

(No Model.)

8 Sheets—Sheet 1.

E. M. BOYNTON.
RAILWAY.

No. 564,865.

Patented July 28, 1896.

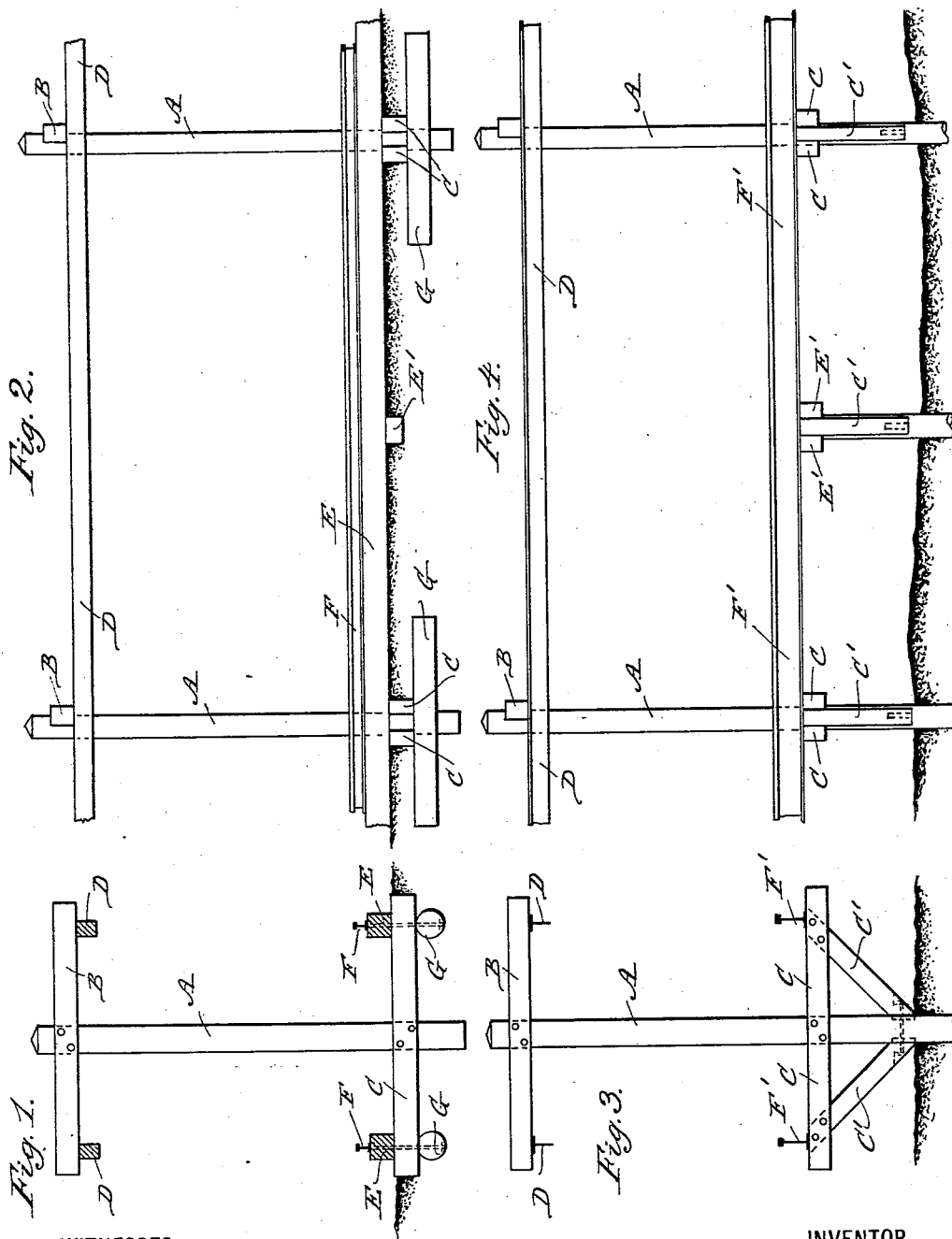


Fig. 1.

WITNESSES:
D. C. Reusch.
Wm. Burt. L.

Fig. 3.

INVENTOR
E. M. Boynton

(No Model.)

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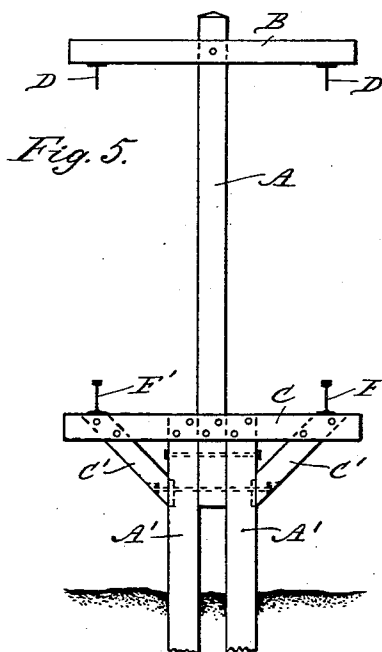


Fig. 5.

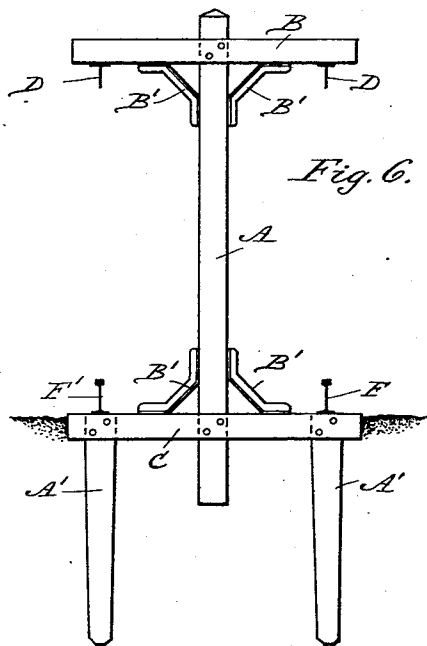


Fig. 6.

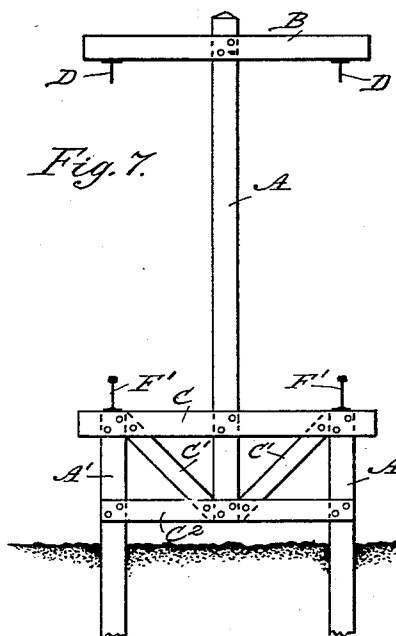


Fig. 7.

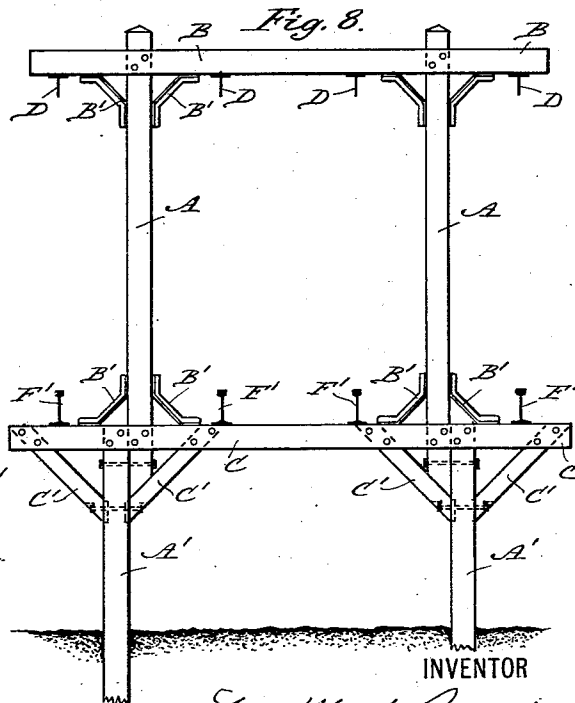


Fig. 8.

WITNESSES:

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H. Burt. S.

INVENTOR

Edw. Moody Boynton

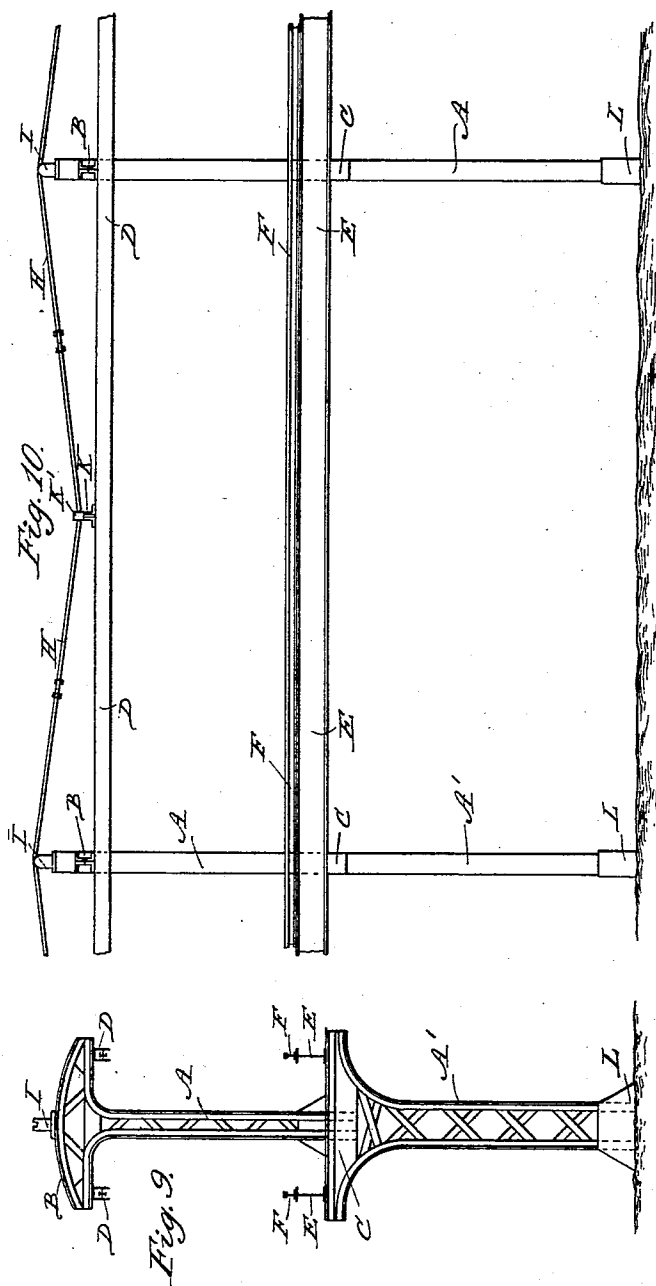
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E. M. BOYNTON
RAILWAY.

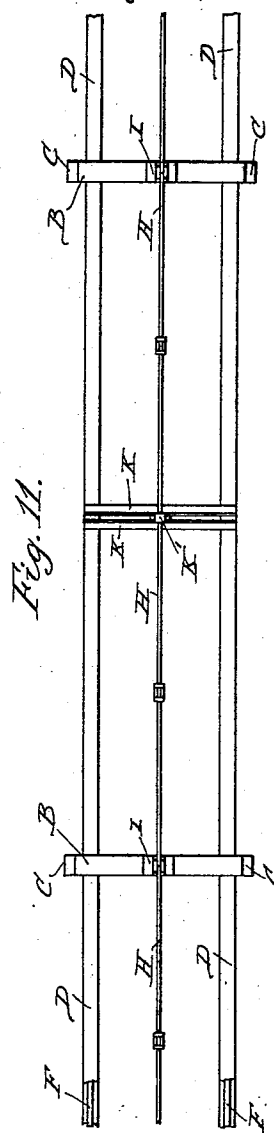
No. 564,865.

Patented July 28, 1896.



WITNESSES:

D. C. Reusch.
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INVENTOR

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(No Model.)

8 Sheets—Sheet 4.

E. M. BOYNTON.
RAILWAY.

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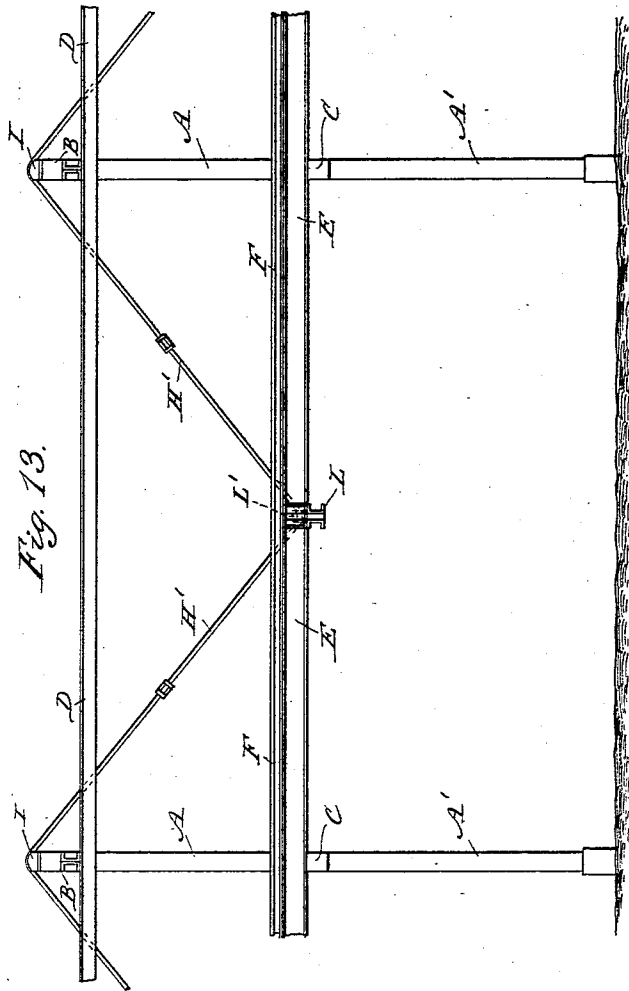


Fig. 13.

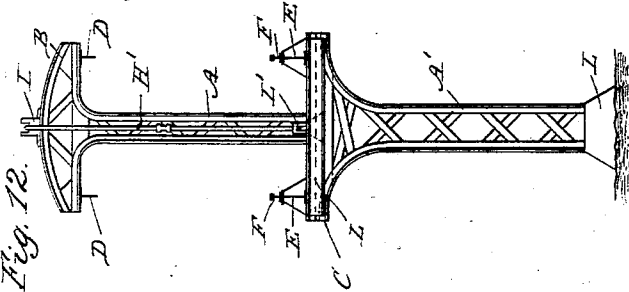


Fig. 12.

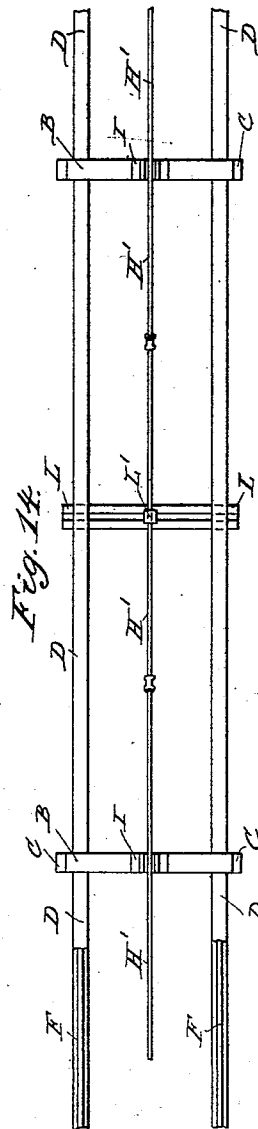


Fig. 14.

WITNESSES:

D. C. Reusch.
John Burt. Jr.

INVENTOR

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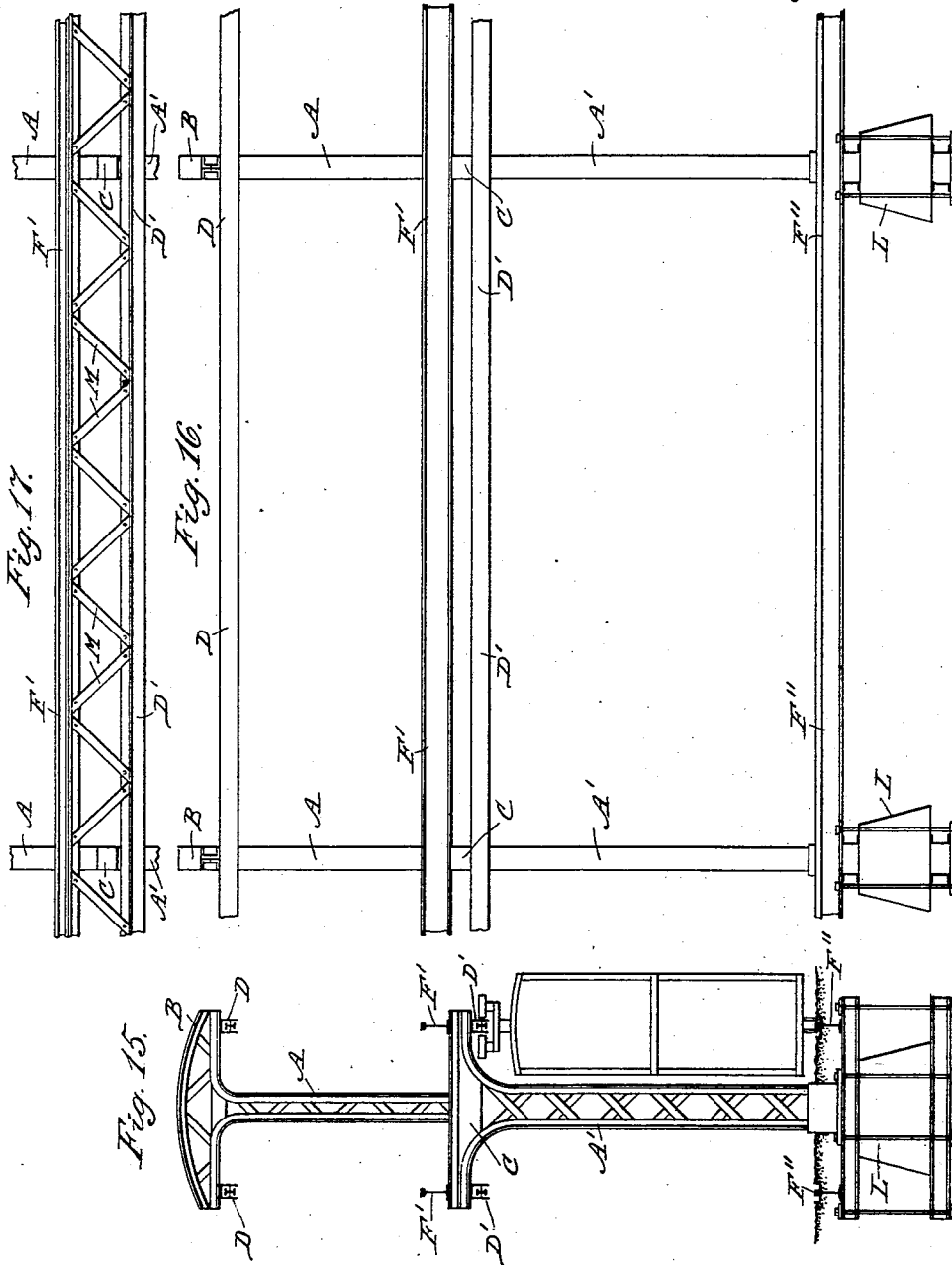
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E. M. BOYNTON.
RAILWAY.

No. 564,865.

Patented July 28, 1896.



WITNESSES:

D. C. Reusch.
Wm. Burt. L.

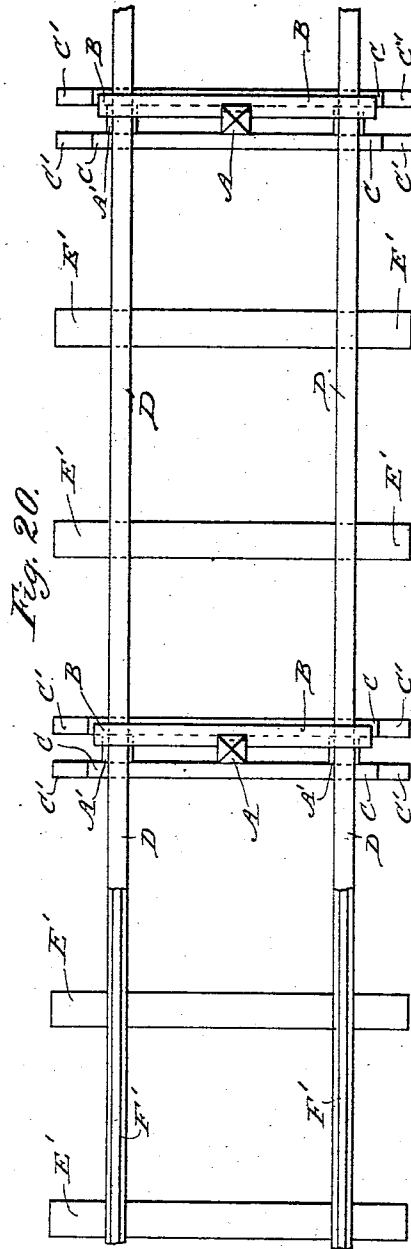
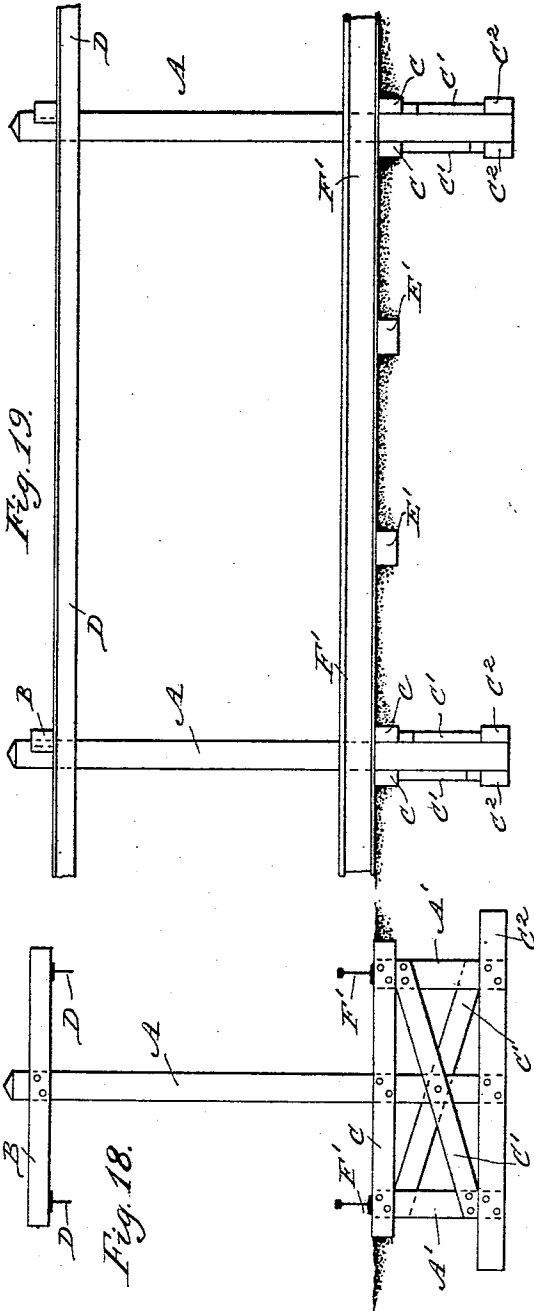
INVENTOR

Eben M. Boynton

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No. 564,865.

Patented July 28, 1896.



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D. C. Rensch
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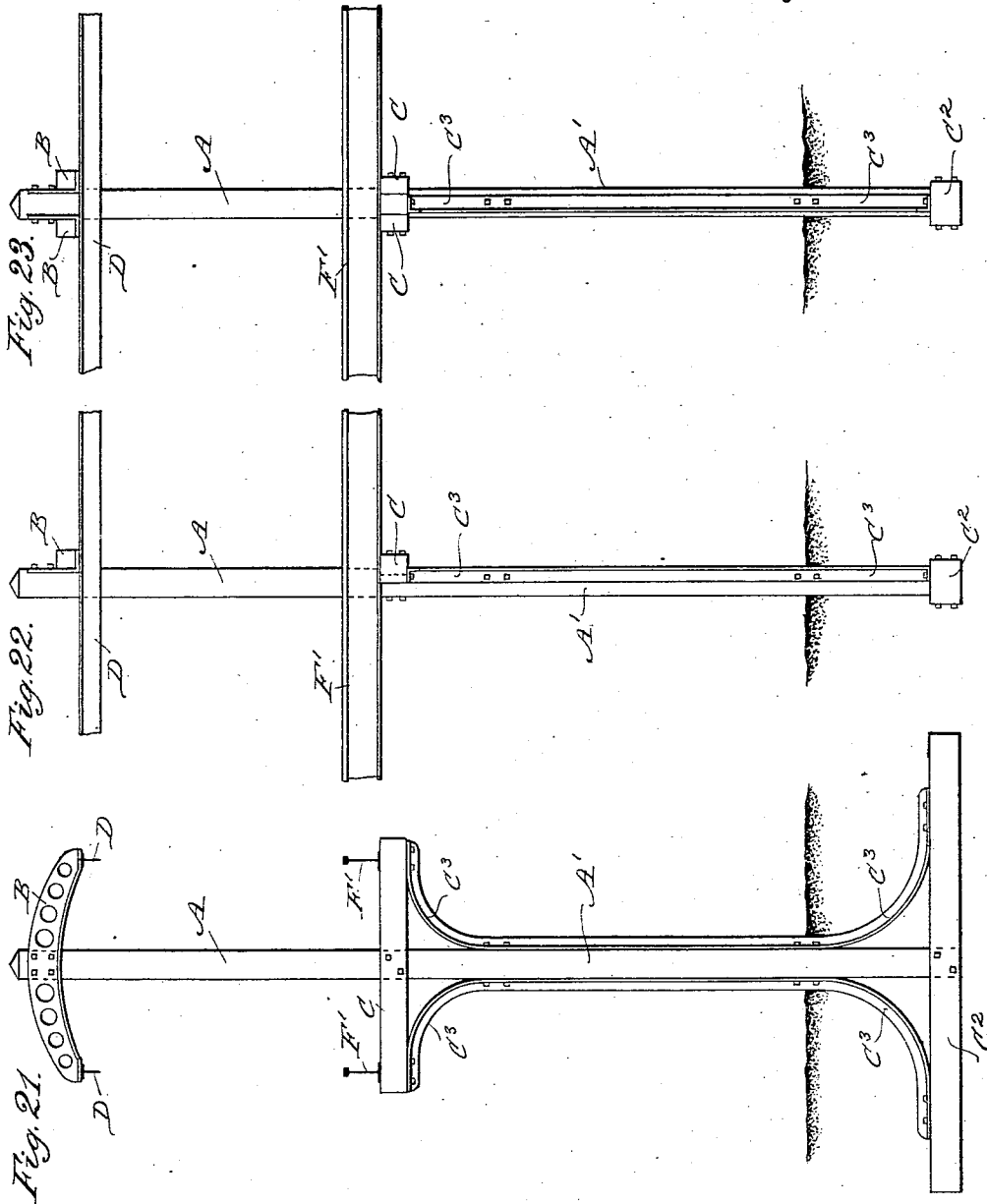
(No Model.)

8 Sheets—Sheet 7.

E. M. BOYNTON.
RAILWAY.

No. 564,865.

Patented July 28, 1896.



WITNESSES:

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John Burt. Jr.

INVENTOR

INVENTOR
Eugene Moody Boyington

E. M. BOYNTON.
RAILWAY.

No. 564,865.

Patented July 28, 1896.

Fig. 24.

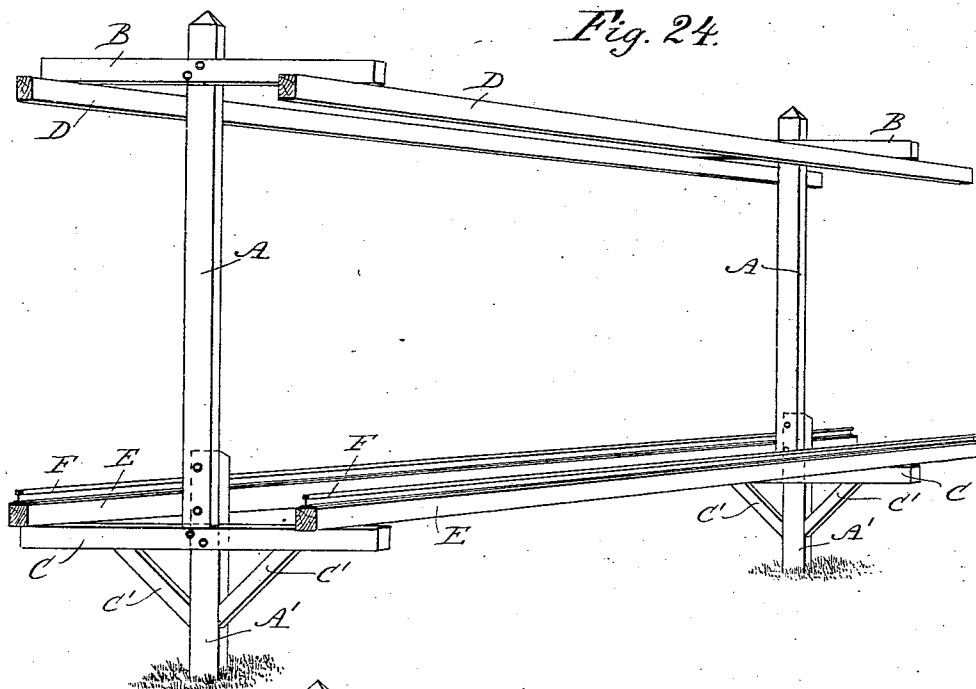
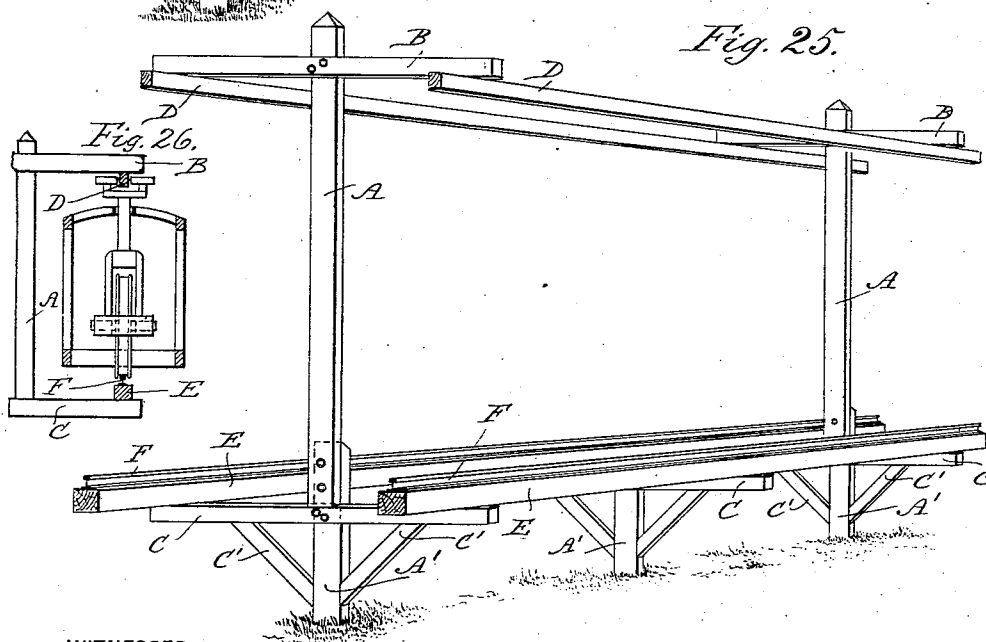


Fig. 25.



WITNESSES:

D. C. Reusch.
Wm. H. Boynton.

INVENTOR

Eben Moody Boynton

UNITED STATES PATENT OFFICE.

EBEN MOODY BOYNTON, OF WEST NEWBURY, MASSACHUSETTS.

RAILWAY.

SPECIFICATION forming part of Letters Patent No. 564,865, dated July 28, 1896.

Application filed May 1, 1895. Serial No. 547,757. (No model.)

To all whom it may concern:

Be it known that I, EBEN MOODY BOYNTON, a citizen of the United States, and a resident of West Newbury, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Railways, of which the following is a specification.

The object of this invention is to provide improved structures, surface or elevated, for bicycle-railways, suited as well for steam as electric motors.

The invention consists mainly in having one central column supporting two overhead guides and thus having one track on either side of the column. In addition to this, different means are shown of how to support these structures either directly on the ground or elevated above the same.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a cross-section of a surface railroad, and Fig. 2 is a side elevation of the same. Fig. 3 is a cross-section of another form supported by a single post and partly elevated. Fig. 4 is a side elevation of the same. Fig. 5 is a cross-section with some modification of Fig. 3. Fig. 6 is a further modification shown in cross-section. Fig. 7 is a modification of Fig. 6 and partly elevated. Fig. 8 is a modification of Fig. 3, being a duplication of the same. Fig. 9 is another modification of Figs. 3 and 5, but built in iron instead of wood. Fig. 10 is a side elevation of the same, and Fig. 11 is a plan view. Fig. 12 is a variation of Fig. 9. Fig. 13 is a side elevation of the same, and Fig. 14 a plan view. Fig. 15 is a combination of a surface and elevated railroad shown in cross-section. Fig. 16 is a side elevation of the same. Fig. 17 is a modification of the girder in same. Fig. 18 is a modification of Fig. 7 shown in cross-section; Fig. 19, an elevation, and Fig. 20 a plan view of same. Figs. 21, 22, and 23 are modifications of Fig. 12. Figs. 24 and 25 are modifications of Fig. 3 shown in perspective views. Fig. 26 is an end view of the car, partly in section, illustrating the central position of the supporting-wheels.

In Figs. 1 and 2 of the drawings, A represents the post to which the cross-arm B is

fastened, carrying the guides D D. C is a cross-tie fastened to the lower part of the post intended for the support of the longitudinal E E, on which the rails F F are laid. G G are logs connected to the cross-ties C, serving as a foundation. These logs may be of any length, and not necessarily as short as represented in the drawings. E' is a cross-tie giving the longitudinal E an additional support. There may be more of these, and they may, if desired, also be bolted to the logs, in which case the latter would be of greater length. In these figures the guide D is shown as a solid beam of wood, and would thus be useful for a steam-locomotive, but I do not limit myself to that form. It may also be of iron and serve as a conductor as well as a guide.

In Fig. 3 the post A is extended below the cross-ties C C, and the extension is utilized as a pile. C' C' are brackets supporting the cross-ties. F' is a girder-rail combining rail and beam. It is not necessary that the whole length of the post be in one piece. The upper part A may be separate and bolted to the lower part A', to which also the cross-piece C may be fastened, as shown in Fig. 24. One or more intermediate piles A' may be used for giving additional support, as illustrated in Fig. 25, where also cross-pieces C are utilized for supporting the longitudinals.

Fig. 5 is mainly the same as Fig. 3, with the difference that two piles are used instead of one and bolted to the post.

Fig. 6 is a modification of Fig. 1. In this form the logs G G are dispensed with and the piles A' A' used in their place. B' B' are brackets used for additional strengthening of the joints.

Fig. 7 is a modification of Fig. 6, the difference being that the track can be elevated more or less above the ground as additional cross-pieces C² and braces C' C' are added, giving the structure a greater strength against side strains.

Fig. 8 is a combination of two single elements similar to Fig. 3, making a four-track structure of it.

I do not limit myself to the construction of these structures in wood, as they might also with advantage be built of iron. I have shown in Figs. 9, 10, and 11 a variation of

Fig. 3, with the necessary alterations that the different material will require. In this instance it is mainly made up of angle-irons and braces, but may of course be built of other kinds of structural iron. A is the post; B, the cross-arm; C, brackets for supporting the girders E E and rails F F. A' is the main supporting-column bolted to a suitable foundation L. An additional support is given to the guides D D by means of the truss-rods H H, resting on chairs I I. The angle-irons K K connect both guides, and are provided with an eye K', through which the truss-rod passes.

In Figs. 12, 13, and 14 is shown a variation of Fig. 9. By means of the truss-rods H' H' it is possible to lengthen the span or make the girders E E of less depth. The truss-rod passes through an eye L', that is connected with the chair L on which the girders E E rest. In addition to these rods there may also be used the truss-rod H for the support of the guides D, as illustrated in Fig. 10.

Figs. 15 and 16 illustrate another modification of Fig. 9, making it suitable for surface as well as elevated railroads. Guides D' D' are added, and corresponding rails F'' F'', making it possible to utilize the lower part of the structure for surface cars. The rails F'' F'' may rest on the foundations or may, if preferred, rest on cross-pieces fastened directly to the post A'. It is possible to combine the rail F' and guide D' by braces, thus making one girder of them, as illustrated in Fig. 17.

In Figs. 18, 19, and 20 is shown a modification of Fig. 7, with the difference that in the present case no driven piles are used. The short posts A', with the cross-pieces C and C² and the braces C', are all framed together and in this form inserted in a trench dug in the ground. The filling in of stones and earth and good tamping will insure the stability of the structure.

In Fig. 12 the post A' is the sole support of the upper structure, but in Fig. 21 the upper post A is continued through and made one with the lower post A'. The iron rails C³ are curved at their ends to serve as braces, and are bolted at their upper ends to the cross-piece C and at the lower ends to the base C². There may either be a single cross-piece C and cross-arm B, as illustrated in Fig. 22, or there may be two of each bolted on both sides of the post, as shown in Fig. 23.

I do not limit myself entirely to the forms shown; as many combinations may be effected between the different structures as the circumstances may require.

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

1. A single-rail railway comprising a single

series of posts, with projections carrying one or more guides and an underneath structure, serving at once as a foundation for both the posts and the track, substantially as set forth.

2. In a single-rail railway, the combination with the posts of projections carrying one or more guides a lower track structure consisting of longitudinals, cross-arms supporting the same and secured to said posts, and additional intermediate supports for said longitudinals.

3. A bicycle-railway comprising a single series of posts and an underneath structure consisting of parallel horizontal beams secured to each other and to the post, and serving as a foundation both to the post and the railway-track as set forth.

4. In a single-rail railway system, the combination of one or more posts with an upper cross-arm carrying one or more guides on either side of said post or posts, two lower cross-pieces, one above the other fastened to the post or posts, and connected to each other by two or more additional posts, the upper cross-piece supporting the corresponding rails, longitudinals or girders, substantially as set forth.

5. In a single-rail railway system, the combination of one or more posts with an upper cross-arm carrying one or more guides on either side of said post or posts, two lower cross-pieces one above the other fastened to the post or posts, and connected to each other by two or more additional posts and cross-braces, the upper cross-piece supporting the corresponding rails, longitudinals or girders, substantially as set forth.

6. In a single-rail railway system, the combination of one or more posts with an upper cross-arm carrying one or more guides on either side of said post or posts, a lower cross-girder supported by one or more posts resting on suitable foundations, said lower cross-girder carrying the corresponding rails, longitudinals or girders, transverse chairs secured to said longitudinals and truss-rods engaging the posts and chairs, and giving the girders additional support, substantially as set forth.

7. In a bicycle-railway, the combination of an integral continuous post, a cross-arm supported thereon above a cross-sill secured to it below and continuous rails or bars secured to said post, arm, and sill, and bent or deflected near their ends to form brackets or braces to said arm and sill as set forth.

Signed at New York, in the county of New York and State of New York, this 17th day of April, A. D. 1895.

EBEN MOODY BOYNTON.

Witnesses:

D. C. REUSCH,
JOHN BURT, Sr.