C. A. PSILANDER.

TRACK STRUCTURE.

APPLICATION FILED MAR. 14, 1912.

1,054,613.

Patented Feb. 25, 1913.

3 SHEETS—SHEET 1.

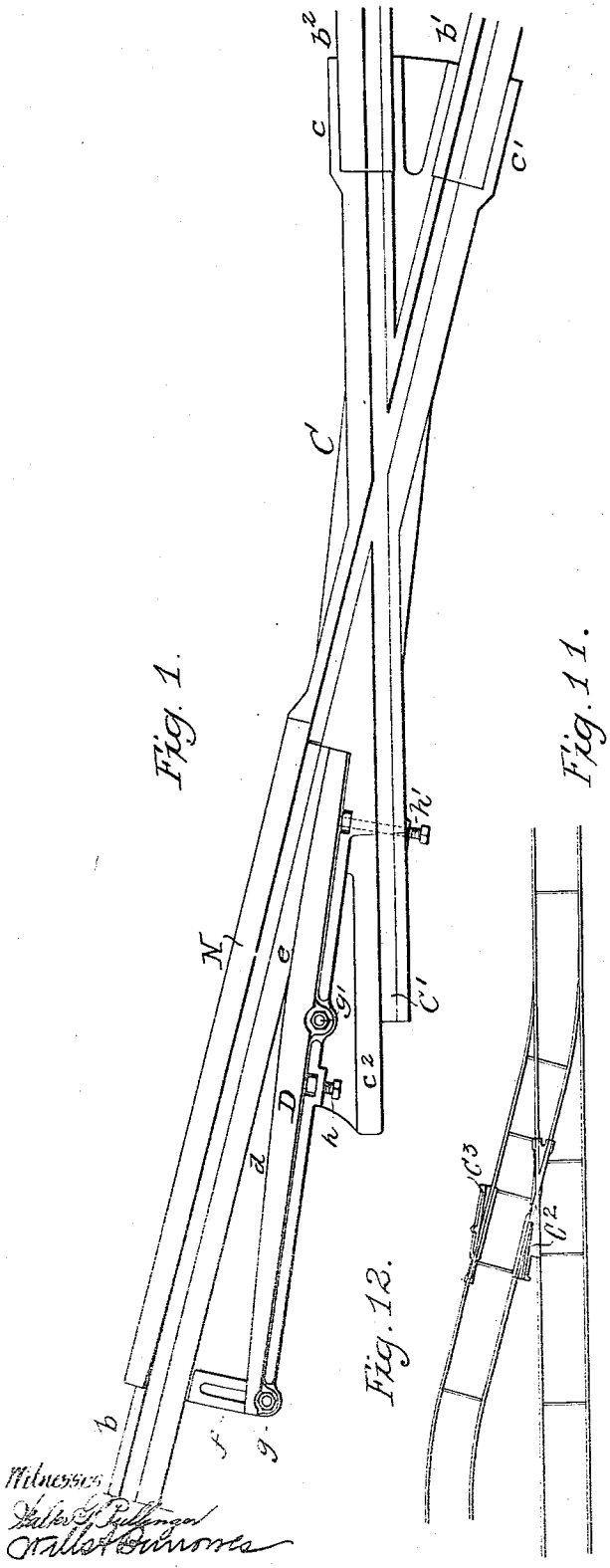

Fig. 1.

Fig. 12.

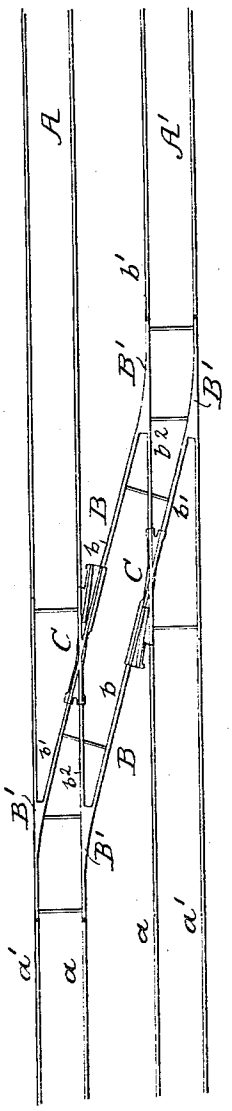

Fig. 11.

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Walter Bowers

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Raymond Hyman

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3 SHEETS—SHEET 2.

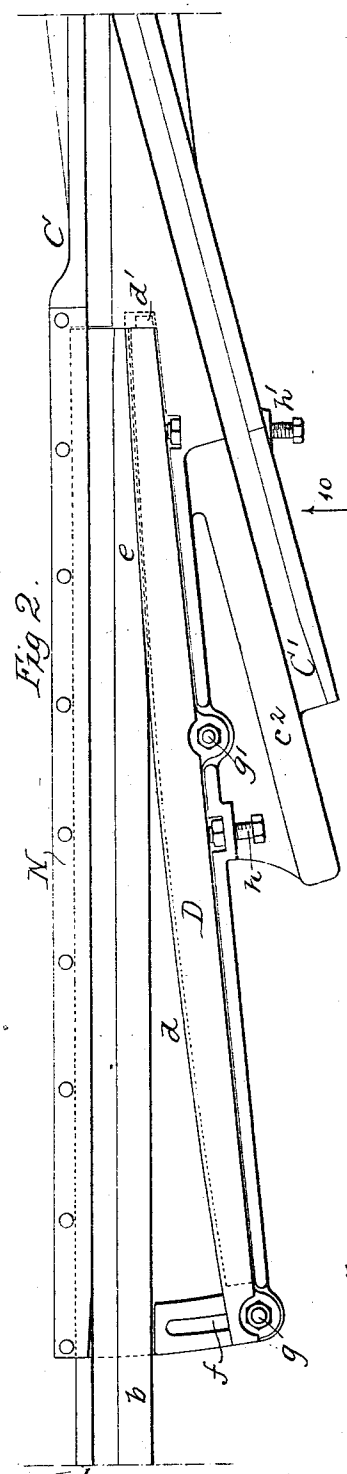

Fig. 2.

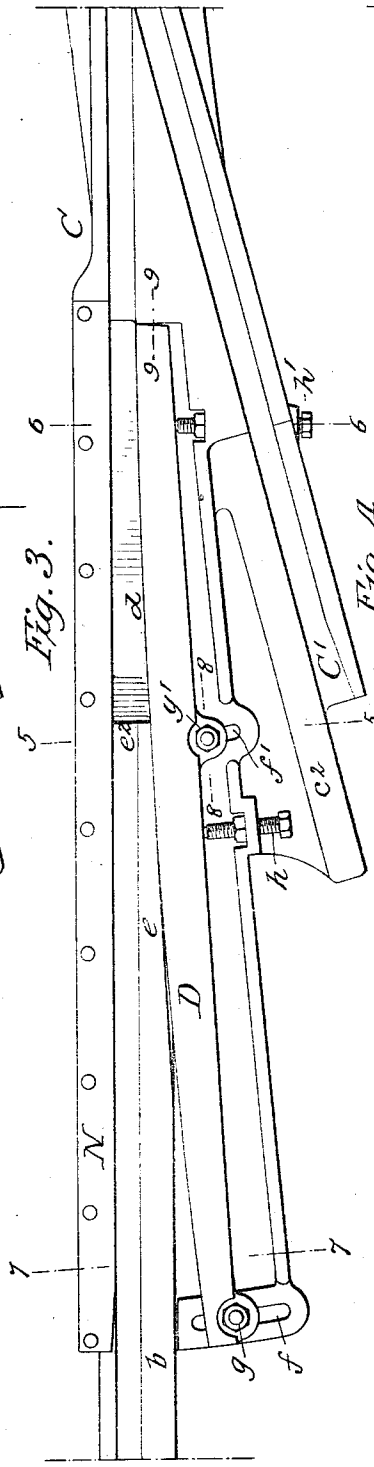

Fig. 3.

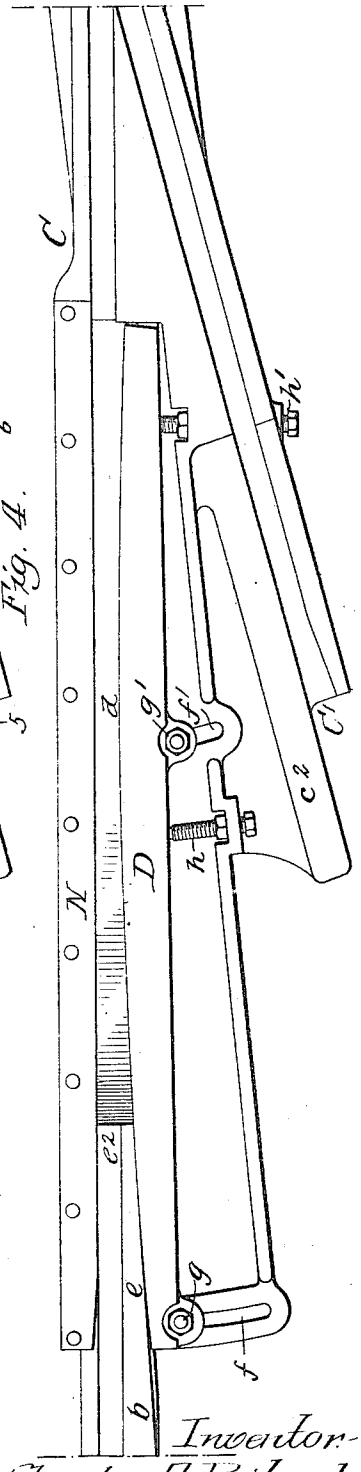

Fig. 4.

Witnesses
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Hamm & Hamm

C. A. PSILANDER.

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3 SHEETS—SHEET 3.

Fig. 5.

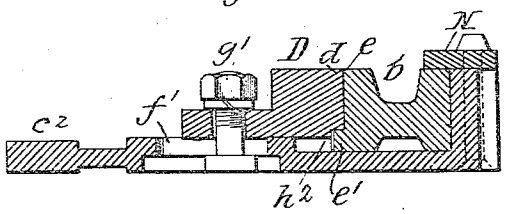
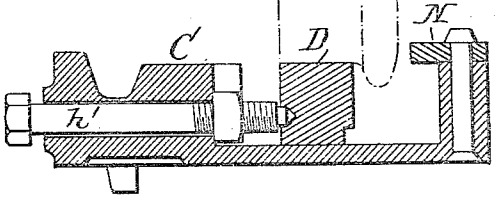


Fig. 6.



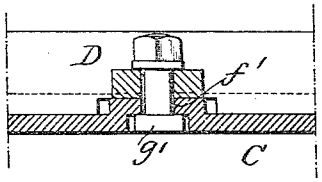


Fig. 8.

Fig. 9.

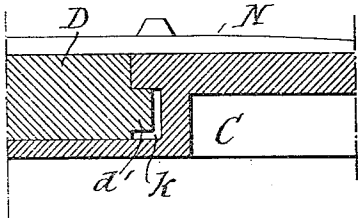


Fig. 7.

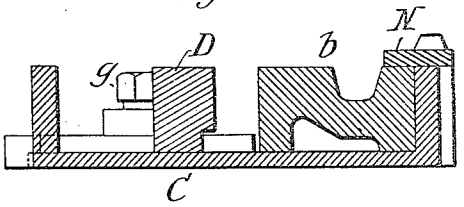


Fig. 10.

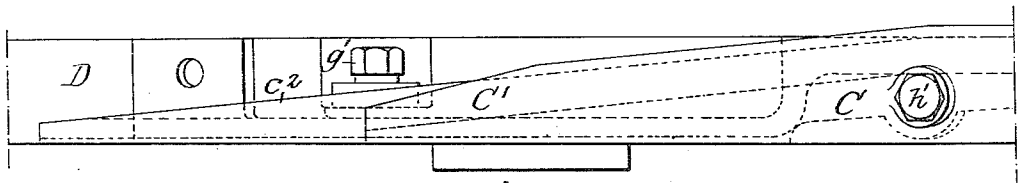
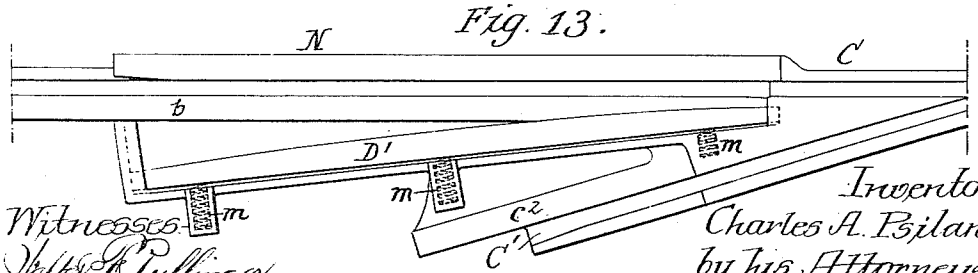


Fig. 13.



Witnesses—
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Inventor—
Charles A. Psilander
by his Attorneys—
Howson & Howson

UNITED STATES PATENT OFFICE.

CHARLES A. PSILANDER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

TRACK STRUCTURE.

1,054,613. Specification of Letters Patent. Patented Feb. 25, 1913.

Application filed March 14, 1912. Serial No. 683,673.

To all whom it may concern:

Be it known that I, CHARLES A. PSILANDER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Track Structures, of which the following is a specification.

This invention relates to certain improvements in expansion joints for track structures and is particularly adapted for use in connection with portable cross overs or portable turn outs for double tracks. The invention can also be used in connection with an expansion joint in a straight track.

The object of the invention is to provide an adjustable joint for a track structure, particularly of the type above mentioned, in which the gap between the ends of the tread portions of the rails will be bridged so that a wheel passing over the structure will have a continuous bearing on said structure and that without changing the level or grade of the tread surface.

Portable cross overs must be adjusted to fit the rails of both tracks, of a double track system, and the distance between these tracks varies. Consequently, the cross over must be provided with an adjustable section or sections to bridge any gap which may be formed at these turn out points in railway systems. The use of my invention insures a continuous, level tread surface.

In the accompanying drawings:—Figure 1, is a plan view of the frog section of a portable cross over, illustrating my invention; Fig. 2, is a plan view of one of the joint sections of a cross over, showing the joint between the inside rail of the cross over and the frog closed; Fig. 3, is a view, similar to Fig. 2, showing the joint partly open; Fig. 4, is a view showing the joint open to its fullest extent; Fig. 5, is a transverse sectional view on the line 5—5, Fig. 3; Fig. 6, is a sectional view on the line 6—6, Fig. 3; Fig. 7, is a sectional view on the line 7—7, Fig. 3; Fig. 8, is a sectional view on the line 8—8, Fig. 3; Fig. 9, is a sectional view on the line 9—9, Fig. 3; Fig. 10, is a view in elevation of a portion of the structure, looking in the direction of the arrow 10, Fig. 2; Fig. 11, is a diagram, showing the cross over and two tracks connected by the cross over; Fig. 12, is a diagram view of a turn out illustrating my invention; and Fig. 13, is a view illustrating a modification in which the tread section is moved automatically upon the movement of the rail.

Referring in the first instance to Fig. 11, A—A′ are two parallel tracks of a street railway in the present instance. *a—a′* are the main rails of the track. B is a cross over track structure having joint sections B′ and each of the ends of these joint sections extends over the rails of the two tracks, as shown in Fig. 11. C—C are the two frog sections which rest upon rails of the main tracks.

When it is desired to locate a cross over at a certain point on the railway, the inside cross over rails are adjusted, preferably at the frog section. The base of the frog structure C, Fig. 1, has sockets *c—c′*. One socket receives the cross over section b' and the other socket receives the rail b^2, which extends over the main rail of the track. The opposite end of the frog structure has an extension C′ which rests above the main rail *a* of the track and has a beveled portion c^2, which forms the approach. The bevel portion is directly above the head of the main rail. The inside rail *b* of the cross over extends between the frog and the joint section and is adjustable longitudinally in the frog in order to accommodate the cross over to the tracks, as the distance between the tracks varies and it is necessary to provide means for adjusting the cross over to fit the tracks; it being essential that there should be no gaps which would permit a wheel to drop off of the rail. By my invention any gap occurring is immediately closed and a continuous tread and guard provided.

D is an auxiliary tread section having, in the present instance, a curved face *d*, which rests against the bevel portion *e* of the rail *b*. This auxiliary tread section D is movable toward and from the rail *b* so that it will always contact with the bevel portione of the rail. The base of the frog section C will always contact with the bevel portion *e* has a slot *f* at one end and a slot *f′* some distance from the end. Mounted in the tread section D are vertical bolts *g* and *g′*, which pass through the slots *f—f′*. These

bolts are provided with nuts by which the tread section can be clamped in the position to which it is adjusted.

In order to adjust the tread section D to and from the rail *b*, set screws *h*—*h* are provided, which extend through webs of the frog section and bear against the rear side of the tread section. The screw *h'* is located near the inner end of the tread section and the screw *h* is located near the center of the tread section. By this construction and arrangement, the tread section can be adjusted and secured in said adjusted position.

I preferably under-cut the end of the frog section at *k*, Figs. 2 and 9, and provide the end of the tread section D with a tongue *d'*, which enters this under-cut portion so as to hold the end of the tread section down to aline with the face of the frog of the track structure.

N is a guard, which extends above the guard portion of the rail *b* and is secured to the frog C, as illustrated in Fig. 6. This guard forms a continuation of the guard of the frog section of the rail *b*, so that the guard portion of the structure is unbroken. This guard N holds the rail *b* in position with respect to the frog section and yet allows it to slide freely in a longitudinal direction.

I preferably form a ledge at the base of the bevel portion *e* of the rail *b* and I undercut the tread section D at d^2 so that the tread section overlaps the ledge, thus the rail is held down by the guard N on one side and the tread section D on the opposite side, as it is essential that the track structure be made as rigid as possible.

It will be understood that the sections of the cross over are tied together by bars at intervals in the ordinary manner, as shown in Fig. 11, so as to make the cross over rigid when in position.

It will be seen by the above construction and upon referring to Figs. 2, 3, and 4, that a cross over can be adjusted to accommodate variations in the distance between tracks and yet the tread surface and guard will be continuous; said tread surface being maintained at the same level throughout.

In Fig. 2, I have shown the rail *b* abutting the end of the frog C, and, in the present instance, the tread surface is level and continuous without the use of the tread section D, although the tread section becomes a part of the tread surface due to the fact that the rail *b* is tapered at the end and that the tread section D rests against the tapered portion.

In Fig. 3, it will be noticed that the end e^2 of the rail *b* is some distance from the end of the recess in the frog, but this space is bridged by the tread section D; said tread section having been adjusted so that its inner end will aline with the inner end of the groove or gage line in the frog section and rests against the surface *e* of the rail so that a wheel traveling over the rail *b* will be carried over the guard by the tread section D.

In Fig. 4, I have shown the rail *b* moved back to the maximum opening, the tread section D being adjusted so that it will bear against the bevel portion *e* of the rail *b*, extending into the gap between the end of the rail and the recess in the frog; bringing the gap so that a wheel will have a continuous bearing across the gap.

By making the face *d* of the tread section partly curved, I am enabled to adjust the said section to any position desired so that it will form a bridge piece and at the same time will fit snugly against the bevel portion *e* of the rail *b*.

In Fig. 13, I have shown springs *m* mounted back of the tread section D'. By this construction, the tread section is automatically adjusted so that as the rail *b* is moved in or out, the tread section D' will accommodate itself to this movement. This construction may be used with portable cross overs; turn outs, or with straight tracks where it is desired to provide an expansion joint.

In Fig. 12, I have shown a turn out in which a single frog structure is used. There is an expansion joint at the frog C^2 and another at C^3 and if a gap is formed at the expansion joints, the adjustable auxiliary treads bridge the gaps.

While I have illustrated my invention as applied to cross overs or turn outs, it will be understood that the invention may be applied to any track structure where one section has a longitudinal motion independent of another section, which would ordinarily form a gap.

By making the expansion joint for a track structure in the manner above described, I am enabled to bridge the gap without changing the level of the running surface, as the auxiliary tread portion moves laterally to fill the gap.

I claim:

1. The combination in a track structure, of a base having a tread portion; a rail longitudinally adjustable in respect to the said base; an independent laterally movable auxiliary tread mounted on the base and arranged to bridge the gap between the end of the rail and the tread portion of the base; and means for securing the auxiliary tread in position.

2. The combination in a track structure, of a base having a tread portion with a recess therein; a rail longitudinally adjustable in the recess; a laterally adjustable auxiliary tread section at one side of said adjustable rail and within the recess; means for adjusting said tread section; and means

for fastening it in the position to which it is adjusted.

3. The combination in a track structure, of a base section having a recess; a rail longitudinally adjustable in said recess and beveled at one side near one end; a laterally adjustable auxiliary tread section at one side of said adjustable rail and adjustable to and from said rail and adapted to rest against the beveled portion and to bridge the gap between the end of the rail and the base section.

4. The combination in a track structure, of a base section having a recess; a rail longitudinally movable in said recess and beveled on one side at the end and resting in the recess; an auxiliary tread section mounted so as to be laterally adjustable on the base section to bring one end in close contact with the beveled portion of the movable rail, and the other end into approximate alinement with the tread of the base section, partially bridging the gap between the end of the rail and the base section.

5. The combination in a track structure, of a base; a recess therein; a longitudinally adjustable rail mounted in the recess, beveled near one end and having a ledge; with an auxiliary tread section resting against the beveled portion of the rail and undercut to receive the ledge.

6. The combination in a track structure, of a base having a recess therein; a longitudinally adjustable rail mounted in the recess; an adjustable auxiliary tread section adapted to rest against the side of the rail and, when the rail is adjusted, to fill the gap between the rail and the end of the base; and means for holding the said adjustable auxiliary tread section in position; the base having an under-cut portion and the tread section having a tongue extending under the under-cut portion so as to hold the end of the tread section in line with the face of the base.

7. The combination in a track structure, of a base; a recess therein; a longitudinally adjustable rail mounted in the recess and beveled at one side; an auxiliary tread section mounted in the base; set screws for adjusting the said tread section and clamp screws adapted to slots in the base for locking the said tread section in the position to which it is adjusted.

8. The combination in a track structure, of a base having a recess therein; a longitudinally adjustable rail mounted in the recess and beveled at one side; a guard plate secured to the base and extending over the guard of the rail; an auxiliary tread section located on the opposite side of the frog to that of the guard plate; and means for adjusting said tread section so that it will bridge the gap between the end of the rail and the end of the recess in the base.

9. The combination in a portable cross over or turn out, of rails capable of longitudinal movement to allow for adjustment; with an independent laterally adjustable auxiliary tread section located at one side of each of said rails; and means for moving said auxiliary tread laterally to bridge the gap without changing the level of the running surface.

10. The combination in a cross over adapted to be placed upon the rails of two tracks; said cross over having recessed frog structures; with rails longitudinally adjustable in said recesses; and a laterally movable auxiliary tread section on each frog structure arranged to bridge the gap between the longitudinal rail and the frog structure.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES A. PSILANDER.

Witnesses:

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WM. A. BARR.