C. CONRAD.
Compound Rail.

No. 202,635. Patented April 23, 1878.

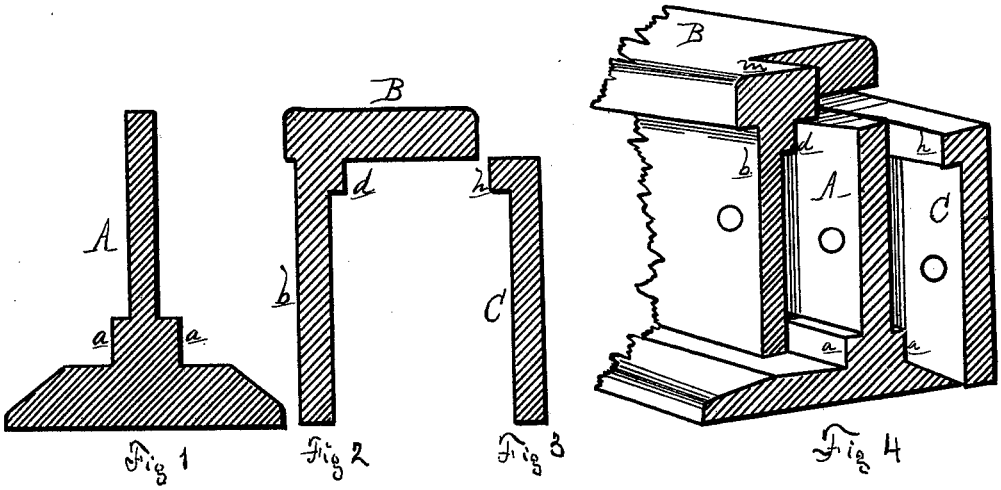
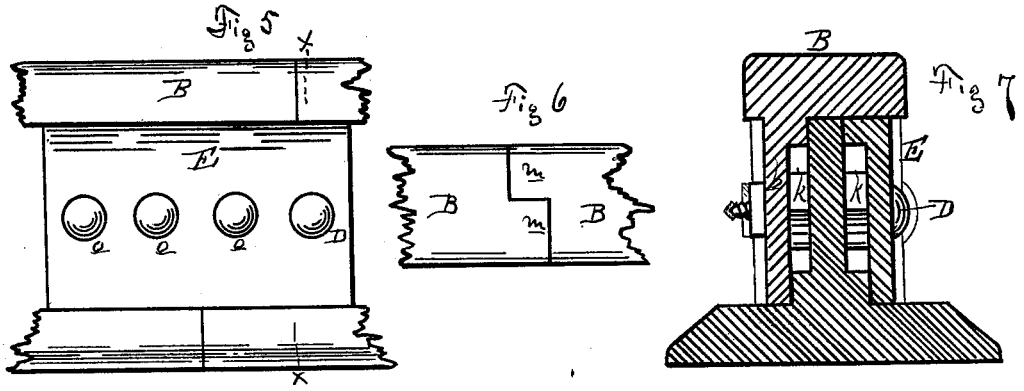


Fig 1 Fig 2 Fig 3 Fig 4



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UNITED STATES PATENT OFFICE.

CHARLES CONRAD, OF GENOA, MICHIGAN.

IMPROVEMENT IN COMPOUND RAILS.

Specification forming part of Letters Patent, No. **202,635**, dated April 23, 1878; application filed February 7, 1878.

To all whom it may concern:

Be it known that I, CHARLES CONRAD, of Genoa, Livingston county, and State of Michigan, have invented an Improved Railway Rail and Joint, of which the following is a specification:

The nature of this invention relates to new and useful improvements in the construction of compound rails for railways, and construction of the joints, so that the structure at the joints, when properly laid, will be as firm and as little liable to wear or laminate as the rails between the joints.

The invention consists in the peculiar form and adaptation of the various parts to make a complete compound rail, substantially as hereinafter described, and in the manner of arranging these parts so that they will break joints in all places where a joint is to be made.

Figure 1 is an end elevation of the web and foot of the rail. Fig. 2 is an end elevation of the head and one side of the rail. Fig. 3 is an end elevation of the opposite side of the rail. Fig. 4 is a perspective view of one end of a joint. Fig. 5 is a side elevation of a joint complete. Fig. 6 is a plan of the head of the rail. Fig. 7 is a vertical cross-section on the line *x x* in Fig. 6.

In the drawing, A represents the center web and foot of the rail, with offsets *a* on each side of said center web. B is the head of the rail, which is designed to rest upon the center web, and is provided with a downwardly-projecting flange, *b*, which rests, when in place, upon the top of the foot of the rail, as shown; and against the offset *a*. This flange is provided with an offset, *d*, of equal thickness with the offset upon the center web of the rail.

C is a bearing-plate, similar to the flange, which projects downward from the head, as described, and is provided with an offset, *h*, of the same thickness as the offsets already mentioned. This plate rests upon the opposite side of the foot of the rail and supports the overhanging head of the rail, the offset *h* bearing against the side of the center web at its top. Coincident holes through these parts admit bolts D, to hold the same firmly together, said bolts passing through washers *k* inserted in the spaces formed by the offsets hereinbefore described.

The head of the rail is provided with a projecting end, *m*, to engage with a similar projection on the abutting-rail. When it is necessary to make a joint between abutting ends of the head of the rail, the parts should be made to overlap each other, as shown in Fig. 4, the abutting portions of the joint being the reverse of this, and the whole then secured by the fish-plates E, and bolts *o* and coincident holes through all the parts hold them firmly together.

By spacing the portions of the compound rail apart, as shown, a broader support for the head of the rail is formed, so that the parts may be made quite light.

What I claim as my invention is—

1. In a compound rail, the foot A, having a center web, in combination with the head B, provided with the downwardly-projecting flange *b*, the plate C, and the offsets *a d h* on the several parts, substantially as described and shown.

2. A compound rail consisting of parts A B C, extended different distances from the body of the rail, the head of the rail being provided with projection *m*, substantially as described and shown, for the purpose set forth.

3. A compound railway-rail wherein the parts A B C are combined and secured together by the bolts D and intermediate washers, substantially as described.

In testimony that I claim the above as my invention I hereunto subscribe my name.

CHARLES CONRAD.

In presence of—
H. S. SPRAGUE,
CHAS. J. HUNT.