

N. H. WILLIAMSON.

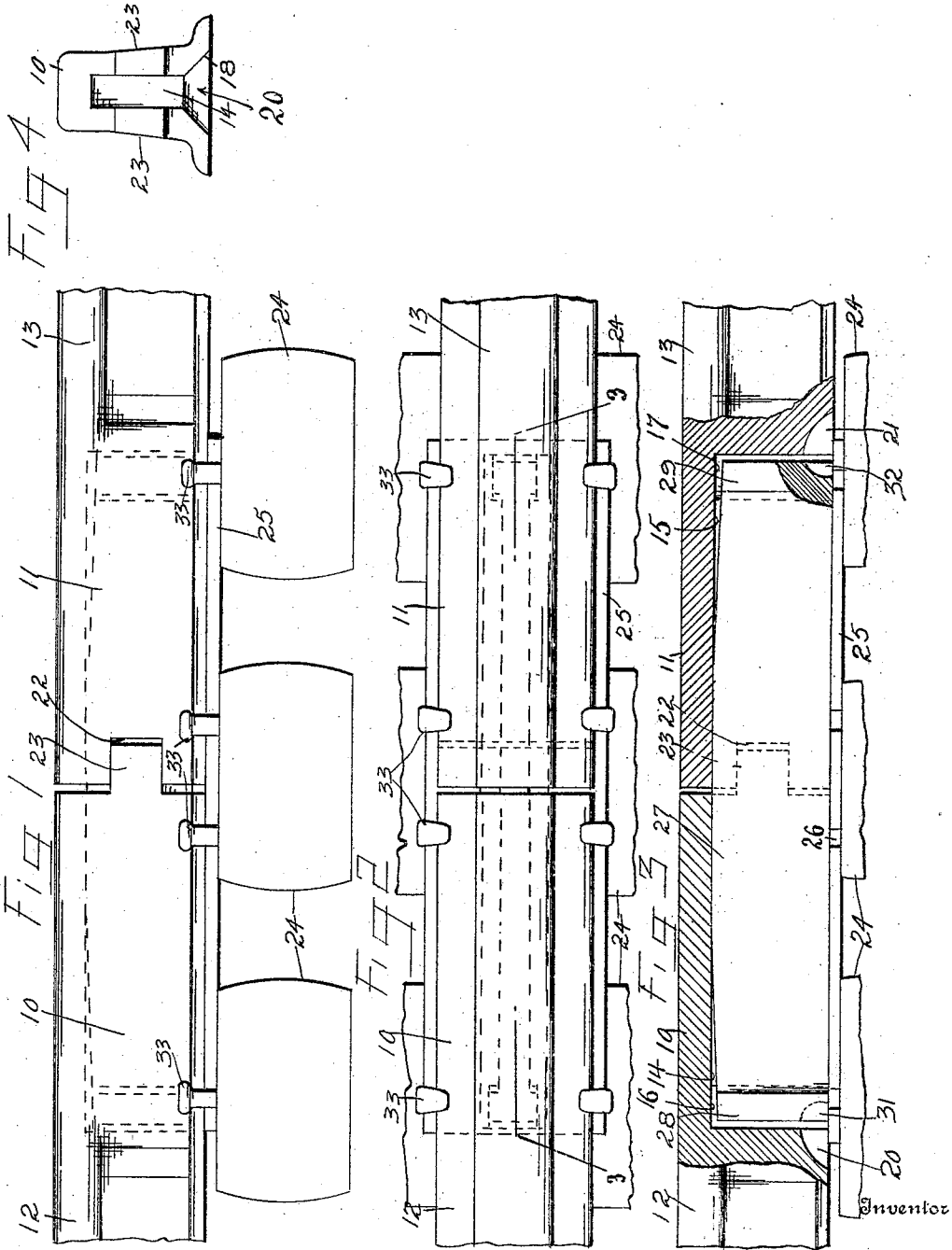
RAILWAY RAIL JOINT.

APPLICATION FILED JUNE 15, 1909.

946,950.

Patented Jan. 18, 1910.

2 SHEETS—SHEET 1.



Witnesses

L. E. Strobel.
G. H. Woodward.

Newton H. Williamson.

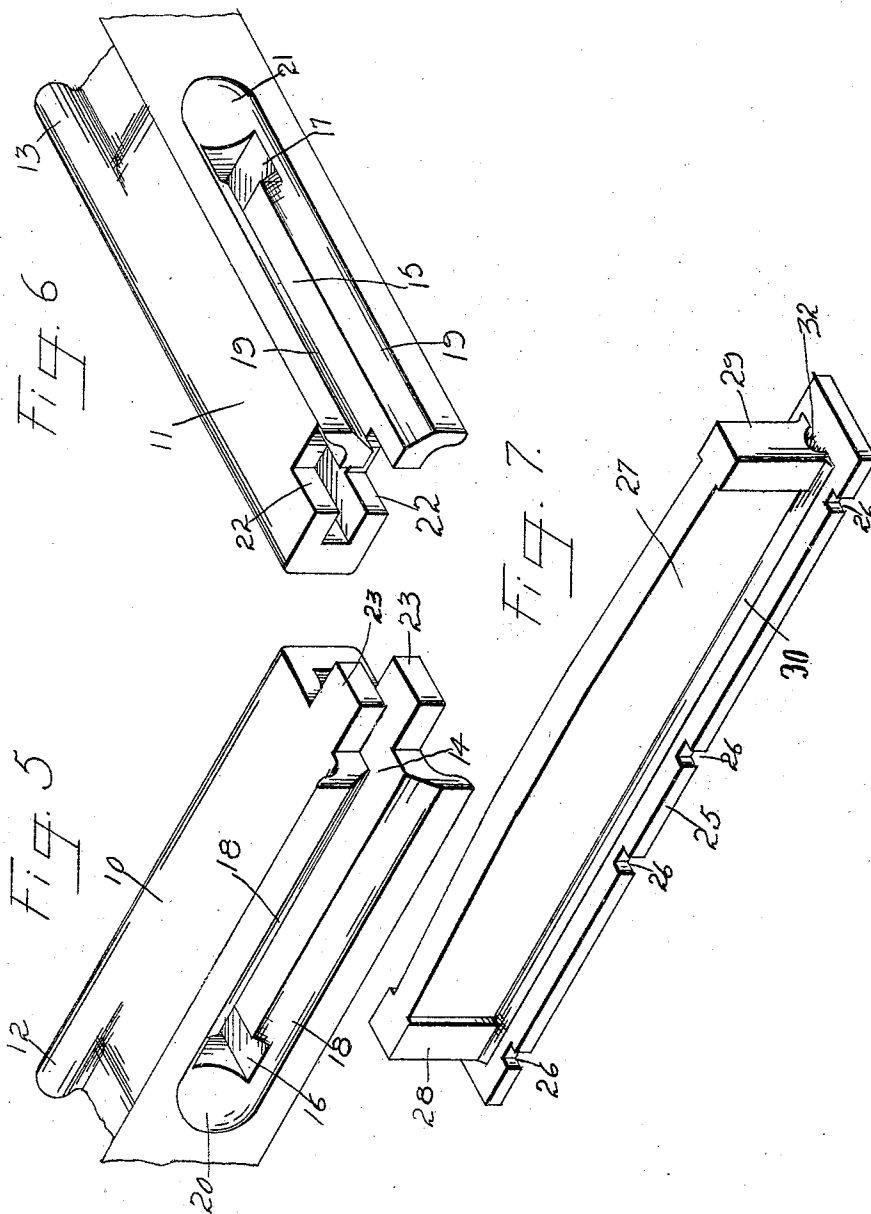
[Signature]
Attorneys

N. H. WILLIAMSON.
RAILWAY RAIL JOINT.
APPLICATION FILED JUNE 15, 1908.

946,950.

Patented Jan. 18, 1910.

2 SHEETS—SHEET 2.



Witnesses

J. E. Storkel

C. N. Woodward

Inventor

Newton H. Williamson.

By

Charles Chandler

Attorney

UNITED STATES PATENT OFFICE.

NEWTON H. WILLIAMSON, OF GREENFIELD, TENNESSEE.

RAILWAY-RAIL JOINT.

946,950.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed June 15, 1909. Serial No. 502,278.

To all whom it may concern:

Be it known that I, NEWTON H. WILLIAMSON, a citizen of the United States, residing at Greenfield, in the county of Weakley, State of Tennessee, have invented certain new and useful Improvements in Railway-Rail Joints; and I do 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 appertains to make and use the same.

This invention relates to railway joints, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

With this and other objects in view, the invention consists in certain novel features of construction as hereafter shown and described and then specifically pointed out in the claim, and in the drawings illustrative of the preferred embodiment of the invention, Figure 1 is a side elevation of one of the improved joints. Fig. 2 is a plan view of the same. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is an end elevation of one of the rail ends. Figs. 5 and 6 are perspective views from beneath of the confronting rail ends. Fig. 7 is a perspective view from above of the combined tie plate and coupling bar, or key.

In the improved device the vertical web portions 10—11 of the rail ends 12—13 are increased in thickness as shown more clearly in Figs. 4, 5 and 6, and formed in this thickened portion 10 is a longitudinal recess 14, while a similar recess 15 is formed in the thickened portion 11, the recesses extending to a point relatively near the upper or head face of the rail ends. At its inner end the recess 14 is enlarged laterally as shown at 16, while the inner end of the recess 15 is likewise enlarged laterally as shown at 17. The lower portion of the recess 14 is inclined outwardly or flared as represented at 18, while the recess 15 is likewise flared outwardly as shown at 19. The portion 18 is extended beyond the lateral enlargement 16 and rounded as shown at 20, while the flaring portion 19 is likewise extended beyond the enlargement 17 and rounded as shown at 21, the recesses 20—21 being more clearly shown in Fig. 3, the object to be hereafter explained.

Formed in the thickened portion 11 are recesses 22, and projecting from the thickened web portion 10 are lugs 23, the lugs

23 corresponding to the recesses 22 and fitting therein when the rail ends are united as shown in Fig. 1. By this means the rail ends are firmly held from vertical movement, as hereafter explained.

Bearing upon the ties, represented at 24, is a tie plate 25 having spike recesses 26 to receive the holding spikes 33 upon which the rail ends and tie plates are secured to the ties.

Rising from the plate 25 is a key rib 27, the central portion of the rib fitting within the recesses 14—15, the rib being enlarged at the ends as shown at 28—29, with the enlarged portions adapted to fit into the enlargements 16—17 of the rail ends. The rib 27 at its juncture with the plate 25 is flared outwardly as represented at 30, the flaring portion corresponding to the flared portions 18—19 of the rail ends. By this means the area of contact between the parts is materially increased, and the utility and stability correspondingly increased. By this means all lateral vibration is effectually checked, and any downward pressure exerted by the passage of trains is received upon the correspondingly flared portions, and the steadiness of the joint thus materially increased without material increase of weight or expense of manufacture. The upper surface of the rib 27 together with the enlargements 28—29 is inclined outwardly to a limited extent from the center toward the ends as shown in Fig. 3 so that a certain degree of play is provided which effectually prevents any binding under the changes of temperature or expansion or contraction. To this end also the enlargements 28—29 are smaller than the enlargements 16—17 so that a certain degree of longitudinal play is permitted between the rail ends as represented in Figs. 1 and 2, wherein the rail ends are shown spaced slightly apart. By this means the requisite expansion and contraction is provided for, as will be obvious. Formed in the enlargements 28—29 are recesses 31—32, the recesses being located opposite the rounded cavities 20—21. These registering cavities provide means for the insertion of a suitable implement to forcibly separate the rail ends in event of their becoming rusted to the key member. In laying the track the tie plate 25 with its rib 27 is placed in position upon the ties and the rails united by inserting the projections 23 into the recesses 22 and the rails lowered into position with

the rib entering the recesses 14—15, and the spikes 33 applied.

The improved device provides a very rigid and strong joint, which is not effected by the impact of the rolling stock, and in which provision is made for the requisite expansion and contraction as heretofore explained.

What is claimed is:—

Two abutting rail ends having longitudinal recesses in their lower faces with lateral recesses communicating with the longitudinal recesses, the confronting ends of said rail ends having interlocking recesses and lugs in their vertical web portions, a tie plate extending beneath the rail ends, an

upwardly directed rib carried by said tie plate and over which the longitudinal recesses of the rails bear and provided with lateral enlargements engaging in the lateral recesses, the upper face of said rib being inclined in opposite directions from the center toward the ends thereof, to prevent cramping under changes of temperature.

In testimony whereof, I affix my signature, in presence of two witnesses.

NEWTON H. WILLIAMSON.

Witnesses:

R. D. HUNT,

JNO. B. McADAMS.