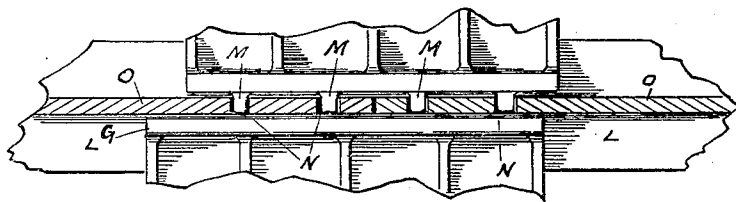
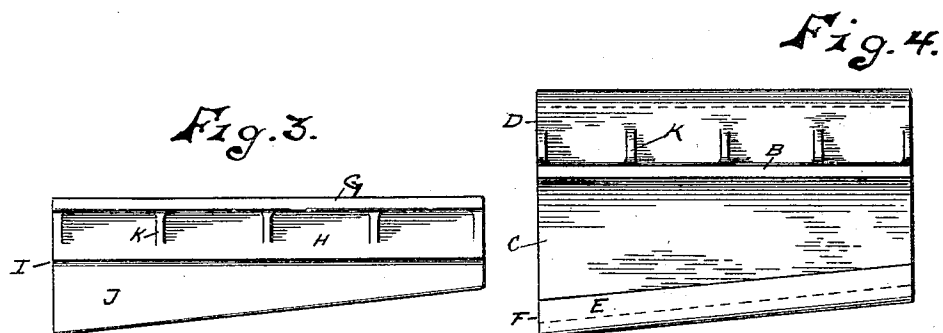
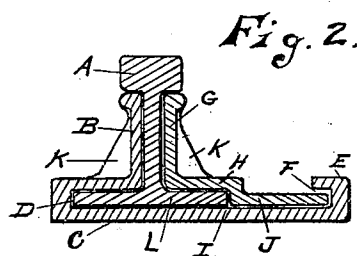
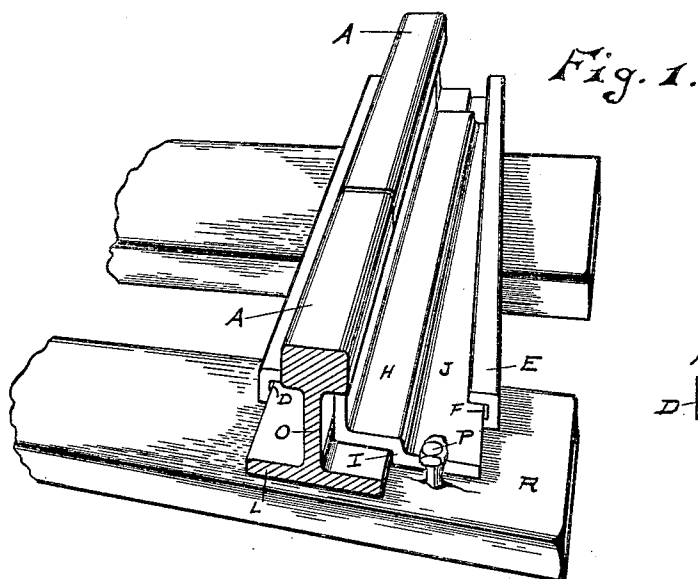


No. 824,390.

PATENTED JUNE 26, 1906.

W. R. THOMAS.
RAIL JOINT.

APPLICATION FILED MAR. 6, 1905.



WITNESSES:

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Fig. 5.

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UNITED STATES PATENT OFFICE.

WILLIAM R. THOMAS, OF WATERTOWN, WISCONSIN.

RAIL-JOINT.

No. 824,390.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed March 6, 1905. Serial No. 248,438.

To all whom it may concern:

Be it known that I, WILLIAM R. THOMAS, a citizen of the United States, residing at Watertown, county of Jefferson, and State of Wisconsin, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to improvements in railway-rail joints, and it pertains to that class by which the meeting ends of the rails are rigidly secured together without the use of bolts.

The object of my invention is to provide means by which a more rigid and reliable joint may be formed than by the means heretofore used.

The construction of my invention is explained by reference to the accompanying drawings, in which—

Figure 1 represents a perspective view of my joint in connection with the meeting ends of two railway-rails. Fig. 2 is a transverse section. Fig. 3 represents a top view of a combined fish-plate and wedge. Fig. 4 represents a top view of a combined fish and base plate, and Fig. 5 represents a longitudinal section of my railway-joint in connection with the meeting ends of two railway-rails.

Like parts are identified by the same reference-letters throughout the several views.

A A represent the meeting ends of two railway-rails.

The combined fish and base plate comprises, among other things, the vertical flange B and the horizontal plate C, provided with a longitudinal recess D, and the longitudinal angular web E, provided with a recess F. The combined fish-plate and wedge comprises, among other things, the vertical flange G, provided with a horizontal base-plate H, vertical shoulder I, and horizontal wedge-shaped portion J. The respective fish-plates are preferably reinforced by the angular corner-pieces K K.

Attention is especially called to the fact that by the construction shown the horizontal wedge-shaped portion J has a vertical contact bearing against the vertical edge of the base-flange L of the rail and that the same is interposed between the edge of said base-flange L and the angular flange E. Attention is also called to the fact that the angular flange E is formed at an angle to the longitudinal center of the railway-rail, converging inwardly from the front toward the rear end of the wedge, whereby it is obvious

that as said wedge-plate, together with the fish-plate, is driven rearwardly it is caused to impinge between the vertical edge of the base-flange L and the vertical flange E of the base-plate, whereby the combined fish and base plate and the combined fish-plate and wedge are drawn firmly together upon the respective sides of the meeting ends of the rails, thereby locking the ends of the rails rigidly together, while the vertical portions B and G of the joint serve to strengthen and support the upper portions of the rails and retain them in line with each other.

To prevent the possibility of the railway-joint moving longitudinally on the rails, I preferably, but not necessarily, provide the combined fish and base plate with a plurality of horizontal projections M, which are adapted to register with and fit into corresponding apertures N, formed in the web O of the rail. It will be understood that when thus constructed the combined fish and base plate is first put in place against one side of the rails with the projections M within the apertures N, when said parts are rigidly clamped together by driving the combined fish-plate and wedge firmly into place between the rail and the vertical retaining-flange E, as previously described.

The combined wedge and fish-plate is preferably made somewhat longer than the base-plate, whereby when the same is in place its front end will project slightly past the base-plate, as indicated in Figs. 1 and 5, when it is securely retained at such point by driving the spike P into one of the ties R at the end of said plate, as indicated in Fig. 1. It will be obvious that by this arrangement the rigidity of the joint may be increased at any time by driving the wedge-shaped plate more firmly into its bearings and that it can be locked at any point in its bearings by driving a spike in the tie at the end of such plate. It will also be recognized that by bringing the angular bearing of the wedge-shaped portion of the plate against the angular bearing of the base-plate of the rail and between it and the opposing bearing of the base-plate said parts will be rigidly and firmly locked together and the possibility of the rail moving laterally within its bearings is prevented.

I am aware that an integrally-formed fish and base plate has previously been used in connection with an integrally-formed fish-plate and flange, but as heretofore constructed the flange formed in connection with the

fish-plate is of uniform width throughout its entire length, and for this reason a separate wedge has been required to force such flange and fish-plate into binding contact with the meeting ends of the rails, while by my construction a separate wedge is dispensed with, owing to the fact that the base-plate C is provided with a diagonal flange E, converging longitudinally toward the rails, whereby as the fish-plate G, with its integrally-formed wedge-shaped portion J, is driven in place said fish-plate is forced laterally by said diagonal flange E toward and against the meeting ends of the rails, and the rails are held securely in place, whereby a separate wedge or bolt for such purpose is not required.

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

In a railway-rail joint of the class described, the combination with the meeting ends of two railway-rails, the webs of which are provided with a plurality of transverse apertures, of an integrally-formed fish-plate and base-plate and an integrally-formed fish-plate and wedge, the vertical portions of said integrally-formed fish-plate and base-plate being provided with a plurality of horizontal projections adapted to enter the apertures of

the rails and terminate flush with the opposite side of the rail-webs through which said apertures are formed, the horizontal portions of the base-plate being provided with a vertical recessed flange formed at an angle to the longitudinal center of the rails, whereby an angular space is left between said recessed flange and the vertical edge of the rails for the reception of the horizontal portion of said integrally-formed fish-plate and wedge, said integrally-formed fish-plate and wedge being adapted when driven home between said recessed flange and the railway-rails to securely clamp such parts together, and means for holding said integrally-formed fish-plate and wedge in place between said vertical recessed flange, comprising a spike rigidly fixed at one end to one of the rail-supporting ties, its protruding end being adapted to bear directly against the protruding end of said integrally-formed wedge and fish-plate, all substantially as and for the purpose specified.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM R. THOMAS.

Witnesses:

JAS. B. ERWIN,

NELLIE Z. TAUGHER.