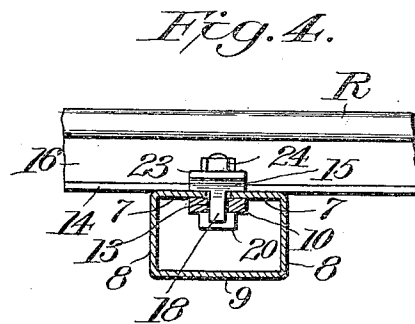
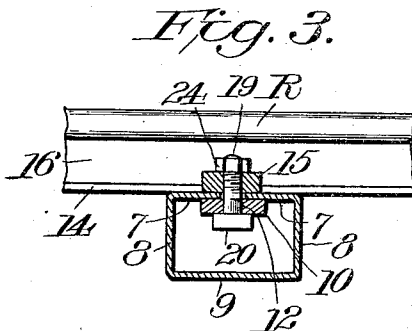
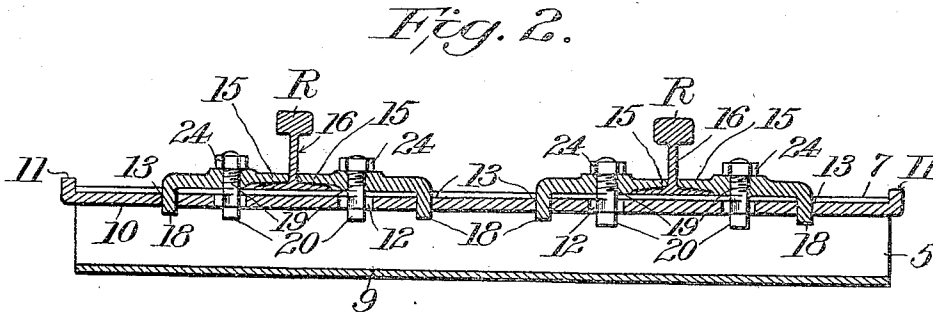
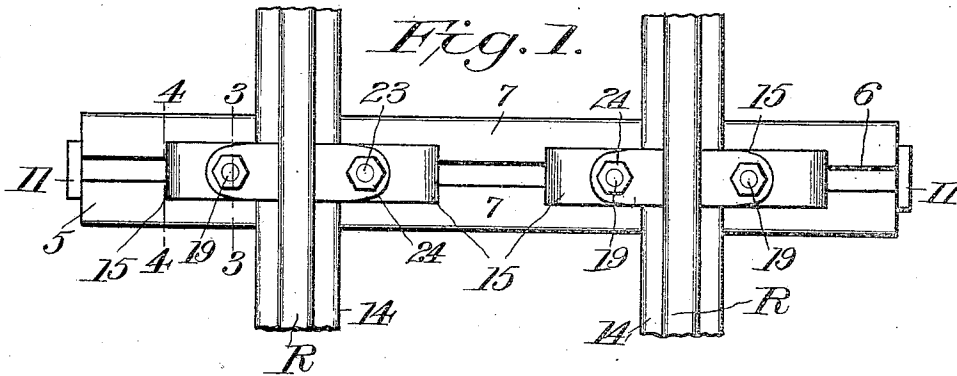


A. F. JONES.
METALLIC RAILWAY TIE.
APPLICATION FILED APR. 14, 1909.

931,876.

Patented Aug. 24, 1909.

2 SHEETS—SHEET 1.



Witnesses
C. H. Walker.
L. L. Parker.

Inventor
ALBERT F. JONES,
By *Wm. Bagger & Co.*
Attorneys.

A. F. JONES.
METALLIC RAILWAY TIE.
APPLICATION FILED APR. 14, 1909.

931,876.

Patented Aug. 24, 1909.
2 SHEETS—SHEET 2.

Fig. 5.

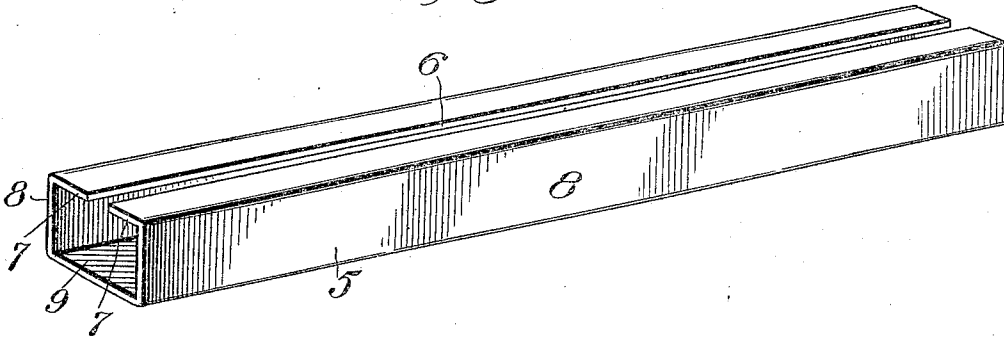


Fig. 6.

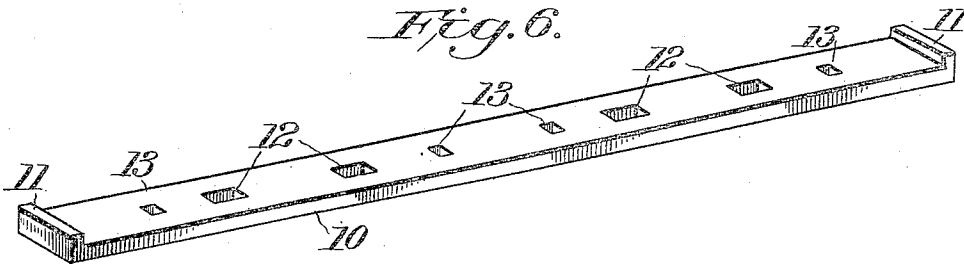


Fig. 7.

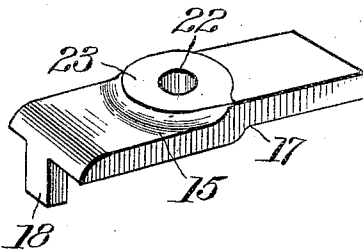
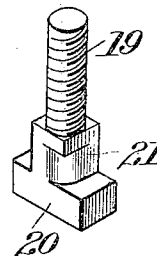


Fig. 8.



Witnesses
W. D. Walker
S. L. Burkett

Inventor
ALBERT F. JONES,
Wm. Baggett & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

ALBERT F. JONES, OF NEW PARIS, INDIANA.

METALLIC RAILWAY-TIE.

931,876.

Specification of Letters Patent. Patented Aug. 24, 1909.

Application filed April 14, 1909. Serial No. 489,900.

To all whom it may concern:

Be it known that I, ALBERT F. JONES, a citizen of the United States, residing at New Paris, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a specification.

This invention relates to metallic railway ties, and it has for its object to provide a metallic tie of simple and improved construction which will form an acceptable substitute for the wooden ties which are now customarily employed in railroad construction.

The invention consists in the improved construction and novel arrangement and combination of parts, which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may be resorted to when desired.

In the drawings—Figure 1 is a top plan view of a portion of a road-bed showing the rails supported by the improved tie. Fig. 2 is a vertical sectional view taken longitudinally through the tie and transversely of the track. Fig. 3 is a vertical sectional view taken transversely through the tie on the plane indicated by the line 3—3, in Fig. 1. Fig. 4 is a vertical transverse sectional view taken on the plane indicated by the line 4—4, in Fig. 1. Fig. 5 is a perspective detail view showing the shell or casing of the improved tie. Fig. 6 is a perspective detail view of the gage-plate, detached. Fig. 7 is a perspective detail view showing one of the rail clips or clamps, detached. Fig. 8 is a perspective detail view showing a bolt of the preferred construction used in connection with the invention.

Corresponding parts in the several figures are denoted by like characters of reference.

The improved railroad tie of the present invention comprises a shell or casing 5, formed preferably of sheet-metal, such as

steel of suitable thickness; a sheet of the said material, of suitable dimensions, being rolled or otherwise bent to form a shell or box preferably of rectangular cross-section, and having in its upper side a slot or aperture 6, which extends the entire length of the shell or casing; said slot being the open space left between the side edges of the sheet which constitute flanges 7, 7, extending toward each other from the upper edges of the side walls 8, 8, of the shell or casing; said side walls extending upwardly, approximately at right angles to the bottom 9. The shell or casing which forms the body of the tie may be of any desired length, according to the use for which it is intended; that is to say, whether it is intended to support one or more sets of rails or whether it be intended to be used in the construction of a switch or in some other location calling for a tie of unusual length. It is preferred to make the tie of cross-sectional dimensions approximately corresponding to those of the wooden ties now customarily employed, but these dimensions may be varied at will.

10 designates a gage-plate extending longitudinally through the shell or casing of the tie within which it is placed adjacent to the undersides of the top flanges 7; said gage plate being provided at the ends thereof with upturned lugs 11, abutting upon the ends of the top flanges 7. The plate 10 is obviously to be made of a width exceeding that of the slot or space 6, which is left open between the top flanges 7, and said gage-plate is provided with slots 12, for the passage of the bolts by means of which the rails are to be secured in position; said gage-plate is also provided with apertures 13 suitably spaced from the bolt-holes 12.

The rails R are of ordinary construction, being provided with bottom flanges 14, resting upon the upper face of the tie. The rails are secured upon the tie by means of clips or clamps 15, the inner ends of which abut upon the webs 16 of the rails; said clips being provided in their under sides, adjacent to their inner ends with recesses 17, for the accommodation of the bottom flanges of the rails. The clips 15 are provided at their outer ends with downward extending lugs 18, engaging the apertures 13, in the

gage-plates; said apertures being formed in such locations that when the parts are assembled the rails will be secured at the standard gage, or any desired predetermined distance apart.

The slots 12, formed for the passage of the bolts, are preferably of rectangular shape, and the bolts 19 are provided adjacent to their heads 20 with shank portions 21, that are square in cross-section and which by engagement of the side walls of the rectangular slots 12 will hold the bolts securely against rotation, thus lessening the liability of the bolts working loose by the vibration to which the parts will, in practice, be subjected. The bolt apertures 22 in the rail clips or clamps 15, are surrounded upon the upper sides of the said clips by bosses 23, affording seats for the nuts 24; and nut-locking washers or other devices for preventing the nuts from working loose may be used if desired.

From the foregoing description taken in connection with the drawings hereto annexed, the operation and advantages of this invention will be readily understood. When the parts of the improved tie are properly assembled, and the rails are mounted in position as herein shown and described, a very firm and solid construction will be effected, and at the same time a construction possessing the requisite resiliency and ability to yield to the heavy pressure of the rolling stock passing over the road without breakage or liability to displacement of the parts. Spreading of the rails will be absolutely prevented by the use of the clips which abut upon both sides of the rail webs and which are provided with downturned lugs extending through the gage plates; and said gage plates, owing to the upturned lugs at the ends thereof which bear against the ends of the top flanges of the casing will be held securely against displacement laterally of the track. When the parts are assembled and the nuts are properly tightened, the clamps will be placed under a degree of tension which will practically prevent the nuts from working loose, although, as stated, independent nut-locking means may be employed if desired. The general construction is simple and inexpensive, and no skilled

labor will be required in assembling the parts in the construction of the tie.

Having thus described the invention, what is claimed is:

1. In a metallic railroad tie, a metallic shell of approximately rectangular cross-section having top flanges spaced apart to form a slot extending the entire length of the shell in combination with a gage plate supported adjacent to the under sides of the top flanges and provided at the ends thereof with upturned lugs abutting upon the ends of the top flanges.

2. In a metallic railroad tie, a metallic shell having in its upper side a slot extending the entire length thereof, in combination with a plate supported within the shell adjacent to the slot; said plate having bolt-holes and apertures spaced therefrom, rails supported upon the casing, clips abutting upon the webs of the rails and having downturned lugs engaging the apertures in the plate within the shell, and bolts extending through the plate and clips and having nuts tightened against the clips.

3. In a metallic railroad tie, a metallic shell having top flanges spaced apart to form a slot extending through the entire length of the casing, a gage plate supported adjacent to the under sides of the top flanges and having terminal lugs abutting upon the ends of said flanges, rails supported upon the casing, clips abutting upon the webs of the rails and having lugs engaging apertures in the gage-plate, and bolts assembling the gage plate with the clips.

4. In a metallic railroad tie, a shell or casing formed of sheet metal and having top flanges extending toward each other and spaced apart to form a slot, a gage-plate supported adjacent to the under sides of the top flanges, rails supported upon the casing, clips abutting upon the webs of the rails and engaging the gage-plate to prevent lateral displacement of the rails, and means for assembling the clips with the gage-plate.

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

ALBERT F. JONES.

Witnesses:

D. SHOOK,

FRED PARTRIDGE.