

C. A. ALDEN & G. S. VICKERY.

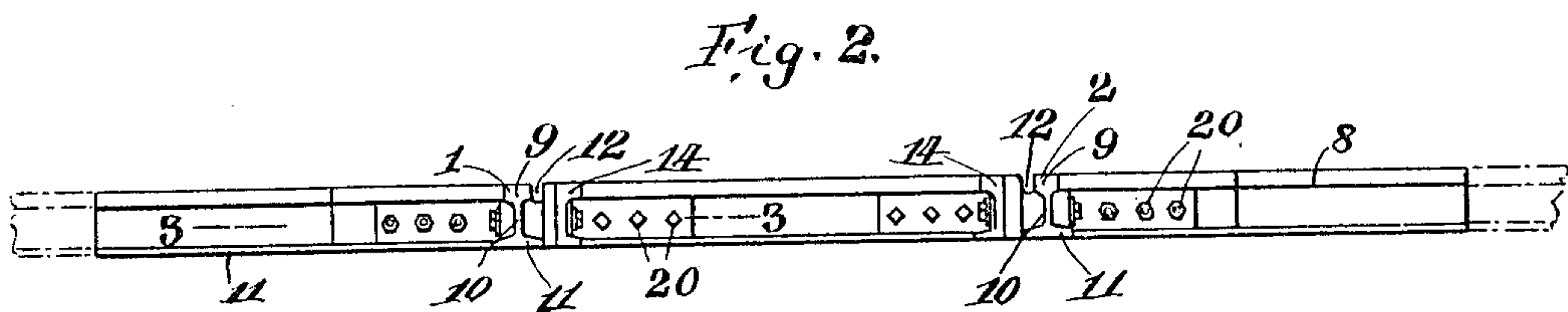
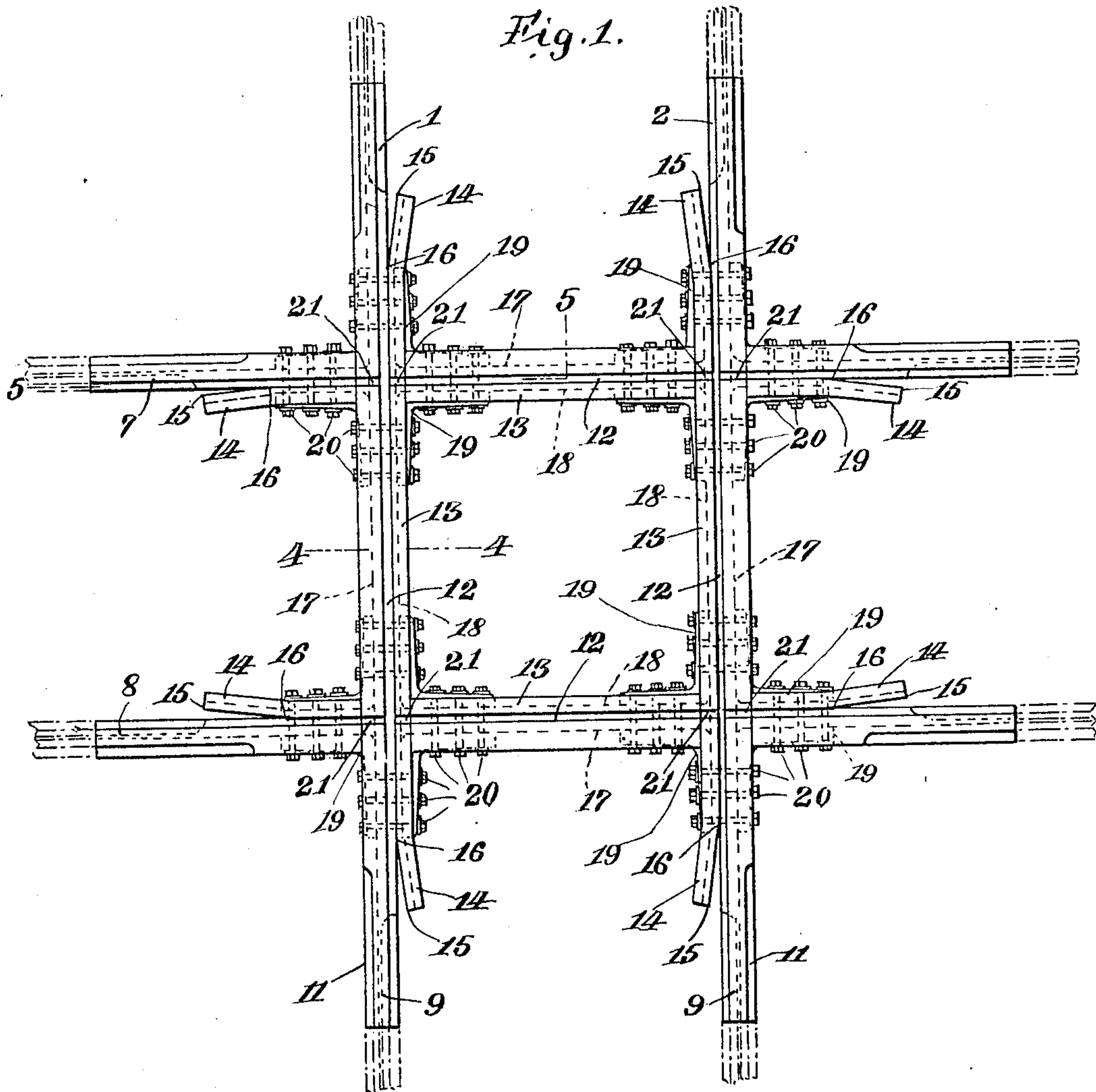
RAILROAD CROSSING.

APPLICATION FILED NOV. 30, 1908.

944,067.

Patented Dec. 21, 1909.

2 SHEETS—SHEET 1.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 3.

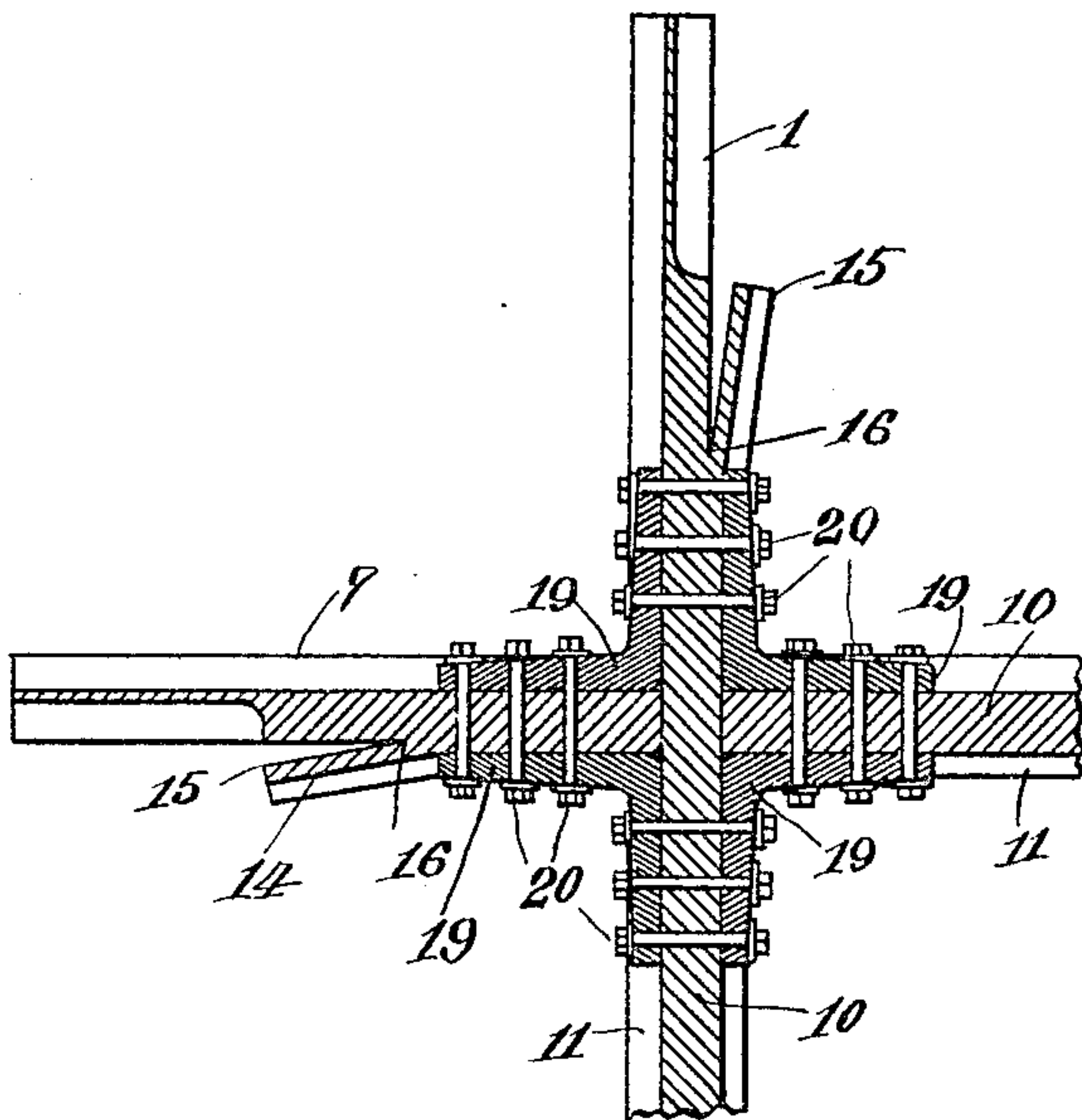


Fig. 6. Fig. 8. Fig. 10.

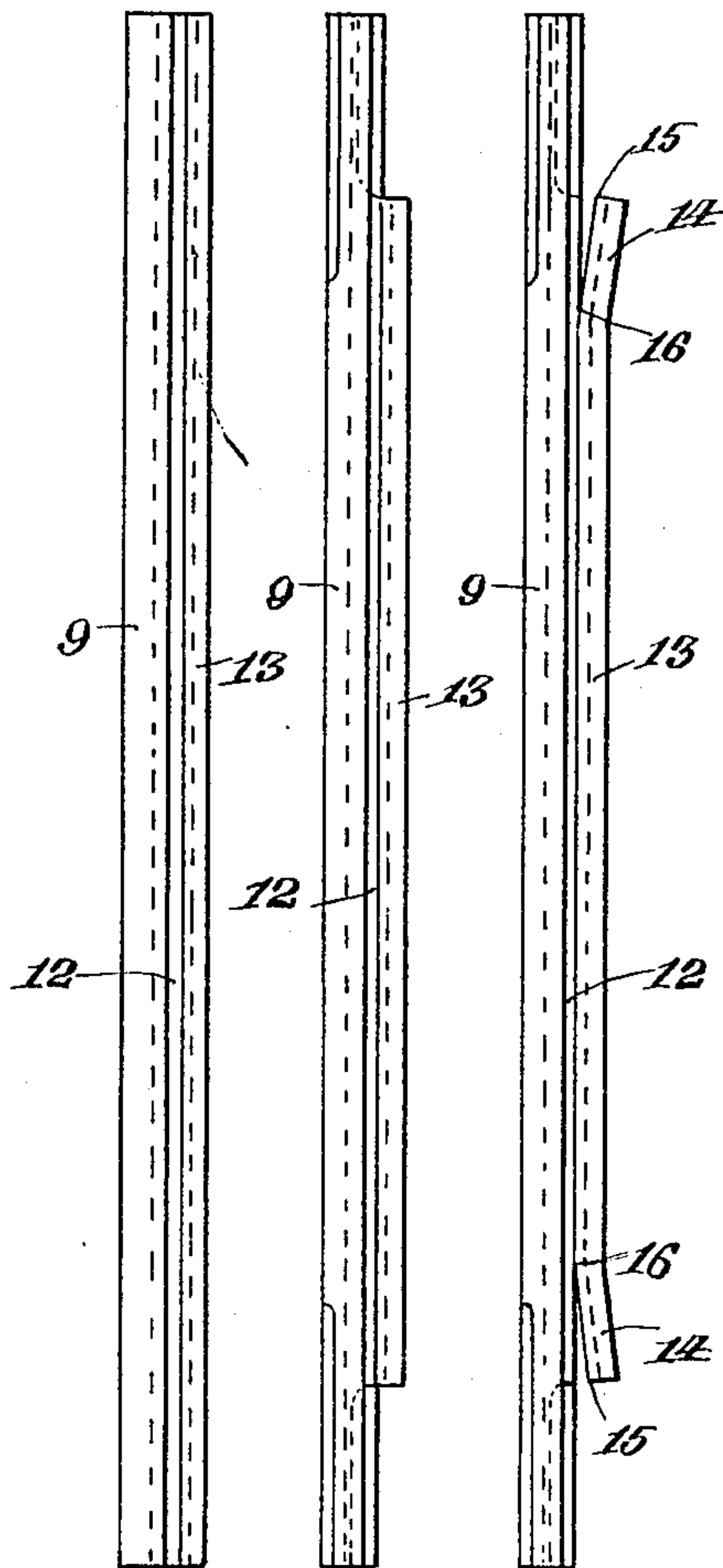


Fig. 4.

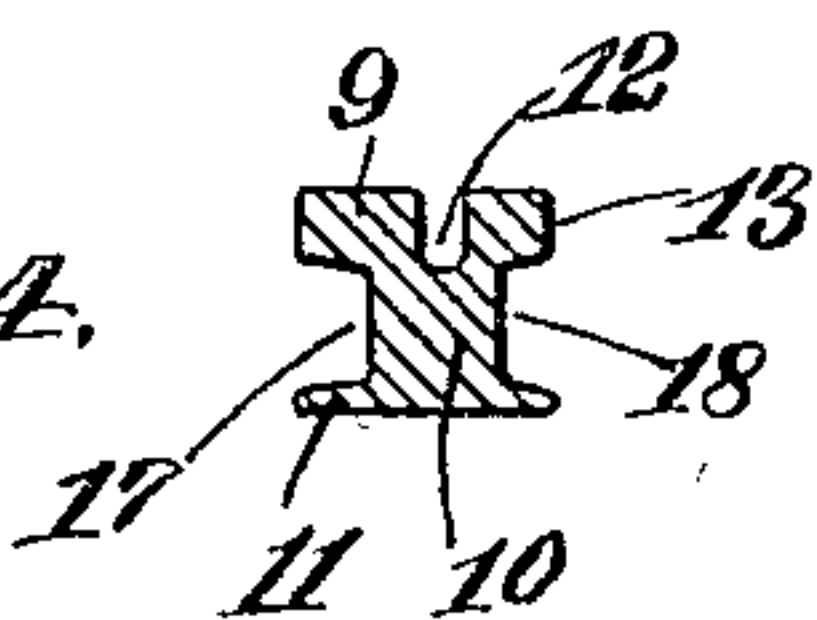


Fig. 5.

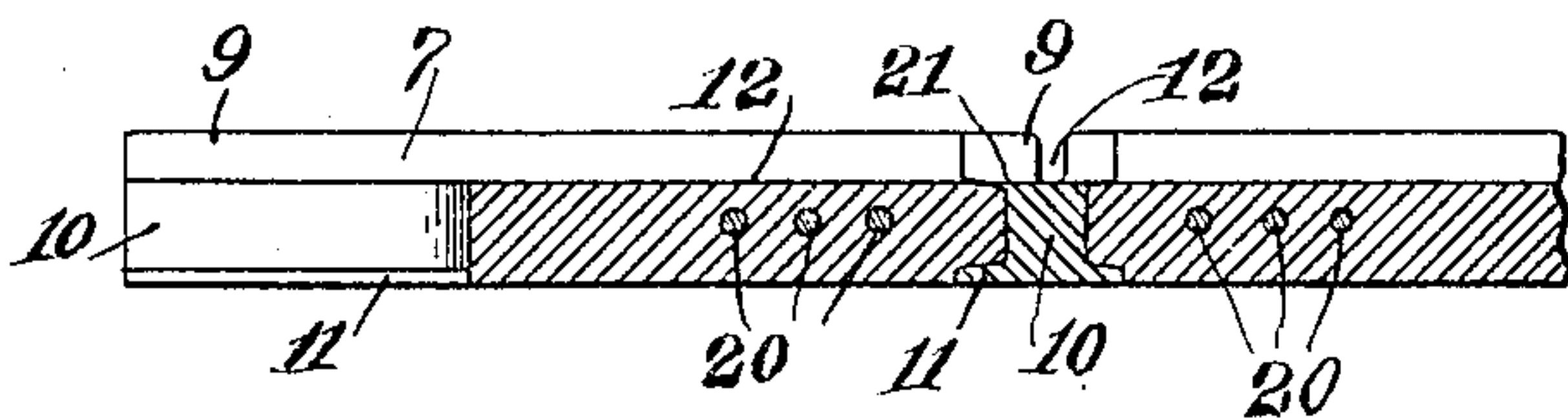
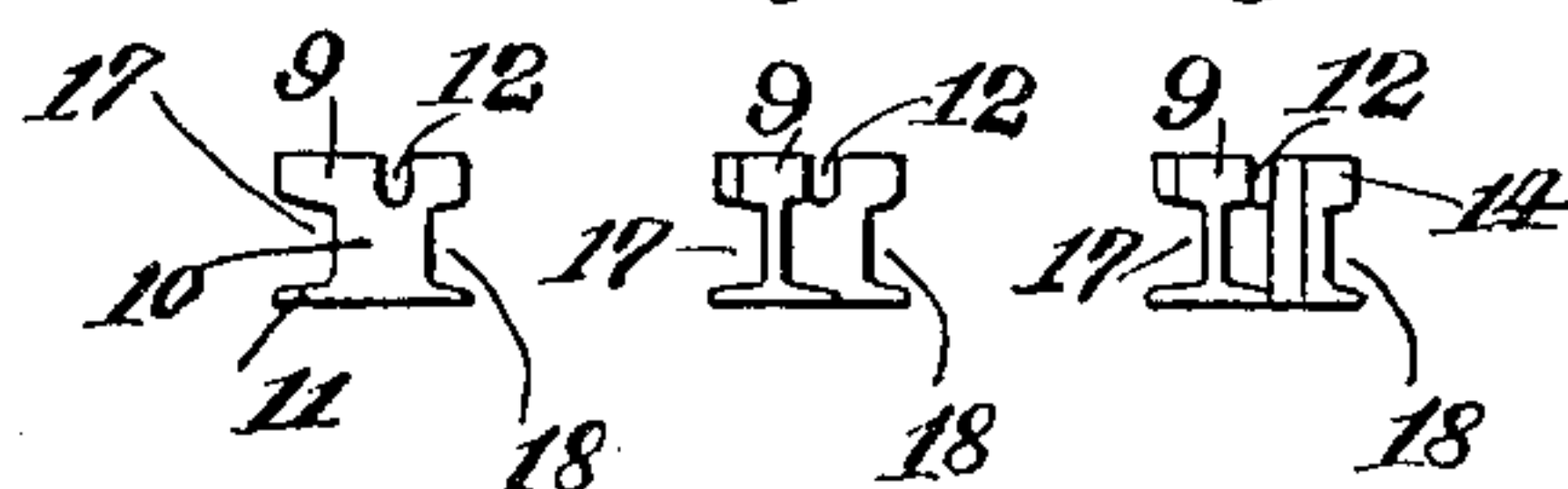


Fig. 7. Fig. 9. Fig. 11.



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UNITED STATES PATENT OFFICE.

CHARLES A. ALDEN, OF STEELTON, AND GILBERT S. VICKERY, OF HARRISBURG,
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RAILROAD-CROSSING.

944,067.

Specification of Letters Patent.

Patented Dec. 21, 1909.

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To all whom it may concern:

Be it known that we, CHARLES A. ALDEN and GILBERT S. VICKERY, citizens of the United States, said ALDEN residing at Steelton, Dauphin county, State of Pennsylvania, and said VICKERY residing at Harrisburg, Dauphin county, State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Crossings, of which the following is a full, clear, and exact description.

The object of our invention is to provide a strong, durable and efficient railroad crossing which will stand the great wear and strain to which such structures are subjected, and which will reduce to a minimum the jarring of the trains passing over the crossing.

With this object in view, the invention will be hereinafter fully described and particularly claimed.

In the drawings:—Figure 1 is a plan view of a railroad crossing embodying our invention. Fig. 2 is a side elevation thereof. Fig. 3 is a horizontal section as on the line 3—3 of Fig. 2. Fig. 4 is a vertical section as on the line 4—4 of Fig. 1. Fig. 5 is a vertical section as on the line 5—5 of Fig. 1. Fig. 6 is a plan view of a bar of rolled steel from which one of the rails of the crossing is constructed. Fig. 7 is an end view thereof. Fig. 8 is a plan view of a bar like that shown in Fig. 6, in constructing a rail therefrom. Fig. 9 is an end view of the bar shown in Fig. 7. Fig. 10 is a plan view of one of the finished rails of the crossing, or of the bar shown in Fig. 6 in its final stage of development. Fig. 11 is an end view of the rail shown in Fig. 10.

1 and 2 designate the main rails of the crossing, and 7 and 8 the cross rails thereof.

In the present embodiment of our invention, the main rails 1 and 2 and the cross rails 7 and 8 are alike in construction, excepting that the cross rails 7 and 8 are intersected by the main rails 1 and 2. The end portions of the main rails 1 and 2 are each provided with a head 9, a vertical web 10, and a foot flange 11, which are of the same shape and size and are adapted to mate with the usual track rails adjacent thereto and leading therefrom, so that the adjacent ends of the two rails may be secured together in the well known manner.

In Figs. 1 and 2 of the drawings, we have

indicated the adjacent ends of the track rails by dot and dash lines. The central portion of each rail 1 and 2 is made wider than the end portion thereof; that is to say, the head 9 is widened on the outside and the remaining parts of the rail are widened on the inside, and the top of the widened portion is provided with a flange-way 12 extending adjacent the inner face of the head 9 to receive the car wheel flanges, and a guard 13 forming the inner wall of the flangeway 12.

The ends 14 of each guard 13 and the underlying widened portion of the rail, are cut away from the main body of the rail and bent outwardly therefrom to provide flaring ends for the flangeways 12 to insure the passage of the car wheel flanges into said flangeways.

The side walls of the widened, central portion of each rail are provided with longitudinal channels 17 and 18 extending throughout the length thereof, as shown.

The cross rails 7 and 8 are like the main rails 1 and 2 in every respect, excepting that where they are intersected by the main rails 1 and 2, the ends of the cross rails 7 and 8 abutting against the sides of the main rails 1 and 2 are shaped to conform to the cross section of the main rails so that the central portions of the cross rails 7 and 8 will extend into the channels 17 and 18 of the main rails, as shown in Fig. 4.

The heads 9 and guards 13 of the main rails 1 and 2 are provided with flangeways 21 which extend transversely of the flangeways 12 of the main rails 1 and 2 and mate with the flangeways of the cross rails 7 and 8, so as to form in effect a continuation thereof.

Arranged within the channels 17 and 18 of each rail of the crossing, and fitted against the walls of the channels at each of the four corners where one rail intersects another, are angle pieces 19, which are secured to the rails of the crossing by bolts 20 extending through the angle pieces 19 and the widened portions of the rails.

Heretofore, in constructing rails for railroad crossings in which the central portions of the rails contained hard metal or were made wider than the end portions thereof, it has been found difficult to produce a satisfactory rail of rolled steel which would stand the great wear and strain to which

railroad crossings are subjected, for the reason that heretofore no rail of this character had been constructed the metal of which, during the rolling operation, would be sufficiently worked by the rolls to produce a rail of good quality. We have therefore found that in constructing the rails of the crossing with the longitudinal channels 17 and 18 formed in the side walls of the widened portions of the rails, we are enabled to produce a rail in which the metal, during the rolling thereof, will be sufficiently worked by the rolls to give the best results.

In forming the rails of our improved crossing, a bar of steel is first rolled to produce a rail as shown in Figs. 6 and 7, and in rolling a bar of steel into this shape all of the metal thereof will be sufficiently worked during the rolling operation to give the best results for strength and wearing qualities.

After the bar of steel has been rolled into the shape shown in Figs. 6 and 7, the ends thereof are machined or cut down to the shape of the usual railroad rail with which they are adapted to mate. After the ends of the bar have been cut down, a vertical slit is cut in each end of the wide portion of the bar, between the points 15 and 16, and the part thus cut from the main body of the rail is then bent outwardly therefrom, to produce the guard 13 having the flaring ends previously described. The main rails and the cross rails are produced in the same manner, excepting that the cross rails are afterward cut and shaped to be intersected by the main rails.

After the rails of the crossing have been assembled together, the flangeways 21 are cut in the heads of the main rails 5 and 6 to form continuations of the flangeways of the cross rails.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:—

1. In a railroad crossing, a rolled steel rail having end portions shaped to mate with the adjacent track rails and a central portion wider than the end portions, said central portion having a flangeway in the top thereof and longitudinal channels in the side walls thereof and being constructed of solid rolled steel between said channels.

2. In a railroad crossing, a rolled steel rail having end portions shaped to mate

with the adjacent track rails and a central portion wider than the end portions, said central portion having a flangeway in the top thereof, the inner wall of the flangeway forming a guard, and the end portion of the guard being cut and bent away from the main body of the rail.

3. In a railroad crossing, a rolled steel rail having end portions shaped to mate with the adjacent track rails and a central portion wider than the end portions; said central portion having longitudinal channels in the side walls thereof, and a flangeway in the top thereof and being constructed of solid rolled steel between said channels, the inner wall of the flangeway forming a guard and the end portions of the guard being cut and bent away from the main body of the rail.

4. In a railroad crossing a main rail; a cross rail including a rolled steel section having an outer end portion shaped to mate with an adjacent track rail, an inner end portion wider than the outer end portion and having a flangeway in the top thereof and longitudinal channels in the side walls thereof and being constructed of solid rolled steel between said channels, the inner end of said section being fitted against the side of the main rail; and means for securing said main rail and said section together.

5. In a railroad crossing a main rail, a cross rail including a rolled steel section having an outer end portion shaped to mate with an adjacent track rail, an inner end portion wider than the outer end portion and having a flangeway in the top thereof and longitudinal channels in the side walls thereof and being constructed of solid rolled steel between said channels, the inner end of said section being fitted against the side of the main rail, and the inner wall of the flangeway forming a guard and the outer end portion of the guard being cut and bent away from the main body of said section; and means for securing said main rail and said section together.

In testimony whereof, we have hereunto affixed our signatures.

CHARLES A. ALDEN.
GILBERT S. VICKERY.

Witnesses:

J. N. PENEGUY,
WM. R. MILLER.