No. 840,988. PATENTED JAN. 8, 1907.

E. P. BERGMAN.

COMBINED TIE AND RAIL FASTENER.

APPLICATION FILED SEPT. 14, 1906.

Fig. 1.

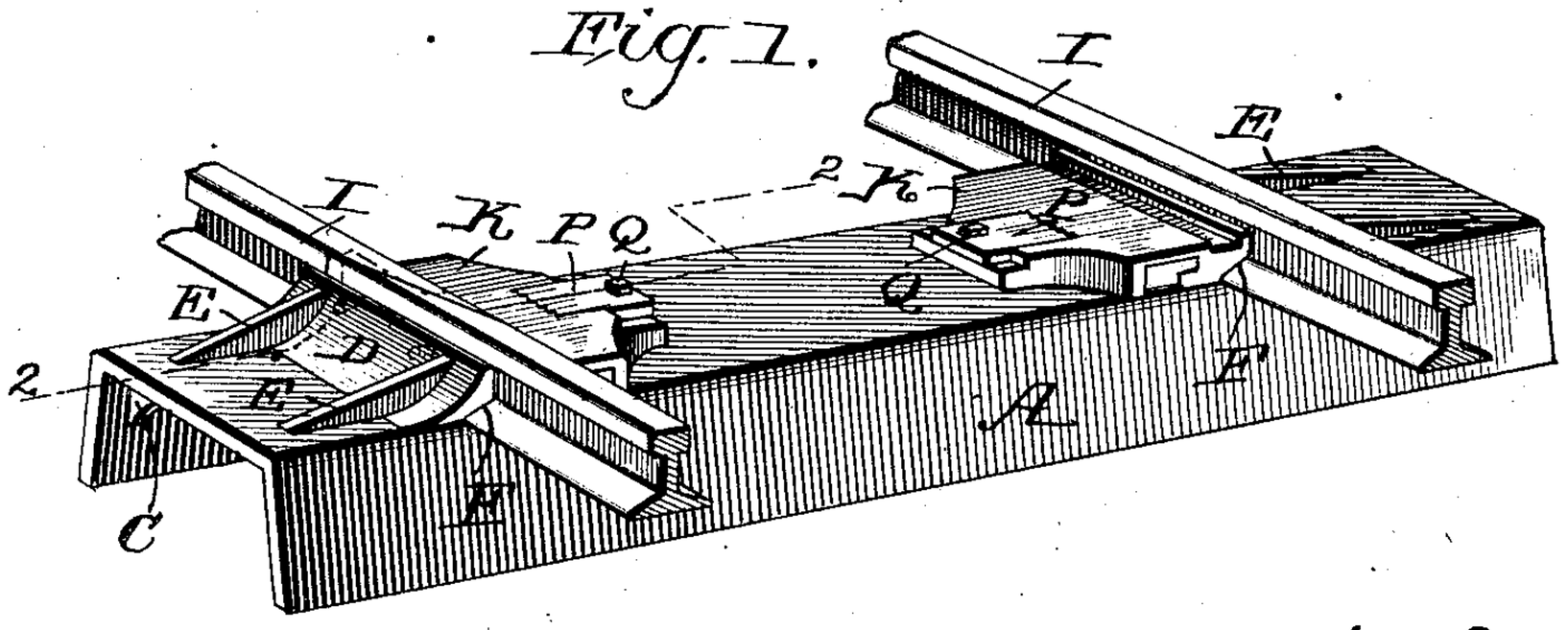

Fig. 2.

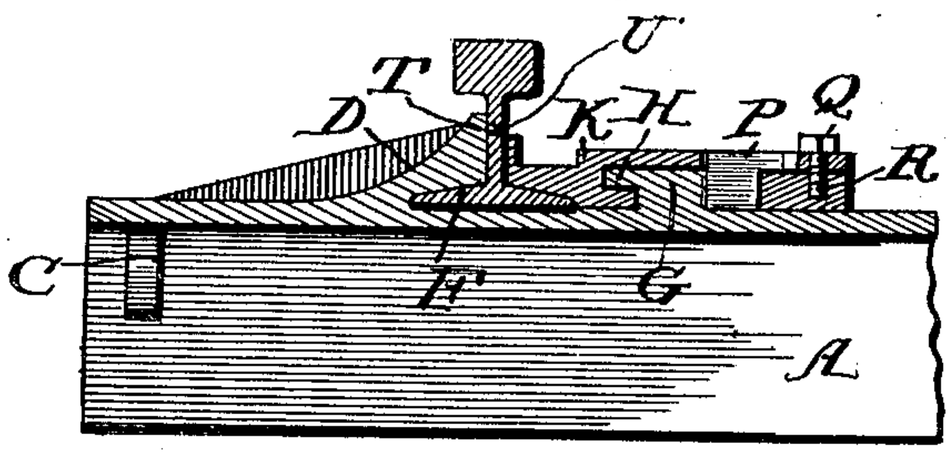

Fig. 3.

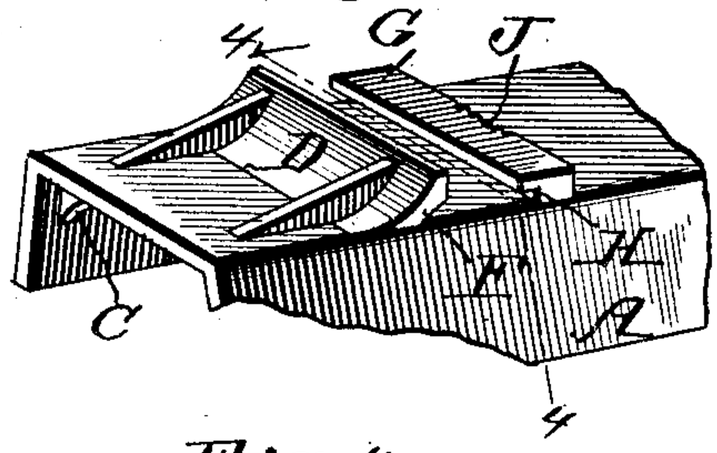

Fig. 4.

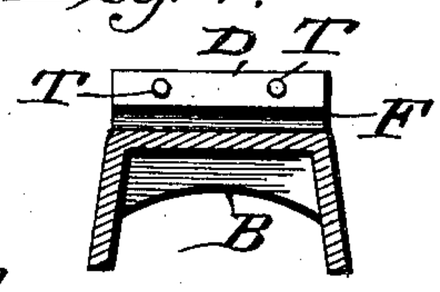

Fig. 5.

Fig. 7

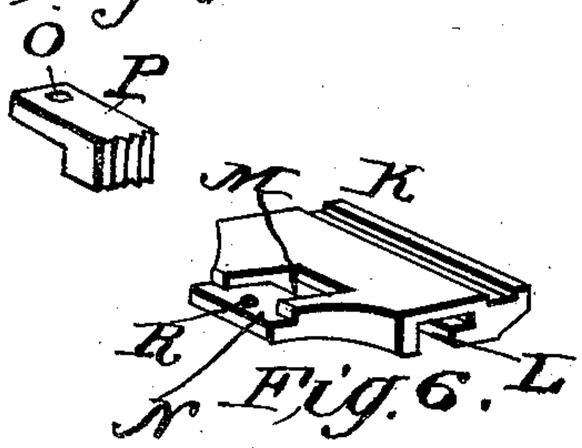

Fig. 6.

Fig. 8.

WITNESSES

E. M. Callaghan

Harrison B Brown

INVENTOR

ERICK P. BERGMAN

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

ERICK P. BERGMAN, OF CONCORDIA, KANSAS, ASSIGNOR OF ONE-HALF TO JESSIE LAPO, OF CONCORDIA, KANSAS.

COMBINED TIE AND RAIL-FASTENER.

No. 840,988. Specification of Letters Patent. Patented Jan. 8, 1907.

Application filed September 14, 1906. Serial No. 334,654.

To all whom it may concern:

Be it known that I, ERICK P. BERGMAN, a citizen of the United States, and a resident of Concordia, in the county of Cloud and State of Kansas, have invented a new and Improved Combined Tie and Rail-Fastener, of which the following is a specification.

The invention relates to metallic railway-ties and means for securing the track-rails.

The object had in view is to provide a tie of this character and rail-fastening means which shall afford improved securing means for the rails and prolonged use of the tie over all similar ties and rail-fastening means known to me or heretofore invented.

The invention consists of the special construction, arrangement, and combination of parts shown by the accompanying drawings and hereinafter fully described, the novel features being pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of my improved railway-tie and rail-fastening means. Fig. 2 is a vertical sectional view of a broken-away end of the tie, the section being taken on line 2 2 of Fig. 1 through the adjacent rail-fastening means. Fig. 3 is a fragmentary perspective view of one end of the tie and parts integral therewith and of the rail-fastening means. Fig. 4 is a transverse sectional view taken on line 4 4 of Fig. 3. Fig. 5 is an inverted plan view of a broken-away end of the tie and a portion of one track-rail. Fig. 6 is a perspective view of my improved combined rail-brace and fish-plate. Fig. 7 is a perspective view of a novel form of key employed by me for locking the brace or fish-plate in place on the tie, and Fig. 8 is a top plan view of one end portion of my tie.

In the practice of my invention I employ an angular trough or U-shaped metal tie A, cast, rolled, or otherwise formed into shape, with integral inner braces B B about its middle portion and end braces C.

It will be noticed that the trough-like portion of the tie has open ends, the same being provided to facilitate tamping of the tie, as will be understood.

Transverse shoulders D are formed on the upper side of the tie, the same being located near its ends and constructed integral therewith, as shown, and the shoulders D are reinforced on their outer side by braces E, constructed integrally with the tie and shoulder.

Upon reference to Figs. 2, 3, and 4 it will be noticed that the inner side of the shoulder D is constructed with an underlying groove or recess F, the object of which will be understood.

G denotes shoulders upon the tie, and located between the shoulders D and suitably spaced therefrom. The shoulders G are constructed integrally with the tie and formed with underlying grooves or recesses H, located next to the shoulders D, as shown.

The grooves or recesses F H are located opening flush with the upper surface of the tie, and the former are adapted to receive the base-flange of the track-rail I.

Teeth or notches J are formed on the inner or far side of the shoulders G, the same being provided for the purpose appearing farther on.

In further carrying out my invention I provide a locking-plate K, constructed with an L-shaped groove L on its under side and a vertical opening M, one edge portion of the opening through the locking-plate K being reduced in thickness, forming a seat N (see Fig. 6) for support of a flange O on the key or plug.

The plug P is designed to be entered into the opening M of the locking-plate K and is secured by means of a set-screw Q, (see Figs. 1 and 2, (arranged in a suitable opening through the flange O of the plug or key P, and a screw-threaded socket R in the upper side of the seat N on the locking-plate K. (See Figs. 1 and 6.)

One side of the key or plug P is provided with ribs or teeth S, designed for locking engagement with the similar ribs or teeth J on the inner side of the shoulder G. (See Fig. 3.)

The tie-shoulders D are constructed with projections T on their inner or rail side, and the rail is provided with correspondingly-arranged openings U (see Fig. 2) to receive the projections T. With the construction just described the track-rail is secured against endwise movement.

Upon reference to Fig. 8 of my drawings it will be noticed that the shoulder G is arranged at an angle to the shoulder D—that is, one end G′ thereof is nearer to the shoulder D than its other end.

In further description of the L-shaped

groove in the plate K, I would say that it is made angular in longitudinal projection, corresponding to the angular position of the shoulder G on the tie.

With the construction of parts just described it is apparent that when the plate K is shoved in place on the shoulder G, through the construction stated, the plate K will be forced against the track-rail, and thereby clamp it tightly against the shoulder D.

The projections T on the inner side of the shoulder D are designed to be used at track-rail joints, though obviously I do not desire to so restrict myself in using such projections.

The braces B B serve not only to strengthen the tie, but the additional use of effectively preventing end movement thereon on its support or bed.

The construction of my combined railway-tie and rail-fastener will be understood from the above description.

It is apparent that my new and improved rail-fastening means provides a chair upon the tie ends into which the track-rails may be seated and a joint in the rails effectively secured without the employment of bolts or similar fish-plate fastening means and also that it affords ready replacement of a worn-out rail without disturbing the anchorage of the tie in the track bed or embankment.

I claim—

1. The combination with a railway-tie, of inner and outer spacedly-arranged transverse shoulders on the upper side of the tie, the shoulders being constructed with longitudinal grooves in adjacent sides thereof, teeth on the inner side of one of said shoulders, a removable locking-plate, the locking-plate being constructed with a vertical opening therethrough, a flange on the locking-plate adapted for engagement with the groove in said inner shoulder, a key adapted for arrangement in said opening through the locking-plate, teeth on the key adapted for engaging similar teeth on said inner shoulder, and means adapted to secure the key in place.

2. The combination with a railway-tie, of inner and outer spacedly-arranged transverse shoulders on the upper side of the tie, the shoulders being constructed with longitudinal grooves in adjacent sides thereof, teeth on the inner side of said shoulder, rail-engaging projections on the other shoulder, a removable locking-plate, the locking-plate being constructed with a vertical opening therethrough, a flange on the locking-plate adapted for engagement with the groove in said inner shoulder, a key adapted for arrangement in said opening through the locking-plate, teeth on the key adapted for engaging similar teeth on said inner shoulder, and means for securing the key in place.

3. The combination with a railway-tie U-shaped in transverse section, and constructed with side braces on its under side, of inner and outer transverse shoulders on the upper side of the tie, the shoulders being constructed with longitudinal grooves in adjacent sides thereof, a removable-locking-plate, the locking-plate being constructed with a vertical opening therethrough, a flange on the locking-plate adapted for endwise arrangement into the groove in said inner shoulder, a key with means adapting it to be secured in place, and interlocking means on the key and inner shoulder.

ERICK P. BERGMAN.

Witnesses:
GEO. W. MARSHALL,
GEORG B. EVANS.