

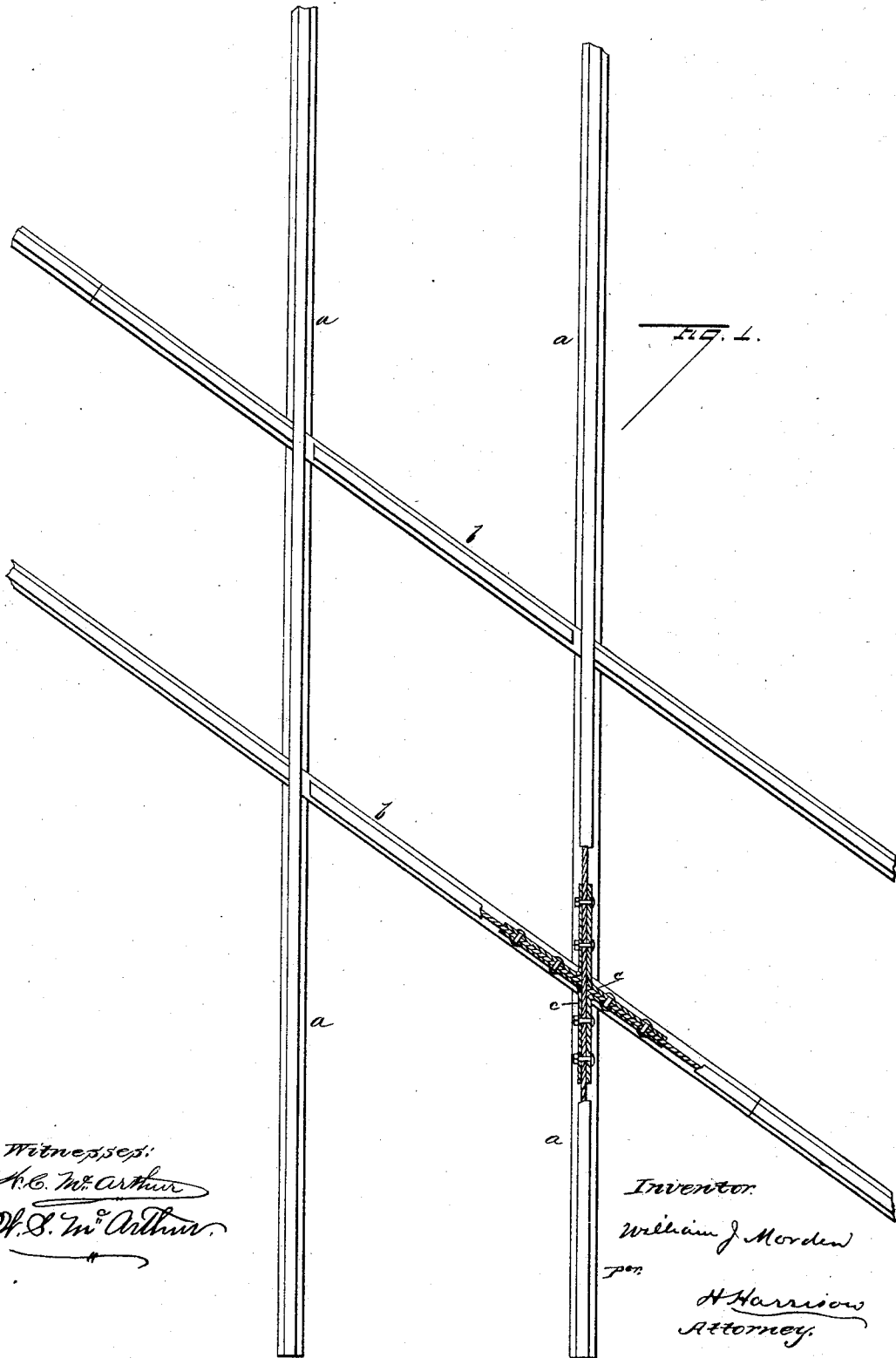
(No Model.)

W. J. MORDEN.
RAILROAD CROSSING.

2 Sheets—Sheet 1.

No. 371,208.

Patented Oct. 11, 1887.



Witnesses:
A. C. McArthur
H. S. McArthur

Inventor:
William J. Morden
per
H. Harrison
Attorney.

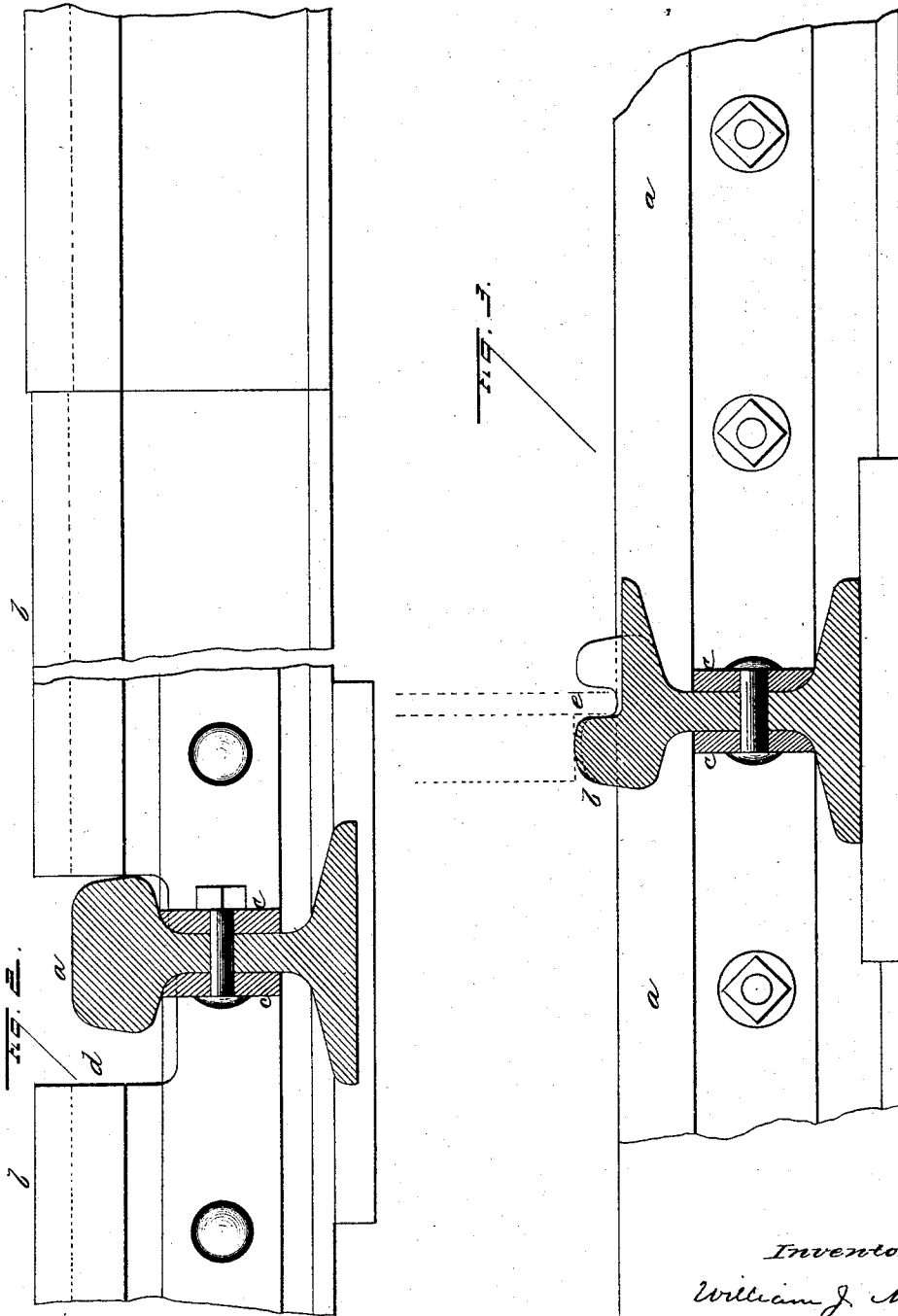
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UNITED STATES PATENT OFFICE.

WILLIAM J. MORDEN, OF CHICAGO, ILLINOIS.

RAILROAD-CROSSING.

SPECIFICATION forming part of Letters Patent No. 371,208, dated October 11, 1887.

Application filed December 8, 1886. Serial No. 221,006. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. MORDEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railroad-Crossings, of which the following is a specification, to wit:

This invention relates to railroad-crossings; and it consists in certain peculiarities of the construction and arrangement of the same, substantially as will be hereinafter more specifically described, and pointed out in the claims.

In order to enable others skilled in the art to which this invention pertains to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawings, in which—

Figure 1 is a plan view of my crossing; Fig. 2, a cross-section through the continuous rail, and Fig. 3 a similar view taken through the broken rail.

a represents the rails of one track, which will be here styled the "main" track, and *b* those of the other, here called the "cross-track."

It will be understood that crossings may be constructed, as herein described, of any kind of rails and for any purpose; but the crossing of a steam track and street or horse railroad track is illustrated in the accompanying drawings as better showing the invention.

It is preferred to make the main or steam track continuous, or without any depression or break to admit the passage of the wheel-flange upon the other track, as shown in Fig. 1, and to raise the street-track so that the top or tread of the rail will rise above the continuous rail at least the height of the wheel-flange.

As clearly indicated in Figs. 1 and 2, the cross or street track rails *b* are cut at their ends to fit the steam or continuous rail *a* and rest upon the foot-flanges of the latter, so that there can be no unequal sinking of the two lines of rail; but their relative position is always the same. The street or cross rails, being cut at their ends to proper form, rest upon the flanges of the continuous rails, with their webs and head-flanges in contact, and the whole are bound together firmly by a series of angle-straps, *c*, that are riveted to

the webs of the cut rails and bolted through that of the continuous rails, as in the drawings. This admits of a very strong crossing, with the cross-rails between the main ones formed in one length. These cross-rails have their heads notched, as at *d*, next the inner sides of the steam or main track rails, in order to permit the free passage of the wheel-flanges. This is clearly shown in Fig. 2.

When the two tracks cross at any except a right angle, the wheels of the street-cars cross the main rails alternately, and there is danger of the wheels of the street-car leaving the track. To obviate this it is designed to form the street or cross track rails with a groove, *e*, as in dotted lines of Fig. 2 and full lines in Fig. 3. The bottom of this groove is upon a line with the top of the main or continuous track rail, and is slightly higher than the main body of the connecting cross-track rails, as clearly shown in the drawings, while the tops of the flanges which form the groove are slightly lower than the tread of the connecting-rails; and it will be at once seen that a car-wheel approaching the crossing and having its tread rolling upon the head-flange of the street-rail in the usual manner will at the joint of the crossing-rail and street-rail have its point of contact and load transferred from the wheel-tread to its flange, and as the bottom of the groove which supports the flange is lifted just in proportion as the flanges are dropped there is no jar, but the wheel rolls evenly and smoothly from the main street-rail to its crossing-connection, and the flange is then held in the groove, so that there can be no side jump off the rails as the other wheels cross the main track. This is also aided by the fact that the street-rail is raised higher than the main track, and the street-car wheels roll off upon the main rail without having to mount over it.

While the crossing of a street and a steam track is herein described and shown, it will be evident that this construction is equally applicable to any other tracks and to different forms of rails, and it is not, therefore, desired to confine it to what is here specifically shown and described.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a railroad-crossing, the combination, with one track having continuous rails, of a second track having its rails cut to fit against the web and head and rest upon the foot-flange
5 of the other, the whole secured by a series of angle-straps secured to the webs of the rails, substantially as and for the purpose shown and described.

2. In a railroad-crossing, the combination,
10 with a continuous track, of a second track having its rails cut to fit against and rest upon the same and of slightly greater height, the

crossing-connections of the second track formed with a groove slightly higher than the body of its connecting line-rails, and the sides
15 of said groove lower than the flange of said line-rails, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM J. MORDEN.

Witnesses:

W. C. McARTHUR,
W. S. McARTHUR.