No. 773,826. PATENTED NOV. 1, 1904.

C. G. THOMPSON.

METAL TIE.

APPLICATION FILED JUNE 4, 1904.

NO MODEL.

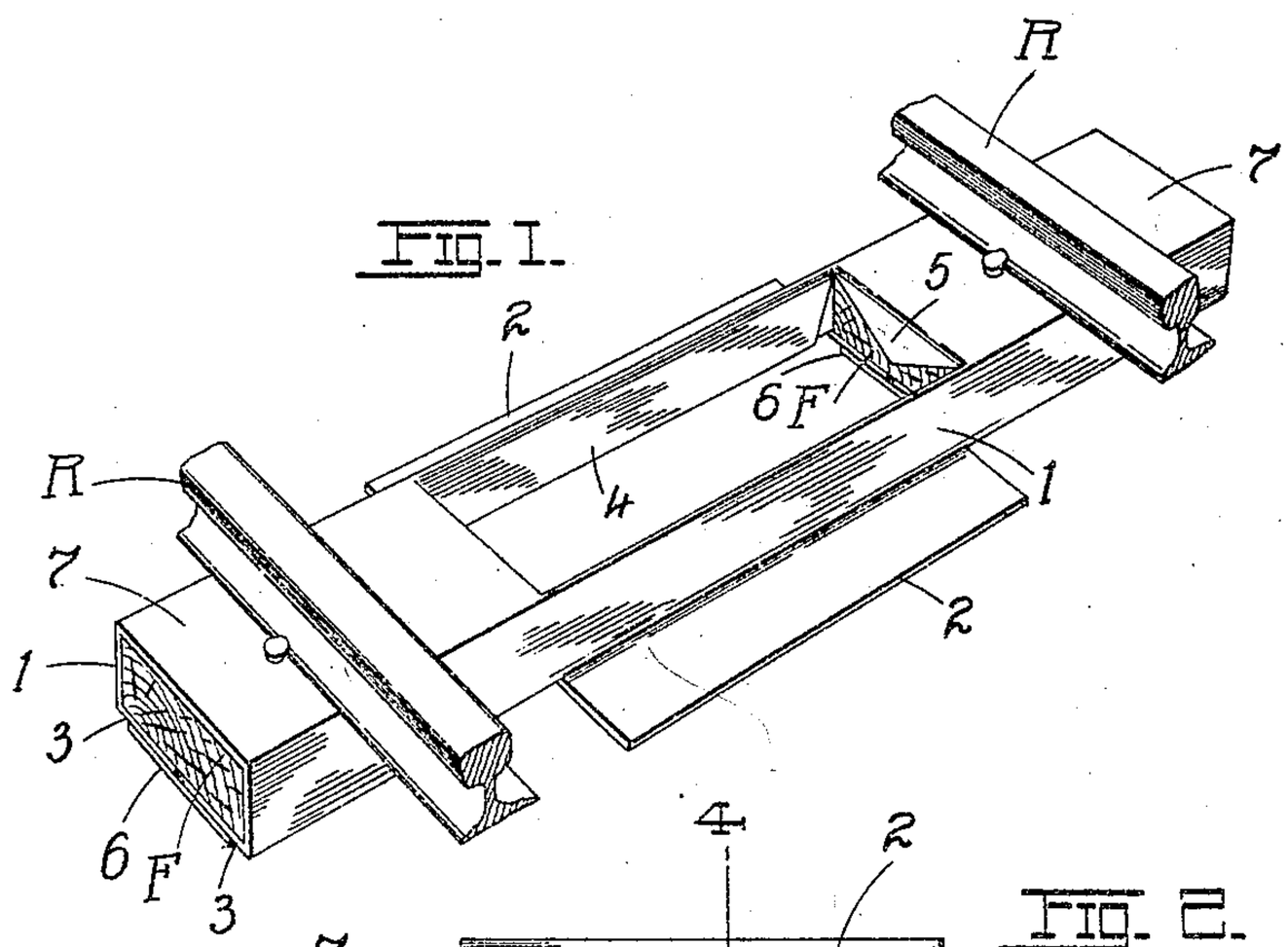

Fig. 1.

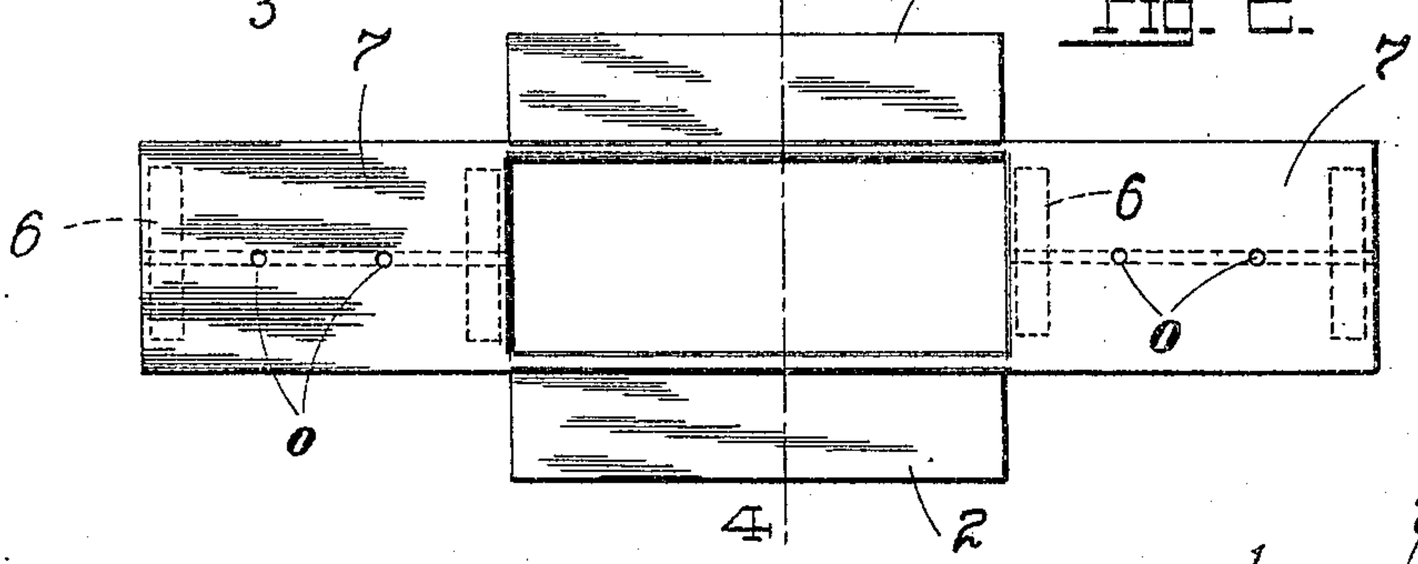

Fig. 2.

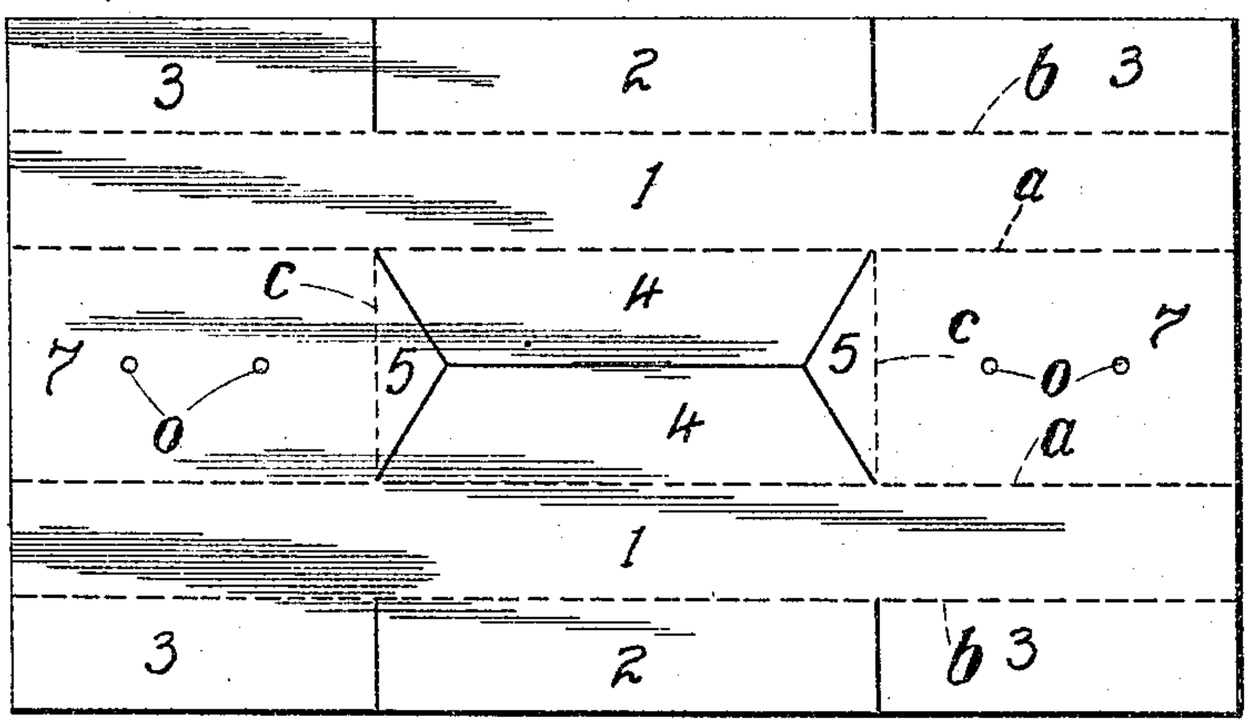

Fig. 5.

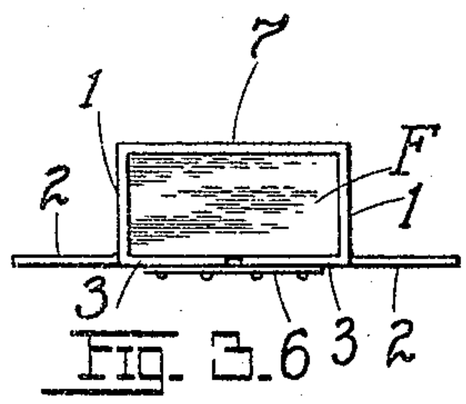

Fig. 3.

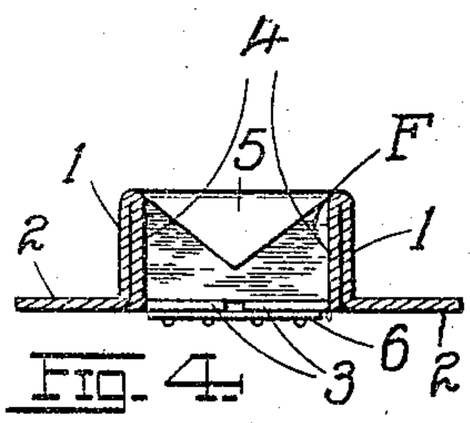

Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

CARL G. THOMPSON, OF MEXICO, MISSOURI.

METAL TIE.

SPECIFICATION forming part of Letters Patent No. 773,826, dated November 1, 1904.

Application filed June 4, 1904. Serial No. 211,165. (No model.)

To all whom it may concern:

Be it known that I, CARL G. THOMPSON, a citizen of the United States, residing at Mexico, in the county of Audrain and State of Missouri, have invented certain new and useful Improvements in Metal Ties, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in metal railway-ties; and it consists in the novel construction of tie more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a perspective of the completed tie. Fig. 2 is a top plan thereof. Fig. 3 is an end view thereof. Fig. 4 is a cross-section on the line 4 4 of Fig. 2, and Fig. 5 is a plan of the original sheet-metal blank from which the tie is formed.

The present tie is intended as a substitute for the prevailing timber tie, and has for its object the economizing of the wood entering into the construction thereof, it being a notorious fact that the scarcity of timber makes the wooden tie almost prohibitive. While wood may enter partially into the construction of the tie under my present invention, any substitute therefor which will be available for the retention of the rail-spike may be used.

In detail the invention may be described as follows.

Referring to the drawings, and particularly to Fig. 5, said figure shows the original metal blank from which the tie is formed. This blank is foldable along defined lines, (indicated by the dotted lines *a a*, *b b*, *c c*,) being previously cut or severed so as to form the side walls 1 1, the outwardly-extending central flanges 2 2, the inwardly-extending terminal basal flanges 3 3, the downwardly-folded side-wall-reinforcing sections 4 4, and the inwardly-depending lips 5 5. The inwardly-folded portions 3 3 are reinforced by the transverse connecting-straps 6 6. The terminal sections 7 7 serve to carry the rail R. Between the sections 7 and flanges 3 3 is inserted a filling of wood F, the latter being limited against inward displacement by the depending lips or sections 5. While the filling F is herein shown as a block of wood, any equivalent therefor, either natural or artificial, may be substituted, so long as it forms a solid support for the rails and the rolling-stock passing over them. The rails are spiked to the filled terminals of the tie in the usual way, the spikes being passed through openings *o o*, left in the sections 7 for the purpose. The blank being first cut to the requisite dimensions and severed along lines to form the several walls, as indicated, is first folded along the dotted lines *a a*, whereby the side walls of the tie are first formed. Then the flanges 2 are folded outwardly therefrom along the lines *b b*. Then the flanges 3 3 are folded inwardly along the same lines *b b*. Then the side-wall-reinforcing sections 4 4 are folded inwardly against inner faces of the walls 1. Then the lips 5 are folded along the dotted lines *c c*. The flanges 3 3 are subsequently reinforced or connected by the straps 6 and the filling F, forming the rail-supporting ends of the tie, is finally inserted. If necessary or deemed desirable, the filling F may be inserted previous to the application of the straps 6, when the securing devices of the latter (nails or spikes) may be driven into the filling as well. The filling may be in the form of a highly-compressed composition, such as wood-pulp or the like, or, in fact, anything which shall insure a long life for the tie. The filling may be previously treated chemically with a view of preserving the same against decomposition or decay. The open center of the completed tie, Figs. 1, 2, may be filled with the material constituting the road-bed or may receive special filling of a durable nature, according to the judgment and skill of the road-builder.

A tie of the character here shown and described will materially contribute to the economy of timber. In many sections of the country timber for road-building is either very scarce or has been completely exhausted. In the present tie more than one-half of the wood constituting the ordinary tie has been eliminated, and where wood is not available any suitable material may enter into the composition of the filling, so long as it possesses sufficient strength to carry the rails and the cars passing over them.

I may of course depart from the details of construction of the tie here shown, such as the form of the several walls or foldable sections, without in any wise departing from the nature or spirit of my invention.

Like any tie the present one is embedded in the road-bed, the flanges 2 2 serving to retain the same against upward displacement and otherwise forming a bond between the tie proper and the material of the road-bed.

Having described my invention, what I claim is—

1. A sheet-metal tie comprising side vertical walls, outwardly-deflected central flanges for the same, inwardly-deflected terminal basal flanges, inwardly-folded side-wall-reinforcing sections, terminal rail-supporting sections, lips depending from the inner ends of said sections, and a filling confined between the terminal sections and the basal flanges aforesaid, and bounded by the depending lips, the center of the tie being open, substantially as set forth.

2. A sheet-metal tie comprising side vertical walls, central flanges deflected outwardly from the lower edges of the same, inwardly-deflected terminal basal flanges, straps connecting said last flanges, side-wall-reinforcing sections folded against the inner faces of the side walls opposite the central outer flanges, terminal rail-supporting sections, lips folded downwardly from the inner ends of said rail-supporting sections, and a suitable filling confined in the space formed beneath the rail-supporting sections, substantially as set forth.

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

CARL G. THOMPSON.

Witnesses:
A. D. SWANWICK,
H. W. TODD.