

**No. 633,133.**

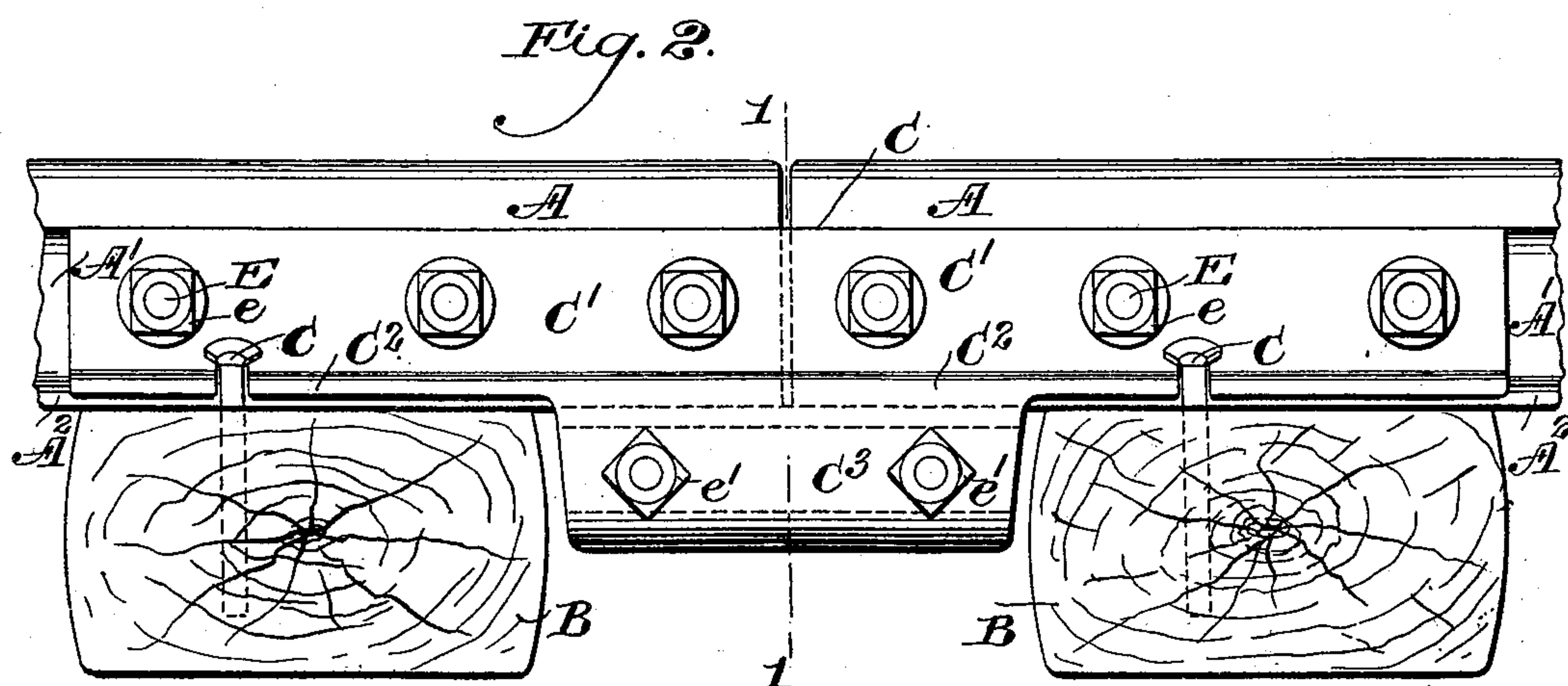
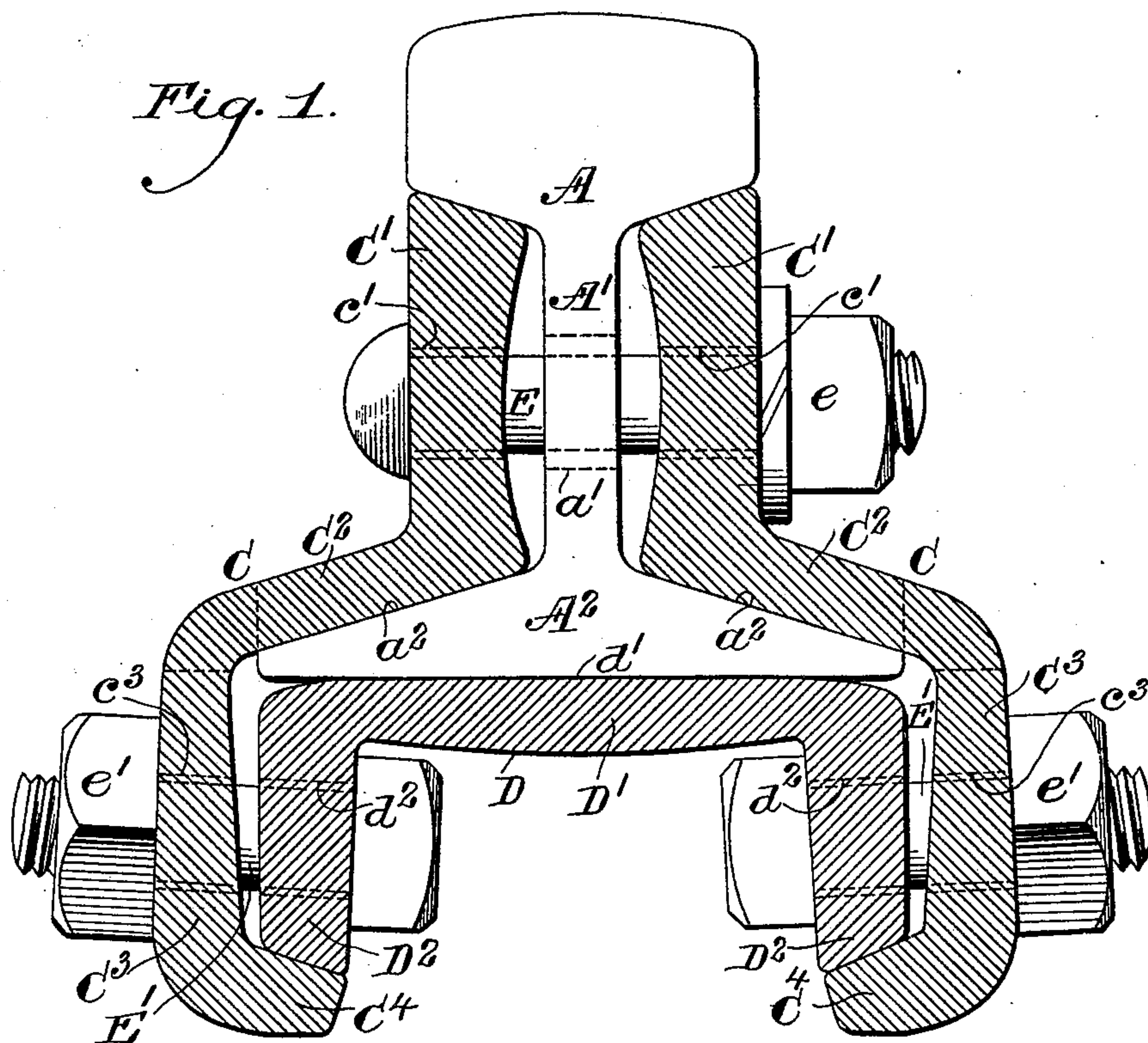
**Patented Sept. 19, 1899.**

**A. W. GRIFFITH.**

# RAIL JOINT.

(Application filed Mar. 21, 1899.)

(No Model.)



*Witnesses:*

Henry Dreyfus  
H. Kewant

*Inventor:*

Wm. Griffith  
by his atty

Francis J. Chambers



# UNITED STATES PATENT OFFICE.

ASA W. GRIFFITH, OF WILMINGTON, DELAWARE, ASSIGNOR TO THE  
DIAMOND STATE IRON COMPANY, OF SAME PLACE.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 633,133, dated September 19, 1899.

Application filed March 21, 1899. Serial No. 709,901. (No model.)

*To all whom it may concern:*

Be it known that I, ASA W. GRIFFITH, a citizen of the United States of America, residing in Wilmington, in the county of New Castle, in the State of Delaware, have invented a certain new and useful Improvement in Rail-Joints, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of rail-joints, and has for its object to provide a firm and strong joint for securing together the ends of railway-rails.

The nature of my invention will be best understood as described in connection with the drawings in which it is illustrated, and in which—

Figure 1 is a cross-section through the center of the joint taken as on the section-line 11 of Fig. 2, and Fig. 2 is a side elevation of my joint.

A A are the abutted rail ends to be joined, A' indicating the rail-webs pierced with holes a' for the fish-plate bolts.

A<sup>2</sup> indicates the rail-base, a<sup>2</sup> a<sup>2</sup> indicating the upper faces of the base.

B B are ties.

C C are fish-plates, formed, as shown, with an upper flange C', pierced with bolt-holes c', corresponding to the bolt-holes a' in the rail-web, an intermediate flange or center C<sup>2</sup>, adapted to fit on the upper faces a<sup>2</sup> of the rail-base, and a lower flange C<sup>3</sup>, extending below the rail-base, provided with bolt-holes c<sup>3</sup> and with an inwardly-extending lug C<sup>4</sup> at their lower edges. Preferably the flanges C<sup>3</sup> are only formed in the center of the fish-plates C and of a length which will permit them to extend between two adjacent ties B, over which will extend the flanges C' and center C<sup>2</sup>, as shown.

D is a U-shaped section of a length corresponding to that of the flanges C<sup>3</sup> and formed so that when the face d' of its central part abuts

against the bottom of the rail-base its lateral arms D<sup>2</sup> will extend down over the lugs C<sup>4</sup> of the flanges C<sup>3</sup>, against which the ends of said arms should rest when the joint is fully erected. Preferably I form the face d' of section D with a slight convex curvature and form the section as a whole, so that its arms D<sup>2</sup> will not actually contact with lugs C<sup>4</sup> until the flanges C<sup>3</sup> of the fish-plate and arms D<sup>2</sup> of the section D are drawn together by the bolts E', which are passed through oppositely-lying holes d<sup>2</sup> and c<sup>3</sup> in arms D<sup>2</sup> and flanges C<sup>3</sup> and made to draw the parts into contact by means of the nuts e'.

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

1. A rail-joint having in combination two fish-plates C C formed with flanges C<sup>3</sup> extending below the rail-base and formed with inwardly-extending lugs C<sup>4</sup> at their lower edge, a U-shaped section D adapted to fit below the rail-base and having its arms D<sup>2</sup> extending over the lugs C<sup>4</sup> of the fish-plates, bolts as E securing the upper flanges of the fish-plates together and to the rail and two series of bolts E' securing the flanges C<sup>3</sup> of the fish-plates to the adjacent arms D<sup>2</sup> of the section D.

2. A rail-joint having in combination two fish-plates C C formed with flanges C<sup>3</sup> extending below the rail-base and formed with inwardly-extending lugs C<sup>4</sup> at their lower edge, a U-shaped section D having a convexly-curved face d' adapted to fit below the rail-base and having its arms D<sup>2</sup> extending over the lugs C<sup>4</sup> of the fish-plates, bolts as E securing the upper flanges of the fish-plates together and to the rail and two series of bolts E' securing the flanges C<sup>3</sup> of the fish-plates to the adjacent arms D<sup>2</sup> of the section D.

A. W. GRIFFITH.

Witnesses:

WM. L. TODD,

L. J. CROZIER.