Feb. 3, 1948. P. D. GROVER 2,435,390

TIE AND TIE PLATE ASSEMBLY

Filed Sept. 26, 1944 2 Sheets-Sheet 1

Fig. 1.

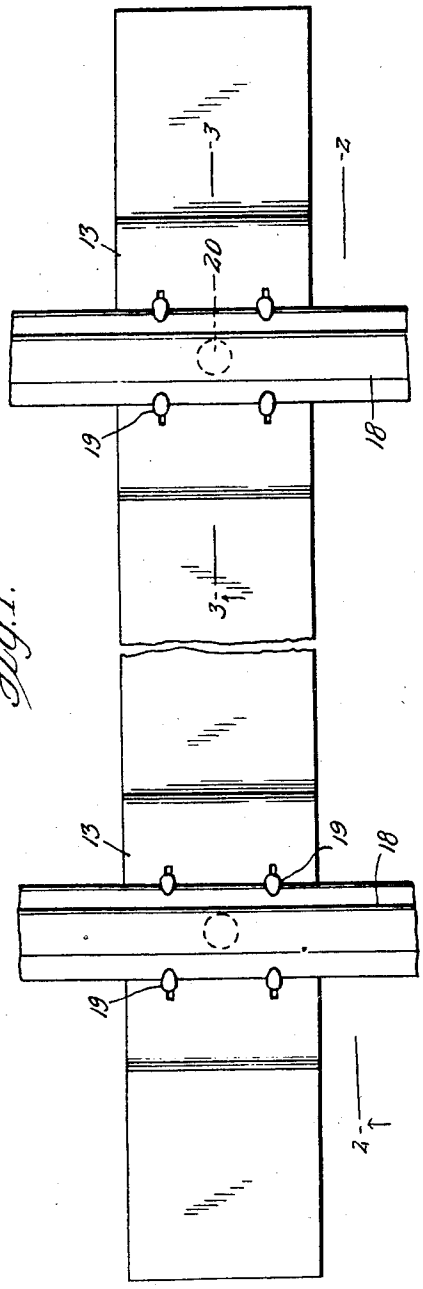


Fig. 3.

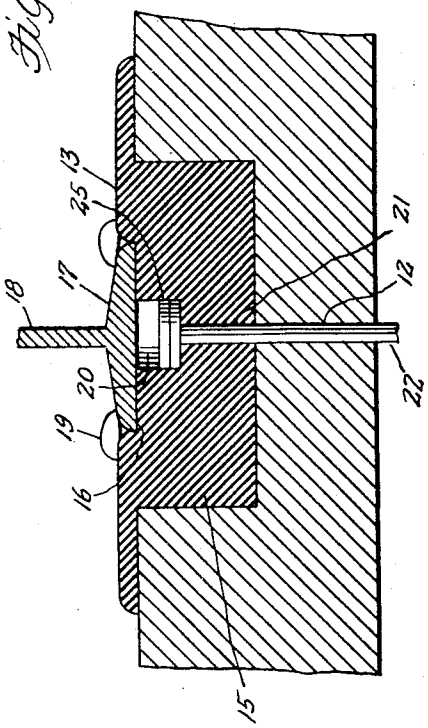
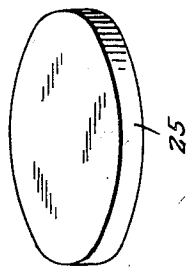


Fig. 6.



Inventor

Philip D. Grover.

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Feb. 3, 1948. P. D. GROVER 2,435,390

TIE AND TIE PLATE ASSEMBLY

Filed Sept. 26, 1944 2 Sheets-Sheet 2

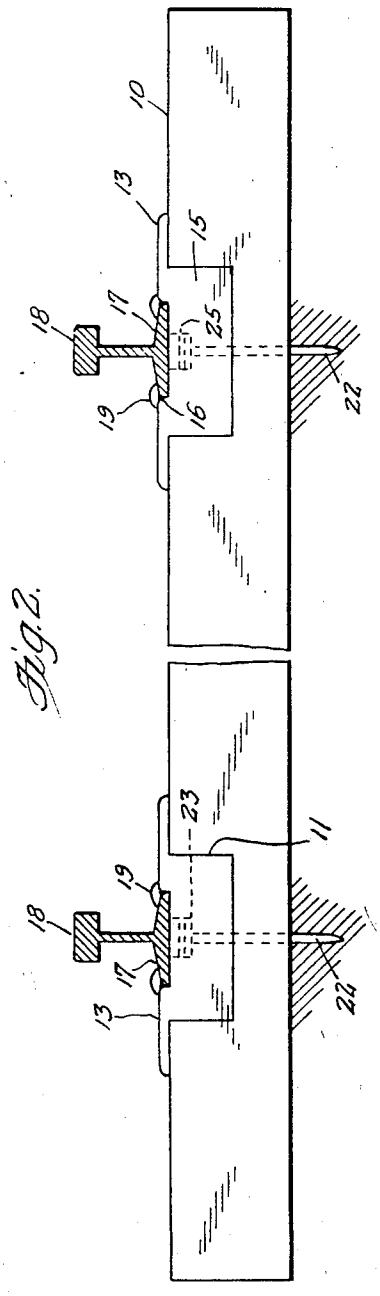
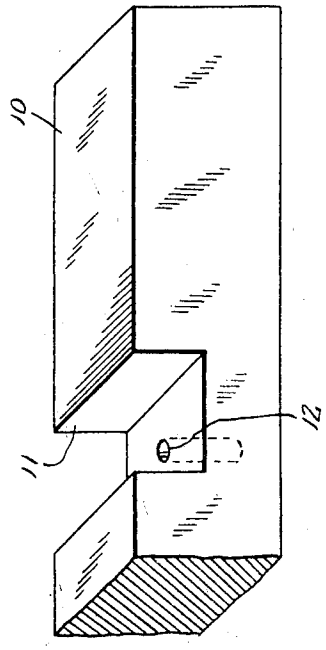


Fig. 2.

Fig. 4.



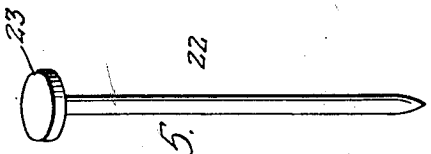


Fig. 5.

Inventor

Philip D. Grover.

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

Patented Feb. 3, 1948

2,435,390

UNITED STATES PATENT OFFICE

2,435,390

TIE AND TIE PLATE ASSEMBLY

Philip D. Grover, Chicago, Ill.

Application September 26, 1944, Serial No. 555,866

1 Claim. (Cl. 238—10)

1

This invention relates to a tie and tie plate assembly, and more particularly to such an assembly adapted to be utilized with model railroads and the like.

A primary object of this invention is the provision of an improved tie and tie plate assembly adapted to the use of model railroads which will simulate in appearance the actual tie and tie plates used by real railroads.

A further important object of this invention is the provision of such an assembly which will provide a quiet, smooth running roadbed for such model railroads.

Still another object is the provision of such an assembly, and particularly a tie plate therefor, adapted to preclude any short circuiting of the electrical apparatus of such model railroads.

Still another object of the invention is the provision of a tie and tie plate assembly which will provide for a fast, relatively simple method of laying permanent model tracks.

A still further object of the invention is the provision of such a tie and tie plate assembly which may be readily disassembled when desired.

Other objects will in part be obvious and in part be pointed out as the description of the invention proceeds and shown in the accompanying drawings, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a top plan view of one tie and associated tie plate, shown assembled with fragments of rail sections.

Figure 2 is an end elevational view of the structure shown in Figure 1, the rail being shown in section.

Figure 3 is an enlarged sectional view taken substantially along the line 3—3 of Figure 1.

Figure 4 is an enlarged perspective view of one end of the tie.

Figure 5 is an enlarged view of the nail utilized in securing the tie in position on the roadbed, and

Figure 6 is an enlarged view of a constructional detail adapted to be utilized in association with the nail in Figure 5.

Like reference numerals refer to like parts throughout the several views of the drawings.

Having reference now to the drawings, there is indicated at 10 a tie provided with a pair of spaced parallel transverse grooves 11, a plurality of such ties being adapted to be utilized in laying a section of track. Grooves 11 are provided with bores 12 extending partially through the base thereof.

The tie plates comprising a feature of this invention are, as best shown in Figure 1, rectangular plates 13 preferably comprised of resilient material such as rubber, or the like. Plates 13 are provided with depending rectangular portions 15 so dimensioned to fit snugly within the grooves 11, and have centrally located channels 16 aligned therealong of a depth sufficient to accommodate the base 17 of a rail 18, of any desired size, adapted to be utilized in the laying of model railroad tracks. Projecting lugs 19 in simulation of spikes preferably formed integral with base 13 are positioned adjacent the edges of channel 16, and adapted to overlie the base 17 of the rail 18 to hold the parts in related assembly.

2

Each plate 13 has a centrally disposed countersunk aperture 20 terminating in a bore 21 adapted to be aligned with the bore 12 and the recesses 11 in ties 10. The parts are adapted to be secured in related assembly, as by nails or tacks 22 provided with heads 23 of a dimension adapted to fit within the bore 20. As best shown in Figure 2, the nails 22 are of sufficient length to extend completely through the ties 10 and extend into the base or roadbed on which the ties are positioned to hold the same thereupon, the bores 12 being of sufficient depth to form an insulating air gap between rail bases 17 and heads 23. Insulating discs 25 (see Figs. 3 and 6) are adapted to be placed in bore 20 over the heads 23 of nails 22 in order to preclude accidental short circuiting of any electrical circuit running through the rails such as might be occasioned by the accidental contact of the metallic heads of the nails and the metallic rail 18.

From the foregoing the method of operation of this invention should be readily understandable. The roadbed is first formed and a plurality of ties 10 are then positioned and aligned therealong. Tie plates 13 are then positioned with their depending portions 15 engaging in grooves 11, and the parts held in related assembly by the nails 22 driven into the baseboard or the like. After a sufficient number of ties has been laid, rails are inserted in the channels 16 by bending back the members 19 either manually or with any desired tool, and then such members 19, through their natural resiliency, return to position to hold the rails securely in related assembly with the tie plates. The lengths of rails may be joined together in any desired manner, as by means of the conventional model fishplates, or the like.

Obviously, if desired, the ties and tie plates may comprise an integral unit formed of any suitable material.

From the foregoing it will now be seen that

there is herein provided an improved tie plate and tie assembly adapted to provide an efficient and realistic roadbed for model railroads, and the like, which is sturdy and durable in construction, quiet and efficient in operation, which precludes the possibility of short circuiting of current carried by the rails, and which is relatively simple and economical to install and manufacture.

It will also be seen that there is herein provided a construction which accomplishes all the objects of this invention and others, including many advantages of great practical utility.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

In a tie and tie plate assembly for model railroads, a tie having parallel transverse grooves therein, tie plates of resilient insulating material, depending portions associated with said tie plates engageable in said grooves, and means integral with said tie plates for securing a rail thereto, said last-mentioned means comprising extending protuberances secured to said plate and formed in simulation of spike heads.

PHILIP D. GROVER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
Re. 13,306	Vaughn	Oct. 31, 1911
105,371	Richards	July 12, 1870
625,884	Harris	May 30, 1899
961,917	Vaughn	June 21, 1910
1,000,498	Davis	Aug. 15, 1911
1,728,593	Crane	Sept. 17, 1929
2,094,279	Moses	Sept. 28, 1937
2,133,500	Donnelley	Oct. 18, 1938
2,153,625	Jones	Apr. 11, 1939
2,277,808	Wood	Mar. 31, 1942
2,405,533	Varney	Aug. 6, 1946

FOREIGN PATENTS

Number	Country	Date
603,950	Germany	Oct. 12, 1934