

No. 801,516.

PATENTED OCT. 10, 1905.

E. B. ENTWISLE.
RAILWAY CROSSING.
APPLICATION FILED MAR. 10, 1904.

2 SHEETS—SHEET 1.

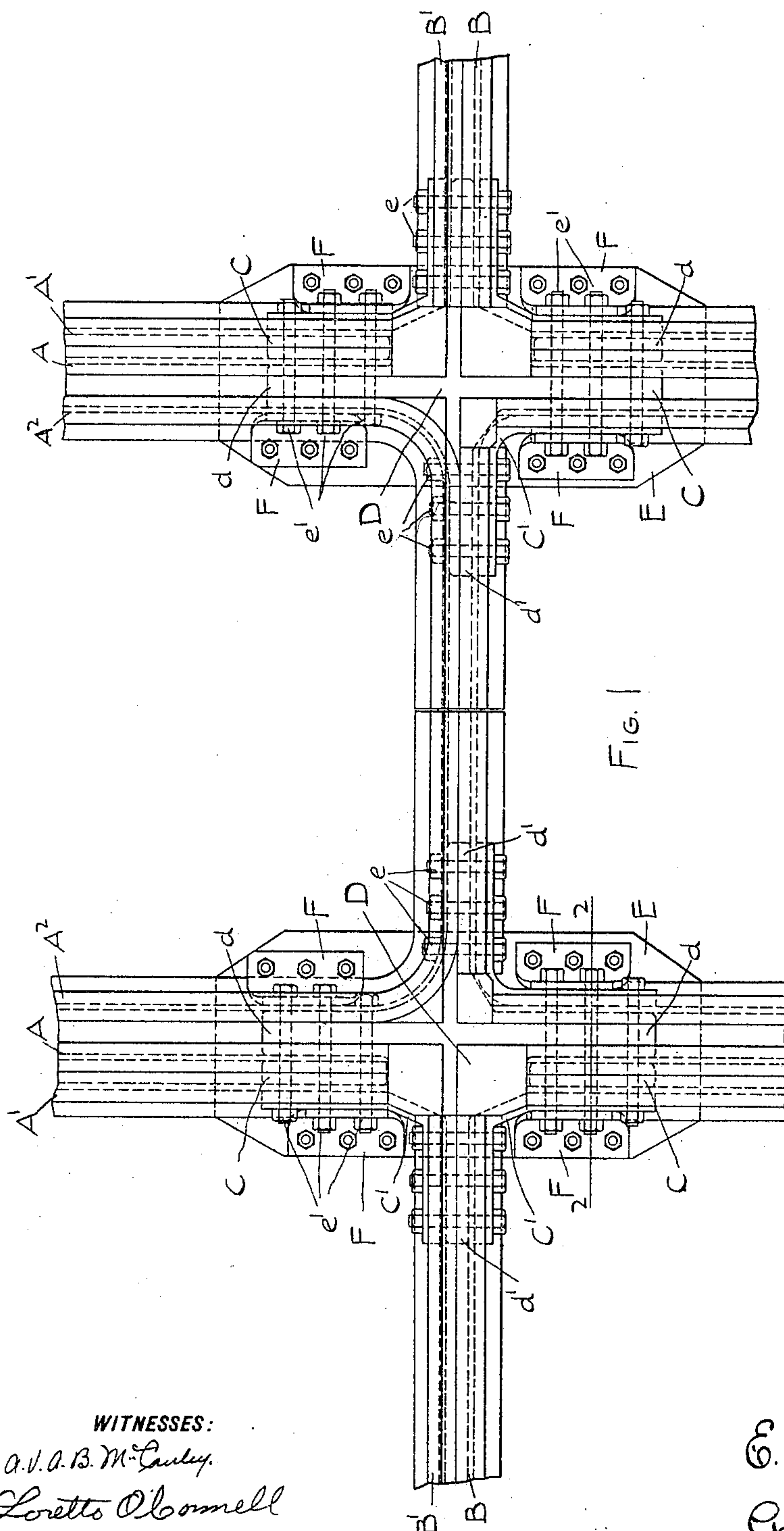


FIG. 1

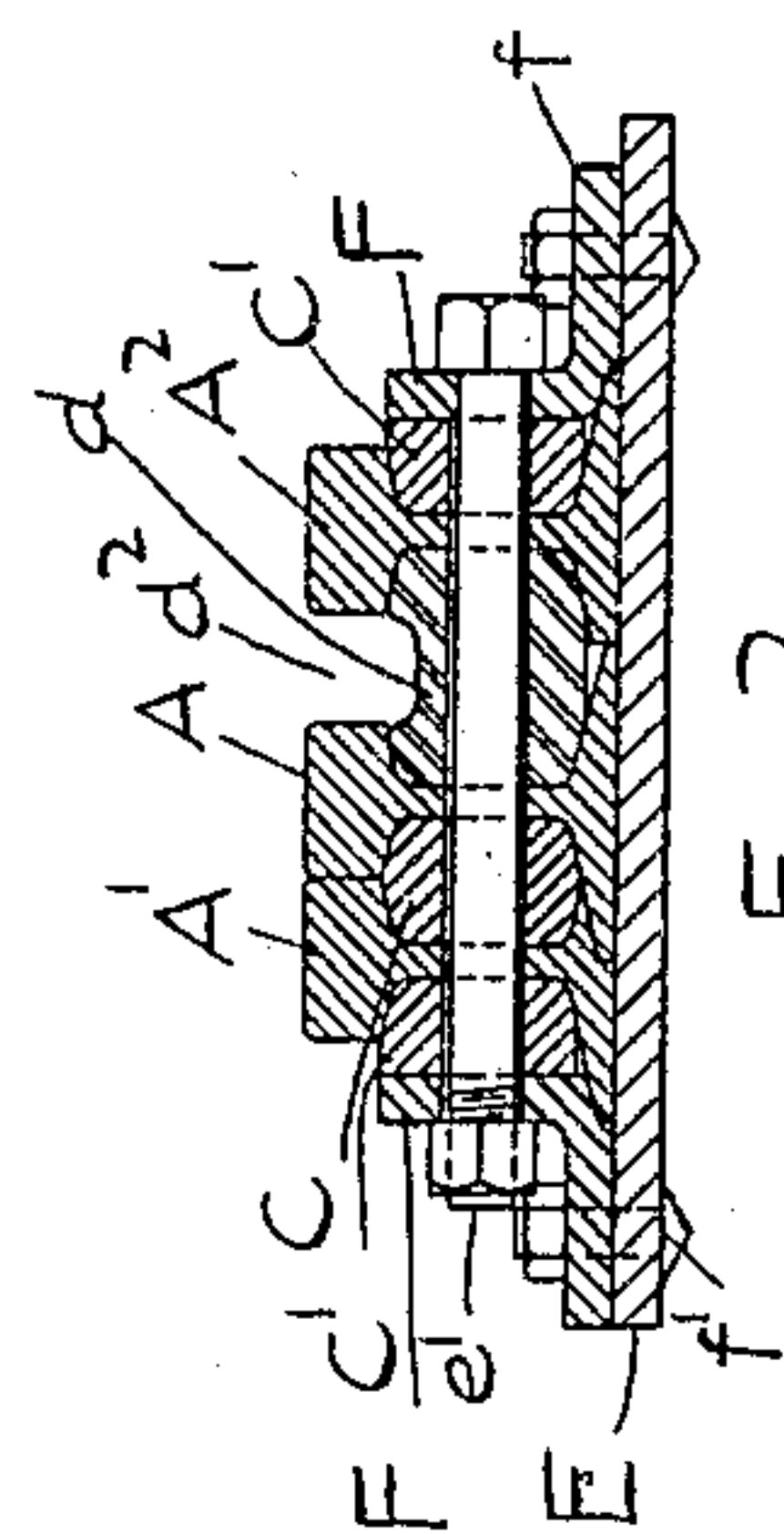


FIG. 2

WITNESSES:
A. V. A. B. M. Carley.
Loretto O'Connell

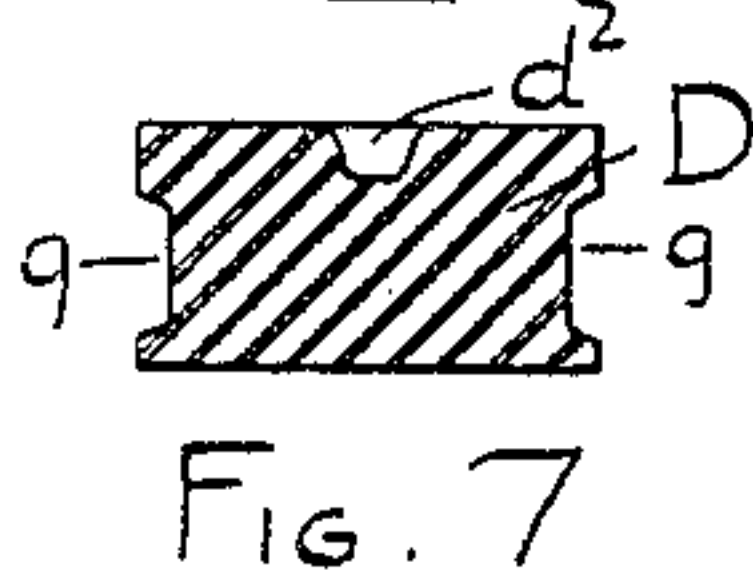
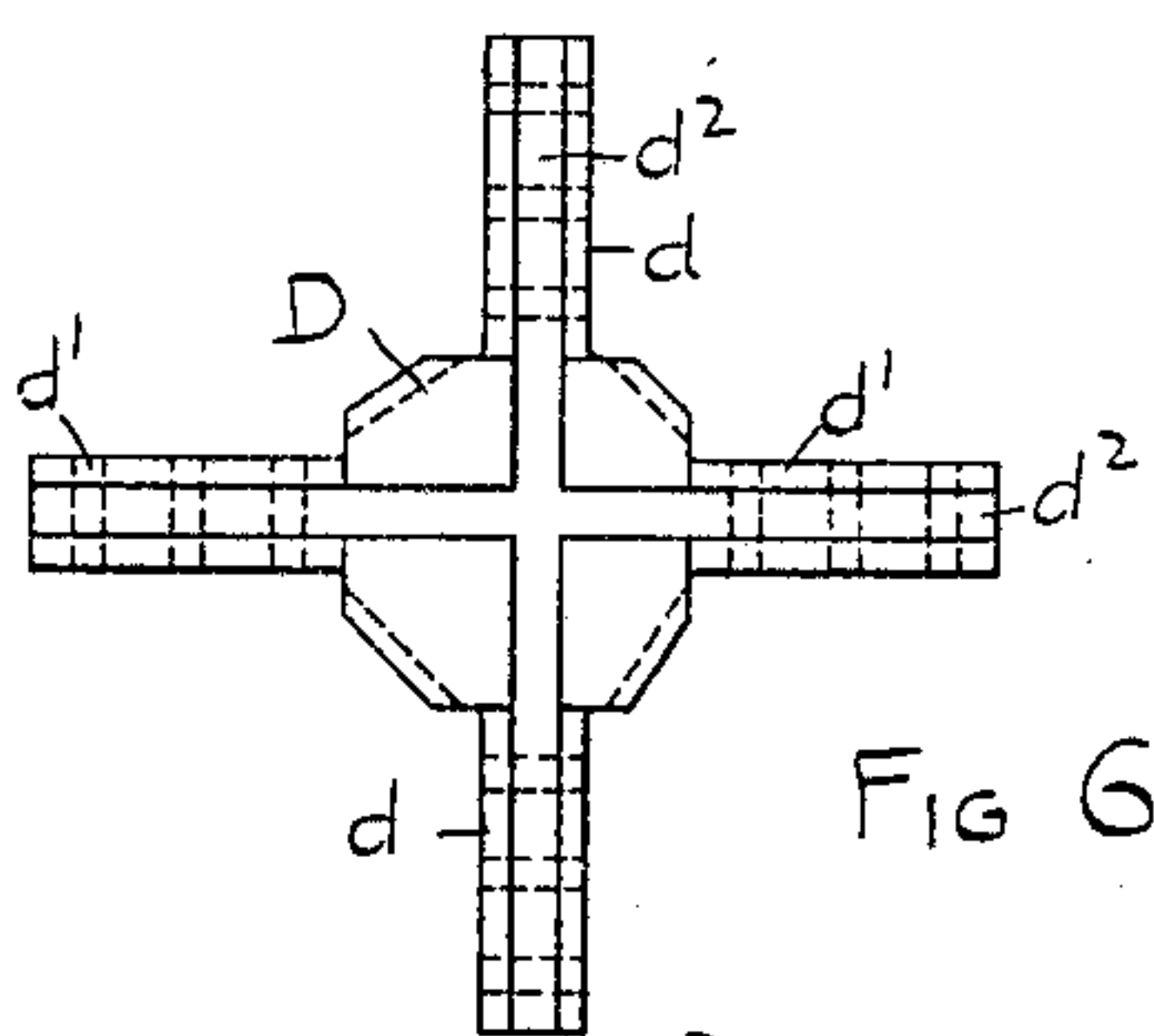
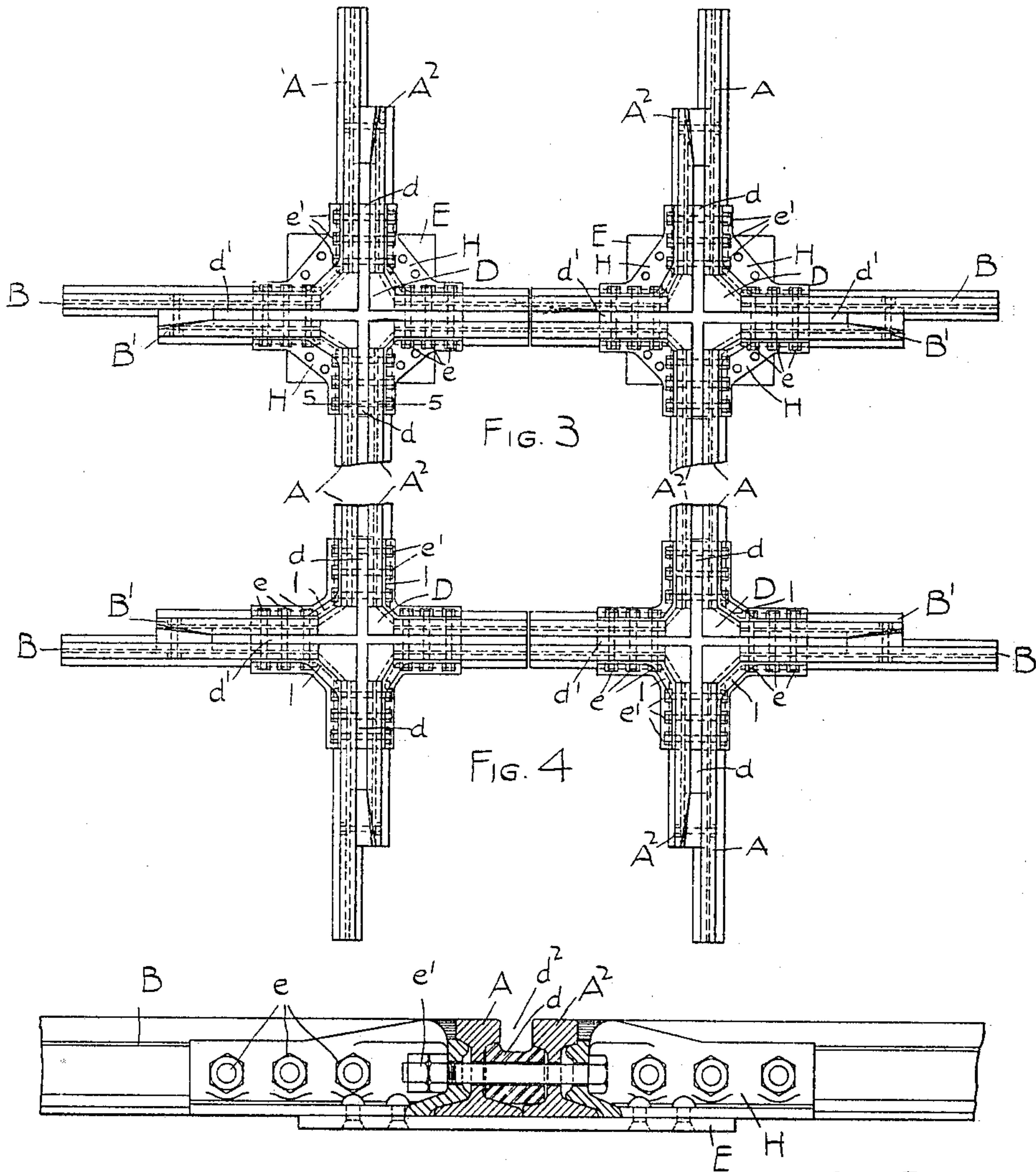
E. B. Entwisle, INVENTOR.
BY
Geo. H. Parmelee,
his ATTORNEY.

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2 SHEETS—SHEET 2.



WITNESSES:
A. V. A. B. M. Cauley.
Loretto O'Connell

E. B. Entwisle, INVENTOR
BY
Geo. H. Partridge, ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD B. ENTWISLE, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR TO
THE LORAIN STEEL COMPANY, A CORPORATION OF PENNSYLVANIA.

RAILWAY-CROSSING.

No. 801,516.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed March 10, 1904. Serial No. 197,563.

To all whom it may concern:

Be it known that I, EDWARD B. ENTWISLE, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Railway-Crossings, 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 railway-crossings, and is designed to provide built-up crossings of durable and rigid character in which the intersections are formed of more durable material than the remainder of the structure.

Heretofore the use of hard intersection-plates in railway-track work has been largely confined to integral cast structures and to structures in which the rail-sections are secured in a body of cast metal in which a pocket in which the plate could be seated and keyed might be provided. To some extent, however, such plates have been used in frogs and other built-up structures of such shape that the plate could be bolted in place. Such use has not, however, been practical to any great extent in built-up right-angled crossings and crossings approaching a right angle, owing to the fact that the severe pounding to which such structures are subject, both in steam and street roads, requires that the plates shall be very securely held in place, while the shape of the structure makes it difficult to bolt the plates in place.

My present invention is designed to overcome these difficulties and to provide means whereby the plates may be securely held in place.

To this end my invention consists in the novel construction, combination, and arrangement of parts, all substantially as hereinafter described, and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a portion of a crossing embodying my invention; Fig. 2, a section on the line 2 2 of Fig. 1; Figs. 3 and 4, plan views showing modified constructions; Fig. 5, a section and side view, the section being on the line 5 5 of Fig. 3; Fig. 6, a plan view of one of the intersection-plates detached, and Fig. 7 a detail view.

Figs. 1 and 2 show a structure having three rails crossing two rails, such as is commonly

used where a steam-road crosses a tram or street road. The letter A designates the main rails of the steam-road, A' the bearing-rail, and A² the guard-rail. B is the main rail of the street-road, and B' the guard. These rails are in the present instance all T-rails; but girder-rails may be used in the street-track with equal facility. C designates fillers or chocks secured between the rails A A' adjacent to the intersection. D designates the intersection-plates, E the base-plates, and F flanged angle pieces or brackets by means of which the structure is secured to the base-plate. The plates D are formed with track-surfaces and gage-lines in alinement with those of the adjacent rails A and B and are each formed with four arms *d d d' d'*. The arms *d d* are shaped to fit between and underneath the heads of the rails A and A², while the arms *d'* are shaped to fit in a similar manner the rails B and B', flangeways *d'* of the proper depth being formed in each of the arms. *e* designates bolts which secure the arms *d'* to the rails B B', and *e'* are bolts which secure the arms *d'* to the rails A A' A², said bolts also passing through the fillers C, the knees C', and the angle pieces or brackets F. The bolts *e* also pass through the knees C'. The angles F are formed with the base-flanges *f*, which fit the upper surfaces of the base-plates E and are securely bolted or riveted thereto, as shown at *f'*. In order to give greater strength to the structure, I prefer to make the guard-rails A² and B continuous, as shown, their bends fitting the corner portions of the plate. I also prefer to recess the edges of the plate, as shown at *g*, (see Fig. 7,) to receive the knees C', which thus assist in binding and holding down the plates D.

The combination described is a very durable one and one which can be readily assembled and taken apart. The entire structure can be set up and securely bolted together before riveting it to the base-plate, thus greatly facilitating the assembly. The arms *d d'* on the plate can be made of any desired length and not only serve as chocks or fillers, but provide means for holding the plates firmly and in such a manner that they cannot become loose.

The structure shown in Figs. 3 and 5 differs from that shown in Figs. 1 and 2 in that it is a two-rail type, the bearing-rails A' being

omitted. In this type the guard-rails A² and B are also made discontinuous, and instead the angles or brackets H, which secure the structure to the base, are carried around the angles and also take the place of the knees C'.

The structure shown in Fig. 4 is the same as that shown in Fig. 3, except that the base-plates E are not employed and knees I are used in place of the brackets H.

My invention in its main features is applicable to other types of crossings as well as to the particular types shown. Hence I do not desire to be limited thereto nor to details of construction and arrangement, which may be varied without departing from the spirit and scope of my invention as defined in and by the following claims.

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

1. In a railway-crossing of the character described the combination with the track-rails, of the intersection-plate against which the ends of the running-rails abut, said plate having arms extending between the running-rails and guard-rails and secured thereto.

2. In a railway-crossing of the character described, the combination with the track-rails, of the track-surfaced intersection-plate against which the running-rails abut, said plate having a plurality of projecting arms secured between the webs of the adjacent rails.

3. In a railway-crossing of the character described, the combination with the track-rails, of the track-surfaced intersection-plate, having four radiating arms secured between the rail members of the four arms of the crossing.

4. In a railway-crossing of the character described, the combination with the track-rails, of the intersection-plate having the radiatory arms secured between the said rail members, and the knees or angles secured to

the rail members and also engaging the edges of the said plate intermediate of its arms.

5. In a railway-crossing of the character described, the combination with the track-rails, of the track-surfaced intersection-plate having radiating arms secured between said rails, and having its edge portions intermediate of said arms formed with recesses, and brackets or knees secured to the structure and engaging the said recesses.

6. In a railway-crossing of the character described, the combination with the rails forming the arms of the crossing, and the track-surfaced intersection-plate, of the angles or brackets having a holding-down engagement with the said plate, and secured to said arms, and a base-plate secured to said angles or brackets.

7. In a railway-crossing of the character described, the combination with the rails forming the arms of the crossing, and the track-surfaced intersection-plate, having arms secured between the said rails, of the angles or brackets secured to said arms and rails, and also engaging said plate.

8. In a railway-crossing of the character described, the combination with the running-rails of the two tracks, and the intersection-plates, of the bent guard common to both tracks and bearing against the said plates.

9. In a railway-crossing of the character described, the combination of the rails forming the crossing-arms, the intersection-plate having arms fitting between the said rails, the brackets or knees engaging the said plate, and bolts securing said rails and brackets and the arms of the plate.

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

EDWARD B. ENTWISLE.

Witnesses:

LORETTA O'CONNELL,
H. W. SMITH.