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TIE AND RAIL FASTENER.

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913,368.

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Fig. 1.

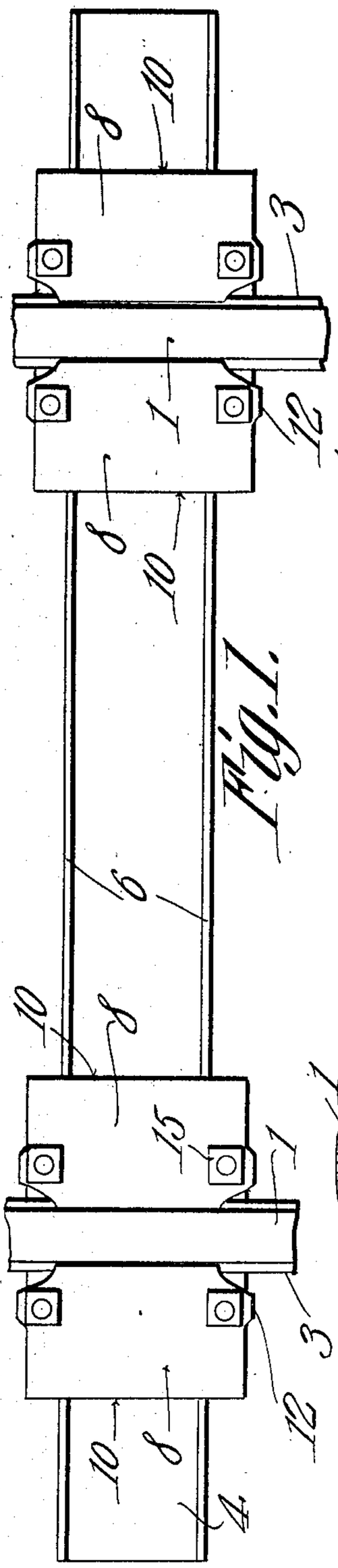

Fig. 3.

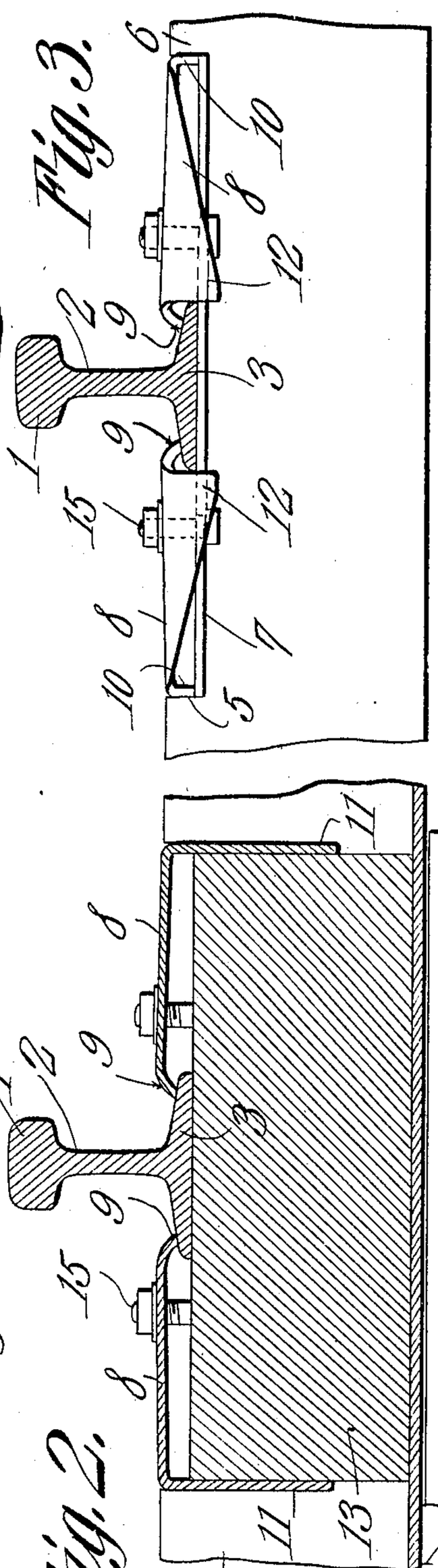

Fig. 5.

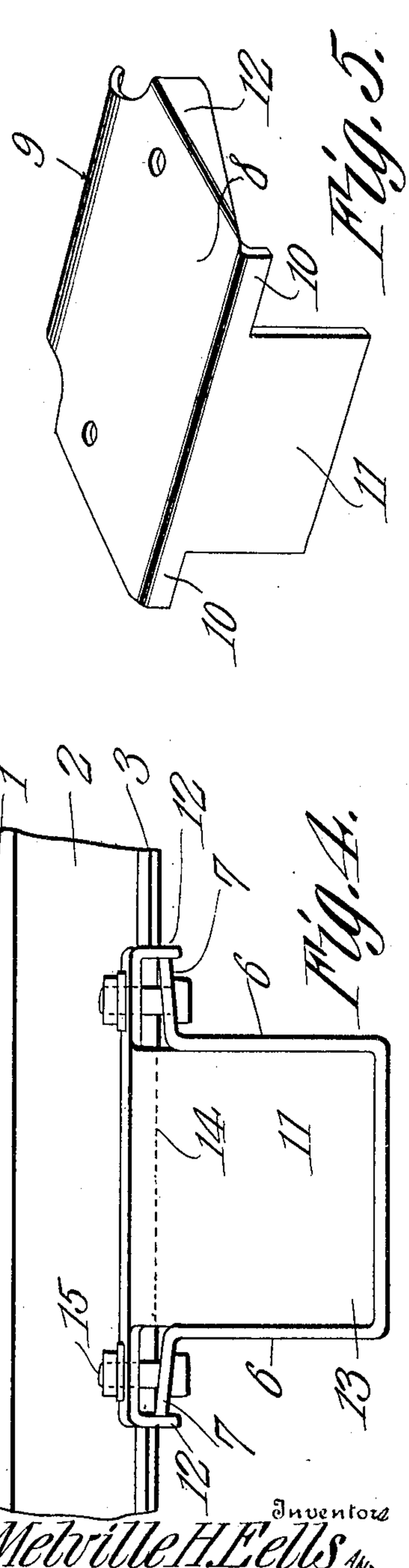

Fig. 2.

Fig. 4.

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UNITED STATES PATENT OFFICE.

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TIE AND RAIL-FASTENER.

No. 913,368. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed October 31, 1908. Serial No. 460,465.

To all whom it may concern:

Be it known that we, MELVILLE H. EELLS and ELMER E. ANDERSON, citizens of the United States, residing at Centropolis, in the county of Franklin and State of Kansas, have invented a new and useful Tie and Rail-Fastener, of which the following is a specification.

The objects of the invention are, generally, the provision in a merchantable form, of a device of the above-mentioned class, which can be manufactured at reasonable cost, is simple in operation, and devoid of complicated parts; specifically, the provision of a tie of novel and improved construction; the provision of a clip of novel and improved construction; other and further objects being made manifest hereinafter, as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that divers changes in the form, proportions, size, and minor details of the structure may be made, without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings:—Figure 1 is a top plan of our invention; Fig. 2 is a vertical longitudinal section thereof; Fig. 3 is a side-elevation; Fig. 4 is an end elevation; Fig. 5 is a detail perspective of the clip.

In the accompanying drawings, the numeral 1 denotes the ball of a railroad rail of ordinary construction.

The numeral 2 denotes the web of the rail, and the numeral 3 denotes the flange thereof.

In carrying out the invention, a trough-shaped tie 4 is provided, having notches 5 in its sides 6 near the end. From the bottom of these notches flanges 7 project outward from the sides 6 of the tie. These flanges 7 are not disposed at a right angle to the sides 6, but, as shown in Fig. 4, are left upwardly bent, the remote edges of the flanges 7 being higher than the point of union between the flanges 7 and the sides 6 of the tie.

A cushion block 13 is shown, arranged to be mounted between the sides 6 of the tie. The upper face of this cushion block 13 is flush with the remote or outer edges of the flanges 7 of the tie, this upper edge being shown by the dotted line 14 in Fig. 4.

Clips of the form shown in Fig. 5 are provided, these clips comprising a body portion 8 and the inner ends 9, integral with the said body portion and down turned, so that their terminals engage the rail adjacent the edges of the flanges thereof. The outer ends 10 of the clips, are downturned, and arranged to abut against the ends of the notches 5 in the tie, and to bear anteriorly, on the outwardly flexed flanges 7. From the outer end 10 of the clip, a tongue 11 narrower than the outer end 10, projects downward, contacting at its inner edges with the sides 6 of the tie. These tongues 11 are arranged to inclose the cushion block 13, and to limit it from movement between the sides 6 of the tie. From the ends of the flanges 7 depend tongues 12, arranged to engage the outer or remote edges of the flanges 7. The bodies 8 of the clips and the flanges 7 are provided with alined apertures, through which may be passed bolts 15 or like devices adapted to hold the clips of the tie.

When a rail is mounted in accordance with the invention, the flange 3 of the rail ordinarily rests upon the upper surface of the cushion block 13. If desired, the cushion block 13 may be dispensed with, and the rail permitted to rest upon the flanges 7 alone. By upwardly inclining these flanges 7 they have a slight resiliency under the weight of a passing train. The outer ends 10 of the clips, engaging the ends of the notches 5, prevent the rail from having lateral movement upon the tie.

Referring particularly to Fig. 2, it will be seen that the body portion 8 of the clip is made to slant downward from its point of contact with the rail to the end of the notches 5, the said clip acting as a brace to carry the lateral thrust of the rail into the tie at the end of the notches 5 therein. The cushion block 13 may be of any material; in practice, however, it is preferably of hard wood. From the foregoing description, it is obvious that this cushion block 13 may be dispensed with entirely, and the rail supported upon the flanges 7, if desired. The top edges of the trough may, if desired, be rolled outwardly and downwardly to strengthen the trough and to hold in place any shims which might be desirable to take up wear in the

notches 5 or on lugs 12, etc. The trough may be perforated, if desired, to permit drainage and any number of flanges desired may be formed in the main trough.

Having thus described the invention, what is claimed as new is:

1. In a device of the class described, a trough-shaped tie having notches in its sides near its ends; flanges outwardly projecting from the bottom of the notches, upwardly inclined and arranged to receive the flange of a rail; means for clamping a rail to the flanges of the tie.

2. In a device of the class described, a trough-shaped tie having notches in its sides near its ends; flanges outwardly projecting from the bottom of the notches and arranged to receive the flange of a rail; clips, comprising a body portion, and, integral therewith, an inner end, downturned and arranged to contact terminally with a rail, (at the edges of the flanges thereof;) integral with the body portion an outer end, downturned, and arranged to contact laterally with the ends of the notch in the tie and anteriorly to bear upon the flanges of the tie; means for attaching the body portion of the clips to the flange of the tie.

3. In a device of the class described, a trough-shaped tie having notches in its sides near its ends; flanges outwardly projecting from the bottom of the notches and arranged to receive the flange of a rail; a clip comprising a body portion downwardly inclined from its inner toward its outer end; an inner end integral with the body portion, downturned, and arranged to contact terminally with a rail at the outer edges of the flanges thereof; an outer end integral with the body portion, downturned, and arranged to contact laterally with the ends of the notch in the tie and anteriorly to bear upon the flanges of the tie; means for attaching the body portion of the clip to the flange of the tie.

4. In a device of the class described, a trough shaped tie having notches in its sides near its ends; flanges outwardly projecting from the bottom of the notches and arranged to receive the flange of a rail; a clip comprising a body portion and integral therewith, an inner end down-turned, and arranged to contact terminally with a rail at the outer edges of the flanges thereof; integral with the body portion, an outer end, downturned, and arranged to contact laterally with the ends of the notch in the tie and anteriorly to bear upon the flanges of the tie; a tongue integral with the outer end of the clip, downwardly projecting therefrom, and arranged to contact laterally with the sides of the tie; means for attaching the body portion of the clip to the flange of the tie.

5. In a device of the class described, a trough-shaped tie having notches in its sides near its ends; flanges outwardly projecting from the bottom of the notches and arranged to receive the flange of a rail; clips comprising a body portion, and, integral therewith, an inner end downturned and arranged to contact terminally with a rail at the outer edges of the flanges thereof; an outer end integral with the body portion, downturned, and arranged to contact laterally with the ends of the notch in the tie and anteriorly to bear upon the flanges of the tie; tongues downturned from the sides of the clips and arranged to bear against the edges of the flanges of the tie; a tongue integral with the outer end of the clip, downwardly projecting therefrom, and arranged to contact laterally with the sides of the tie; means for attaching the body of the clip to the flange of the tie.

6. In a device of the class described, a trough shaped tie having notches in its sides near its ends; flanges outwardly projecting from the bottom of the notches, upwardly inclined and arranged to receive the flange of a rail; a cushion block inclosed within the tie and having its upper face flush with the outer edges of the flanges of the tie; means for clamping a rail to the flanges of the tie.

7. In a device of the class described, a trough shaped tie having notches in its sides near its ends, flanges outwardly projecting from the bottom of the notches, upwardly inclined and arranged to receive the flange of a rail; a cushion block inclosed within the tie and having its upper face flush with the outer edges of the flanges of the tie; clips comprising a body portion, and, integral therewith an inner end downturned and arranged to contact with a rail; an outer end integral with the body portion, downturned and arranged to contact laterally with the ends of the notch in the tie and anteriorly to bear upon the flanges of the tie; a tongue integral with the outer end of the clip, downwardly projecting therefrom and arranged to contact laterally with the sides of the tie and to bear against the end of the block; means for attaching the body of the clip to the flanges of the tie.

8. In a device of the class described, a clip comprising a body portion, and integral therewith, inner and outer downturned ends; a tongue integral with the outer end, downwardly projecting therefrom and narrower than the outer end; other tongues integral with the body portion and downwardly projecting from its sides.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

MELVILLE H. EELLS.
ELMER E. ANDERSON.

Witnesses:
WINETT D. KANT,
C. M. STUDEBAKER.