J. H. SPARKES.

Railroad-Crossing.

No. 203,953. Patented May 21, 1878.

Fig. 1.

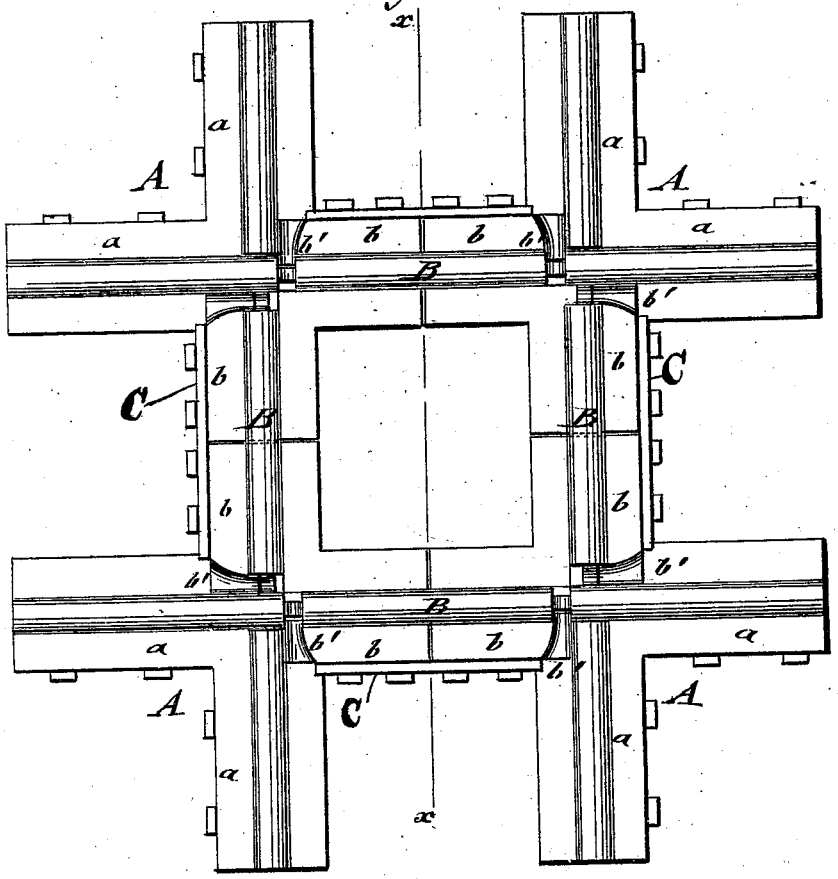
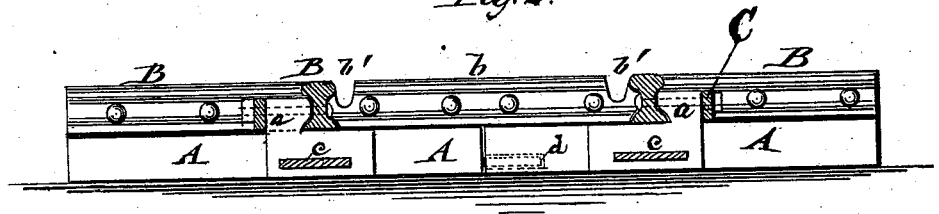


Fig. 2.



WITNESSES:

Francis. McArdle.

C. Sedgwick

INVENTOR:

J. H. Sparkes

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JAMES H. SPARKES, OF CLINTON, ILLINOIS, ASSIGNOR TO HIMSELF, JAMES DELAND, AND CHARLES D. HYNDMAN, OF SAME PLACE.

IMPROVEMENT IN RAILROAD-CROSSINGS.

Specification forming part of Letters Patent No. **203,953**, dated May 21, 1878; application filed January 12, 1878.

To all whom it may concern:

Be it known that I, JAMES H. SPARKES, of Clinton, county of De Witt, State of Illinois, have invented a new and Improved Railroad-Crossing, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a top view, and Fig. 2 a vertical transverse section on line *x x*, Fig. 1, of my improved railroad-crossing.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing, and then pointed out in the claim.

Referring to the drawing, A A represent the cross-shaped castings that form the base-support and corners of my improved railroad-crossing. The corner castings are made either at right angles or at any other angle, as required by the intersecting lines of rails, and are cast with raised angular flanges *a* along the two sides, that form the outer angles of the crossing, while straight inner flanges *b* continue in line with the outer flanges to form the inner or connecting portions of the crossing. The upper portion of the ends of the inner flanges *b*, as well as the heads of the rails at those points, are recessed or cut away sufficiently to let the flanges of the wheel pass conveniently, the cuts or recesses *b'* being made wider and rounded off sufficiently toward the outer side, as shown in Fig. 1, so as to act as a guard for loose wheels, bent axles, &c., and avoid the necessity of guard-rails within the crossing.

As the castings have a large broad base, they may be placed directly on the ground, without a timber foundation.

The joints of the castings A A are made by the rail-sections B, that form, with the fish-plates C at the outer sides and interlocking-tongues *c* and grooves *d* at the ends of the castings, a perfectly solid joint.

The flanges *a* and *b* are made lower than the top of the rails, to avoid concussion with worn wheels, hollow locomotive-tires, &c.

If any rail of the crossing breaks or gives way from any cause, the flanges *a b* take their place and allow trains to pass safely, without danger of being thrown from the track. The tongue-and-groove joint of the ends of the castings holds them in line against lateral displacement, and strengthens their connection, relieving the rail-sections from strain at that point.

The rails of one line run through the full length of the crossing, and have only recesses or notches cut through the heads for the flanges of the wheels running over the cross-line, while the rails of the cross-line are made in sections, of which the middle section is placed between the rails of the first line.

In case it should be deemed necessary to increase the strength of the joints, heavy fish-plates may be placed on both sides of the bases of the castings beneath the fish-plates of the flanges, or a single plate at the inside of the base and a broad plate outside, of sufficient width to run up over the flange and receive the bolts of the same.

The advantages of the crossing consist in the firm and reliable connection of the joints of the castings, of their broad base that renders a rocking motion impossible, of the rounded-off recesses of the flanges that dispense with separate guard-rails in the crossing, and of flanges that take the place of the rails in case of injury to the same, and admit the easy and convenient repairs of the crossing by replacing worn-out or broken rails.

I am aware that it is not new to use four cross-shaped castings having exterior and interior flanges, or to flare a wheel-flange throat to serve as a guard; but

What I claim is—

The four cross-shaped crossings A, tongued and grooved together at the ends, in combination with the fish-plates C, to form a solid joint, as shown and described.

JAMES HENRY SPARKES.

Witnesses:

WILLIAM R. KELLY,

WALTER PIERSON.