

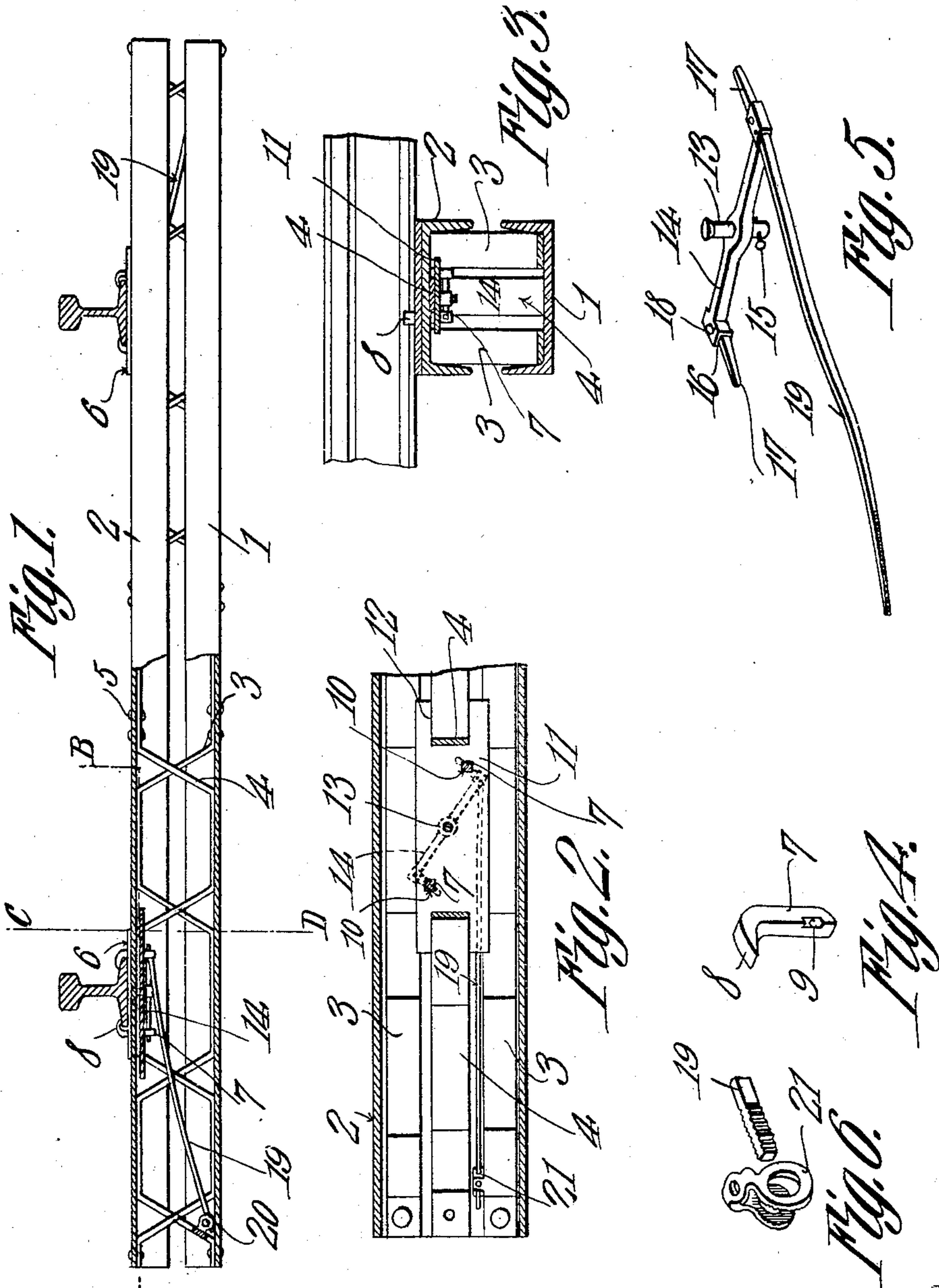
G. S. DENGLAR.

RAILWAY TIE.

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910,512.

Patented Jan. 26, 1909.



Witnesses

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GRANT S. DENGLAR, OF OBERLIN, PENNSYLVANIA.

RAILWAY-TIE.

No. 910,512.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GRANT S. DENGLAR, a citizen of the United States, residing at Oberlin, in the county of Dauphin and State of Pennsylvania, have invented a new and useful Railway-Tie, of which the following is a specification.

This invention relates to metallic railway ties and its object is to provide an all-metal tie designed to resiliently support the rails fastened thereon and to thus relieve the tie from the excessive strains to which devices of this character are usually subjected and which often result in breaking the tie or the rails.

Another object is to provide novel means for rendering the tie elastic, said means being durable and efficient and readily assembled.

A still further object is to provide novel means for fastening rails to a tie, said means being readily accessible and designed to simultaneously secure or release both sides of each rail.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a view partly in longitudinal section and partly in side elevation of a tie embodying the present improvements. Fig. 2 is an enlarged horizontal section on line A—B, Fig. 1. Fig. 3 is an enlarged transverse section on line C—D, Fig. 1. Fig. 4 is a detail view of one of the rail engaging members. Fig. 5 is a perspective view of the bolt used in connection therewith. Fig. 6 is a detail view of the clasp of the fastener.

Referring to the figures by characters of reference, 1 and 2 designate oppositely disposed superposed channel members and between these members and extending throughout the lengths thereof are cushioning strips 3 and 4, two strips 3 being provided adjacent the side flanges of the members while one intermediate strip 4 is utilized. The strips 3 are secured at their ends to the ends of the channel 1, both of said strips being similarly shaped. The middle strip 4 is bent in a similar manner but its ends are attached to the channel 2 and said strip is extended so as to bear upon the two channels at points above or below the points of con-

tact between the strips 3 and the channel members. These strips 3 and 4 are preferably formed of heavy spring metal and are not only fastened to the members 1 and 2 but the ends thereof can be attached thereto at the middle of the tie as shown at 5. The crossed inclined portions of these strips 3 and 4 constitute cushioning devices for holding the member 2 above and slightly removed from the member 1 and said inclined portions are designed to bow so that said member 2 can sag under the weight of a load to a limited extent. The cushioning members 3 and 4, however, will normally maintain the two members 1 and 2 spaced apart and parallel throughout their lengths.

Arranged upon the member 2 at the proper distances apart are metal plates or chairs 6 and the same are provided with apertures through which extend stems 7 having rail engaging heads or jaws 8 at their upper ends while their lower ends are provided with slots 9. The stems also project through openings formed within a plate 11 arranged under the upper or top portion of the cushioning member 4 which is disposed directly under the chair 6, the ends of the plate 11 being forked as indicated at 12 so as to straddle the adjoining downwardly extending portions of the cushioning member 4 as shown especially in Fig. 2. Plate 11 may be attached in position in any preferred manner but preferably by means of a pin 13, the head of which is engaged and supported by the tie member 2 directly below the chair 6. Said pin may be extended through the adjoining portion of the cushioning member 4 and pivotally mounted upon the lower portion of the pin is a lever 14 retained in position on the pin in any preferred manner as by means of a cotter pin 15. A socket 16 is located at each end of the lever 14 and has a tapered or wedge-like finger 17 detachably secured therein in any preferred manner as by means of a set screw 18, the two fingers 17 being extended in opposite directions and so shaped and positioned that when lever 14 is given a partial turn the two fingers will enter the slots 9 in the stems 7 and not only prevent the withdrawal of said stems from the tie but also cooperate with the bottom face of the plate 11 to draw the stems downward longitudinally and cause the head or jaws 8 to clamp upon the rails and bind them upon the tie. Each lever 14 has an elongated arm 19 pivotally connected to one end and terminating close

to one end of the tie, there being any suitable means, such as a spring clasp 20 for engaging the end of the arm 19 to hold it against movement after it has been shifted to a predetermined position. This clasp may be fastened to one end portion of either cushioning member 3. As shown in Fig. 6 the clasp may consist of two resiliently connected rings 21 designed to bind upon the sides of arm 19 so as to hold it in any position to which it may be adjusted.

When it is desired to fasten rails to the tie herein described the plate 11 and lever 14 are first assembled by inserting the pin 13 into the top of the tie and through the plate and lever and then placing the cotter pin 15 or other retaining device within the pin 13. The rail to be fastened is placed on the tie and the stems 7 of these fastening devices are inserted through the openings in the tie and chair and in the plate 11, after which the end of arm 19 is grasped and shifted so as to swing lever 14 upon its pivot. This shifting movement is sufficient to swing the fingers 17 into slots 9 and obviously by forcing said fingers tightly into the slots the stems 7 are drawn downward and the heads 8 caused to bind upon the rail. Subsequent to this operation the arm 19 can be placed within the clasp 20 and firmly held until it is desired to release the rail. In that event arm 19 is detached from the clasp and pulled outwardly toward the end of the tie whereupon fingers 17 are withdrawn from the slots 9 and the rail is thus freed.

What is claimed is:

1. A railway tie comprising superposed oppositely disposed channel members and non-contacting cushioning members arranged side by side and interposed between said channel members and alternately contacting therewith.

2. A railway tie comprising superposed oppositely disposed channel members, similarly shaped spring strips extending longitudinally within and alternately contacting with said members, said strips being side by side and out of contact with each other.

3. A railway tie comprising oppositely disposed superposed channel members, similar parallel cushioning members interposed adjacent the side portions of, and contacting alternately with said channel members, and an intermediate cushioning member contacting alternately with said channel members, the points of contact of said intermediate and side cushioning members alternating.

4. A railway tie comprising superposed oppositely disposed channel members spaced apart throughout their lengths, cushioning strips extending longitudinally within said members at the sides thereof and alternately contacting with the channel members, a cushioning strip interposed between the side strips and alternately contacting with

the channel members, the points of contact of the side and intermediate strips with each channel member alternating.

5. A railway tie comprising superposed oppositely disposed channel members spaced apart throughout their lengths, cushioning members interposed between the channel members and holding them normally out of contact, said members being arranged side by side and out of contact with each other, and rail engaging devices carried by one of the channel members.

6. The combination with a railway tie comprising superposed resiliently connected spaced members; of fastening means comprising rail engaging devices, a locking device for simultaneously engaging said devices, and means within the tie for actuating said locking device.

7. The combination with a railway tie comprising superposed resiliently connected spaced members; of rail engaging devices extending into the tie, means for simultaneously engaging said devices to shift them vertically, and an actuating device within said tie for said means.

8. The combination with a railway tie comprising superposed resiliently connected spaced members; of slotted rail engaging devices extending into the tie, a lever mounted for partial rotation within the tie, means carried by the lever for entering the slots to shift the engaging devices vertically, and means for actuating the lever.

9. The combination with a railway tie comprising superposed resiliently connected spaced members; of oppositely disposed rail engaging devices extending into the tie, a lever mounted for partial rotation within the tie, means carried by the lever for engaging said devices to shift them vertically, and means within the tie for actuating the lever.

10. The combination with a railway tie comprising superposed resiliently connected spaced members; of longitudinally slotted oppositely disposed rail engaging devices extending into the tie, a revoluble member within the tie, means carried thereby for engagement with the slotted devices to shift said devices vertically, and means for actuating said revoluble member, said means being disposed within the tie.

11. The combination with a railway tie comprising superposed resiliently connected spaced members; of oppositely disposed rail engaging devices extending into the tie, a revoluble locking member within the tie, means carried thereby for engaging said devices to shift them vertically, and means for actuating said revoluble member.

12. The combination with a railway tie comprising superposed resiliently connected spaced members; of oppositely disposed rail engaging devices extending into the tie, a revoluble locking member within the tie,

means carried thereby for engaging said devices to shift them vertically, means for actuating said revoluble member, and a retaining device for engaging said means to secure the locking member against accidental movement.

13. The combination with a hollow tie; of longitudinally slotted oppositely disposed rail engaging devices extending into the tie, a revoluble member within the tie, means carried thereby for engagement with the

slotted devices to shift said devices vertically, and means for actuating said revoluble member, said means being disposed within the tie.

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

GRANT S. DENGLAR.

Witnesses:

OSCAR P. BAER,
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