

No. 609,790.

Patented Aug. 30, 1898.

G. J. CAPEWELL.
RAILWAY.

(Application filed Mar. 15, 1898.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1

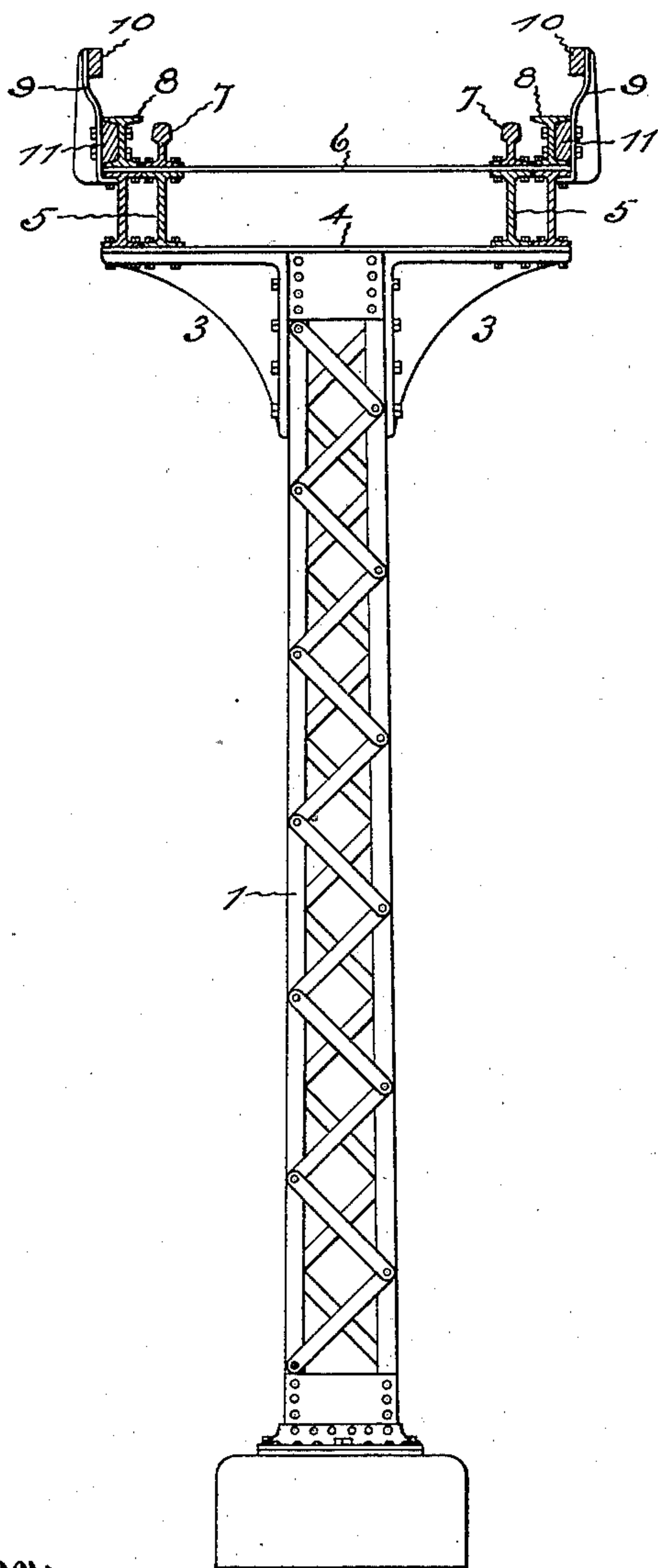
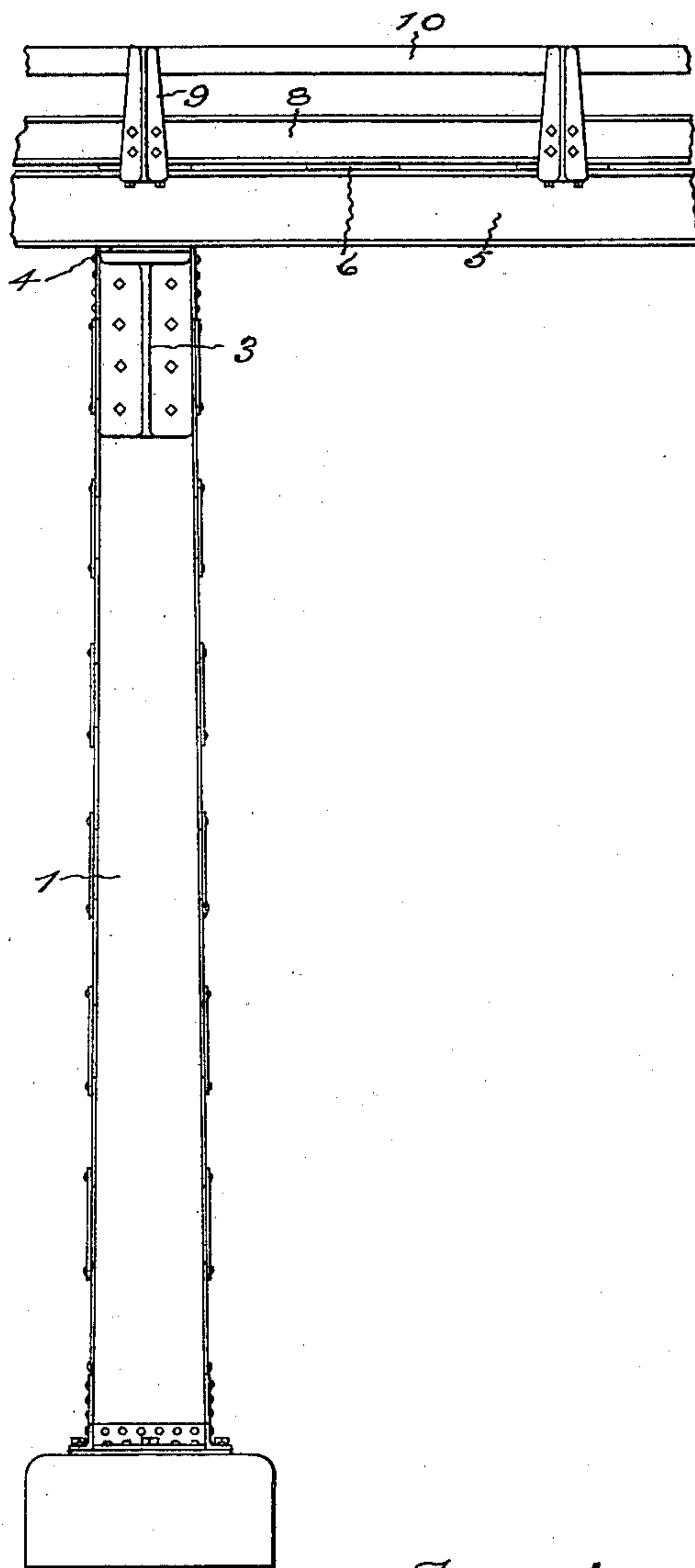


Fig. 2



Witnesses:
E. W. Fothergill.
C. J. Hyde.

Inventor:
George J. Capewell, by
Harry P. Williams,
att'y.

No. 609,790.

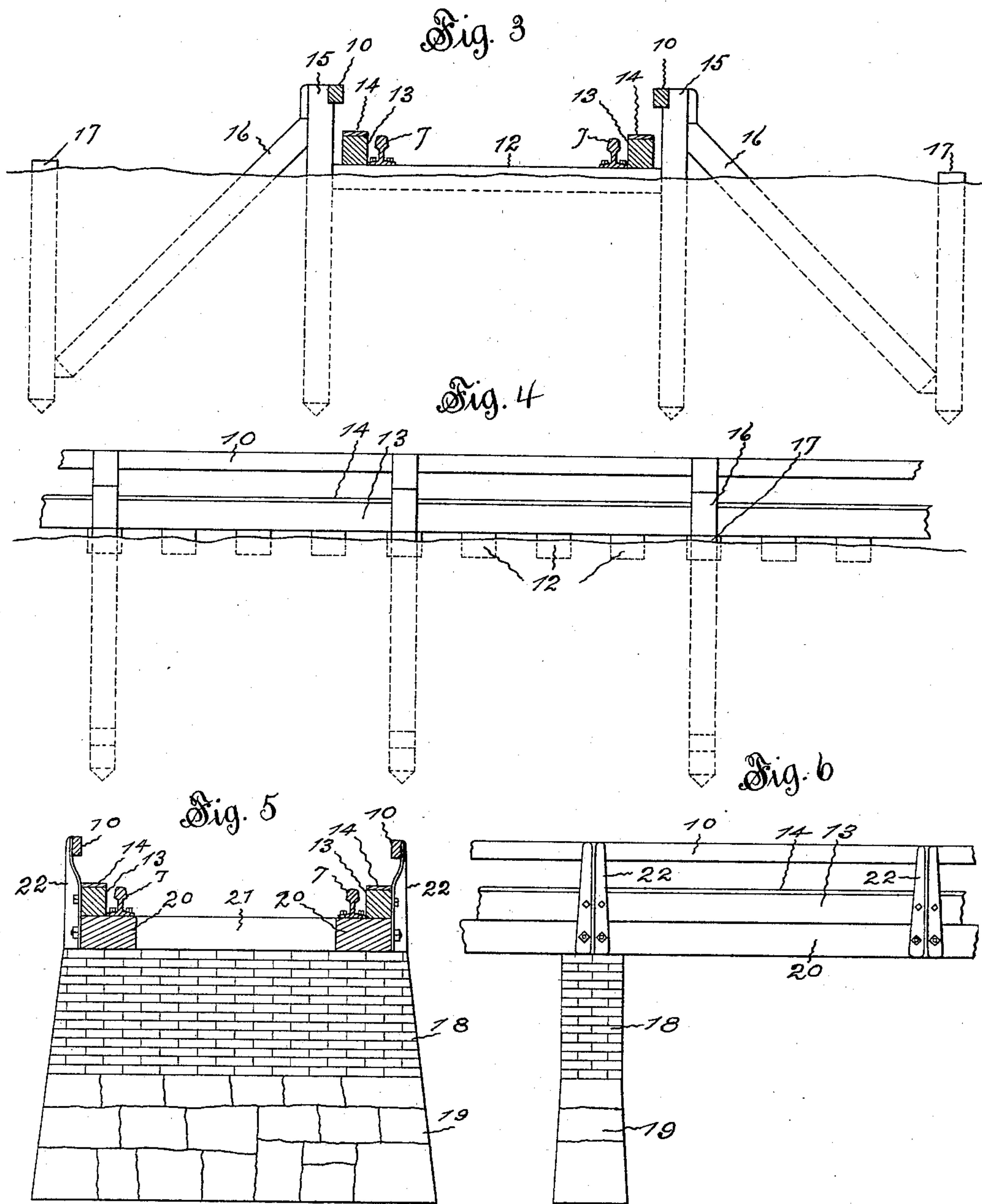
G. J. CAPEWELL.
RAILWAY.

Patented Aug. 30, 1898.

(Application filed Mar. 15, 1898.)

(No Model.)

3 Sheets—Sheet 2.



Witnesses:
E. W. Fothergill.
E. J. Hyde.

Inventor:
George J. Capewell, by
Harry P. Williams,
att'y.

No. 609,790.

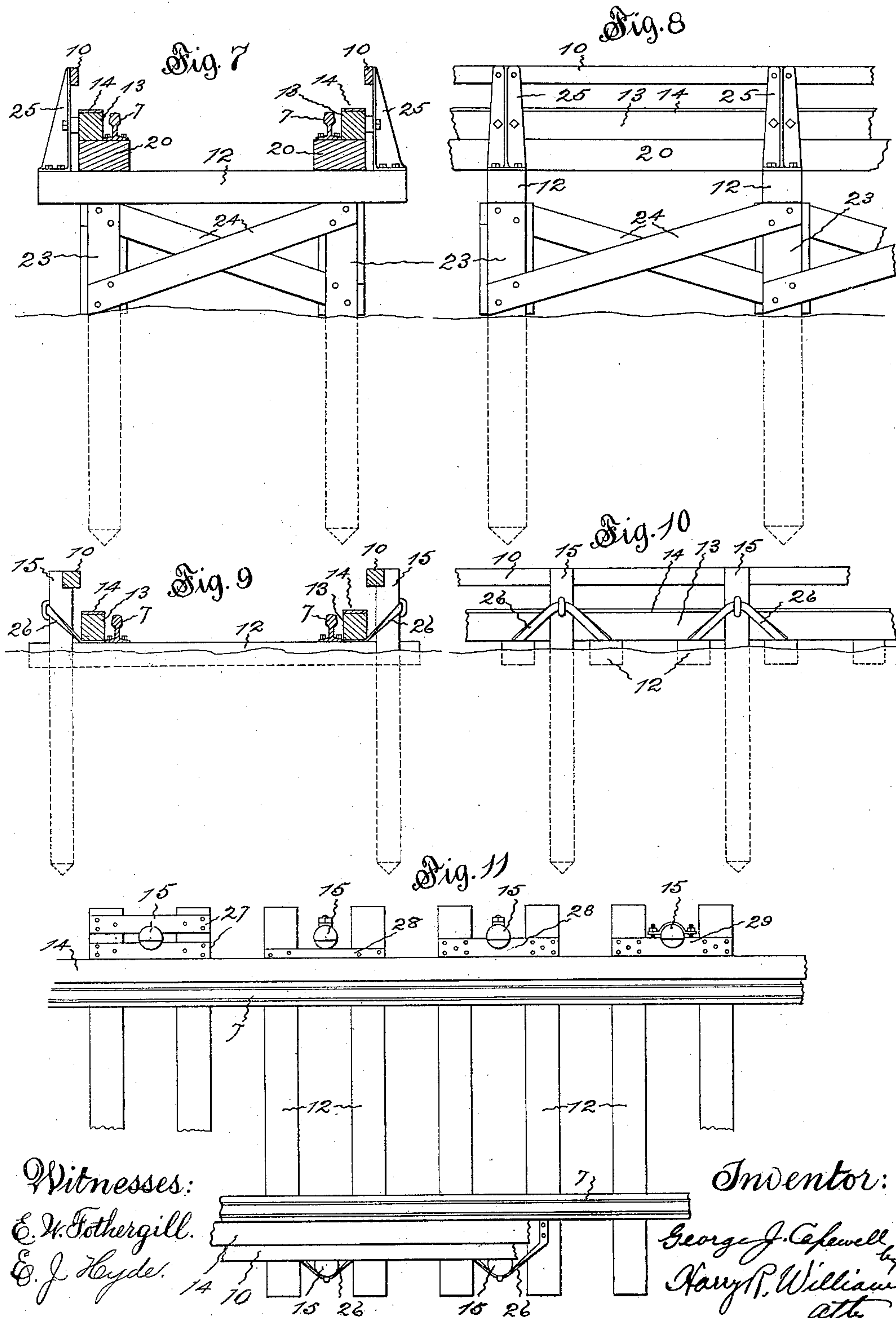
Patented Aug. 30, 1898.

G. J. CAPEWELL.
RAILWAY.

(Application filed Mar. 15, 1898.)

(No Model.)

3 Sheets—Sheet 3.



Witnesses:

E. W. Fothergill.

E. J. Hyde.

Inventor:

George J. Capewell
Harry R. Williams
attys

UNITED STATES PATENT OFFICE.

GEORGE J. CAPEWELL, OF HARTFORD, CONNECTICUT.

RAILWAY.

SPECIFICATION forming part of Letters Patent No. 609,790, dated August 30, 1898.

Application filed March 15, 1898. Serial No. 673,907. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. CAPEWELL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Railways, of which the following is a specification.

This invention relates to a railway designed for traveling vehicles propelled by electric, steam, or other common motive power, which have trucks provided with vertically-arranged wheels having the usual flanges and tread-faces of common gage and tread-faces of different gage without flanges and horizontally-arranged retaining-wheels with side-bearing treads, such as are illustrated in my application, Serial No. 666,669, filed January 14, 1898, for patent on railway-car trucks.

The object of this invention is to provide a simple railway construction for vehicles having trucks which permit them to travel on the usual track in the customary manner at ordinary rates of speed or on a flat track of higher level at increased rates of speed, with less noise and greater efficiency, without danger of derailing or accident, and which permit the trucks to run from one track to the other without stopping.

The invention resides in a railway having a track with rails of ordinary form located at the standard distances apart for flanged wheels in present use, a track with rails that have flat horizontal tread-faces higher than the tread-faces of the rails for the flanged wheels, for wheels that have flat flangeless treads, and a track with rails that have vertical tread-faces for horizontally-arranged retaining-wheels, as more particularly herein-after described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 shows a vertical section of an elevated form of railway embodying the invention. Fig. 2 shows a side elevation of a portion of this form of railway. Fig. 3 shows a transverse section of a surface form of railway embodying the invention. Fig. 4 shows a side elevation of a portion of the form shown in Fig. 3. Fig. 5 shows a transverse section of a raised form of railway embodying the invention. Fig. 6 shows a side elevation of a portion of the form shown in Fig. 5. Fig. 7 shows a transverse section of another form

of raised railway embodying the invention. Fig. 8 shows a side elevation of a portion of the form shown in Fig. 7. Fig. 9 shows a transverse section of another form of surface railway. Fig. 10 shows a side elevation of a portion of the form shown in Fig. 9; and Fig. 11 shows a plan of a portion of railway embodying the invention, illustrating various methods of securing the retaining-rails in position.

In the form illustrated by the first two figures the supporting-posts 1 are built of metal; but any suitable material may be employed. These posts are located at the desired distances apart and stand upon foundation-bases 2, of stone or concrete. Secured to the upper ends of the posts are angular brackets 3. Upon plates 4, that lie across the brackets and tops of the posts, are strung I-beams 5, that form the bed of this construction of railway. At suitable distances apart these stringer-beams are joined by tie-plates 6.

Laid on the tie-plates over the stringers and firmly secured in place the correct distance apart to form a track of standard gage are the ordinary rails 7, usually employed for the common flanged car-wheels. On the tie-plates outside of the ordinary rails I-beams 8 are laid, so that their upper faces are at a higher level than the upper faces of the ordinary rails. These beams 8 form the rails of a track that is slightly higher than the track of ordinary rails and is utilized by the flat-tread flangeless vertically-arranged wheels.

Secured at suitable distances to the track-rails and stringer-beams are brackets 9, and fastened to the upper ends of these brackets are rails 10. These rails are arranged to provide a track for horizontally-placed wheels, which retain the truck in position when the flat wheels are running on the flat-tread rails of the upper track. Blocks 11 may be placed between the brackets and the upper-track beams where the bolts are employed to fasten the parts together.

In the surface road illustrated in Figs. 3 and 4 the ordinary rails 7 for the flanged wheels of a car-truck are laid upon common wooden ties 12, set in the ground. On the ends of these ties timbers 13 are laid parallel with the ordinary rails, and upon the upper surfaces of these timbers metallic plates 14 are placed to form the treads for the flat wheels of a car-

truck. In this case the side retaining-rails 10 are supported by posts 15, set in the ground at the ends of the ties suitable distances apart. These posts are held from outward movement 5 by the angularly-placed braces 16 and brace-posts 17.

The road illustrated by Figs. 5 and 6 is raised upon piers of brick 18, supported by foundations of stone or concrete 19. Laid 10 upon these supporting-piers are stringer-timbers 20. These are joined by cross-ties 21. The ordinary rails 7 are placed upon the stringer-timbers, and outside of them on the same timbers the rail-timbers 13, with metal 15 tread-plates 14, are fastened. At suitable distances upright brackets 22 are secured to the bed-timbers and rail-timbers, and the side retaining-rails 10 are secured to the upper ends of these brackets.

20 In the construction illustrated by Figs. 7 and 8 the ties 12 are raised upon posts 23, that are set into the ground in a substantial manner and are joined by suitable cross-braces 24. In this case the stringer-timbers 20 rest 25 upon the ties 12, and the lower rails 7 and rail-timbers 13, with plates 14, are laid side by side upon the stringer-timbers. The upright brackets 25 are fastened to the ties and also to the rail-timbers, so that they support 30 the side retaining-rails 10 firmly in position.

The posts 15, which support the side rails 10 in the construction illustrated in Figs. 9 and 10, are held from separating and also from moving upwardly by metallic strips 26, that 35 are shown as passing around the posts, through loops, and then beneath the rail-timbers 13, with their metallic plates 14, that are laid on the ties 12, alongside of the lower rails 7.

40 The posts 15, which support the side rails 10, may, as shown in Fig. 11, be held from separating and from upward movement by the blocks 27, spiked to the ties upon each side of the posts, or by being bolted to one 45 block 28, spiked to the ties, or by being held by a strap to a block 29, spiked to the ties. These are equivalent forms for securing the posts in place, so that they will properly hold the side retaining-rails in position.

50 These forms for securing and holding the rails, whether elevated high above the surface, laid on the surface, or raised above the surface of the ground, are simple to build and are strong and serviceable in use. The rails 55 can be laid parallel in the manner described and illustrated for the entire length of the road, or the lower rails only may be laid for short sections, or the upper rails and retaining-rails may be laid for short sections. If

desired, the flat rails and the side retaining- 60 rails may be located along the rails of a road already built. A railway having rails located in this manner allows the traveling of a vehicle with the trucks now in use, and it also permits the passage of vehicles having trucks of 65 special form. Special trucks having the ordinary flanged wheels and wide-tread wheels may be run from a common track onto and off from this track, as desired. Where it is desired to run rapidly and noiselessly, the flat 70 and retaining rails are laid and a truck having the proper wheels can be run from the lower rails onto the flat rails. The side retaining-rails preclude the possibility of the flat wheels running off from the flat track. 75

This railway may be used to advantage in large cities, for the flat rails may be utilized by providing the trucks with flat-tread wheels, which are cushioned so as to run noiselessly. It is also serviceable in districts where high 80 speed is desired with a minimum expenditure of power and the greatest precautions for safety must be exercised.

I claim as my invention—

1. An improved railway having a track 85 formed by two parallel rails with tread-faces of usual shape and common gage, and a track formed by two rails with smooth horizontal tread-faces extending parallel with but higher 90 than the rails of the first-mentioned track and two rails with smooth vertically-arranged tread-faces extending parallel with and higher than the other rails and braced to withstand outward or horizontal thrust, substantially as specified. 95

2. An improved railway having a track formed by two parallel rails with tread-faces of the usual shape and common gage, and a track formed by two rails that have horizontal tread-faces at a higher level and wider 100 gage than the rails of the first-mentioned track and two rails with vertical tread-faces extending parallel with and higher than the other rails, substantially as specified.

3. An improved railway having a track 105 formed by two parallel rails with tread-faces of usual shape and common gage, a track formed by two rails with horizontal tread-faces higher than and of wider gage than the rails of the first-mentioned track, brackets at 110 intervals extending upwardly from the rails with horizontal tread-faces, and rails with vertical tread-faces secured to the upper ends of the brackets, substantially as specified.

GEORGE J. CAPEWELL.

Witnesses:

E. W. FOTHERGILL,
H. R. WILLIAMS.