N. H. WILLIAMSON.

RAIL JOINT.

APPLICATION FILED MAR. 31, 1913.

1,066,563.

Patented July 8, 1913.

2 SHEETS—SHEET 1.

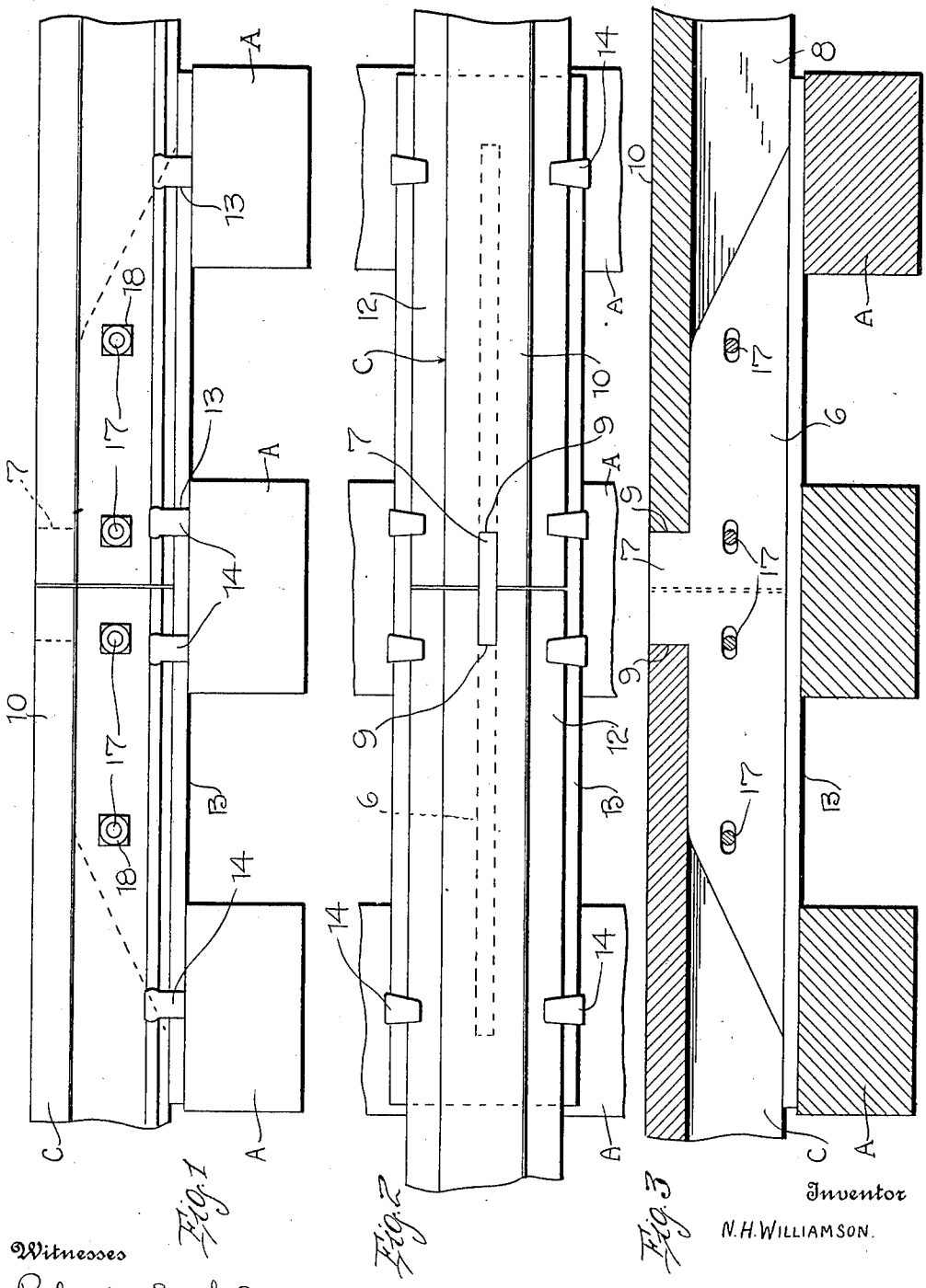


Fig. 1

Fig. 2

Fig. 3

Witnesses

Robert M. Sutphen.

A. L. Hind.

Inventor

N. H. WILLIAMSON.

By Watson E. Coleman

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

N. H. WILLIAMSON.

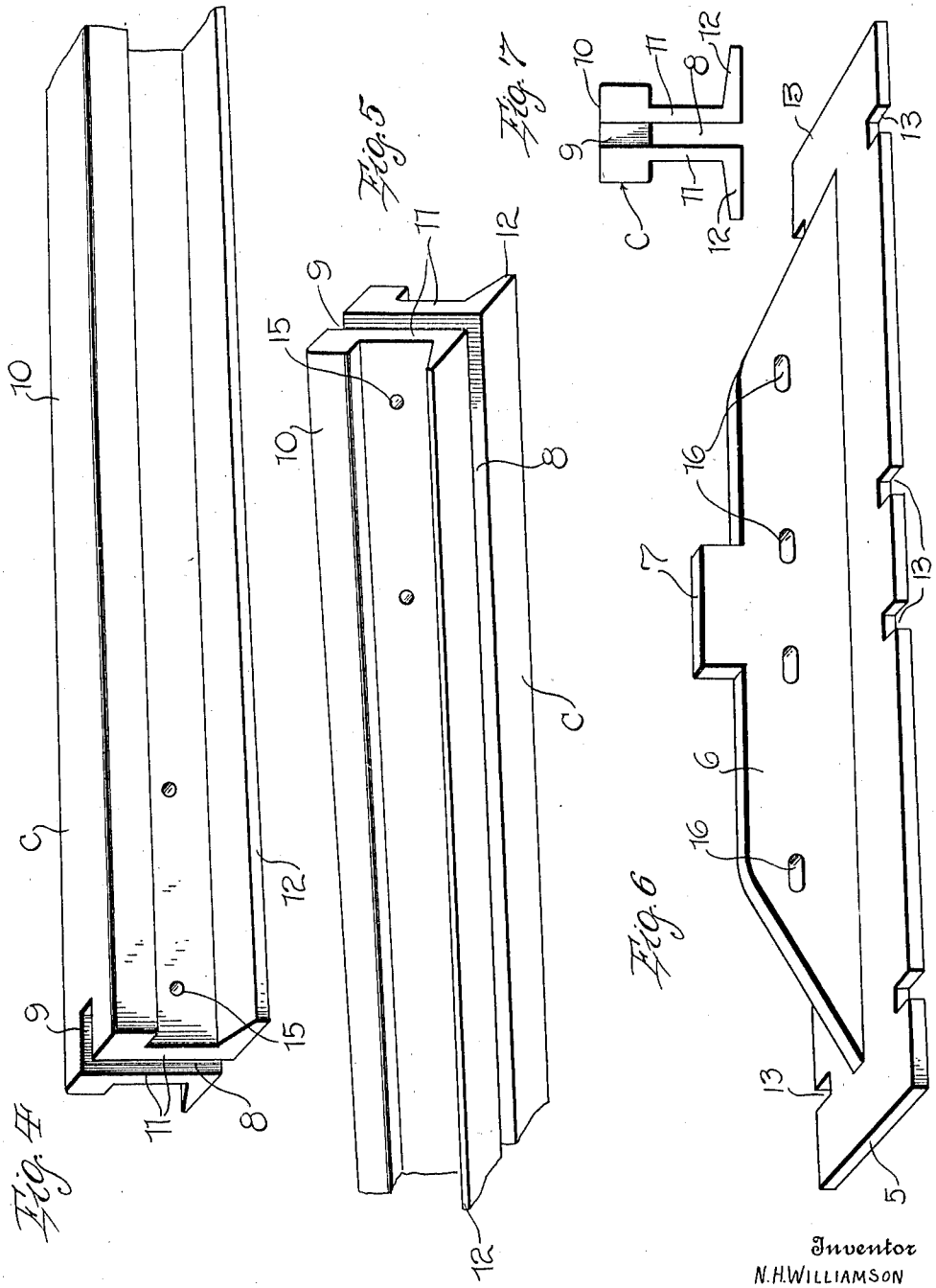
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Attorney

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UNITED STATES PATENT OFFICE.

NEWTON H. WILLIAMSON, OF GREENFIELD, TENNESSEE, ASSIGNOR OF ONE-THIRD TO WILLIAM T. AYDELOTT AND ONE-THIRD TO WILLIAM C. DEUBERRY, BOTH OF GREENFIELD, TENNESSEE.

RAIL-JOINT.

1,066,563. Specification of Letters Patent. Patented July 8, 1913.

Application filed March 31, 1913. Serial No. 757,951.

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 and State of Tennessee, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to rail joints, and particularly to improvements on the rail joint illustrated in Patent No. 946,950, patented January 18, 1910.

An object of this invention is the provision of a rail joint in which a continuous tread surface is provided for the rails at their meeting ends, whereby the noise and jar usually incident to the passing of rolling stock over rail joints are obviated.

A further object of this invention is the provision of a rail joint comprising a pair of rails which are formed with longitudinal channels in their under faces, the channels dividing the webs of the rails into two resilient walls between which the upstanding rib of a tie plate is disposed, suitable bolts being passed through the walls and tie plate, and nuts being threaded on the bolts against the resilient walls, the walls of the rails tending to bind the threads of the nuts with the threads of the bolts, thereby obviating the use of spring washers to lock the nuts on the bolts.

With these and other objects in view, my invention consists in certain novel constructions, combinations and arrangements of parts, to be hereinafter more fully described, claimed and illustrated in the accompanying drawing, in which—

Figure 1 is a side elevation of my rail joint; Fig. 2 is a top plan view thereof; Fig. 3 is a longitudinal section; Fig. 4 is a perspective view of one of the rails; Fig. 5 is an inverted perspective view of one of the rails; Fig. 6 is a perspective view of the tie plate and rib; and Fig. 7 is an end view of one of the rails.

Referring more particularly to the drawing, the letter A designates the ties of the track, B the tie plate and C a pair of rails. The tie plate B comprises a base plate 5 which is preferably of a length suitable to bear upon three of the ties A, the base plate having a centrally arranged upstanding longitudinal rib 6 which is provided intermediate of its ends with an extension 7. Each of the rails C is formed with a longitudinal channel 8 in its under face which extends the entire length of the rail, each end of the rail being provided with a vertical recess 9 which communicates with the channel 8 and extends to the tread 10 of the rail. The longitudinal channel 8 in each rail forms a pair of resiliently spaced side walls 11, each of the walls being provided on its lower face with an outwardly extending longitudinal base flange 12. The base plate 5 is preferably of greater width than the base flanges of the rails, the plate 5 being formed in its projecting longitudinal edges with recesses 13 to receive the holding spikes 14, the heads of which are adapted to bear upon the base flanges of the rails whereby the rails and the base plate are secured to the ties. The walls 11 of the rails are formed at their ends with openings 15 and the rib 6 is provided with elongated openings 16, the bolts 17 being adapted to pass through the openings 15 and 16 and to receive the nuts 18 whereby the rails and tie plate are held together.

In the practical use of my device, the base plate 5 is arranged to bear upon three of the ties A, and the rails are positioned upon the ties so that the channels 8 therein engage the upstanding rib 6 of the base plate and the extension 7 extends upwardly into the channels 9 in the abutting ends of the rails. The spikes 14 are then driven into the ties, the shanks of the spikes engaging in the recesses 13 and the heads of the spikes engaging the base flanges 12 of the rails to prevent lateral movement of the rails. The fastening bolts are then passed through the openings 15 in the rails and the elongated openings 16 in the rib, the elongated openings allowing the contraction and expansion of the rails. When the nuts 18 are threaded on the bolts against the side walls 12, the resiliency of the walls forces the nuts outwardly and thereby causes the threads of the nuts to bind against the threads of the bolts to prevent accidental disengagement of the nuts from the bolts. It will be seen from the drawing, that the extension 7 lies flush with the tread surface of the rails, thereby form-

ing a substantially continuous tread surface for the rails and obviating the noise and jar which usually occur when rolling stock passes over the joints of ordinary construction.

From the foregoing description taken in connection with the accompanying drawing, it will be seen that I have provided a comparatively noiseless rail joint, and one which comprises a minimum number of parts, and may therefore be cheaply manufactured.

Having thus fully described my invention what I desire to claim and secure by Letters Patent is:

1. A rail joint comprising a tie plate having a longitudinal upstanding rib, said rib being formed intermediate of its ends with an extension, in combination with a pair of abutting rails, each of said rails being formed on its under face with a longitudinal channel, said rails being provided in their opposite ends with vertical channels communicating with said longitudinal channels, and extending to the tread surface of the rails, said vertical channels being of substantially the same width as the longitudinal channels, said longitudinal rib engaging in said longitudinal channels, and the extension of said rib engaging in said vertical channels, the extremity of said extension lying flush with the tread surfaces of said rails, as and for the purpose described.

2. A rail joint comprising a tie plate having a longitudinal upstanding rib, the rib being formed intermediate of its ends with a reduced extension of relatively the same thickness as the rib, in combination with a pair of abutting rails, each of said rails being formed with a longitudinal channel extending from the base of the rail to the under face of the head thereof, said rails being provided in their opposite ends with vertical channels communicating with said longitudinal channels and extending to the tread surfaces of the rails, said vertical channels being of substantially the same width as the longitudinal channels, said longitudinal rib engaging in said longitudinal channels, the upper edge of said rib bearing against the under faces of the treads of said rails, and the extension of said rib engaging in said vertical channels, and means for securing said rails and tie plate together, as and for the purpose described.

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

NEWTON H. WILLIAMSON.

Witnesses:
R. L. GOOLSBY,
W. A. BARTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."