L. A. ANFINSON.

RAIL TIE.

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1,136,859. Patented Apr. 20, 1915.

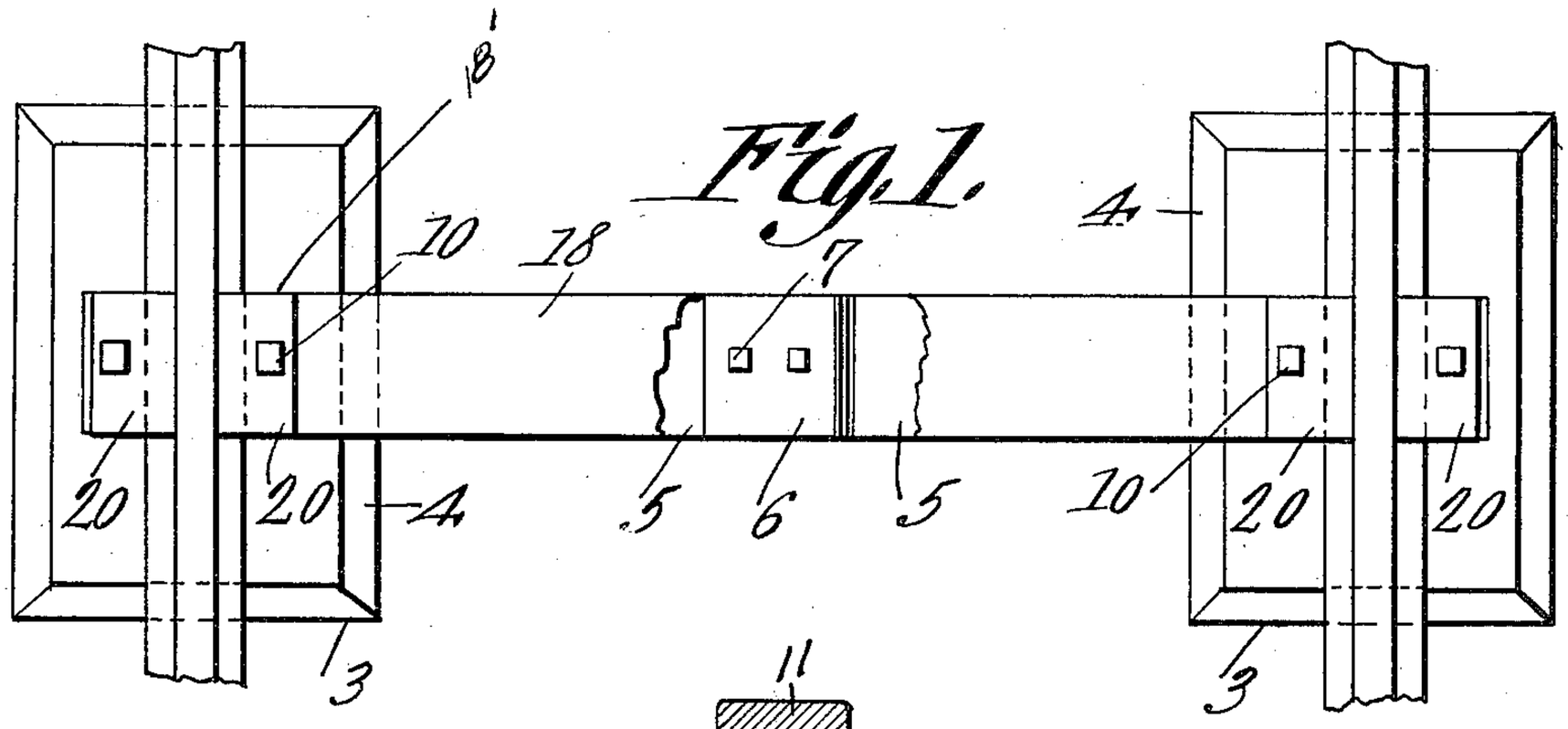


Fig. 1.

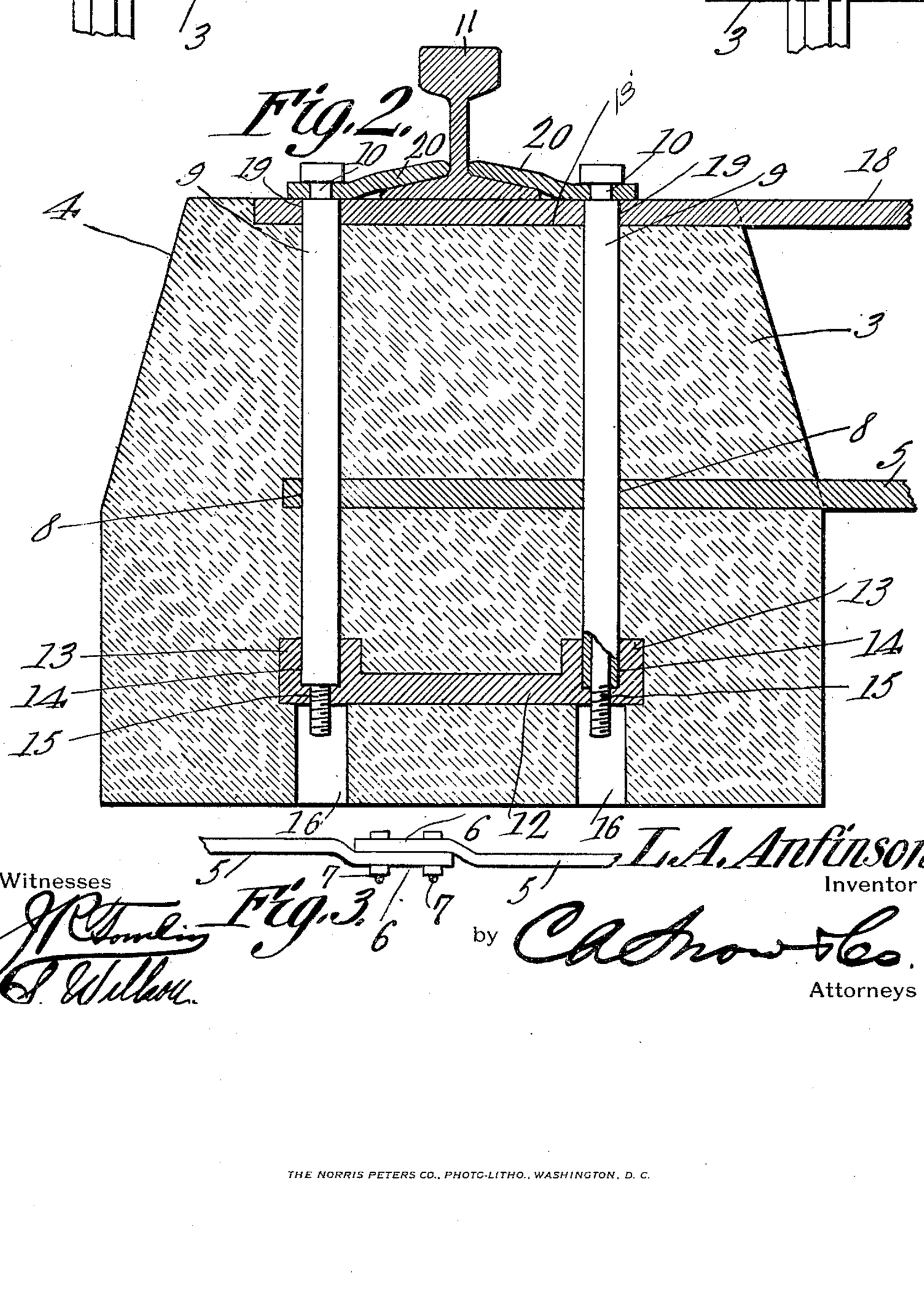


Fig. 2.

Fig. 3.

Witnesses

J. C. Dowling

E. W. Wilson

L. A. Anfinson

Inventor

by Cachow & Co.

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LARS A. ANFINSON, OF CLERMONT, IOWA.

RAIL-TIE.

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To all whom it may concern:

Be it known that I, LARS A. ANFINSON, a citizen of the United States, residing at Clermont, in the county of Fayette and State of Iowa, have invented a new and useful Rail-Tie, of which the following is a specification.

This invention relates to improvements in railway ties.

An object of the present invention is to provide a railway tie formed of concrete or allied composition which will successfully hold the rails against spreading.

A further object is to provide a tie of two sleepers one positioned beneath each rail and between which extend suitable securing means so that the sleepers will be held rigidly in proper relation and will be prevented from tilting or moving in either direction.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawings accompanying this specification and forming a part thereof, the preferred embodiment of my invention is illustrated, in which:—

Figure 1 is a top plan view of my improved railway tie within the rails rigidly secured thereto. Fig. 2 is a vertical sectional view of one of the sleepers which make up the railway tie. Fig. 3 is a detail view of the joints between the tie rods.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several figures, the tie is made up of the two sleeper blocks 3—3 which are provided with the upper beveled edge 4. The sleeper blocks are formed of concrete or allied composition capable of withstanding the loads brought to bear thereon incident to the passing of rolling stock thereover.

Embedded in the sleeper blocks are the tie rods 5, the extremities of which are offset as at 6 and through which extend the securing bolts 7.

As illustrated in Fig. 2, the tie rod extends approximately central of the sleeper block and is provided with apertures 8—8 extending vertically therethrough and through which extend the bolt receiving pipes 9. The said pipes are embedded within the sleeper block and are arranged in pairs as illustrated in Fig. 2 and through which extend the bolts 10 for the securing of the rails 11 in place.

Each of the sleeper blocks are identical in construction so that only one will be treated in detail. A plate 12 is embedded within the sleeper block and includes the upstanding or enlarged bosses 13. The said bosses are provided with the two co-axial openings 14—15 extending therethrough, the first opening receiving the pipe 9 therein and the second opening receiving the lower threaded extremity of the bolt 10. The sleeper block is provided with the openings 16 extending up from the bottom and terminating adjacent the lower extremity of the plate opening 15 and provide a passageway through which locking nuts may be inserted and secured upon the extremities of the bolts 10 and thus securely lock the said bolts in place.

Coacting with the tie rods 5 and extending between and resting upon the top surfaces of the sleeper blocks is the strut member 18 and which is provided with suitable openings 19 therein through which the bolt receiving pipes 9 pass. The pipes thus hold the strut member 18 in place and prevent the shifting thereof. Mounted upon the strut member 18 and secured thereto by the bolts 10 are the clamping plates 20 which engage the flange of the rail 11 and lock the same securely in position. The strut members 18 are embedded within a suitable groove 18′ formed along the upper face of the sleeper blocks.

The particular construction outlined allows for the ready assembling of the tie and for the convenient handling thereof in separated condition. Thus when the ties are to be shipped, the strut member 18 will be removed as well as the clamping plates 20 and bolts 10. The bolts 7 of the tie rods will be removed, which allows the sleeper blocks to be separated and the projecting tie rods 5 afford convenient means whereby the blocks may be handled. When it is desired to assemble the sleeper blocks in the form of a railway tie, the bolts 7 are inserted in place and the tie rods clamped in alinement thereby. The strut member 18 which has been

previously provided with the opening 19 is then assembled upon the top of the blocks with the bolt receiving pipes 9 extending within the openings and terminating flush with the top surface thereof. Thus with the strut member and tie rods in place, the blocks will be held spaced the proper distance apart and furthermore will be held in the same plane and will be held from tilting which would allow for the spreading of the rails. The rails 11 are then positioned upon the strut member 18 and the clamping plates 20 secured thereto and contact therewith by the bolts 10. The said bolts are positioned within the pipes 9 and brought into engagement with the threaded opening 15 to which they are secured. When the bolts have been drawn down so that the clamping plates will rigidly engage the rail flange, locking nuts may be assembled upon their lower extremities and will prevent the accidental displacement thereof. Thus it will be apparent that the railway tie will not be liable to break in the center, which is one of the serious objections to concrete ties now in use, which span the distance between the rails. Furthermore the rigidity and stability of the concrete ties which extend the entire distance between the rails will be had due to the strut member 18 and the tie rods 5.

Having thus fully described my invention, what I claim is:—

1. A railroad tie comprising spaced sleeper blocks, tie rods carried by said sleeper blocks and detachably secured together intermediate their ends, a strut member rigidly secured to and extending between the said sleeper blocks and coöperating with the tie rods to hold the said sleeper blocks in rigid relation, a plate embedded in each of said sleeper blocks and provided with coaxial openings of different diameters extending therethrough, bolt receiving pipes embedded within said blocks and engaging the larger of said boss openings, and clamping plates mounted upon said sleeper blocks adapted to engage a flanged rail, and bolts engaging said clamping plates, extending through said pipe and adapted to engage the boss openings.

2. A railway tie including spaced sleeper blocks, each of said blocks provided with a plate embedded therein, said plate provided with upstanding spaced bosses, said bosses provided with coaxial openings of different diameters extending therethrough, bolt receiving pipes embedded within the said concrete blocks and engaging the larger of said boss openings, a tie rod embedded within said sleeper block provided with apertures extending therethrough through which extend the said bolt receiving pipes, a strut member provided with pipe receiving openings extending therethrough, said strut member resting upon the top surface of said sleeper block with the pipes projecting through the openings therein, said sleeper blocks provided with passageways terminating adjacent the boss openings and providing for the insertion of locking nuts therein, and bolts extending through said pipe openings engaging the boss threaded openings and provided with lock nuts upon their lower extremities, said bolts adapted to rigidly secure a rail to said sleeper blocks.

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

LARS A. ANFINSON.

Witnesses:
BEN PETERSON,
F. R. FRISBIE.

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