

J. GORMAN.
RAILROAD CROSS TIE AND SUPPORTING PLATE.
APPLICATION FILED DEC. 13, 1911.

1,021,145.

Patented Mar. 26, 1912.

FIG. 1.

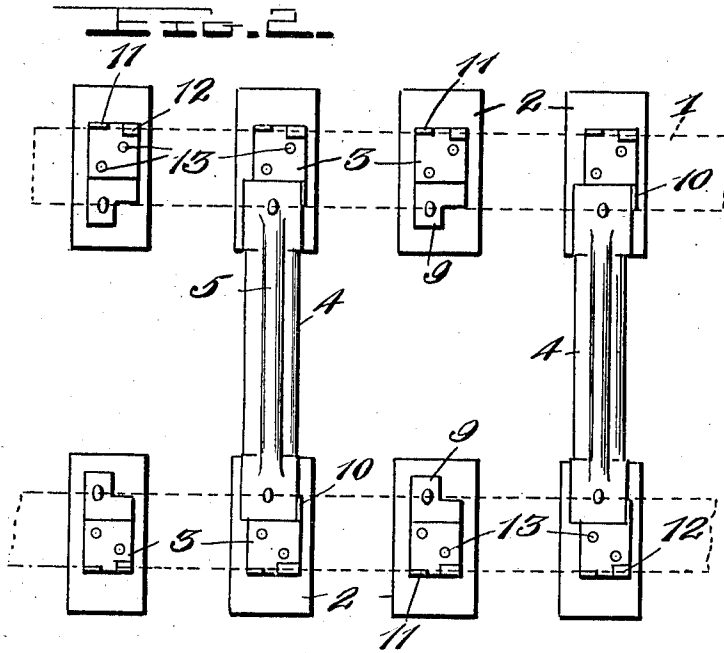
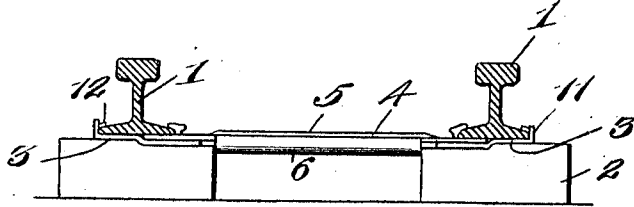
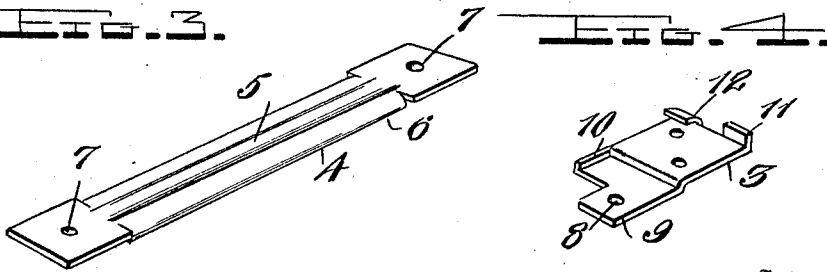


FIG. 3.



Witnesses

Chas. R. Griesbauer.

A. B. Norton.

Inventor

John Gorman,

By

Watson E. Coleman.

Attorney

UNITED STATES PATENT OFFICE.

JOHN GORMAN, OF PERU, INDIANA.

RAILROAD CROSS-TIE AND SUPPORTING-PLATE.

1,021,145.

Specification of Letters Patent.

Patented Mar. 26, 1912.

Application filed December 13, 1911. Serial No. 665,518.

To all whom it may concern:

Be it known that I, JOHN GORMAN, a citizen of the United States, residing at Peru, in the county of Miami and State of Indiana, have invented certain new and useful Improvements in Railroad Cross-Ties and Supporting-Plates, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to railway ties, and has for its object to provide a sleeper which can be readily placed in position and do efficiently all the work required of it in respect to holding and supporting rails.

Another object of the invention is to have a tie adapted to be used with the sleeper which can be readily placed in position, or removed therefrom as the conditions require, said tie being arranged to keep the sleepers securely in their relative positions, that is, prevent them from moving outwardly, or inwardly, and thereby spreading or distorting the rails, which causes so many wrecks on railroads.

A further object of this invention is to have a tie-plate that can be readily secured to said sleeper and which, in conjunction with the tie-plate, will hold the rails securely in position.

A still further object of this invention is to eliminate as far as possible the number of railroad spikes that are required to hold the ties and tie-plates to the sleepers.

Still another object of this invention is to reduce the size of the sleepers that are required to hold the rails, so that there will be an economical use of wood or the like for them.

It is well known that there is great difficulty in cheaply installing tracks for a railroad, principally because the cost of the sleepers, and incidental parts that hold and support the rails, involve so much labor and expense.

This invention eliminates greatly the amount of labor required to install the tracks, and at the same time reduces the amount of material required for supporting the rails, and without reducing to any extent, the safety of the system.

By the reduction in number of the various parts needed to hold the rails, a great reduction is made in the amount of labor and time required to inspect and keep them in repair or in working order. These last

items are important because they reduce the operating expenses of railroad systems quite considerably, and thereby tend to raise their value in every way.

In the accompanying drawings which illustrate by way of example, the embodiment of this invention, Figure 1 represents a view in elevation of a track arranged with an embodiment of this invention. Fig. 2 is a plan view of Fig. 1. Figs. 3 and 4 are details of various parts of this invention.

In carrying out this invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which 1 represents the rails of a railroad track, which is of any desirable form, such as is commonly used, and which is supported on a pair of sleepers 2 which are arranged to receive supporting plates 3 that hold the rails in place, a tie-plate 4 being provided to connect the sleepers and supporting plates together, in the manner clearly shown in the drawings. This tie-plate is preferably constructed of a flat piece of material which has its inner portion ribbed in order to reinforce it and to give it a somewhat resilient action, and at the same time, the edge portions 6 of this tie-plate are bent downwardly so as to project down beyond the upper surface of the sleepers, and to be disposed between them so as to prevent any inward transverse motion of the sleepers.

The outer end portions of the tie-plate are drilled with a hole 7 which is arranged to come in register with a hole 8 disposed in the outer portion 9 of the supporting plate 3, this portion 8 being disposed at one corner of the plate, as is clearly shown in the drawings. The remaining portion of the supporting plate on which the tie rests, is broadened out to the full width of the tie-plate proper so that the portion of the plate under the web of the rail will be of a quasi-rectangular shape. In order to definitely position the tie-plate on the supporting plate, there is provided on the latter, a raised edge portion 10 that comes in contact with the edge of the tie-plate and prevents it from moving in the direction of the tracks.

The portion of the plate that is arranged to receive the tie-plate 4, is depressed in order that the upper surface of the tie-plate

4 and the supporting plate 7 will be level and uniform for the rail to rest upon, as can be clearly seen in the drawings.

The tongues 11 and lips 12 are arranged 5 on the outer edges of the supporting plate in order to engage with the base flange of the rail and thereby keep the same in position. Any suitable means 13 are provided to keep the supporting plate secured to the sleeper. 10 The sleeper is, of course, arranged to properly receive the supporting plate.

When the various parts are placed in use on the track, the sleepers 2 are first positioned on each side of the track so that the 15 rails will be properly disposed upon them. After the sleepers are in place, the supporting plates are secured thereto. Then the rails 1 are placed upon the supporting plates so that their outer edges engage with the lips 20 11 and 12 disposed on the plates. After this engagement has been properly made, the tie-plate 4 is placed upon the supporting plates under the rails 1 and against the edges 10, which will cause the holes 7 and 8 to come 25 into register with one another, after which the spikes are driven therethrough into the sleeper, and thereby secure the rail, the tie-plate and supporting plates in position.

It will be noticed that the edges 6 project 30 downwardly in the space between the sleepers and thereby give the latter a locking action, which will prevent them from moving transversely inwardly, and at the same time, the downward portions greatly strengthen 35 the tie-plate and increase its durability to a great extent. Thus, it will be seen that only one spike is necessitated in each sleeper which, it can be readily seen, will not require as great an amount of labor, as that necessitated in the present style or arrangement for 40 securing rails to sleepers. Also by using the small sleepers shown, one can save greatly on the amount of timber required in their use, and at the same time, a full supporting 45 surface is provided on the roadbed of the track by means of the tie-plate 4, so that the elimination of the extra portion of the sleeper does not destroy the foundation required for the rails.

50 The depression of the supporting plate, as

shown at 9 in the drawings, serves to keep the tie-plate in position in addition to locking it with the edge 10, and also the weight of the rail on top of the tie-plate at the portion disposed on the supporting plate secures 55 the same more rigidly in position.

Obviously while there is shown but one form of construction of the various parts in this application, I do not wish to be limited to that particular form otherwise than ne- 60 cessitated by the prior art, as many modifications in the construction of this invention may be made without departing from the principles thereof.

Having thus described this invention, what 65 is claimed is:

In combination with railroad rails, supporting plates having portions of their outer edges bent upwardly to form lips and tongues for embracing the outer edge of the 70 web of said rails, said plates having their inner portions reduced in area where they project beyond the other edge of the webs and having a hole therein, said plates having one of their edges turned upwardly and the 75 portions having these bent edges and the projecting portions being depressed in a lower plane than that of the rest of the plates, a plurality of sleepers arranged to receive said plates, means for securing said 80 plates to said sleepers, tie-plates adapted to rest on said depressed portions and span the intervening space between the rails and having a rib formed in their middle portions and the longitudinal edge portions bent 85 downwardly and arranged to be disposed between a pair of sleepers so that the same cannot move transversely inward, said tie-plates having holes in their outer portions arranged to correspond with holes in the pro- 90 jecting portions of said supporting plates when the same are in position, and means disposed in said holes for securing the rail and said plates to said sleeper.

In testimony whereof I hereunto affix my 95 signature in the presence of two witnesses.

JOHN GORMAN.

Witnesses:

J. D. OATES,

ELMA L. DYE.