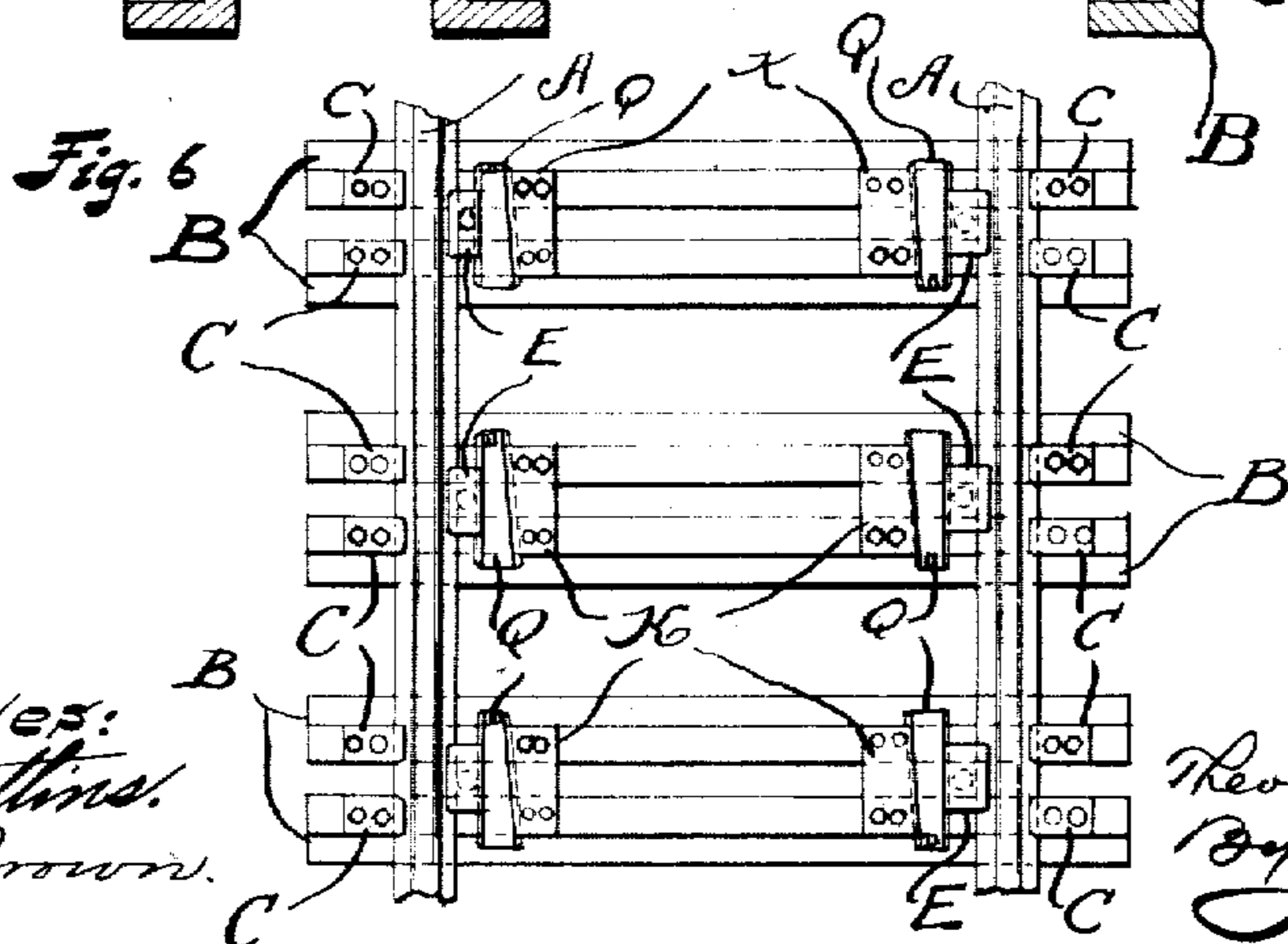
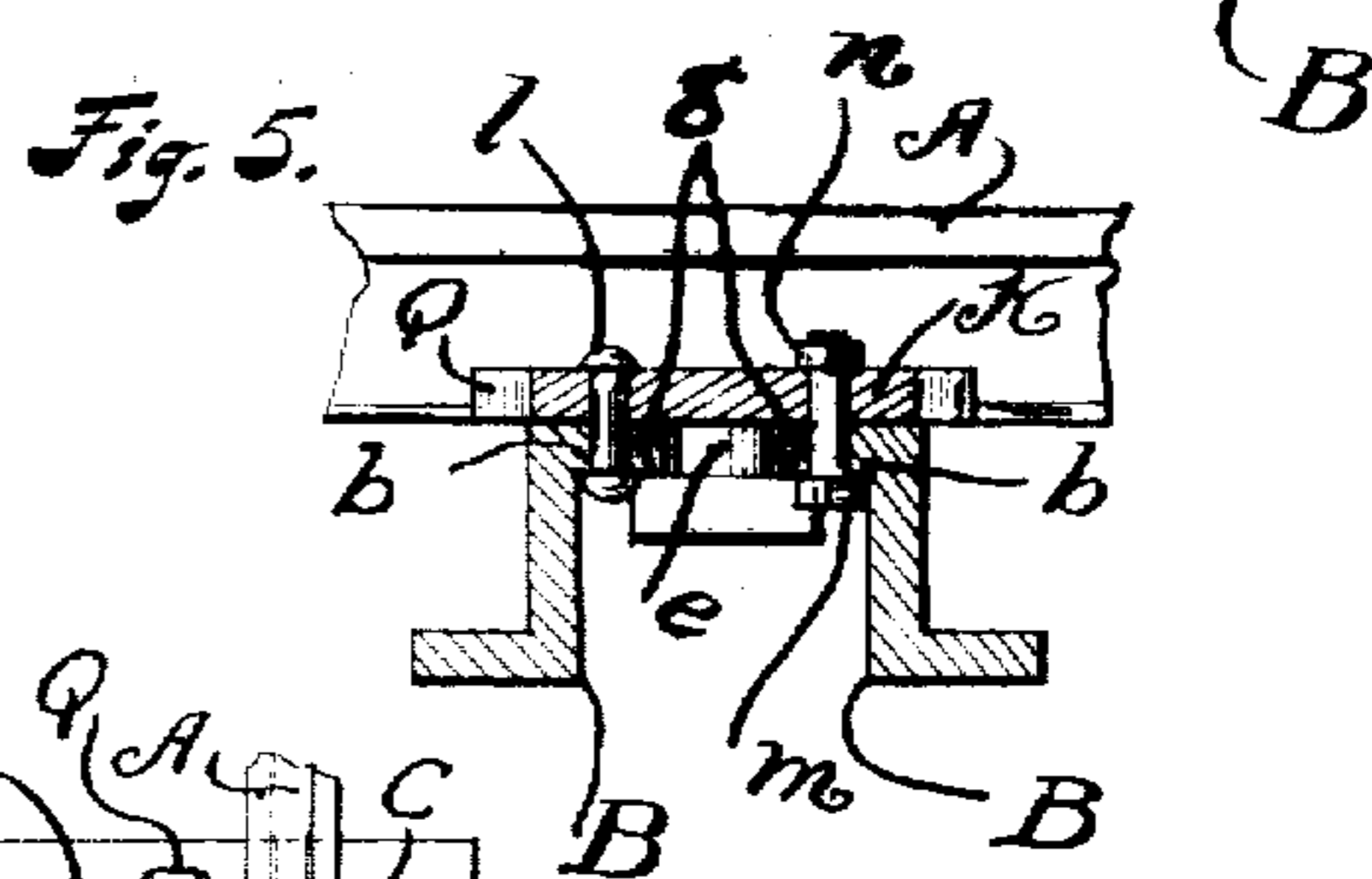
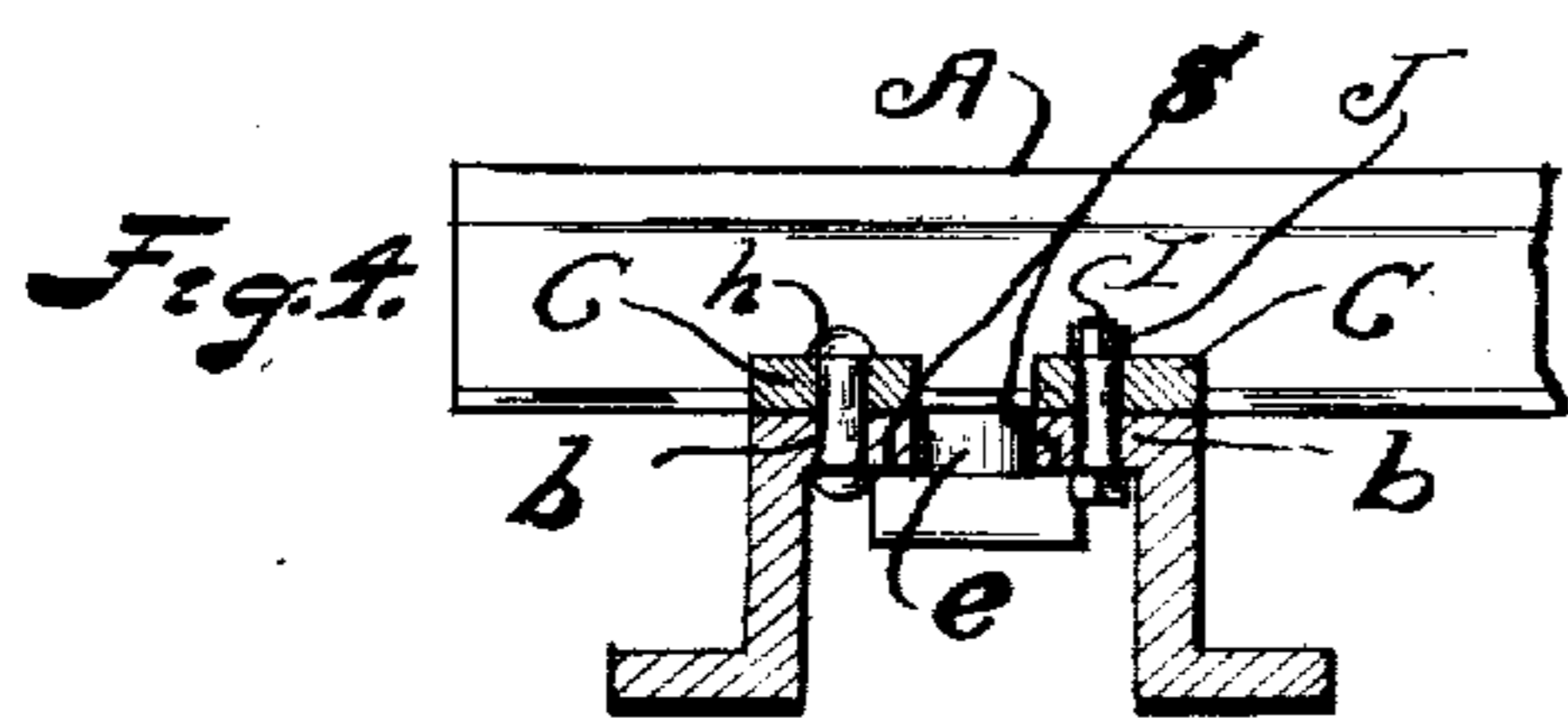
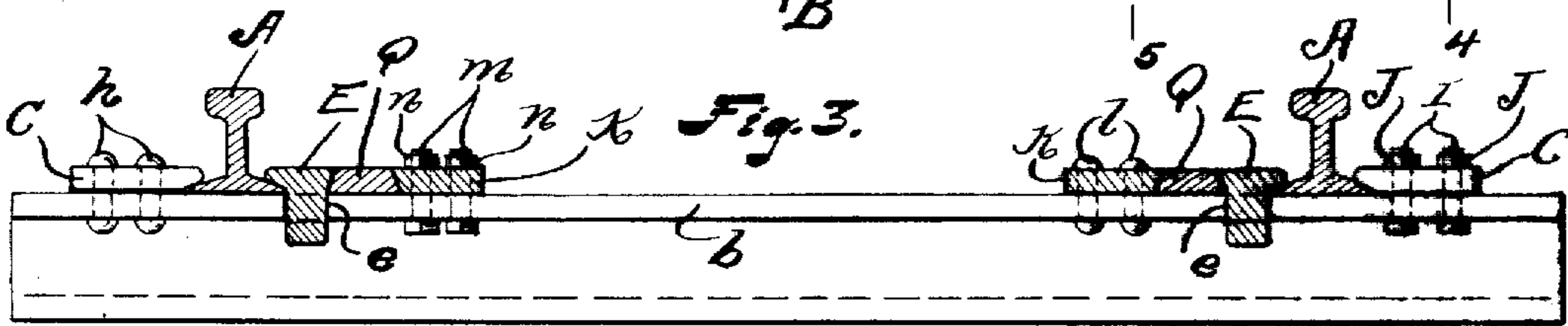
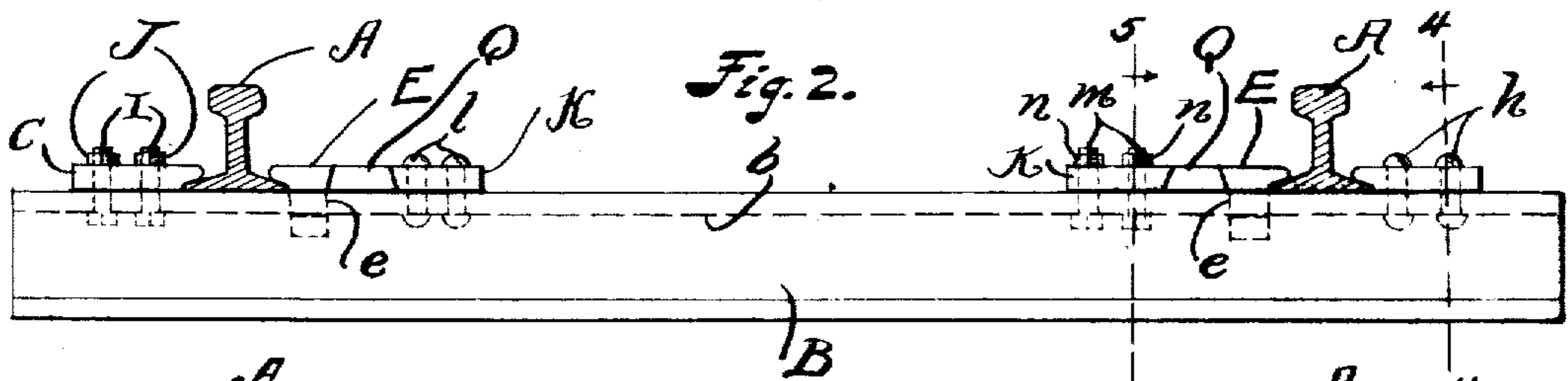
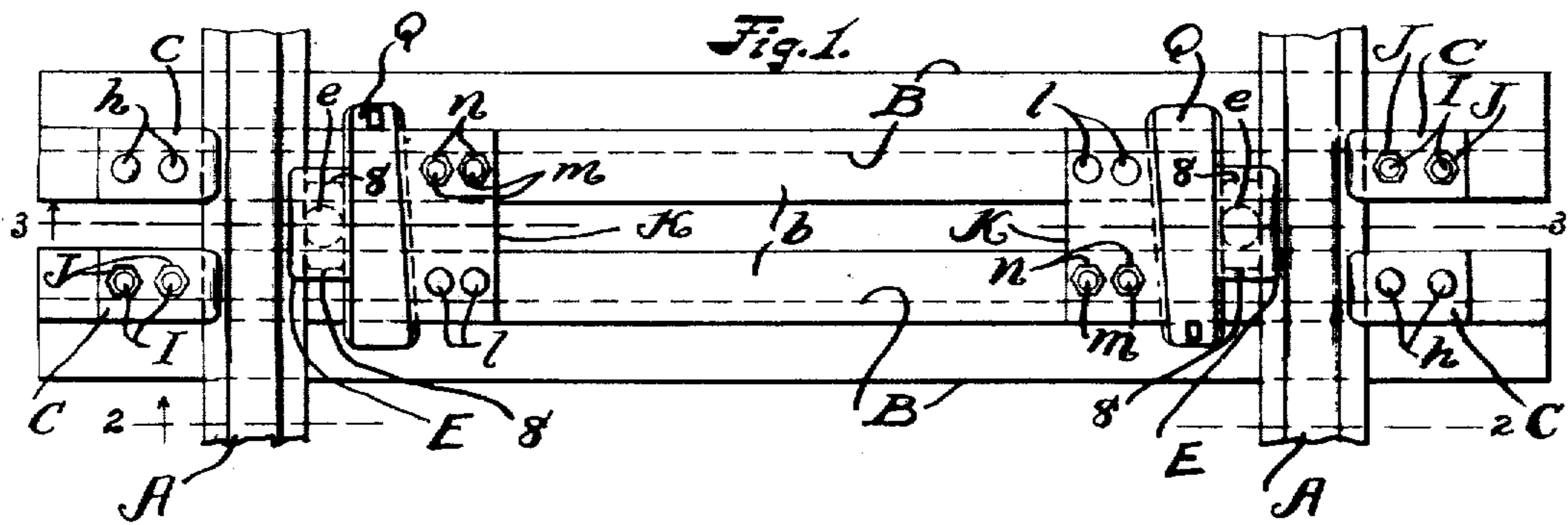


T. A. WEICHEL.
RAIL ANCHORING DEVICE.
APPLICATION FILED SEPT. 19, 1908.

921,929.

Patented May 18, 1909.



Witnesses:
A. J. Gettins.
B. C. Brown.

Inventor:
Theodore A. Weichel
By *[Signature]*
Attorneys.

UNITED STATES PATENT OFFICE.

THEODORE A. WEICHEL, OF ELYRIA, OHIO.

RAIL-ANCHORING DEVICE.

No. 921,929.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed September 19, 1908. Serial No. 453,719.

To all whom it may concern:

Be it known that I, THEODORE A. WEICHEL, a citizen of the United States of America, residing at Elyria, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Rail-Anchoring Devices; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in rail-anchoring devices.

One object of this invention is to avoid the use of spikes and wooden ties.

Another object is to anchor the two rails of a railway track by strong, durable and readily applicable means comprising the following:—pairs of metal bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails and provided each with two members arranged to form abutments for the bases of the rails at the outer sides of the rails; clamping members arranged at the inner sides of the rails and in position to clamp the rails against the abutment-forming members, and means whereby the said clamping members are caused to clamp the rails against the said abutment-forming members.

With these objects in view, and to the end of realizing other advantages hereinafter appearing, this invention consists in certain features of construction, and combinations of parts, hereinafter described, pointed out in the claims and illustrated in the accompanying drawings.

In the said drawings, Figure 1 is a top plan of a portion of a railway track whose rails are anchored in place by my improved rail-anchoring means. Figs. 2 and 3 are vertical sections on lines 2—2 and 3—3, respectively, Fig. 1, looking in the direction indicated by the arrows. Fig. 4 is a vertical section on line 4—4, Fig. 2, looking in the direction indicated by the arrow. Fig. 5 is a vertical section on line 5—5, Fig. 2, looking in the direction indicated by the arrow. Fig. 6 is a top plan of a portion of a railway track anchored in accordance with my

invention. Fig. 6 is drawn on a smaller scale than the preceding figures.

Referring to the said drawings, A and A indicate the two parallel rails of a railway track. The rails A and A are mounted on pairs of solid rolled metal Z-bars B which are arranged under and transversely of and support the rails. The pairs of bars B are suitably spaced longitudinally of the track, as shown in Fig. 6, and the bars of each pair of bars are parallel and spaced longitudinally of the rails. The bars B extend a suitable distance beyond the outer sides of the rails.

Each bar B (see Figs. 1, 2, 3, 4 and 5) is provided with two members C and C arranged to form abutments for the bases of the rails at the outer sides of the rails, and clamping members E are arranged at the inner sides of the rails and in position to clamp the rails against the said abutment-forming members. Means whereby the clamping members E are caused to clamp the rails against the abutment-forming members C are provided as will hereinafter appear.

Each bar B of each pair of bars is provided at the top with a flange *b* which is arranged longitudinally of the bar and projects toward the other bar of the said pair of bars, and the said bars are spaced laterally of each other a suitable distance apart.

Each abutment-forming member C of each bar B preferably consists of a metal plate which is mounted on and secured to the flange *b* of the said bar. Each abutment-forming member C of each bar B affords lateral bearing to the outer longitudinal edge of the base of the rail clamped laterally and outwardly against the said abutment-forming member and preferably overlaps the top surface of the said base.

One of the abutment-forming members C of each bar is riveted, as at *h*, and thereby permanently secured to the flange *b* of the said bar, and the other abutment-forming member of the said bar is removably secured to the said flange by suitably applied bolts I and nuts J to render the last-mentioned abutment-forming member removable and to accommodate the application of the said bar into place under the track from one side of the track. Preferably the removable abut-

ment-forming member of each bar of each pair of bars is arranged adjacent the riveted abutment-forming member of the other of the said bars to accommodate interchangeability of the bars.

The bars of each pair of bars B are tied together between the rails by two metal tie-plates K which are mounted on the flanges *b* of the said bars between and in suitable proximity to the different rails respectively. Each tie-plate K is riveted, as at *l*, to the flange *b* of one of the bars of each pair of bars tied together by the said tie-plate, and the said tie-plate is removably secured by suitably applied nuts *m* and bolts *n* to the flange *b* of the other of the said bars to accommodate the placing into position under the rails of each of the said bars independently of the other of the said bars.

By the construction hereinbefore described it will be observed that each pair of bars is provided with two abutment-forming members C at the outer side of the rails and with a tie-plate K at and in suitable proximity to the inner side of the said rails, and preferably the removable one of the said abutment-forming members is attached to the bar to which the said tie-plate is riveted to facilitate the application of the bar. It will also be observed that the two bars of each pair of bars are reversely arranged and interchangeable and no care need be exercised in taking a bar from a pile of bars on hand in laying track which is to be anchored in accordance with my invention, but, of course, the removable abutment-forming members, the bolts *l* and *m*, and the nuts *j* and *n* are not applied until the bars of each pair of bars are properly placed in position under the rails.

The means employed in causing the clamping members E to clamp the rails against the abutment-forming members C consist preferably of wedges Q.

The bars of each pair of bars B are overlapped on top between each rail and the adjacent tie-plate K by a clamping member E arranged to bear against the inner longitudinal edge of the base of the said rail and thereby clamp the rail against the abutment-forming members C at the outer side of the said rail, which clamping member preferably overlaps the top surface of the said base and extends over and transversely of the flanges *b* of the said bars, and a wedge Q is driven into place between the said clamping member and the said tie-plate and locked in place in any approved manner, but means for locking a wedge in its driven position are too well known to require illustration and description in this specification. Suffice it to state that the opposing edges of each clamping member and the adjacent tie-plate are preferably undercut so that upward dis-

placement of a wedge driven tightly into place between the said edges is positively prevented.

Each clamping member E preferably has a shank *e* which depends between the flanges *b* of the bars overlapped by the said clamping member and is provided with upwardly facing shoulders 8 overlapping the under sides of the said flanges so as to positively prevent upward displacement of the said clamping member. The shank *e* of each clamping member is small enough in dimensions to accommodate the removal of the said clamping member upon removing the engaging wedge.

What I claim is:—

1. The combination, with the two rails of a railway track, of pairs of solid rolled metal bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails; two members secured to each bar one at the outer side of each rail and arranged to form an abutment for the base of the respective rail; two tie-plates secured to both bars of each pair of bars between and in suitable proximity to the different rails respectively; two clamping members overlapping both bars of each pair of bars and arranged at the inner side of the different rails respectively between the adjacent tie-plate and the respective rail, and a wedge driven between the said rail and the said tie-plate.

2. The combination, with the two rails of a railway track, of pairs of solid rolled metal bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails; two members mounted on and secured to each bar one at the outer side of each rail and arranged to form an abutment for the base of the respective rail; two tie-plates mounted on and secured to both bars of each pair of bars between and in suitable proximity to the different rails respectively; a clamping member arranged between each tie-plate and the adjacent rail, and a wedge driven between the said rail and the said tie-plate.

3. The combination, with the two rails of a railway track, of pairs of solid rolled metal bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails; two members supported on each bar one at the outer side of each rail and arranged to form an abutment for the base of the respective rail and attached the one permanently and the other removably to the bar; two tie-plates

supported on both bars of each pair of bars between and in suitable proximity to the different rails respectively and attached the one permanently to one of the bars and the other removably to the other bar; a clamping member arranged between each tie-plate and the adjacent rail, and a wedge driven between the said rail and the said tie-plate.

4. The combination, with the two rails of a railway track, of pairs of bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails, and each bar being provided at the top with a flange arranged longitudinally of the bar and projecting toward the other bar; two members mounted on and secured to each bar one at the outer side of each rail and arranged to form an abutment for the base of the respective rail; two clamping members extending over and transversely of the flanges of the bars of each pair of bars at the inner sides of the rails and in position to clamp the rails against the aforesaid abutment-forming members, said clamping members having shanks which depend between the said flanges and are provided with upwardly facing shoulders overlapping the under sides of the flanges, and means whereby the said clamping members are caused to clamp the rails against the aforesaid abutment-forming members.

5. The combination, with the two rails of a railway track, of pairs of solid rolled metal bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails, and each bar being provided at the top with a flange arranged longitudinally of the bar and projecting toward the other bar; two members secured to each bar one at the outer side of each rail and arranged to form an abutment for the base of the respective rail and overlapping the top surface of the said base; two tie-plates mounted on and secured to the flanges of both bars of each pair of bars between and in suitable proximity to the different rails respectively; a clamping member arranged between each tie-plate and the adjacent rail and overlapping the top surface of the base of the said rail, and a wedge driven between the said rail and the said tie-plate.

6. The combination, with the two rails of a railway track, of pairs of solid rolled metal Z-bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails, two

members secured to each bar one at the outer side of each rail and arranged to form an abutment for the base of the respective rail; two tie-plates secured to both bars of each pair of bars between and in suitable proximity to the different rails respectively; two clamping members extending between the bars of each pair of bars and arranged at the inner side of the different rails respectively between the adjacent tie-plate and the respective rail and in position to clamp the latter against the abutment-forming members of the said bars, and a wedge driven between the said rail and the said tie-plate.

7. The combination, with the two rails of a railway track, of pairs of metal bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails, and each bar being provided at the top with a flange arranged longitudinally of the bar and projecting toward the other bar; two tie-plates mounted on the flanges of both bars of each pair of bars between but in suitable proximity to the different rails respectively, each tie-plate being permanently attached to one of the said bars and removably secured to the other of the said bars; two members mounted on each bar one at the outer side of each rail and arranged to form abutments for the rails, one of the said abutment-forming members being riveted to the bar and the other of the said abutment-forming members being removably secured to the bar, and the removable abutment-forming member of each bar of each pair of bars being arranged adjacent the riveted abutment-forming member of the other of the said bars; a clamping member arranged between each tie-plate and the adjacent rail, and a wedge driven between the said rail and the said tie-plate.

8. The combination, with the two rails of a railway track, of pairs of metal bars arranged under and transversely of and supporting the rails, said pairs of bars being spaced longitudinally of the track and the bars of each pair of bars being spaced longitudinally of the rails, and each bar being provided at the top with a flange arranged longitudinally of the bar and projecting toward the other bar; two tie-plates mounted on the flanges of both bars of each pair of bars between but in suitable proximity to the different rails respectively, each tie-plate being riveted to the flange of one of the said bars and removably secured to the flange of the other of the said bars; two members mounted on each bar one at the outer side of each rail and arranged to form abutments for the rails, one of the

said abutment-forming members being riv-
eted to the bar and the other of the said
abutment-forming members being removably
secured to the bar, and the removable abut-
ment-forming member of each bar of each
pair of bars being arranged adjacent the riv-
eted abutment-forming member of the other
of the said bars, said removable abutment-
forming member being attached to the bar
to which the adjacent tie-plate is riveted;
a clamping member arranged between each

tie-plate and the adjacent rail, and a wedge
driven between the said rail and the said tie-
plate.

In testimony whereof, I sign the fore-
going specification, in the presence of two
witnesses.

THEODORE A. WEICHEL.

Witnesses

C. H. DORER,
B. C. BROWN.