

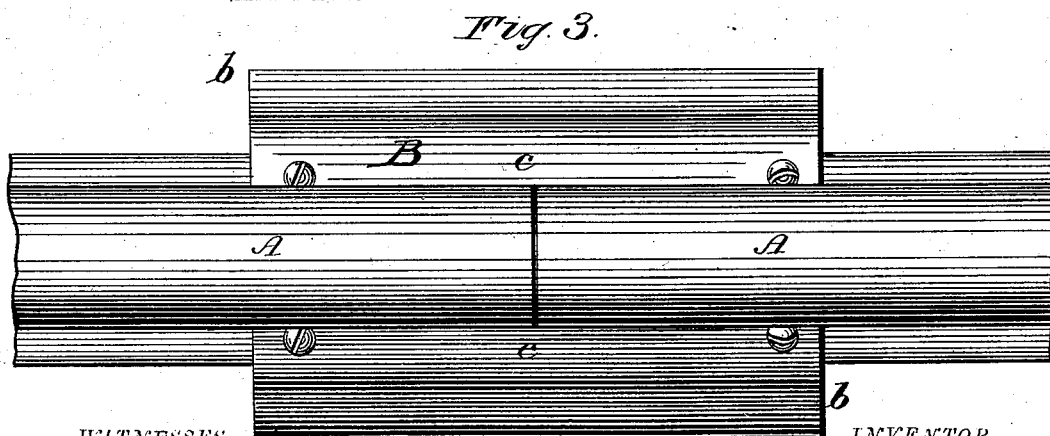
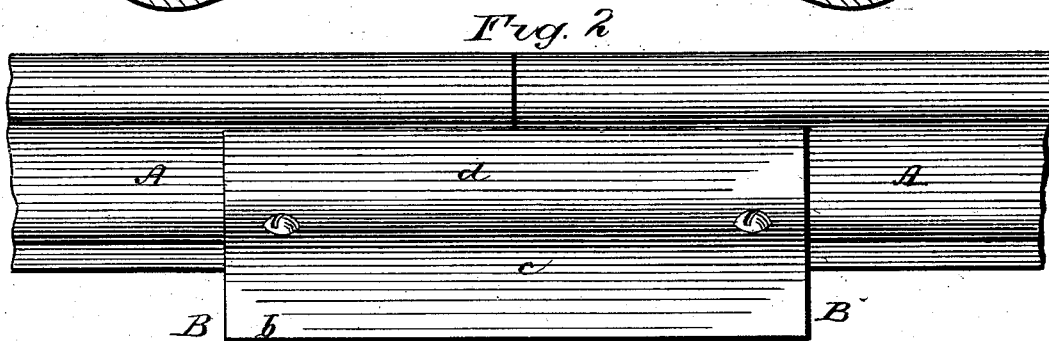
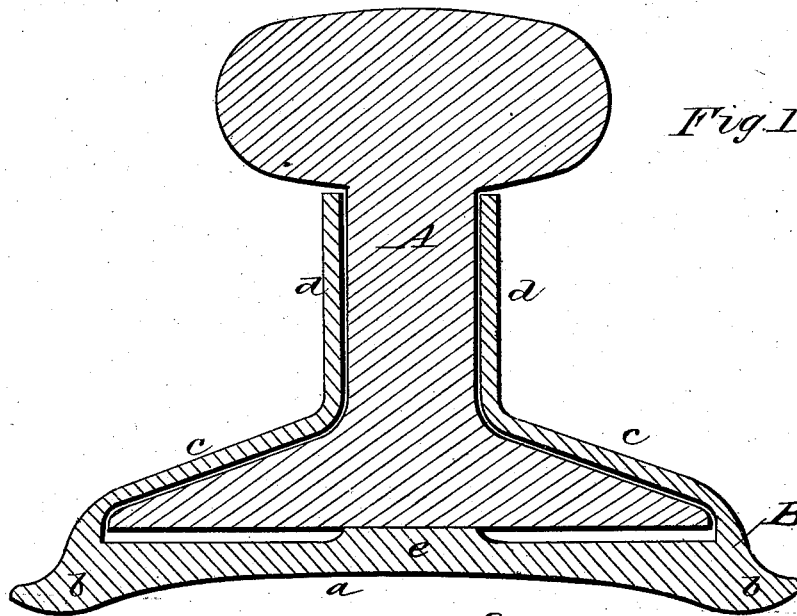
(No Model.)

P. H. GRACE.

RAILWAY JOINT.

No. 261,335.

Patented July 18, 1882.



WITNESSES

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PATRICK H. GRACE, OF SEDALIA, MISSOURI.

RAILWAY-JOINT.

SPECIFICATION forming part of Letters Patent No. 261,335, dated July 18, 1882.

Application filed June 20, 1881. (No model.)

To all whom it may concern:

Be it known that I, PATRICK H. GRACE, of Sedalia, in the county of Pettis and State of Missouri, have invented certain new and useful Improvements in Railway-Joints; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a cross-section of my improved railway-joint chair. Fig. 2 is a side view, and Fig. 3 is a plan view, thereof.

This invention has reference to an improvement in railway chairs or joints, having for its object to secure an elastic or yielding downward bearing and a rigid lateral bearing for the rails at their joint, to prevent noise and jarring, to save the ends of the rails, and to overcome high and low joints and the breaking of the rails; and it consists of a chair or joint-plate constructed in one piece, having an underneath concaved or hollowed-out surface and convex feet, and in its bottom a longitudinal central projection or elevation, its sides reaching up and fitting snugly alongside of the web of the rails, substantially as hereinafter more fully set forth and claimed.

Referring to the accompanying drawings, A A are two rail-sections constructed after the usual T form of rail.

B is the joint-plate or chair, constructed in a single piece, having an underneath concaved or hollowed-out surface, as shown at *a*, and convex or rounded feet *b*, to permit the chair to readily yield as the springing action, presently described, of the chair is effected by the rails under the weight of a passing train. The chair or plate is then extended from the feet up over the base of the rail or rails, as at *c*, and still farther upward, as at *d*, to fit snugly alongside of and cover the sides of the rails at their joint, stopping slightly or a short distance below the "ball" or top of the rail.

Extending along and projecting above the bottom of the chair B is a longitudinal central projection or elevation, *e*, upon which the

base of the rail rests, leaving a small space underneath the rail upon each side of the projection *e*, as clearly seen in Fig. 1.

It will be seen that as the weight of a passing train presses upon the rail it will be permitted to yield downwardly, the open spaces on each side of the central bearing, *e*, admitting of the yielding of the concaved base *a*, so as to spring the feet of the chair outward, by which the sides of the chair will be forced or pressed rigidly against the sides of the rails over the joint, thus producing an elastic downward bearing and a rigid lateral bearing for the rails, to overcome noise and jarring, to prevent the breaking of the rails themselves or the chipping of their ends, and to avoid high and low joints.

At diagonally-opposite corners of the chair are driven into the tie spikes to prevent end-wise movement of the chair.

It will be further noticed that bolts, nuts, and nut-locks are entirely dispensed with, it only being necessary, in order to secure the chair to the rails, to slip it upon the end of one rail, slipping it thereon until flush with the end of the rail, and then adjusting the other rail in its relative position with the first rail, when the chair is slid upon it until the joint is about midway the chair.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

In a railway-chair made in one piece and having the crown or arch *a* on its under side, convex sides or feet-flanges *b b*, and rail-clamps or sides *c d c d*, the inside central longitudinal rib or shoulder, *e*, having a flat top forming a broad base or support for the bottom flange of the rail A, substantially as described, for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of witnesses.

PATRICK H. GRACE.

Witnesses:

FRANK C. McNALLY,
FRIEDRICH SCHONDELMAIER,
HENRY C. SINNET.