

No. 658,357.

Patented Sept. 25, 1900.

T. C. DU PONT.

RAIL JOINT.

(Application filed Dec. 1, 1899.)

(No Model.)

Fig. 1.

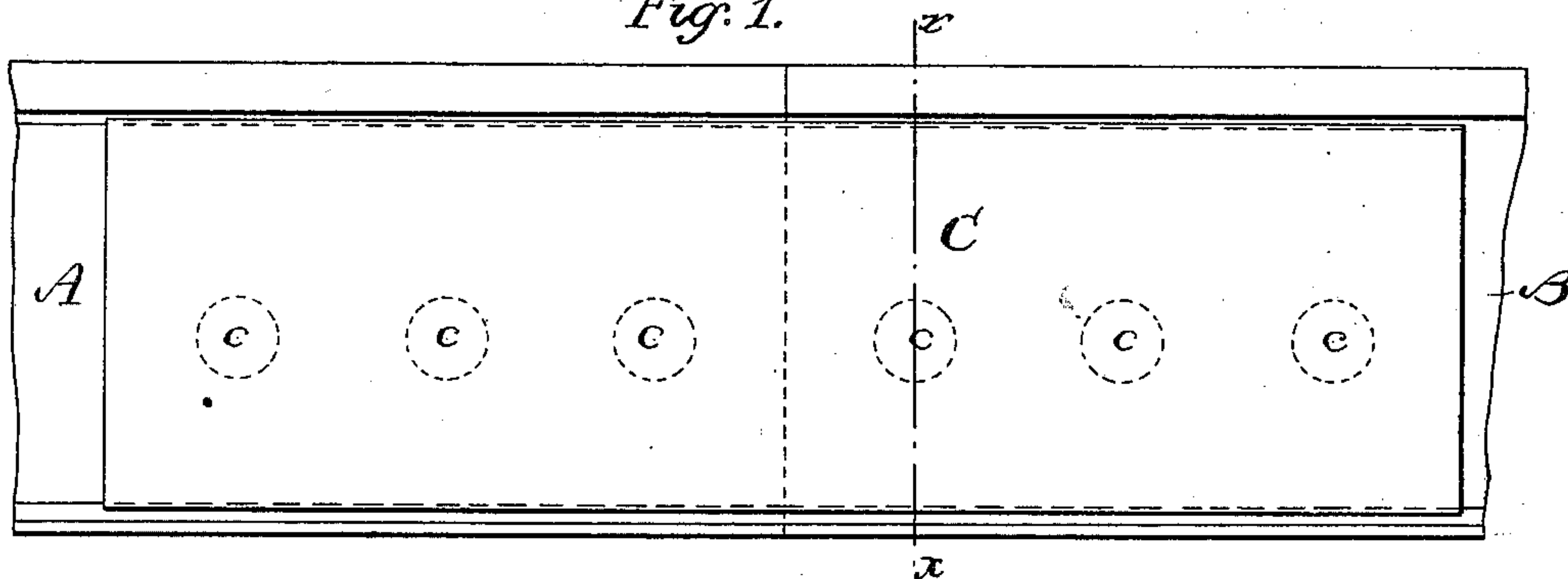


Fig. 2.

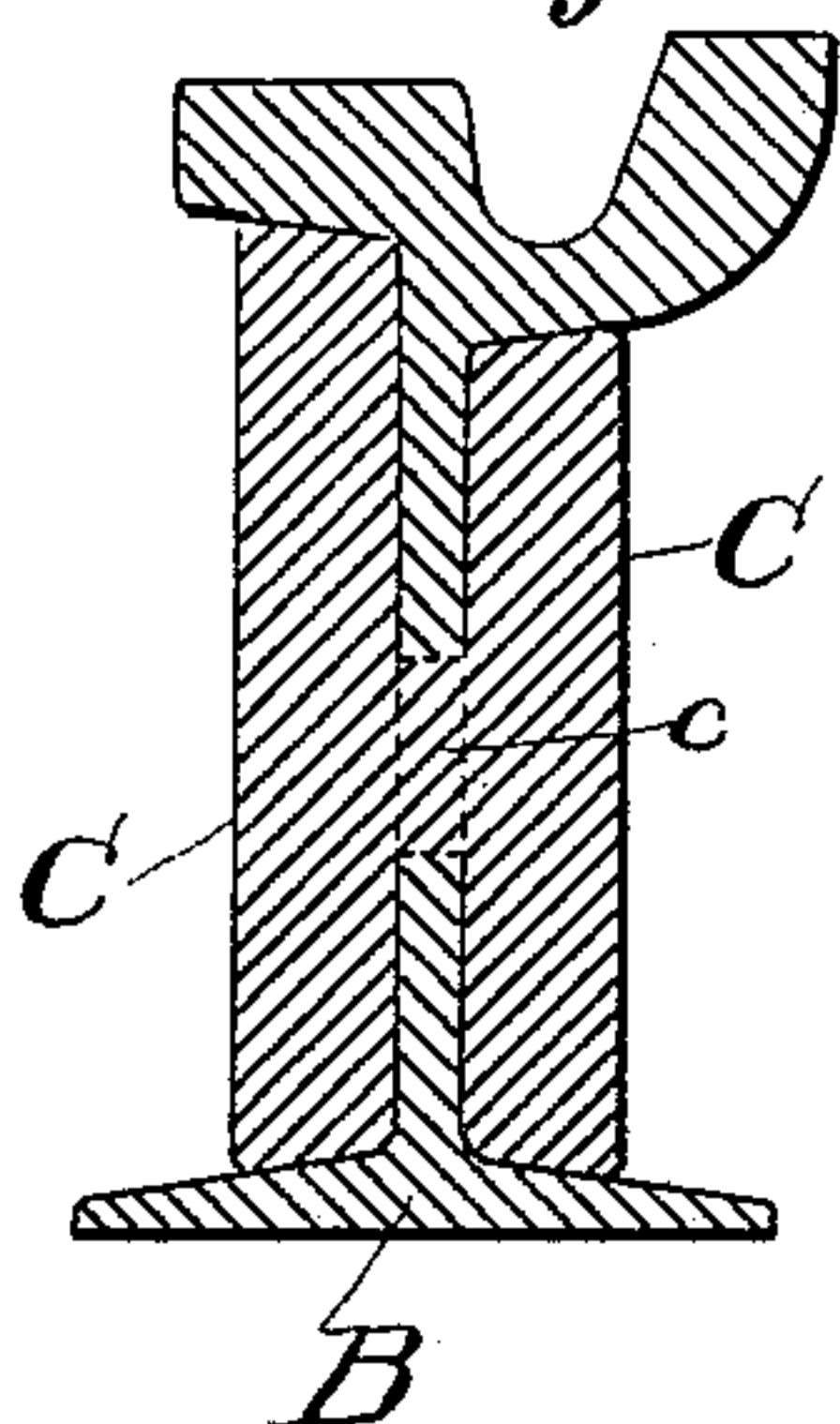
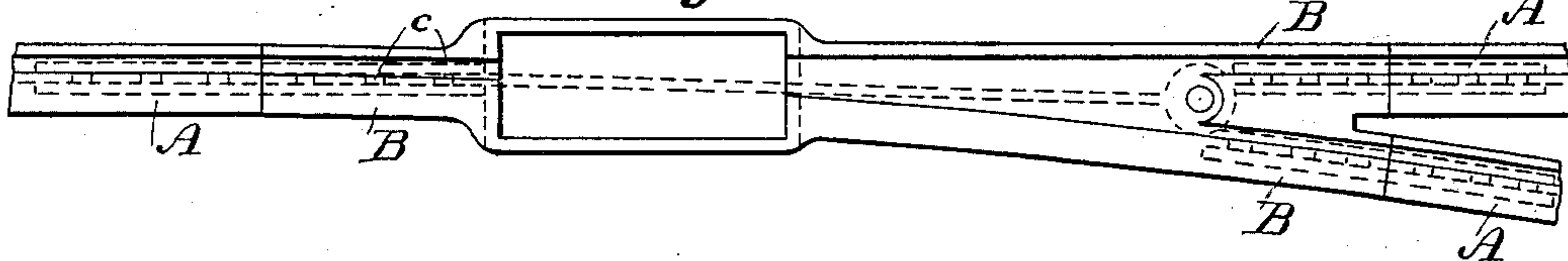


Fig. 3.



WITNESSES:

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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 658,357, dated September 25, 1900.

Application filed December 1, 1899. Serial No. 738,880. (No model.)

To all whom it may concern:

Be it known that I, THOMAS COLEMAN DU PONT, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Rail-Joints, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention has relation to rail-joints and more particularly to that class of joints in which the rails are rigidly connected by means of cast metal.

The object of my invention is to provide a strong durable joint with a minimum amount of cast metal, which may be used for connecting together rails and track structures of various kinds, but which is particularly useful where it is required to connect a rolled rail to a cast-steel rail or rail member, considerable trouble being experienced in making a proper splice-bar joint between rolled rails and cast-steel rails, owing to the fact that the two rails may vary considerably in their cross-sections, as in cases where the rolled and cast rails are intentionally of different sections or, as in other cases, where the web portion of the cast rail is twisted or warped out of its true lines, as is frequently the case. In all cases of this kind a considerable amount of blacksmithing is required in order to make the splice-bars fit approximately the end rails, or what is commonly known as "combination" joints must be provided. This work is not only troublesome and expensive, but it is apt to result in a poor joint. This difficulty is entirely obviated by my invention, which consists in a rail-joint formed by two cast-steel splice-bars, which are cast in place between the heads and bases of the rails and are united to each other and to the rails by means of integral pins formed by the fluid metal flowing through and filling openings formed in the webs of the rails.

My invention will be better understood by reference to the accompanying drawings, in which—

Figure 1 is a side elevation showing my improved joint; Fig. 2, a section of the same on

the line X X of Fig. 1, and Fig. 3 a plan view of a switch-piece embodying my invention.

The letters A and B designate the two rails and C C the cast-steel splice-bars, united to each other and to the rail by the integral pin portions c, extending through openings in the web portions of the two rails.

In the construction of my improved joint the two rails are placed in a suitable mold, or a suitable mold is placed around the end portions of the rails, and the cast-steel is poured in, the rail-webs having been provided with suitable openings for the fluid metal to flow through. These openings may be punched in rolled rails, and the cast rails may be either corded or drilled. Where a piece of rolled rail is to be united to a cast-steel track structure, such as the switch-piece shown in Fig. 3, the rolled-rail piece may be placed in the mold in which the structure is to be cast and the splice-bars will then form integral portions of the casting.

The splice-bars are preferably sufficiently thin, so as to be well inside the vertical lines of the rail heads and bases, so that there are no projections to obstruct the adjacent paving and a minimum amount of cast metal is required. I do not, however, wish to limit myself to the exact form of splice-bars which I have herein shown and described.

Instead of providing the openings in the webs of the rails for the cast metal to flow through the rails may be provided with projections or with pockets or recesses or with roughened surfaces of various kinds to cause the cast metal to adhere firmly thereto.

If desired, the joints may be annealed after completion, when this is practicable.

I do not claim in the present application specifically the track structure shown in Fig. 3, as track structures of this character form the subject-matter of a separate application of even date herewith, Serial No. 738,878.

Having thus described my invention, what I claim, and desire to protect by Letters Patent, is—

1. The herein-described rail-joint which consists in the combination with the two rail members, of a pair of cast-steel splice-bars

cast to the rail members between their head and base-flanges, and connected to each other and to the said joint by means of integral portions extending through openings in the said members, substantially as described.

2. The herein-described rail-joint which consists in the combination with the two rail members having openings through their web portions, of cast-steel splice-bars cast in place between the head and base-flanges of the said members, and united to each other solely by integral portions thereof extending through the said openings.

3. The combination with a pair of rails having openings through their web portions, of a pair of cast-steel splice-bars cast in place between the heads and base-flanges of the

rails and united to each other solely by integral portions extending through the said openings, and to the rails by the said integral portions and by the adhesion of the splice-bars themselves, substantially as described.

4. The combination with a rolled rail and a cast-steel rail, of a joint therefor consisting of a pair of cast-steel splice-bars cast to said rails between their heads and base-flanges, substantially as described.

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

THOMAS COLEMAN DU PONT.

Witnesses:

M. E. SHARPE,

H. W. SMITH.