No. 745,686. PATENTED DEC. 1, 1903.

W. H. STULTS.

RAILROAD TIE.

APPLICATION FILED DEC. 20, 1902.

NO MODEL.

Fig. 1.

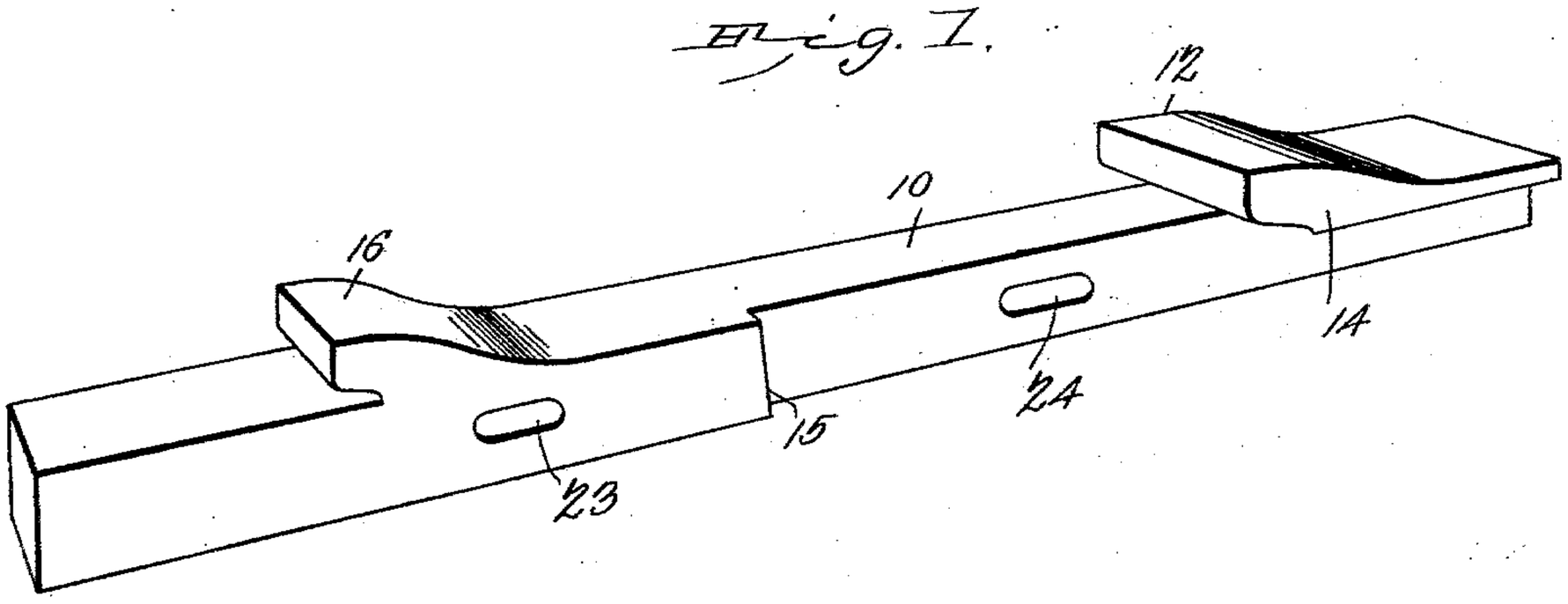


Fig. 2.

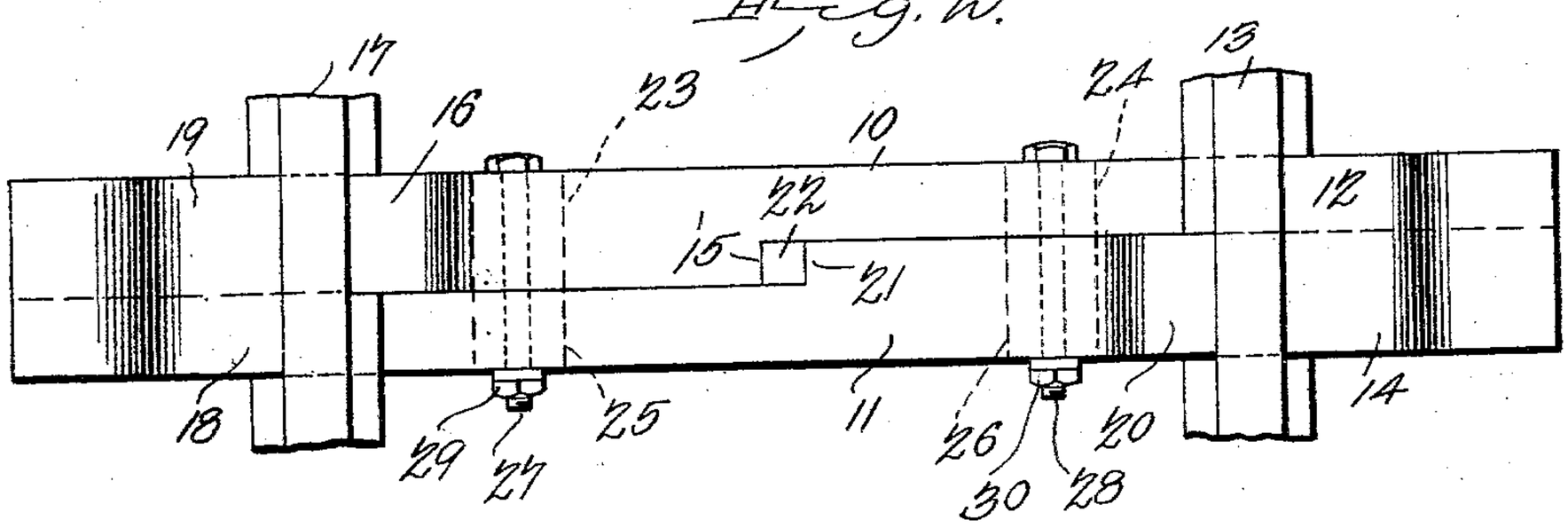
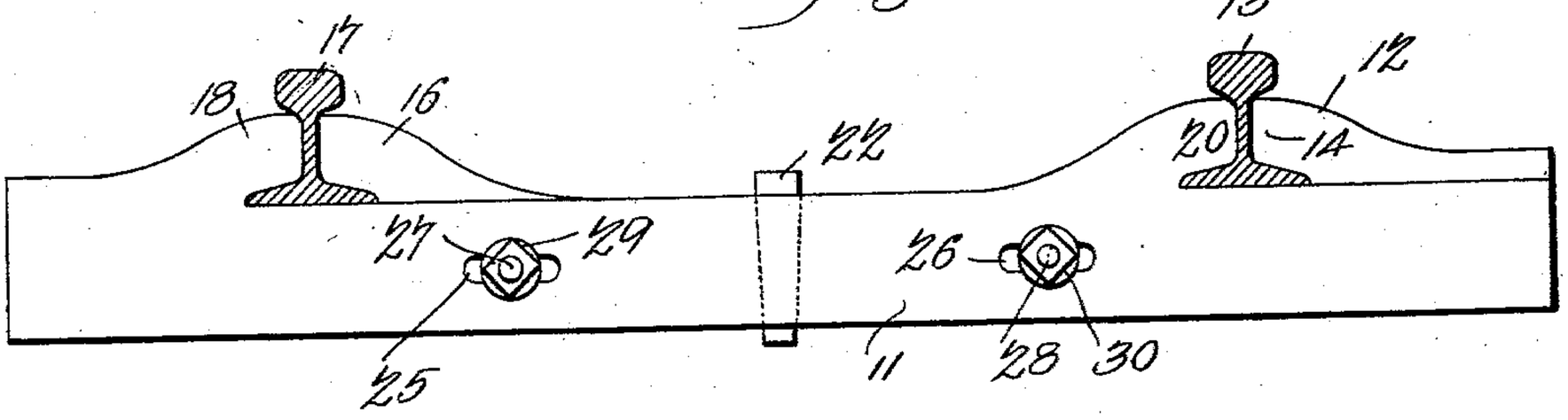


Fig. 3.



Witnesses,
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No. 745,686. Patented December 1, 1903.

UNITED STATES PATENT OFFICE.

WILLIAM HUGH STULTS, OF MULBERRY GROVE, ILLINOIS, ASSIGNOR OF ONE-HALF TO BARNEY J. BOYLE, OF MULBERRY GROVE, ILLINOIS.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 745,686, dated December 1, 1903.

Application filed December 20, 1902. Serial No. 136,065. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HUGH STULTS, a citizen of the United States, residing at Mulberry Grove, in the county of Bond and State of Illinois, have invented a new and useful Railroad-Tie, of which the following is a specification.

This invention relates to railway-ties, and has for its object the production of a simply-constructed tie, wholly of metal, with the holding means by which the rails are clamped in position and firmly braced and supported integral therewith and the necessity for employing spikes, bolts, or other similar separate holding means obviated; and the invention consists in certain novel features of the construction, as hereinafter shown and described, and specified in the claim.

In the drawings illustrative of the invention, in which like designating characters are employed for corresponding parts in all the figures, Figure 1 is a perspective view of one of the tie-sections detached. Fig. 2 is a plan view, and Fig. 3 is a side elevation, of the improved tie applied.

The improved tie is formed of two longitudinally-disposed sections constructed precisely alike and adapted when reversely disposed and united to form the improved tie. By this means the sections may be manufactured in large quantities and shipped irrespective of their relative arrangement and when assembled may be readily applied to the rails by merely selecting any two of the sections and placing them in opposite relative positions. The sections are thus interchangeable and transferable to any desired extent, which greatly simplifies the operation of laying a track and adjusting the rails relative to the ties. One of these interchangeable sections is illustrated in Fig. 1, while in Figs. 2 and 3 a pair of them are shown coupled together to form a complete tie. While the tie-sections are thus formed precisely alike and are duplicates in every respect, when in operation they will be reversely arranged, and for the purpose of this description separate sets of designating characters are employed to denote the two independent sections, and to this end one of the sections is designated by the character 10 and the other section by the character 11.

The section 10 is formed from an approximately rectangular bar having overhanging rail-braces 12 and 16, spaced from the ends thereof, made integral therewith, and both pointing in the same direction. The brace 12 is adapted for engagement with the outer flange of the rail 13 and the brace 16 for engagement with the inner flange of the rail 17. The outer rail-brace 12 is extended laterally at one side, as indicated at 14. The end of the section 10 which carries the brace 16 is wider than the other end, and said widened portion terminates near the base of the brace 16 in an inwardly-projecting inclined shoulder 15, the opposite side of said section being straight and flat throughout its length. The sections so formed are simple in form and cheap to manufacture and are solid and strong to resist all strains. The opposite section 11 is provided with an outer rail-brace 18, having a lateral extension 19 and overhanging and adapted to engage the outer side of the vertical web and the outer flange of the rail 17, and likewise provided with an inner rail-brace 20, overhanging, as shown in Fig. 2, and adapted to engage the inner side of the vertical web and the tie-flange of the rail 13. The section 11 is likewise widened at the end opposite the brace 18, forming a shoulder 21, similar to the shoulder 15 and likewise inclined, so that when the two sections are placed side by side, as shown in Fig. 2, a wedge-shaped cavity adapted to receive the wedge 22 is formed, as indicated.

The section 10 will be provided with spaced transverse elongated apertures 23 24, and the section 11 will be provided with corresponding elongated apertures 26, the two sets of apertures adapted to register when the sections are placed side by side and receive clamp-bolts 27 28, provided with nuts 29 30, by which means the two sections may be firmly clamped transversely. By this arrangement it will be obvious that the two sections 10 11 may be forcibly moved longitudinally by driving the wedge-key 22 into the wedge-shaped aperture between the parts and the parts maintained in any desired position by the clamp-bolts 27 28.

By extending the rail-braces 12 18 laterally, as indicated at 14 19, the bearing-surfaces of the outer rail-braces are greatly in-

creased at points where most required, as the greater strains are outwardly, especially when running upon curves. The lateral extensions 14 19 likewise materially increase the strength of the joints between the parts by affording a resistance against any tendency of the parts to vertical movement or vertical displacement. By this arrangement also the rails may be very firmly clamped from both sides and any tendency to lateral displacement obviated. It will be noted also by this arrangement that all spikes, bolts, and similar separate holding means are dispensed with, as the rail-braces firmly support the rails and obviate the necessity for any other fastenings. By this arrangement also the rails are supported much more firmly than is possible with spikes or bolts or similar detachable holding means, which are liable to work loose by the jar and concussion of the trains.

With this device the clamping means may be maintained very firmly united to the rails by driving the wedge-key farther into the wedge-shaped socket, and in event of the parts working loose they may readily be tightened by a few blows of a hammer upon the wedge-key. The track-walkers may thus keep the track in perfect order by exercising a comparatively small amount of labor and time.

The device may be readily applied to all the various sizes of rails and also to the various modifications in gage.

Any required number of the transverse slots and clamp-bolts may be employed; but generally two will be sufficient, as shown.

Having thus described the invention, what is claimed is—

An approximately rectangular cross-tie formed in longitudinal sections, each having one side formed straight and flat throughout its length and the other side being widened throughout a portion of its length and offset at its juncture with the main body to form a shoulder, the side of the widened portion being straight and extending in a plane parallel with the plane occupied by the side of the narrower main body of the section, said shoulders being inclined toward the bottom of said sections to form tapering recesses, wedge-shaped keys adapted to be driven into said recesses to move said sections longitudinally in opposite directions to adapt the ties to fit rails of varying thicknesses and tracks of varying gages, said sections having overhanging rail-braces spaced from the ends thereof and pointing in the same direction, and means for clamping said sections transversely.

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

WILLIAM HUGH his + mark STULTS.

Witnesses to mark of William Hugh Stults:
T. E. DAVIS,
B. J. BOYLE.