

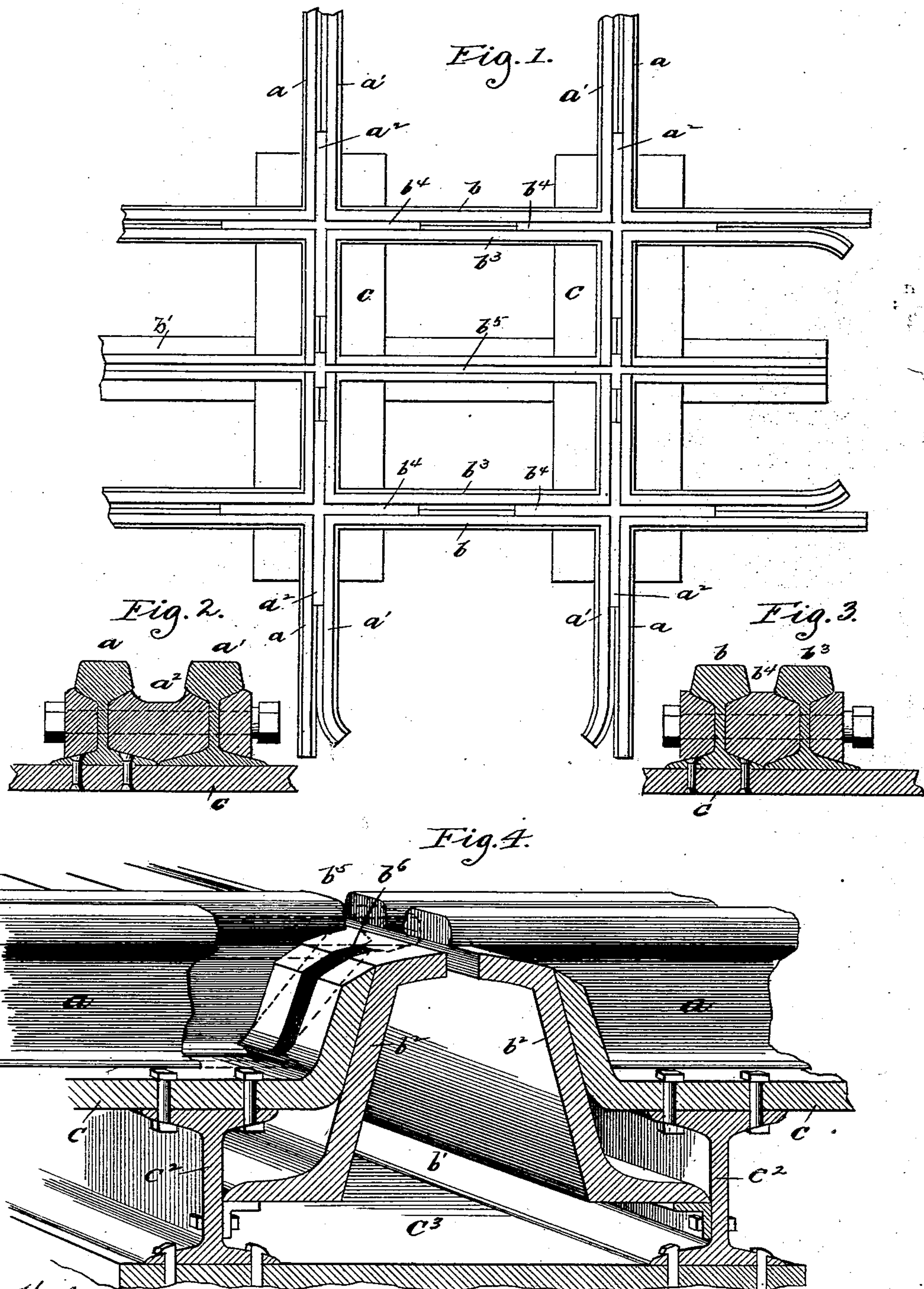
(No Model.)

W. J. MORDEN.

COMBINED CABLE AND STEAM TRACK CROSSING.

No. 426,840.

Patented Apr. 29, 1890.



Witnesses

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WILLIAM J. MORDEN, OF CHICAGO, ILLINOIS.

COMBINED CABLE AND STEAM TRACK CROSSING.

SPECIFICATION forming part of Letters Patent No. 426,840, dated April 29, 1890.

Application filed March 21, 1888. Serial No. 267,932. (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 Combined Cable and Steam Track Crossings, of which the following is a specification, to wit:

This invention relates to an improvement in railway and cable track crossings; and it consists in certain peculiarities of the construction and arrangement of the same, substantially as will be hereinafter more fully set forth and claimed.

In order to enable others skilled in the art to which my 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 is a cross-section of one side of the steam rail-track. Fig. 3 is a similar section of the cable rail-track; and Fig. 4 is a perspective view, partly in section, and showing the conduit, the steam-track rails, and the manner in which they are secured to the Z-rails forming the conduit, one of said rails being broken away to show a slot in the Z-rail intended to receive the web of the steam-track rail.

a a represent the main rails of a steam-railroad of the usual or any desirable kind and do not need a detailed description.

b b are the main rails of a cable-track, having a cable-conduit *b'* laid between them in the ordinary way, the top of this conduit being formed of Z-irons *b²*, with a channel *b⁵* left between their upper edges to permit the passage of the grip-bar attached to the car. The said Z-irons are slotted or cut away on their outer sides, as shown at *b⁶*, for the reception of the webs of the steam-track rails.

Both the steam and cable tracks are at the crossing provided with guard-rails *a' b³*, laid alongside of the main rails, on the inner sides, and the spaces between the main and guard rails are filled in with filling-pieces *a² b⁴*, secured by bolts passed through both rails, as shown clearly in Fig. 1 and in the enlarged sections, Figs. 2 and 3. These guard-rails vary in length according to the circumstances of a single or double track crossing, and in any case are extended past the crossing a

short distance, as experience may dictate, and as indicated in the drawings.

To each Z-iron of the conduit is secured a metal plate *c*, which extends laterally just beneath the rails to the outside of the track, as in Fig. 1, and the main rails of each track are riveted to this plate, as at *c'* in Figs. 2 and 3. This plate forms a firm support for the steam-track rail which lies upon it, and by reference to Fig. 4 it will be noted that the steam-rails *a* are of an elevation sufficient to admit of the whole thickness of the head of the rail and portion of the web overlapping and lying upon the top of the Z-irons of the conduit, and the web and foot of the rail are cut away in such a manner as to bear upon these irons and thus gain a firm and elastic support. The plate *c* rests or lies upon an eye-beam *c²*, to which it may be secured by bolts or rivets. This eye-beam *c²* is parallel to the channel *b⁵* and rests upon a base *c³* at right angles to the channel, the several parts being secured together in any appropriate manner, forming a firm and elastic support, and at the same time the channel of the conduit will be kept open and all deflection avoided.

In practice it is found that the addition of the guard-rails and filling-pieces not only gives greater security to the passing cars, but also prevents the wheels of light vehicles, &c., from getting caught and broken in the crossing, as often occurs.

The peculiar construction of the conduit and rail-joint gives me sufficient metal in the rail-head and a firm enough bearing for web and foot to sustain the weight of passing cars, and prevents the frequent breaking of the rail ends, as has heretofore often occurred when sufficient metal was not had, and the lateral plate *c* not only supports the rail as well as a cross-tie, but sustains the Z-iron of the conduit from the effects of side-thrusts when a car approaches, and I obtain an exceedingly strong crossing having great durability.

In the drawings I have shown a right-angled crossing; but the construction is applicable to a crossing of any angle.

I do not desire to be confined to the exact form of the plate *c* as shown, but any plate or iron may be used that will give the same

support and results; nor do I desire to be confined to the exact angle as shown of the cutting away of the Z-irons and the web and foot of the rails, as the same may be varied 5 as required.

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

1. In a combined cable and steam railway 10 crossing, a conduit provided with Z-irons slotted or cut away for the reception of the webs of the steam-track rails, substantially as and for the purpose set forth.

2. In a combined cable and steam railway 15 crossing having a conduit provided with Z-irons, a supporting-plate placed between the Z-irons and the rails, substantially as shown and described, and for the purpose set forth.

20 3. In a combined cable and steam crossing, the combination, with the cable-track having a conduit in its center and brace-plates extended laterally from the conduit irons beneath the rails, of the steam-track rails riv-

eted to said plates and having their whole 25 head-flanges overlapping and resting upon the conduit-irons, and the webs and foot-flanges cut to bear upon said conduit, substantially as and for the purpose set forth.

4. The combination, with a cable-track, of 30 a crossing steam-track, both of said tracks being provided with guard-rails upon their inner sides, and filling-pieces bolted between said main and guard rails, substantially as and for the purpose set forth.

5. In a combined cable and steam railway 35 crossing, the combination of the conduit b' , having Z-irons b^2 , the supporting-plate c , the eye-beam c^2 , and base c^3 , all constructed and arranged substantially as shown and de- 40 scribed, and for the purpose set forth.

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

WILLIAM J. MORDEN.

Witnesses:

P. A. HOYNE,
H. HARRISON.