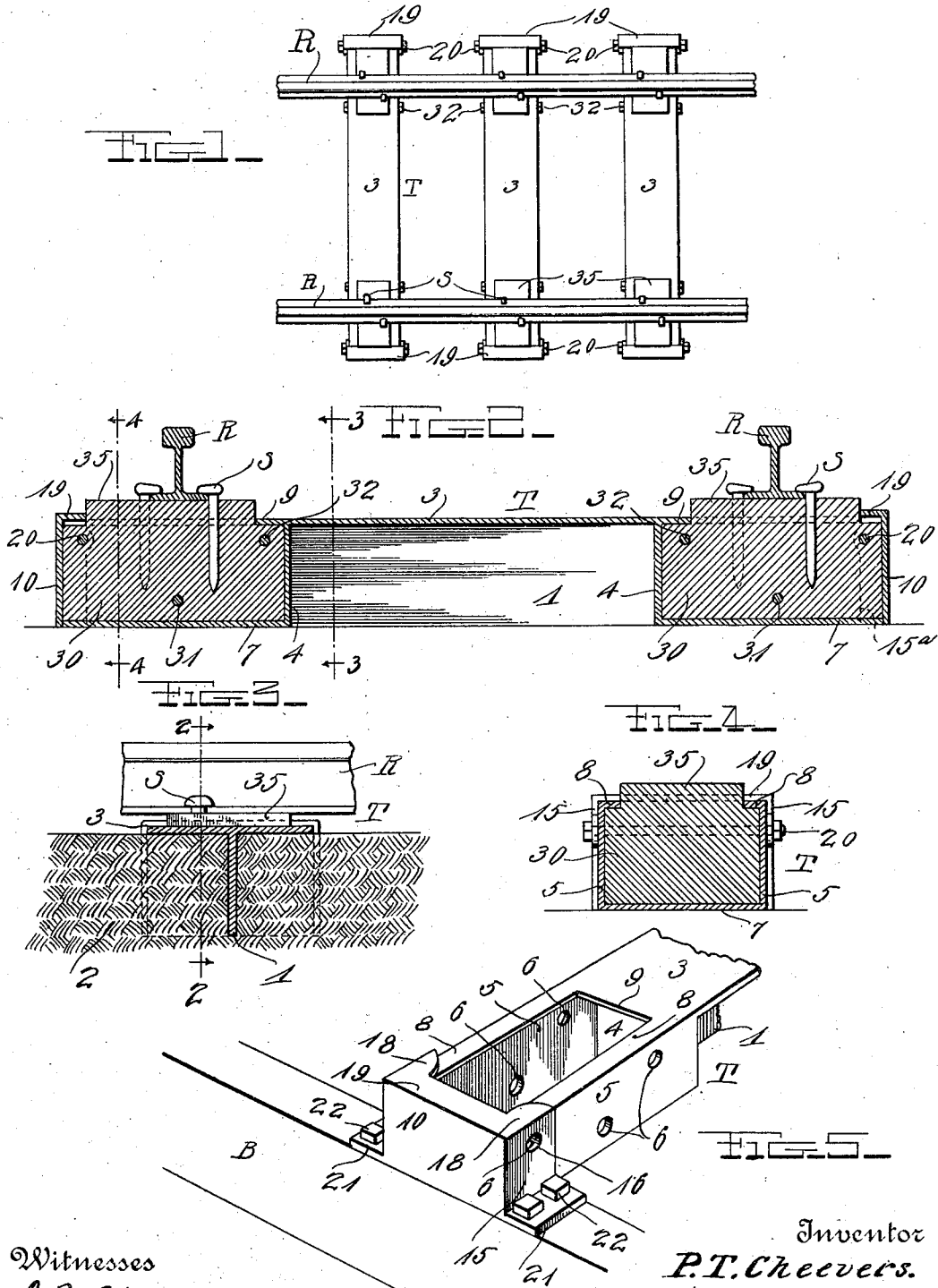


P. T. CHEEVERS.
RAILWAY TIE.
APPLICATION FILED OCT. 26, 1911.

1,031,525.

Patented July 2, 1912.



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UNITED STATES PATENT OFFICE.

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RAILWAY-TIE.

1,031,525.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed October 26, 1911. Serial No. 656,918.

To all whom it may concern:

Be it known that I, PATRICK T. CHEEVERS, a citizen of the United States, residing at Forest City, in the county of Susquehanna and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Ties; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to stringers and ties, and more especially is it a tie composed of metal and wood.

The object of the invention is to improve the construction of ties of this general character hitherto made. This object is accomplished as more fully set forth in the following specification and claimed herein, and as shown in the drawings wherein—

Figure 1 is a plan view of a short piece of railway track laid upon these improved ties; Fig. 2 is a central longitudinal section on an enlarged scale through one of my ties and the two rails mounted thereon; Figs. 3 and 4 are cross sections on the lines 3—3 and 4—4 respectively of Fig. 2; Fig. 5 is a perspective detail showing how my improved tie is used upon bridge structures or the like.

In the drawings the letter R designates the rails which are intended to be spiked as at S upon the ties T forming the subject matter of the present invention, and B is the beam of a bridge or other structure over which the rails are sometimes carried. Hitherto the common practice has been to mount the rails upon wooden ties, or upon ties of metal which have been variously constructed in order to receive the rails; but in the present instance I make use of both metal and wood, the former being so shaped as to be well adapted to the road bed and the wood being provided in the shape of two blocks carried within the metal framework at points where the rails R may be spiked as at S into them so that the blocks may be replaced when necessary without taking up the metal framework. The construction will be described below.

What might be called the body of this improved tie between its extremities is of T-shaped metal as seen in section in Fig. 3, the upright portion 1 or "web" extending down into the road bed 2 so as to prevent

the tie from creeping longitudinally of the railway, and the flat top 3 of said body lying upon the road bed as shown. At each end of this body is a box-shaped structure (best seen in Fig. 5) comprising an inner transverse wall 4, parallel side walls 5 pierced with holes 6, a closed bottom wall 7 connecting the lower edges of said walls 4 and 5, and flanges 8 extending inward from the upper edges of said side walls 5; and the extremity of said top 3 is carried a little beyond the transverse wall 4 so as to form an inner flange 9. Mounted over the open outer end of this box-like structure is a cap member which is also by preference made of light sheet steel. This comprises an outer end wall 10 having side flanges 15 embracing and projecting part way over said side wall 5 and pierced with holes 16 adapted to register with two of those numbered 6 in said side walls, top side flanges 18 lying over said side flanges 8, and an outer transverse top flange 19 connecting said top side flanges 18 opposing the flange 9. This cap is held in place by a bolt passing through the registering holes 6 and 16. Ordinarily said cap has no feet; but when used on bridges and in other places where the tie may be bolted down to a wooden structure such as B in Fig. 5, feet 21 are extended outward from the side flanges 15 and pierced with holes through which may pass bolts 22 into the supporting structure B. In this case perhaps the side flanges 15 may be made a little wider than the dotted line 15^a in Fig. 2 would indicate, so that feet 21 of the same width will accommodate two of said bolts or screws 20 as shown in Fig. 5. Within the box-like structure thus formed at each end of the metallic framework constituting this tie, is disposed a block 30 of wood which measures about twenty two inches long by ten inches wide and six inches deep, and the body of this block is shaped to conform with the interior of said box-like structure and to pass under the side flanges 8 and end flanges 9 and 19; and when in place the bolt 20 passes entirely through the block cross wise and other bolts 31 and 32 may be passed through the other holes 6 in the side walls 5 and through the body 30 of the block to hold the latter rigidly in position. Said block has at the center of its top an extension rising above the upper face of all surround-

ing flanges, and it is on this extension that the rail R rests and into which the spikes S are driven.

As above suggested, my purpose in providing the extremities of the metallic portion of this tie with box-like structures in which are mounted wooden blocks is in order to permit the spikes S or other fastening means to be passed into said blocks rather than requiring that they be passed through apertures in the metallic portion of the tie and headed up or otherwise fastened in place. The metallic framework surrounds the block on all sides, across its bottom, and over the edges of its top, and therefore the wooden portion of the tie is well protected from the elements and from the moisture which is in the road bed 2. The several bolts hold the parts from separation, in addition to which the overhanging flanges of metal prevent the blocks from rising. The closed bottom 7 of the box-like structure rests upon the ground at a level below the top of the road bed 2, or in Fig. 5 it is supported upon the beam B, the web 1 and top plate 3 brace said box-like structures from each other and prevent the canting or tilting of the tie in place, the fact that the wooden portion thereof is entirely surrounded by metal reduces the liability of its being split when the spikes S are driven into it or under excessive strain in use, and even when it is injured or becomes rotted or otherwise defective the bolts may be removed, the cap plate taken off and a new block inserted without the necessity for displacing the remainder of the tie or any portion of the rail R excepting that immediately above the block inserted.

I do not limit myself to the character of the metal employed in this improved tie, because although by preference made of steel it may be an iron casting; and other

changes in details may be made without departing from the principle of my invention. 45

What is claimed as new is:

1. The herein described railway tie composed of a metallic body member of T-shaped cross section, and at each extremity thereof a box-like structure including a bottom wall, an inner end wall, upright side walls pierced with registering openings, and inwardly projecting side and inner end flanges; a cap member therefor including an outer end wall and side and top flanges; a wooden block having a body filling the space within said box-like structure and an extension at its top inside the inner edges of said flanges and dising above their upper faces; and bolts passing through said registering holes and through the block. 50 55 60

2. In a railway tie, the combination with a metallic body having a box-like structure at each extremity with registering holes in its upright side walls and its outer extremity open, and a wooden block removably disposed within said structure and having an extension at its top rising above the face of the metal; of a metallic cap comprising an outer end wall closing the outer open end of said box-like structure, side flanges lying over the upright side walls of said structure and pierced with holes registering with those therein, and feet extending laterally outward from the lower edges of said side flanges; and bolts passing through said registering holes and through the block within such structure, for the purpose set forth. 65 70 75

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses. 80

PATRICK T. CHEEVERS.

Witnesses:

MATTHEW J. GRAY,

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