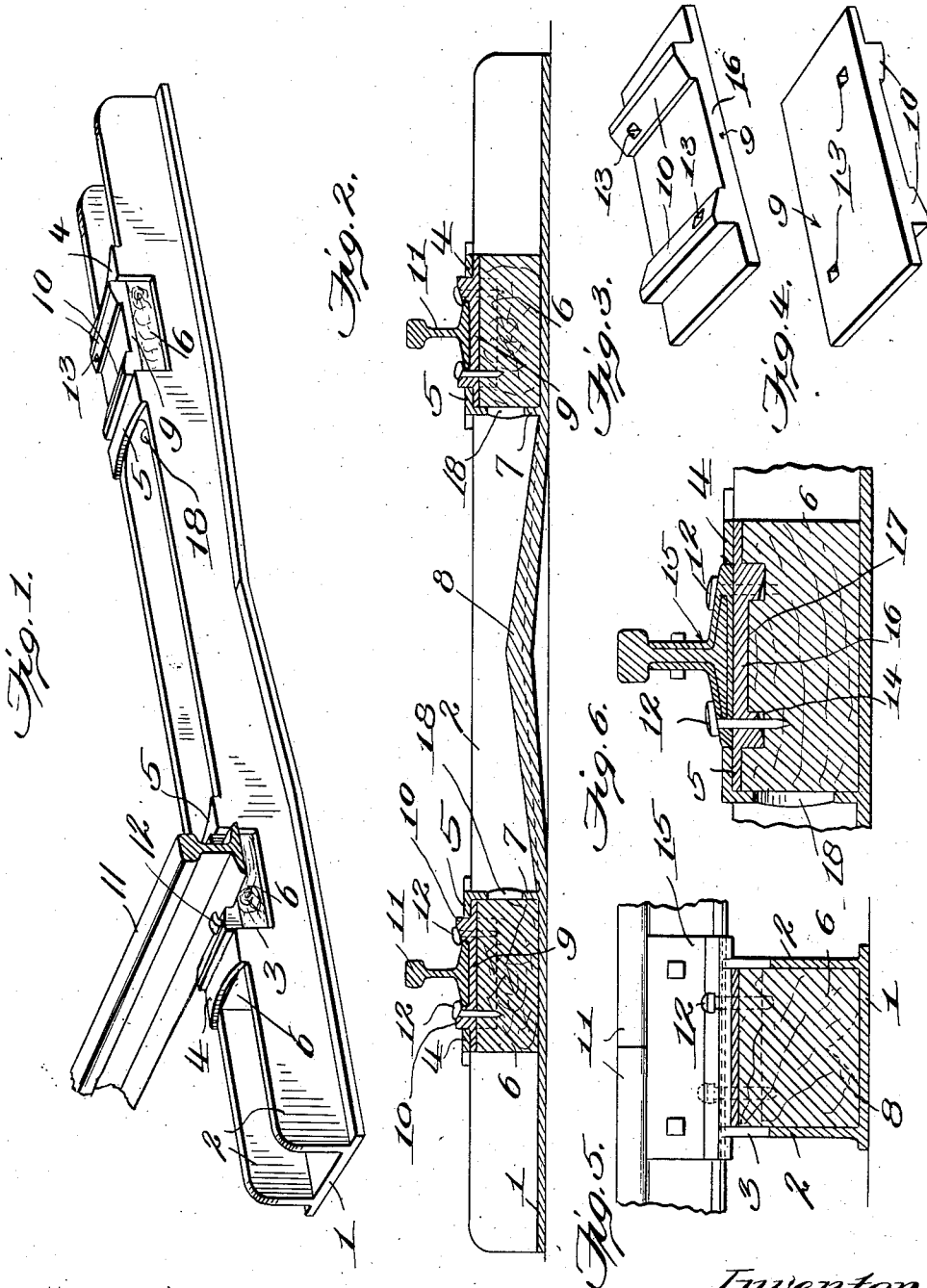


1,063,049.

Patented May 27, 1913.



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UNITED STATES PATENT OFFICE.

ROBERT MALONEY, OF DE LANCEY, PENNSYLVANIA.

RAILWAY-TIE.

1,063,049.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed July 9, 1912. Serial No. 708,488.

To all whom it may concern:

Be it known that I, ROBERT MALONEY, a citizen of the United States, residing at De Lancey, in the county of Jefferson and State of Pennsylvania, have invented new and useful Improvements in Railway-Ties, of which the following is a specification.

The present invention has reference to railway ties, and it resides, primarily, in the provision of a device of that general class having associated therewith an improved chair or like fastening element which is so constructed as to permit its use with equal facility in supporting and retaining either the body portion of a rail, or the abutting ends of a pair of rails.

An embodiment of the invention is illustrated in the accompanying drawing, whereof—

Figure 1 is a perspective view of the improved tie, the chair thereof being shown as engaged with the body portion of a rail; Fig. 2 is a longitudinal vertical section of Fig. 1; Fig. 3 is a perspective view of the chair in the position shown in Fig. 1; Fig. 4 is a similar view of the chair reversed; Fig. 5 is an enlarged fragmental view, showing the chair used to support a rail joint, the tie appearing in section and the rails in side elevation; and Fig. 6 is a transverse sectional view of Fig. 5.

The improved tie depicted in said drawing is constructed of steel, is of U- or channel-section, and comprises bottom and side walls 1 and 2, the latter being by preference removed a slight distance from the longitudinal edges of the former. The aforesaid side walls are cut away adjacent each end of the tie, as indicated by the numeral 3, and at each side of the openings thus produced they are connected by transverse straps 4 and 5 formed integral with the tie. These two pairs of straps are designed to serve as retaining devices for the herein-
after described chairs.

To support the rails, there is utilized a pair of cushions 6, preferably constituted by wooden blocks that fit in the channel of the tie adjacent the ends thereof and are held in position relative to the straps 4 and 5 and openings 3 by suitable stops, which latter are here shown as in the form of transversely-arranged vertical partitions 7 constructed integral with the tie and located directly beneath the inner straps 5. The cushion blocks are forced inwardly of

the tie channel against these stops and, when in place, act as supports for the rail chairs, their height being slightly less than the distance from the upper face of the tie wall 1 to the upper edges of the walls 2. The central portion of the wall 1 between the stops 7 may be thickened and slightly upset, to produce the longitudinal strengthening rib 8 depicted in Figs. 2 and 5.

The afore-mentioned chairs, wherein the present invention primarily resides, preferably consist each of a metal plate 9 of substantially the same width and length as the cushion blocks 6, formed upon its upper face with a pair of transverse ribs 10 which are arranged parallel with each other and at such a distance apart that the distance between their outer side faces is equal to that between the inner side faces of the straps 4 and 5, the inner side faces of these ribs engaging the adjacent edge faces of the base portion of the rail 11. The plate under face of the plate rests, when in place, upon the upper face of the corresponding cushion block. In applying the chairs, the plates are passed beneath the pairs of straps 4 and 5, until their inner ends strike against the stops 7, after which they are raised, so as to bring their ribs 10 into position between said straps, as depicted in Fig. 2; the cushion blocks 6 are then driven into the tie channel, beneath the chair plates, until they, in turn, abut against said stops; finally, the plates are secured to the blocks by means of spikes 12, the spikes being driven through holes 13 formed in the ribs 10, until both the latter and the rail flanges or base are engaged by the spike heads.

In the form of the invention just described, the plate and cushion are utilized to support the body portion of a rail, as depicted in Fig. 1, but it is also intended that the same parts may be used to support the abutting ends of a pair of rails. To effect this, it is necessary merely to reverse the plate, so that its ribs will then fit in transverse grooves 14 formed in the cushion block, while the bottom portion of the two connected fish plates 15 will rest upon the plane face of the plate, the fish plates being finally spiked to the cushion block and chair plate, as before. In order to dispose the rails at exactly the same height in both positions of the chair plates, the normally upper faces of the plates are slightly raised between the ribs 10, as indicated by the numeral 16, or,

stated otherwise, the thickness of the plates is slightly increased at the point indicated, and, for obvious reasons, the portions 17 of the cushion blocks between the grooves 14 are correspondingly cut away, thus compensating for the slight elevation imparted to the rail ends by the interposition of the bottom portions of the fish plates between the chair plates and the rail bases.

- 10 To facilitate the removal of the cushion blocks prior to the reversal of the chair plates, the stops or partitions 7 may be formed with openings 18 of any desired shape and size, through which openings suitable tools may be introduced to force the aforesaid blocks from beneath the straps 4 and 5.

From the foregoing, it will be apparent that the rails will be held perfectly against lateral movement, without, however, any interference being opposed to their expansion and contraction, and it will be equally apparent that the chair plates and associated devices will serve to support either the body portions of the rails or their confronting ends, owing to the reversibility of the chair plates. Thus, the same parts may be used in either instance, only the addition of the ordinary fish plates being necessary to effect the required joint between the rail ends. In both forms, moreover, the straps with which the tie is provided constitute retaining means coöperative with the chair plates; in the first form, these straps directly engage the ribs on the chair plates, while in the second form they similarly engage the fish plates, the latter being fastened by the spikes to the said chair plates.

I claim as my invention:

- 40 1. The combination, with a channeled tie embodying side and bottom walls and provided with stops adjacent each end, of a cushion disposed in the tie channel in contact with each stop, a chair plate disposed in said channel and spiked to the upper face of each cushion, and a pair of spaced straps connecting the side walls of said tie adjacent each end of the latter and coöperative with the adjacent plate for holding the same against movement.

- 50 2. The combination, with an open-topped channeled tie embodying side and bottom walls and provided adjacent each end with a transverse partition, of a cushion block removably disposed in each end of the tie channel and contacting at its inner end with the adjacent partition, a chair plate spiked to the upper face of each block, and retaining means provided upon said tie and coöperative with the adjacent plate, each of said partitions being formed with an open-

ing through which a tool may be inserted to dislodge the adjacent block after the corresponding plate has been unspiked.

3. The combination, with a channeled tie 65 embodying side and bottom walls, and provided adjacent each end with a stop, of a cushion disposed in the tie channel in contact with each stop, a chair plate secured to each cushion and provided with a pair of spaced transversely-disposed rail-engaging ribs, and a pair of spaced transversely-disposed straps connecting the side walls of said tie at each end of the latter and arranged against and in engagement with the 75 outer side faces of the adjacent pairs of ribs.

4. The combination, with a channeled tie embodying side and bottom walls, of a cushion disposed in the tie channel adjacent each end thereof, a chair plate secured to each 80 cushion and provided with a pair of spaced transversely-disposed rail-engaging ribs, and a pair of spaced transversely-disposed straps connecting the side walls of said tie at each end of the latter and arranged 85 against and in engagement with the outer side faces of the adjacent pair of ribs.

5. The combination, with a channeled tie embodying side and bottom walls and provided adjacent each end with a transverse 90 partition, of a cushion block removably disposed in each end of the tie channel and contacting at its inner end with the adjacent partition, a chair plate fastened to each cushion and provided upon its upper face 95 with a pair of spaced transversely-disposed rail-engaging ribs and a pair of spaced transversely-disposed straps connecting the side walls of said tie at each end of the latter and arranged against and in engagement 100 with the outer side faces of the adjacent pair of ribs, each of said partitions being formed with an opening through which a tool may be inserted to dislodge the adjacent block after the corresponding plate 105 has been unfastened therefrom.

6. The combination, with a channeled tie embodying side and bottom walls, of a cushion disposed in the tie channel adjacent each end thereof, a chair plate mounted upon 110 each cushion and provided with spaced rail-engaging members, and means provided upon said tie and engaged with said members for holding said plates against movement longitudinally of the tie. 115

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROBERT MALONEY.

Witnesses:

ERICK G. ANDERSON,
CHAS. DAHL.