

(No Model.)

2 Sheets—Sheet 1.

V. ANGERER & C. A. PSILANDER.  
TRACK STRUCTURE.

No. 488,377.

Patented Dec. 20, 1892.

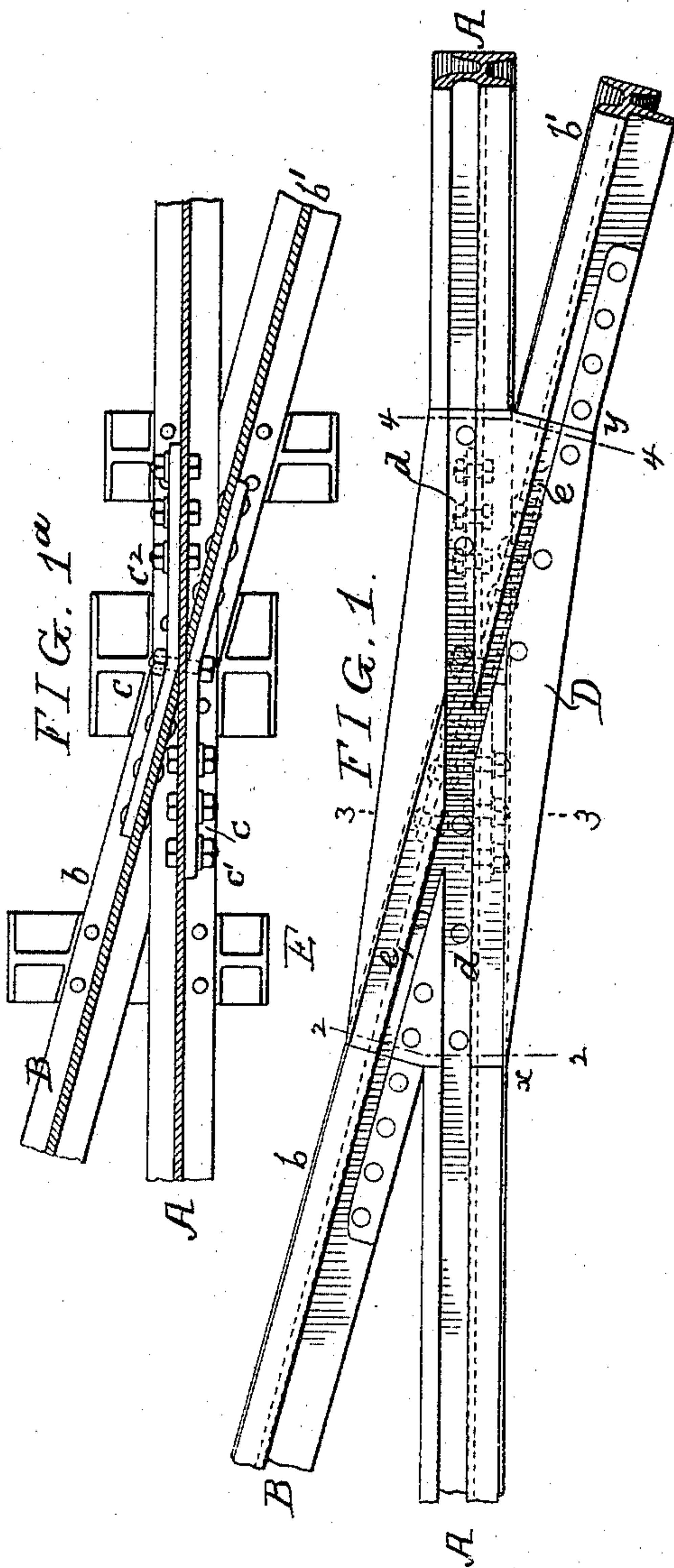
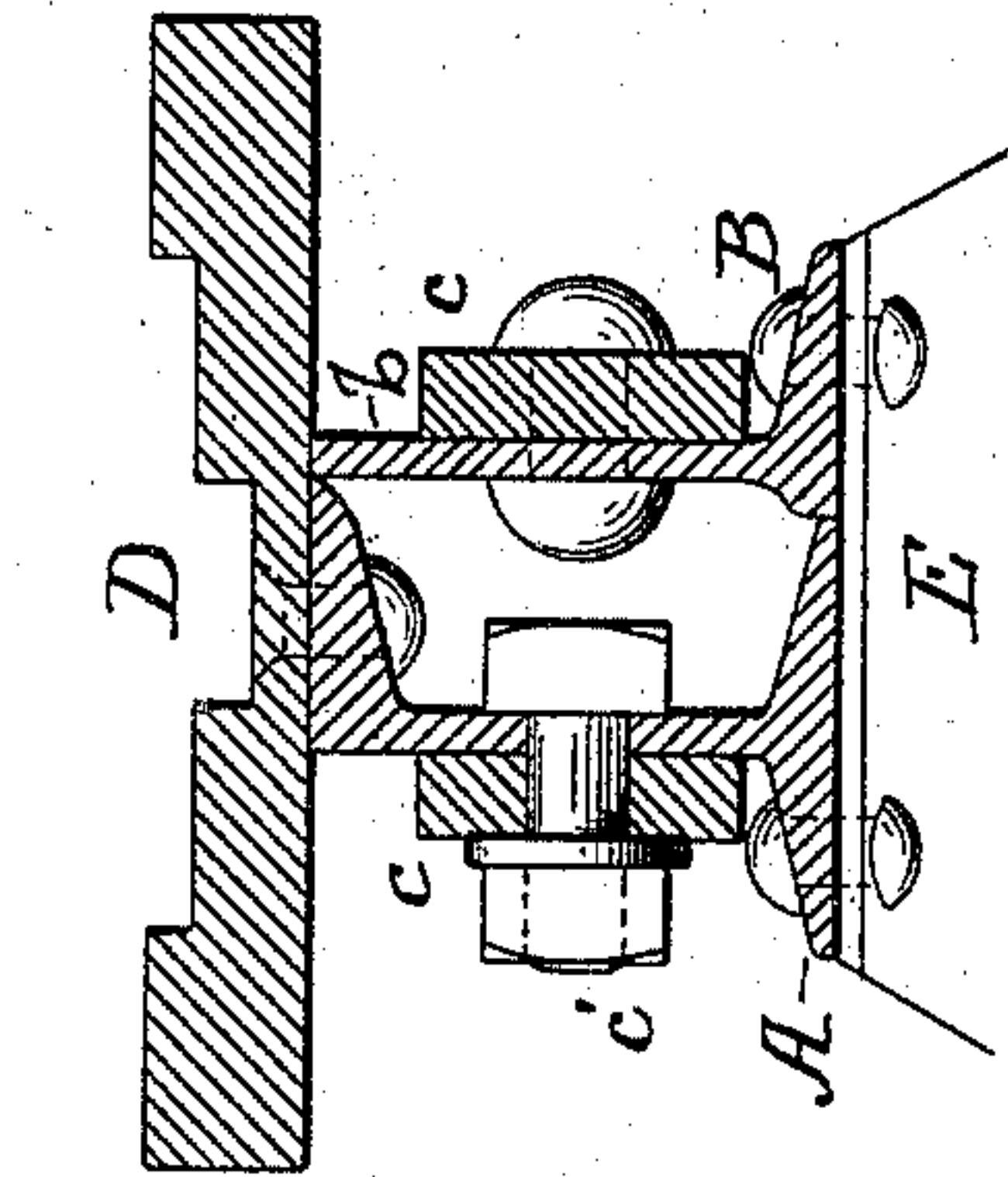
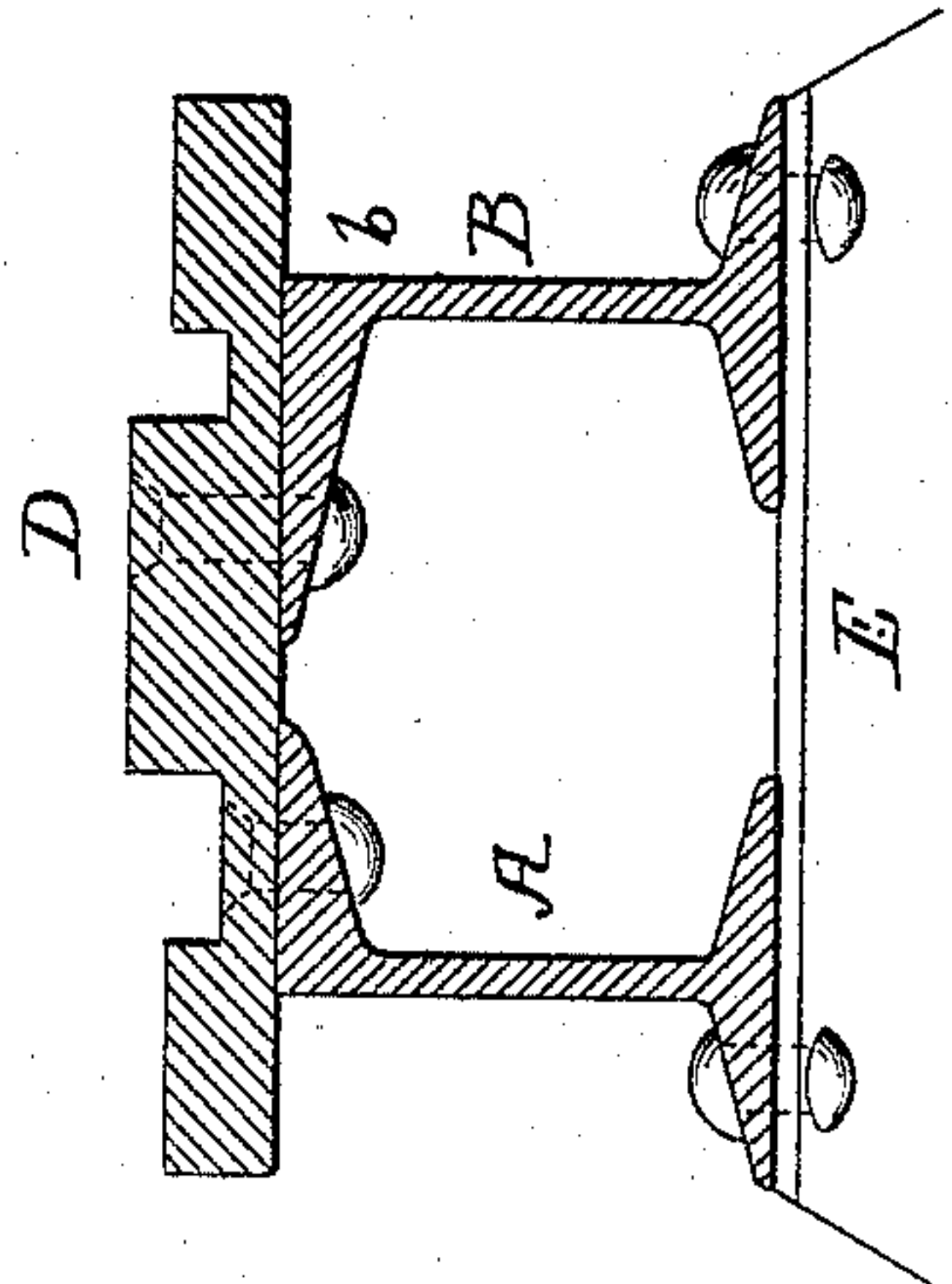
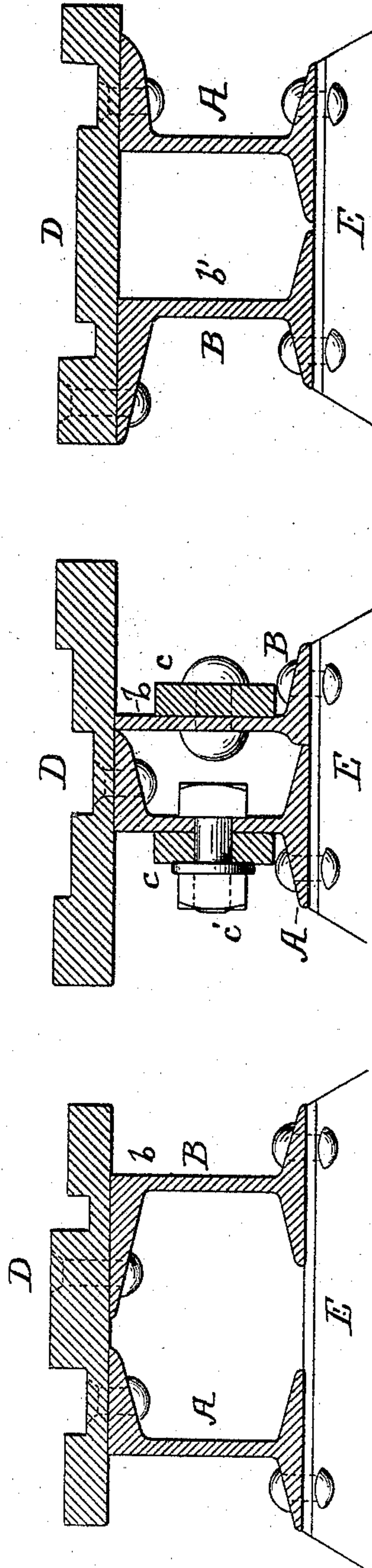


FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.



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Inventors:  
Victor Angerer &  
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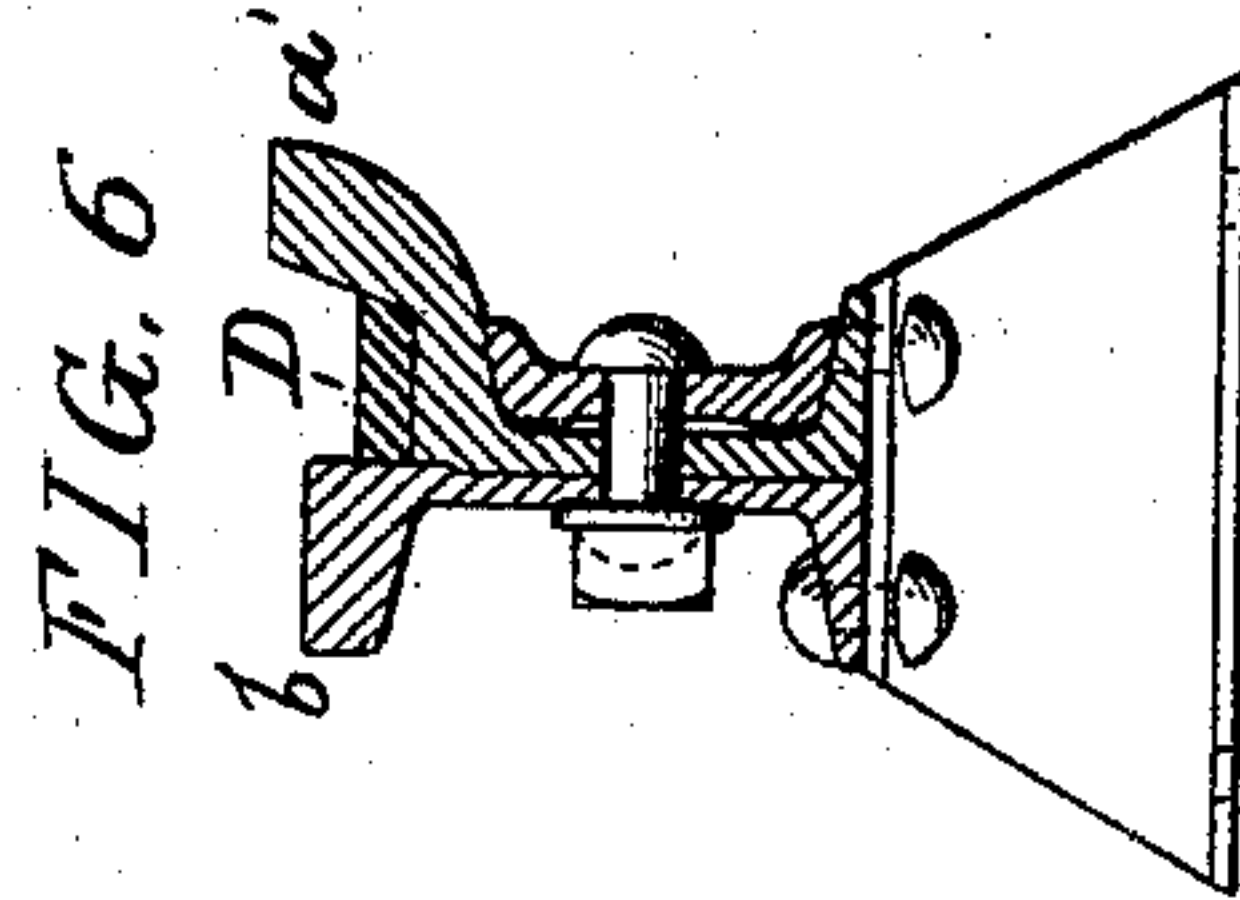
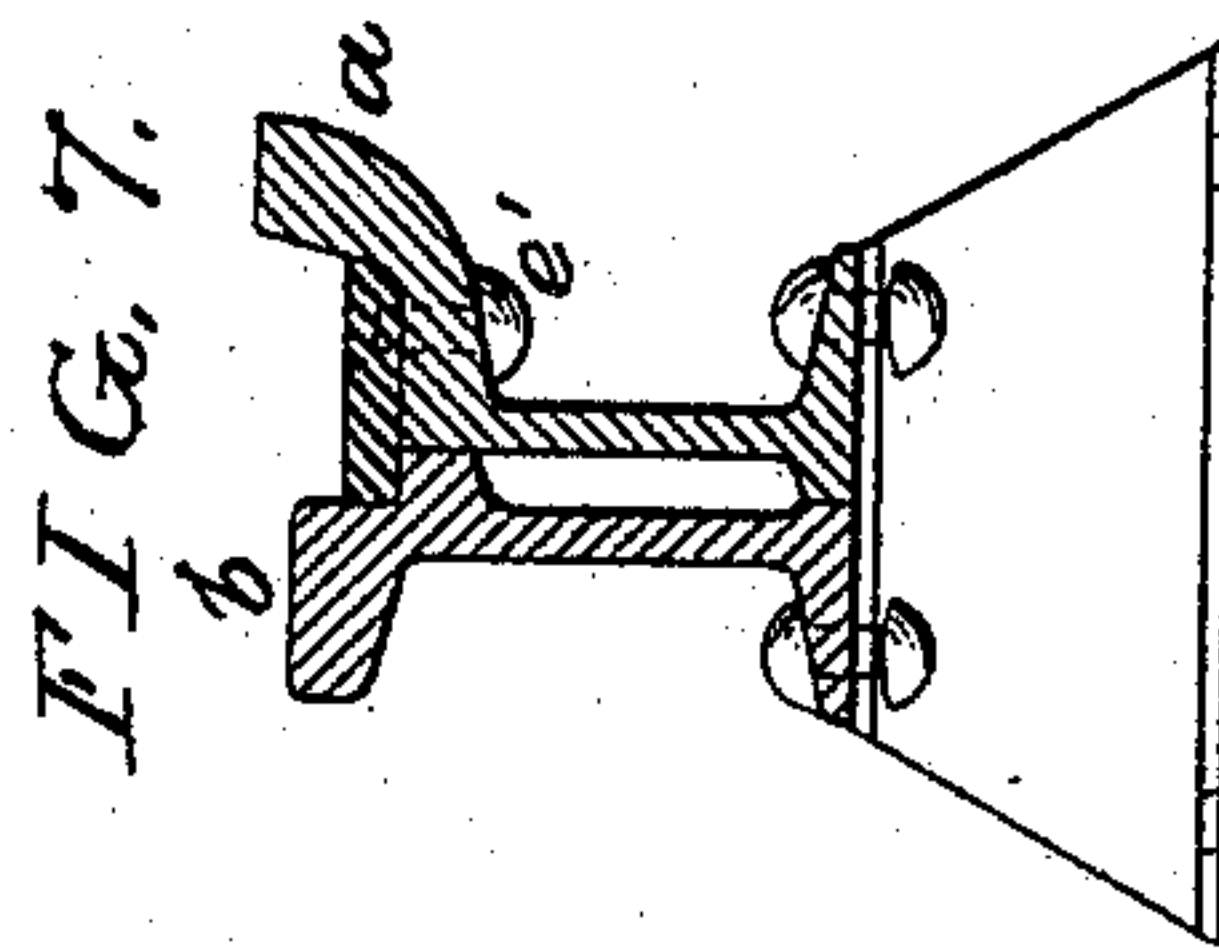
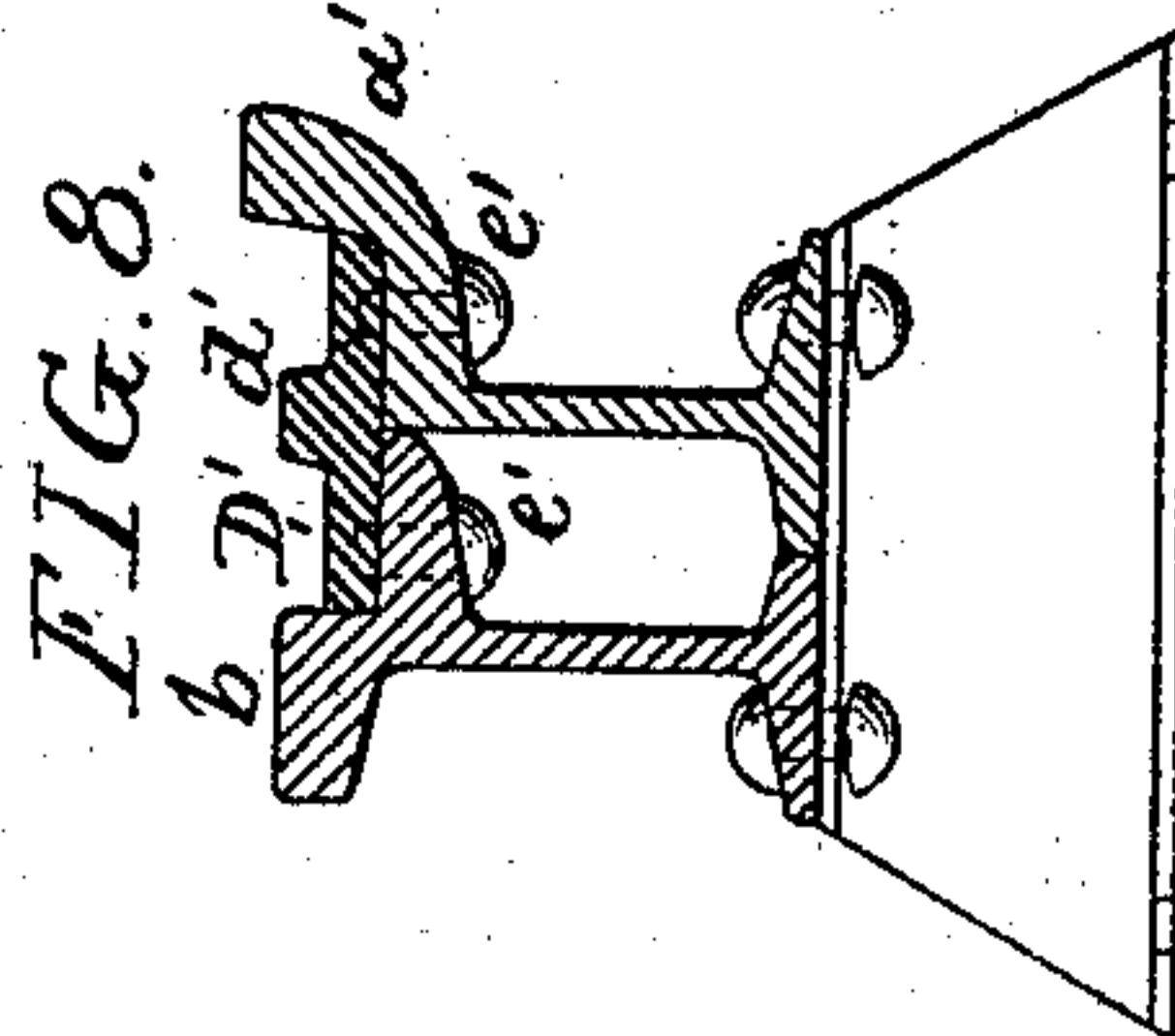
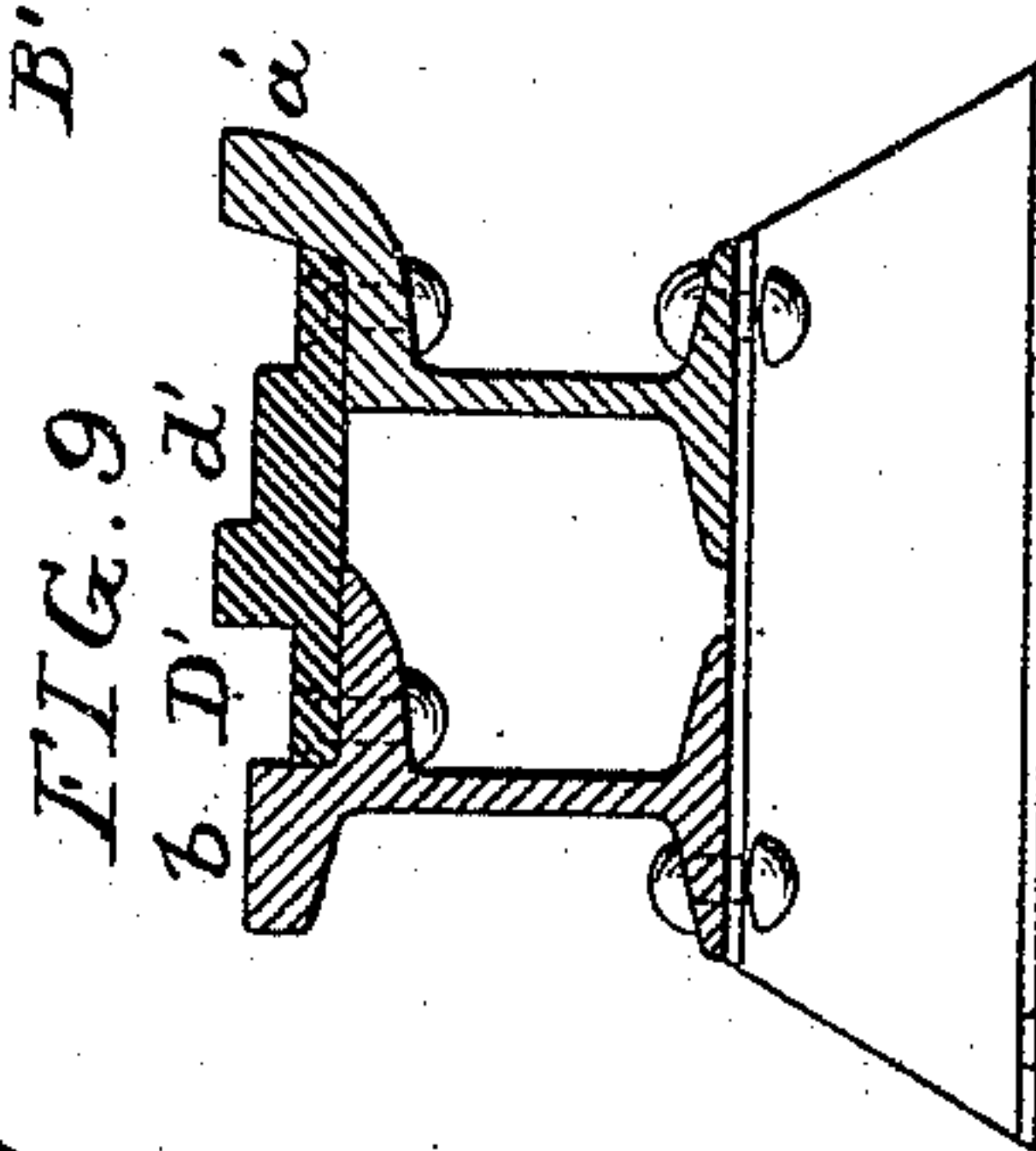
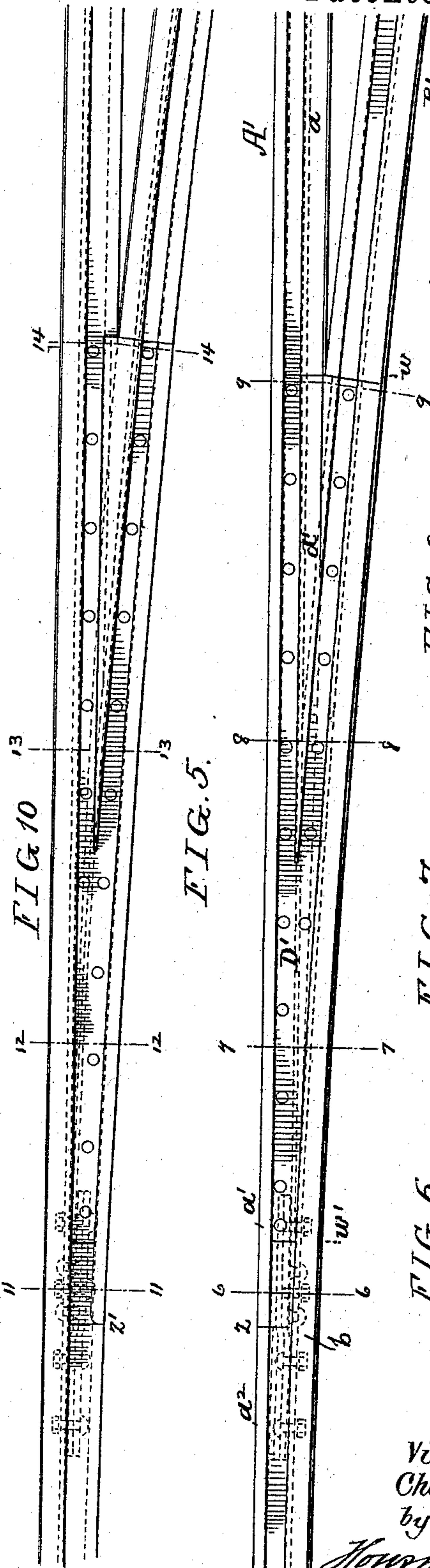
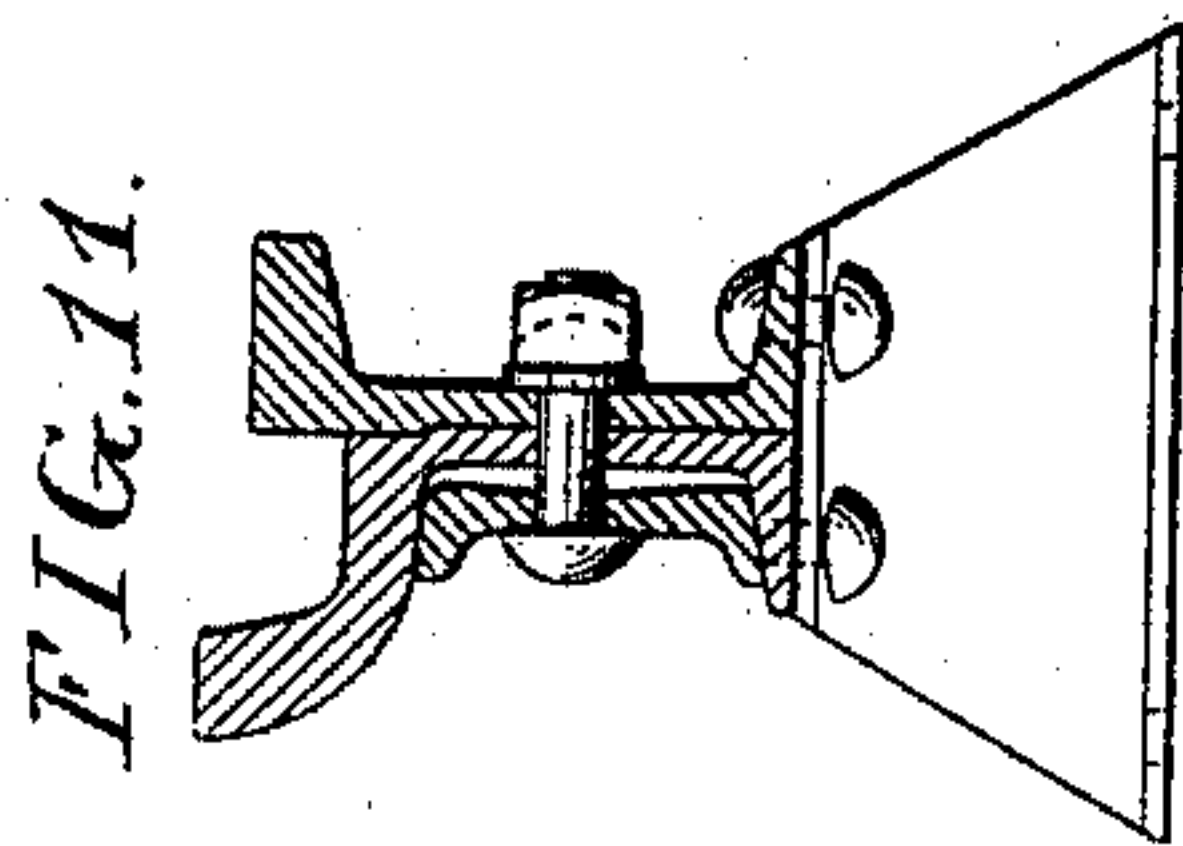
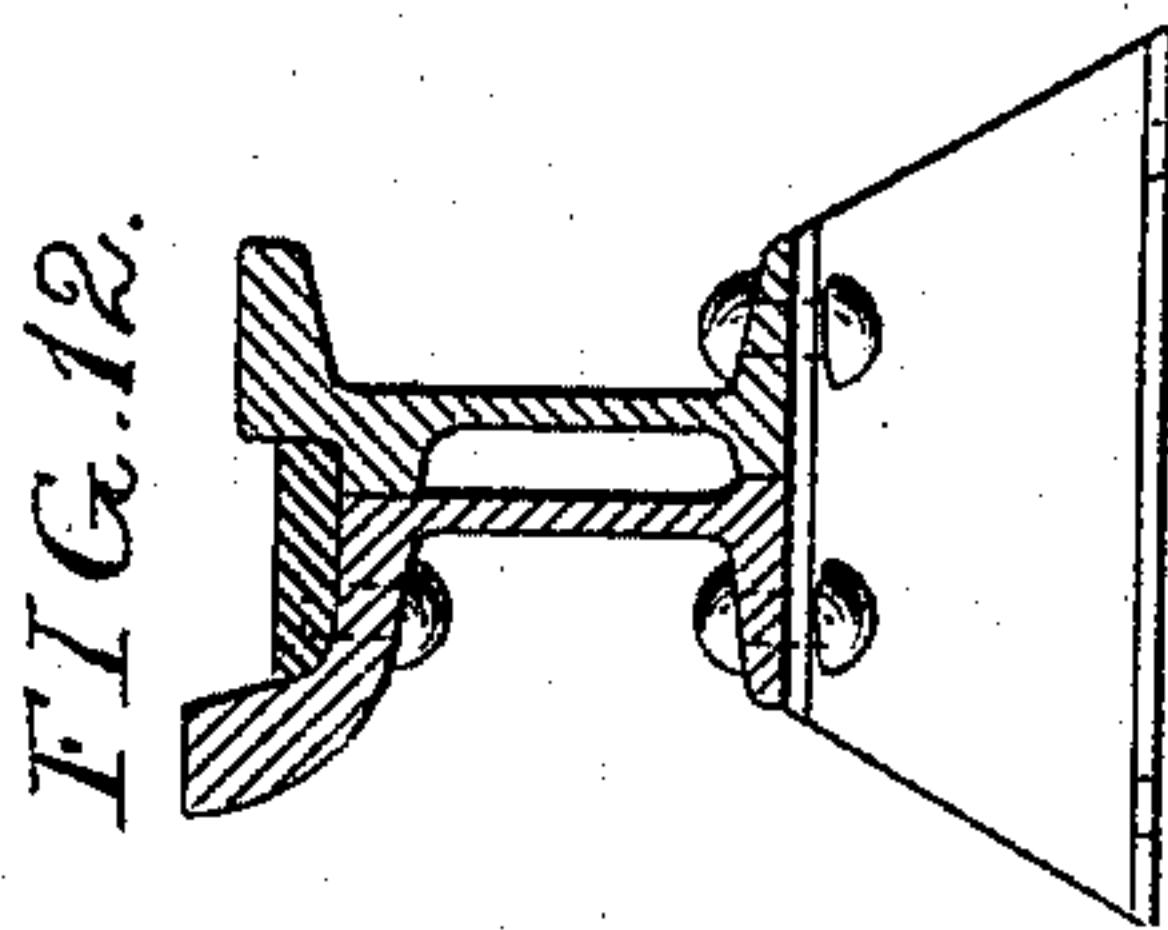
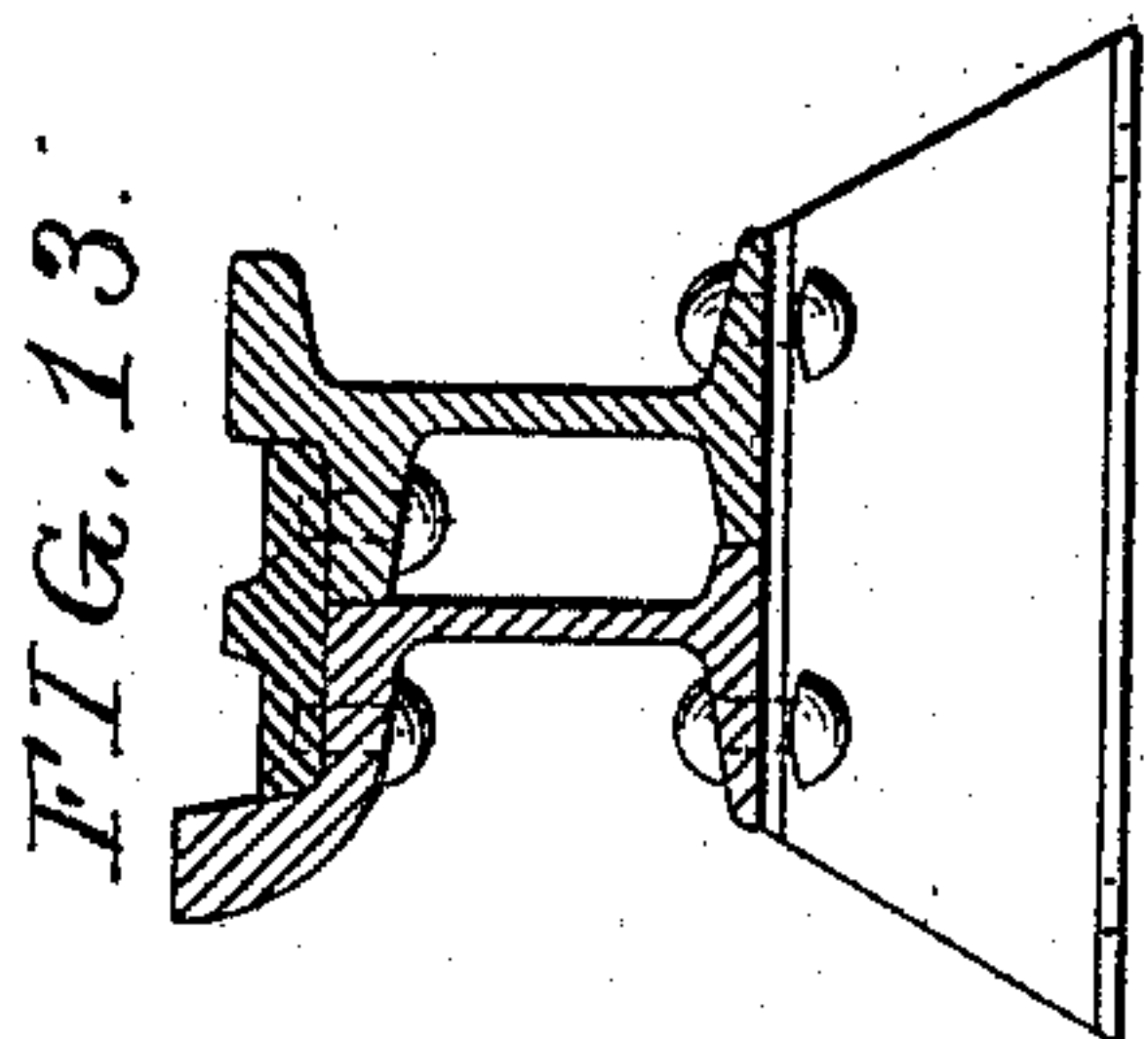
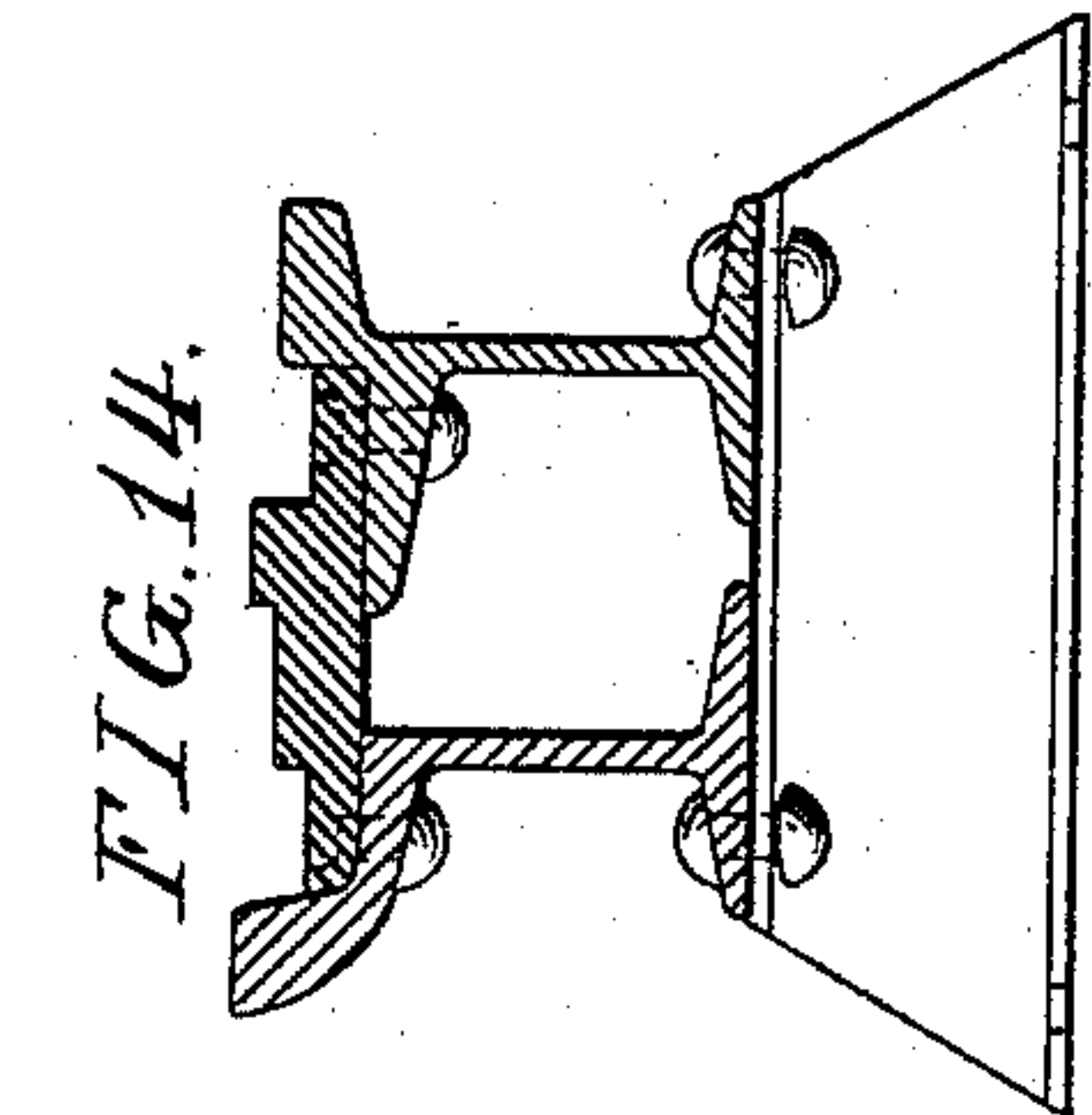
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Inventors:  
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Charles A. Psilander  
by their Attorneys

Howan & Howan



# UNITED STATES PATENT OFFICE.

VICTOR ANGERER AND CHARLES A. PSILANDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO THE WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF SAME PLACE.

## TRACK STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 488,377, dated December 20, 1892.

Application filed May 16, 1892. Serial No. 433,146. (No model.)

*To all whom it may concern:*

Be it known that we, VICTOR ANGERER, a citizen of the United States, and CHARLES A. PSILANDER, a subject of the King of Sweden and Norway, both residents of Philadelphia, Pennsylvania, have invented certain Improvements in Track Structures, of which the following is a specification.

Our invention relates to the construction of frogs, switches, and other track structures, in which girder or web rails are used, the object of our invention being to so construct the track structure that at the junction of one rail with another, there will be no joints or seams, at the same time making the main rails continuous so that they can be readily attached to the track rails in the ordinary manner. This object we attain by cutting away sufficient of the head portions of the rails to allow for the insertion of a plate that is shaped to align with the rails.

In the accompanying drawings:—Figure 1, is a plan view of a frog constructed in accordance with our invention; Fig. 1<sup>a</sup>, is a sectional plan view of the frog shown in Fig. 1; Fig. 2, is a section on the line 2—2, Fig. 1; Fig. 3, is a section on the line 3—3, Fig. 1; Fig. 4, is a section on the line 4—4, Fig. 1; Fig. 5, is a plan view of an open switch made in accordance with our invention; Fig. 6, is a section on the line 6—6, Fig. 5; Fig. 7, is a section on the line 7—7, Fig. 5; Fig. 8, is a section on the line 8—8, Fig. 5; Fig. 9, is a section on the line 9—9, Fig. 5; Fig. 10, is a plan view of the mate switch; Fig. 11, is a section on the line 11—11, Fig. 10; Fig. 12, is a section on the line 12—12, Fig. 10; Fig. 13, is a section on the line 13—13, Fig. 10; Fig. 14, is a section on the line 14—14, Fig. 10.

We will first refer to Figs. 1 to 4: A is a rail of the main track, B is a rail of a crossing track. The rail A is continuous throughout the frog, while the rail B is made in two sections *b, b'*, which abut the rail A at the proper angle, and are secured thereto. Each rail section *b, b'*, has, in the present instance, permanently secured to it, preferably by rivets, a joint plate *c* which extends beyond the rail, and is so bent as to conform with the web of the main rail and is secured thereto by the bolts

*c*. In order to further secure the parts together, clamp bolts *c*<sup>2</sup> are passed through both joint plates and the web of the main rail, as shown in Fig. 1<sup>a</sup>. The heads of the rails are cut away on a line clearly shown in Figs. 2, 3 and 4, from the point *x* to the point *y*—Fig. 1, and in this space is inserted a plate D, having formed in it the groove *d* to align with the main rail, and a groove *e* to align with the crossing rail. This plate is secured by rivets or other fastenings to the side flanges of the rails, as clearly shown in the cross sectional views. Thus, while the supporting structure is formed entirely of the track rails, the crossing points are formed on a plate attached to said structure, thus avoiding all seams and joints at the crossing point. The base flanges of the rail may be tied together by short sections of I-beams or plates secured to the flanges by rivets or bolts, as clearly shown in the drawings.

In Figs. 5 to 9, an open point switch is shown. In this instance, A' is the main rail, and B' the siding rail. This siding rail forms a continuation of the main rail as clearly shown in Fig. 5. The head *a* of the main rail A' is cut away from the point *w* to the point *z*, Fig. 5, at which point the said rail terminates. The guard or flange portion of the rail B' is cut away from the line *w* to the point *z* in such a manner that when the two rails A' and B' are adjusted to each other, the guard portion *a'* of the rail A' aligns with the guard portion *a*<sup>2</sup> of the rail B' at the point *z*. The head *b* of the rail B' is continuous throughout the switch, and becomes at the point *z* a part of the main track.

By referring to the cross sections Figs 6, 7, 8 and 9, it will be readily seen how the head portion *a* of the main rail is cut away, leaving a continuous guard portion *a'*, and how the guard portion of the rail B' is cut away leaving a continuous head *b*.

Between the guard portion *a'* of the rail A' and the head portion *b* of the rail B', we insert a plate D, which extends from the point *w'* to the point *w*, and on which is formed the switch point *d'*, as clearly shown in the perspective view. The plate D' is secured to the two rails by rivets or bolts *e'*, and the



plate is supported by the side flanges of the rails, as clearly shown in the cross sections. The two rails are tied together at intervals by short sections of I-beams or plates secured to the flanges of the rails by rivets or other fastenings; bolts may be passed through the webs of the rails with or without spacing blocks to tie the rails together.

The switch mate shown in Fig. 10, is similar in construction to the point switch shown in Fig. 5, with the exception that the head of the main rail is continuous, and the side flange is cut away, and the head of the rail B' is cut away, while the guard is continuous to the point  $z$ , at which point the rail B' terminates. These switches, however, may also be constructed similar to the frog or crossing piece by cutting away entirely both the head and guard of each rail A' and B', between the points  $z$  and  $w$ , and securing to the top of the remaining portions a plate in which are formed the grooves and the switch point  $d'$ .

We claim as our invention:—

1. The combination in a track structure, in which two or more rails meet or cross, of the

continuous rails partly cut away at the junction, with a crossing or joint plate set into the cut away portions and onto the remaining portions of the rails, substantially as set forth.

2. The combination in a switch or frog structure, of the rails having the abutting points cut away with a crossing or joint plate set into the cut away portion and onto the remaining portions of the rails, forming a crossing without seams, substantially as set forth.

3. The combination in a frog structure, of the continuous main rail, the crossing rail secured thereto, the heads of said rails being cut away at the crossing, with a plate grooved to align with the rails and forming solid points, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

VICTOR ANGERER.

CHAS. A. PSILANDER.

Witnesses:

W. J. BURNS,

HARRY SMITH.