street-car track seated upon chairs *c*, secured to the cross-ties T. Laid parallel with the through-rails D on each side is a T-shaped bar E, having on one side a lower flange *v*, to which bar the rails *a* are connected by means of the angle splice-bars *e* and bolts *z*, which bolts pass through the webs of the rails *a* and the web of the bar E and are secured by nuts *z'*. If desired, however, said rails may be directly welded to said bars, in which case splice-bars could be dispensed with. The guards *g* of the rails *a* are cut away to a level with the head *j* to the points *h*, in order that no obstruction may be offered to the passage of overhanging snow-plows which are sometimes attached to locomotives passing over the through-rails D.

The letters C C indicate chocks between the T-bars E and the rails D, which fit into the concavity in the side of said rails, as shown

in Fig. 3. Said chocks are preferably located directly opposite the crossing-rails *a a*; but should said rails come opposite to a joint or splice-bar on the rails D the chocks should then be placed as near to this point as possible. Said chocks may be attached to the bars E by means of the bolts *z*, which also pass through the splice-bars *e*. If desired, however, said chocks may be directly welded to the bars E.

Referring now to the center portion of the crossing, (marked B,) said portion consists of two crossing-rails F F and two T-shaped bars H H', parallel with the through-rails D, between said crossing-rails, and curved beyond said crossing-rails to a common junction at the points J J, at which point said T-bars are united into one guard-piece by the splice-bars *s* and bolts and nuts *s'*. If desired, however, said T-bars may be welded together at either or both of the points J J. The ends of the T-bars, though preferably thus united, may be, if desired, entirely disconnected. The crossing-rails F F abut the T-bars H H', and may be connected thereto either by the splice-bars *e'* and bolts and nuts *e''* or by being directly welded thereto. The T-bars H H' may, if desired, be recessed on their upper surface, as shown at *d*, to allow the passage of the flanges of wheels passing over the rails F F.

Between one through-rail D and the T-bar H of the guard-piece H H' are inserted chocks C', which are similar in shape and purpose to the outside chocks C. Said chocks may be connected to said guard-piece either by means of the bolts *e''*, as shown in Figs. 1, 2, and 3, or by being welded thereto. On the opposite side, between the other through-rail D and the T-bar H', removable chocks W are inserted. If the chocks used on both sides were of the form of the chocks C', it would be impossible to place the center portion B in position without either removing the rails D or sliding the chocks in from the ends. It would, however, be difficult to slide such chocks into place, and if a joint existed in the rail D it would be impossible to slide the chocks past said joint. This difficulty is overcome by the use of the removable chocks W, Figs. 1, 5, and 6, which have one straight and one curved face or side, and are entered into the curved portion of the guard-piece H H' and at the ends, where easily accessible. By referring to Fig. 5 it will be seen that the chocks W are provided with re-

cesses *n* to permit access to the bolts and nuts *b*, which secure them to the web of the guard-piece *H'* through slots *o*, splice-bars *L* being provided on the other side of said web. It is obvious, however, that said chocks, instead of being made solid, as shown, and provided with recesses, could be made hollow or of skeleton form, as shown in my pending application, Serial No. 373,662, filed December 5, 1890.

It will be observed that the chocks *W* are not bolted to the main rails *D*, but only to the *T*-bar *H'*. By this construction the inner part *B* of the crossing can be laid between the through-rails *D*, pushed into place, with the attached chocks *C'* bearing against the web of one of said through-rails, and the removable chocks *W* then inserted from either end and attached to the guard-piece *H H'* at an accessible point.

The purpose of the guard-piece *H H'* is as follows: In practice there is considerable play in the trucks of steam-railroad cars passing over the rails *D* and consequent oscillation of the wheels from one side to the other. The bent ends of said guard-piece offer to an approaching train something to guide its wheels into the groove between the through-rails *D* and the *T*-bars *H H'*, forming the guard-piece.

In railroad-crossings heretofore it has been proposed to use two rails having their ends bent to act as a guard; but such bent rails depend upon spikes to hold them in place. By uniting into one piece both of the *T*-bars forming the guard-piece, as herein described, great constructive strength is secured, and the whole interior portion *B* of the crossing takes the impact of an approaching train instead of a portion thereof. This advantage is important, for it has been found extremely difficult to keep independent guard-pieces in order.

By the construction herein described the whole crossing can be made out of rolled or forged steel or other metal, and can be put in a steam-railroad track without the least disturbance of the latter. The street-car track-rails shown are well known to the trade as "girder-guard rails;" but any other suitable form of rail may be substituted therefor.

I do not herein broadly claim a guard-piece composed of rails united at their ends; nor do I claim the removable chocks *W* *per se*, as such features are claimed in my pending application, above mentioned; but,

Having thus fully described my said invention, I claim—

1. In combination with the through-rails of a railroad-crossing, guard-pieces composed of metal bars of *T* shape devoid of lower flanges, located between said through-rails and curved at their ends, for the purposes set forth.

2. In a railroad-crossing, *T*-bars between the through-rails, curved and united at their ends into a guard-piece.

3. In a railroad-crossing, in combination

with two crossing-rails between the through-rails, a guard-piece composed of *T*-bars curved and united at their ends.

4. In a railroad-crossing, in combination with two crossing-rails between the through-rails, a guard-piece composed of *T*-bars curved at their ends, the upper surfaces of said bars being provided with recesses, as *d*.

5. In a railroad-crossing, in combination with through and crossing rails, a guard-piece composed of *T*-bars curved at their ends, said guard-piece being provided with chocks between it and the through-rails.

6. In a railroad-crossing, a guard-piece composed of *T*-bars curved at their ends to form the same, in combination with a through-rail and a removable chock, as *W*, between said rail and said guard-piece.

7. In a railroad-crossing, a guard-piece composed of *T*-bars curved at their ends and provided with attached or fixed chocks, and removable chocks between said guard-piece and the through-rails, as and for the purposes set forth.

8. In a railroad-crossing, a *T*-bar, as *E*, devoid of lower flanges on one or both sides and located parallel to the through-rails, for the purposes set forth.

9. In a railroad-crossing, in combination with two crossing-rails, a *T*-bar, as *E*, devoid of lower flanges on one or both sides, for the purposes set forth.

10. In a railroad-crossing, in combination with the through and crossing rails, *T*-bars, as *E*, devoid of lower flanges on one or both sides and located parallel to said through-rails, for the purposes set forth.

11. In a railroad-crossing, the combination of a through-rail, a crossing-rail, a *T*-bar, as *E*, and a chock or chocks between said bar and said through-rail, for the purposes set forth.

12. In a railroad-crossing, the combination, with the through and crossing rails, of *T*-bars, as *E*, and chocks between said through-rails and said bars, for the purposes set forth.

13. In a railroad-crossing, the combination, with the through and crossing rails, of *T*-bars, as *E*, a curved guard-piece, and a chock or chocks between said through-rails and said guard-piece.

14. In a railroad-crossing, the combination, with the through and crossing rails, of *T*-bars, as *E*, a curved guard-piece, and chocks between said bars and said through-rails and between said through-rails and said guard-piece.

15. In a railroad-crossing, the combination, with the through and crossing rails, of *T*-bars, as *E*, a curved guard-piece, chocks between said bars and said through-rails, and fixed and removable chocks between said through-rails and said guard-piece.

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Witnesses:

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WM. A. DONALDSON.