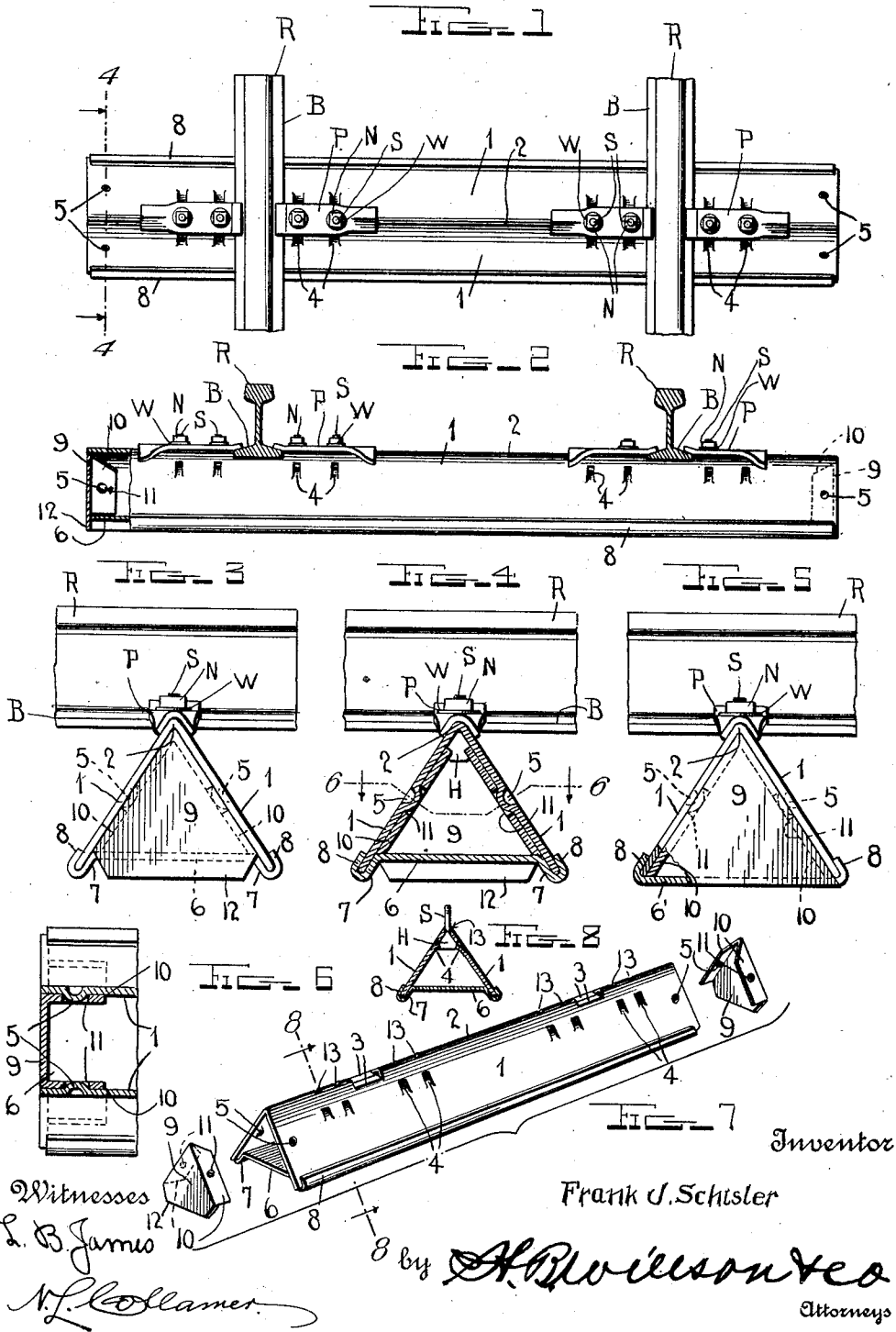


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METALLIC RAILWAY TIE.
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FRANK J. SCHISLER, OF WINTHROP, MINNESOTA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK J. SCHISLER, a citizen of the United States, residing at Winthrop, in the county of Sibley and State of Minnesota, have invented certain new and useful Improvements in Metallic 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 railway ties, and more especially to those of metal; and the objects of the same are to construct an extremely cheap and durable metal tie whose parts or members may be nested for transportation or storage in very small space, which will not slip laterally or longitudinally upon the road bed, which has a channeled base for receiving the ballast or bed, and which contains means for supporting and retaining the rail-fastening devices more fully described in a companion application filed by me this day and bearing Serial Number 692,341. These and other objects are accomplished by constructing my improved tie in the manner hereinafter more fully described and claimed, and as shown in the drawings wherein—

Figure 1 is a plan view of this tie, Fig. 2 is a central vertical longitudinal section of one end of the same and a side elevation of the remainder, showing four bolts employed at the left of the view and two at the right. Fig. 3 is an enlarged end elevation of the tie, and Fig. 4 is a cross section on the line 4—4 of Fig. 1. Fig. 5 is an end elevation of a slight modification for use on bridges and the like. Fig. 6 is a horizontal section on the line 6—6 of Fig. 4. Fig. 7 is a perspective detail of the body and base of this improved tie assembled and the end members removed therefrom. Fig. 8 is a cross section on the line 8—8 of Fig. 7. The rails R are shown in Figs. 1 and 2 for purposes of illustration only, and their bases B are held to my improved tie by plates P, washers W, nuts N, and bolts whose shanks S engage the nuts and whose heads H are situated within the body of the tie—all these elements making up a rail-fastener, more fully illustrated in my companion application above referred to.

Coming now to the details of the present invention, the body member of the tie is stamped from a strip of sheet metal and

has two upwardly converging sides 1 forming an angle or ridge 2. Near the opposite extremities of the tie, and spaced apart a distance equal to the width of the gage desired, are formed cuts (preferably made in the act of stamping out the tie), said cuts extending through the apex and down into the sides so as to produce tongues 3 arranged in pairs. The tongues of each pair are bent inward with their extremities in contact with each other as best seen in Fig. 7, affording a seat for the rail R which rests upon them in a manner which will be clear. At each side of each seat the side 1 of the tie body is also stamped so as to produce two fingers 4, which also are bent inward as perhaps best seen in Fig. 8—there being eight of such fingers for each rail-seat. Each side 1 is also provided near its extremities with indentations 5 for a purpose to appear below. The base portion of this improved tie is a flat strip of metal 6 preferably standing above the lower edges of the sides 1 as best seen in Fig. 4 (although it might be flat as seen at 6' in Fig. 5 as for bridge work where spikes will be employed), its edges 7 passing thence downward inside the sides 1, and being then bent upward into flanges 8 producing channels which receive the lower edges of the sides very reliably and prevent them from spreading under the weight superimposed upon the tie. The space beneath the raised base 6 is for the ballast or the material of the roadbed, and assists in preventing the entire tie from moving longitudinally of the railway. Coöperating with the body members above described, are two end members best seen in Figs. 2, 6 and 7, and each comprises an upright triangular metallic plate 9 having inturned flanges 10 along its upper side, pierced with holes or perforations 11 to receive the indentations 5, the upper ends of the flanges 10 converging so as to be nearly in contact but not quite, and their lower edges resting upon the raised base 6 of the bottom member as seen in Fig. 4; and the plate 9 by preference depends below said base 6 into a lip 12 which indents the roadbed and prevents the tie from slipping laterally of the railway.

This entire tie may be stamped from sheet metal of the proper gage and grade, and from the construction of its parts it is obvious that they may be nested conveniently. To assemble the parts, the rail fasteners are

first placed in position, after which the flanges 8 of the base member are slipped along the lower edges of the sides 1 of the body member, and finally the flanges 10 of the end members are slipped into the ends of the body member until their perforations 11 are engaged by the indentations 5, after which the ends cannot be removed without digging away the ballast and grasping the lower edges or lips 12 and pulling outward thereon. The manner in which the lip 12 and the depressed portions of the base member embed the roadway will be clearly understood without a more detailed description or illustration. While the fastener for securing the rail R in place forms the subject matter of my companion application above referred to, it is necessary in this case to direct attention to the fact that the fingers 4 are purposely constructed and located so that they will automatically engage beneath the head H of a bolt when the shank S of the latter is passed upward through holes 13 formed in the ridge 2; and the rail is fastened in place by applying the plates P and the washers W and nuts N in a manner well understood. To remove a bolt it is only necessary to withdraw the nut and washer and drive the shank S downward—its head H then slipping off the inner ends of the fingers 4. If by any chance the shank S of the bolt should become broken off, its head may be dislodged by passing a tool through the hole 13 and driving the head H downward, when it falls loose within the hollow body of the tie; and in order to replace a broken bolt the end member 9 will be removed, and a new bolt passed bodily into the interior of the tie by hand and pushed upward through the hole 13, finally drawing it into place with its head above the tips of the fingers 4 by pulling upward on the shank S or lifting upward on the head H by means of a suitable tool. By preference each plate P is secured to the tie by means of two bolts as shown at the left of Fig. 2, although it is quite possible to use shorter plates and employ only one bolt as shown at the right of this view; in fact, the tie may be formed adjacent each rail-seat with eight fingers and four holes, with four fingers and two holes, or with a greater number in cases where great strength is desired, and I do not limit myself in this respect. Furthermore, changes in the specific details may be made as long as the spirit of the invention is retained.

What is claimed as new is:

1. The herein described metallic tie comprising a body member of inverted V-shaped cross section cut with parallel slits forming pairs of tongues intumed toward each other so as to constitute rail seats in the ridge of the body, the sides of the latter being also cut so as to produce fingers at the opposite sides of each seat and with their tips bent

inward; and a base member whose substantially horizontal body is disposed between the sides above their lower edges, and whose edges are bent downward and then upward into flanges embracing the lower edges of said sides.

2. The herein described metallic tie comprising a body member of inverted V-shaped cross section cut with parallel slits forming pairs of tongues intumed toward each other so as to constitute rail seats in the ridge of the body; a base member whose substantially horizontal body is disposed between the sides above their lower edges, and whose edges are bent downward and then upward into flanges embracing the lower edges of said sides; and end members closing the extremities of the triangular structure thus formed.

3. The herein described metallic tie comprising a body member of inverted V-shaped cross section cut with parallel slits forming pairs of tongues intumed toward each other so as to constitute rail seats in the ridge of the body, and the sides formed with indentations near their extremities; a base member whose substantially horizontal body is disposed between the sides near their lower edges, and whose edges are bent downward and then upward into flanges embracing the lower edges of said sides; and end members each comprising a flat body of substantially triangular form having a lip at its lower edge depending below the flat body of the base member and converging flanges along its side edges adapted to pass inside the sides of the body and themselves provided with perforations adapted to coact with the indentations in the body.

4. Therein described metallic tie comprising a body member of inverted V-shaped cross section having rail seats in its ridge and indentations in its sides near their extremities; a base member connecting said sides; and end members each comprising a flat body of substantially triangular form, and converging flanges along its side edges adapted to pass inside the triangular structure formed by the body and base and rest upon the latter, the flanges having perforations adapted to coact with the indentations in said body.

5. The herein described metallic tie comprising a body member of inverted V-shaped cross section provided with rail seats along its ridge, the sides of the body being also cut so as to produce fingers at opposite sides of each seat and with their tips bent inward; a base member having a substantially flat body, and upturned flanges along its edges embracing the lower edges of the sides of the body member; and end members closing the extremities of the tubular structure thus formed.

6. The herein described metallic tie comprising a body member of inverted V-shaped

cross section cut across its angle with parallel slits between which the metal is depressed into horizontal tongues whose extremities contact with each other so as to constitute rail seats in the ridge; and a base member disposed below and of equal length with the body member, and whose edges are bent upward into flanges embracing the lower edges of said sides.

7. The herein described metallic tie comprising a body member of inverted V-shaped cross section cut with parallel slits between which the metal is depressed so as to constitute rail seats in the ridge; and a base member whose substantially horizontal body is disposed between the sides of said body member above their lower edges, and whose edges are bent downward and then upward into flanges embracing the lower edges of said sides.

8. The herein described metallic tie comprising a body member of inverted V-shaped cross section cut with parallel slits forming pairs of tongues intumed toward each other so as to constitute rail seats in the ridge of the body, the sides of the latter being also cut so as to produce fingers at the opposite sides of each seat and with their tips bent inward; and a base member disposed between the sides of the body member, and whose edges are bent upward into flanges embracing the lower edges of said sides.

9. An improved metallic tie comprising a body of inverted V-shape in cross-section, means for securing rails to the apex of said body, and a base member of equal length with said body and slidingly engaging its lower edges.

10. An improved metallic tie comprising a body of inverted V-shape in cross section, means for securing rails to the apex of said body, and a base member extending the entire length of the body and having parallel channels slidingly engaging the lower edges of said body throughout their length.

11. An improved metallic tie comprising a body of inverted V-shape in cross section, means for securing rails to the apex of said body, and a base member of equal length with said body and having its longitudinal edges provided with upturned flanges slidingly engaging the edges of said body.

12. An improved metallic tie comprising a body of inverted V-shape in cross section, means for securing rails to the apex of said body, and a base member having a flat body

and depending portions along its side edges channeled and slidingly engaging the lower edges of said body.

13. An improved metallic tie comprising a body of inverted V-shape in cross section, means for securing rails to the apex of said body, and a base member having its longitudinal edges bent downwardly and provided with flanges slidingly engaging the lower edges of said body.

14. An improved metallic tie comprising a body of inverted V-shape in cross section, means for securing rails to the apex of said body, a base member slidingly engaging the lower edges of said body, and end members removably engaging said body and said base.

15. An improved metallic tie comprising a body of inverted V-shape in cross section, means for securing rails to the apex of said body, a base member having its longitudinal edges provided with upturned flanges slidingly engaging the edges of said body, and end members removably engaging said body and said base.

16. An improved metallic tie comprising a body of inverted V-shape in cross-section, means for securing rails to the apex of said body, a base member having depending portions slidingly engaging the lower edges of said body, and end members removably engaging said body and said base.

17. An improved metallic tie comprising a body of inverted V-shape in cross section, the apex of said body being provided with intumed tongues meeting at their extremities and forming rail seats.

18. An improved metallic tie comprising a body of inverted V-shape in cross section, the apex of said body being provided with spaced-apart slits forming tongues, said tongues being bent inwardly with their extremities into contact to provide rail seats.

19. An improved metallic tie comprising a body of inverted V-shape in cross section provided with rail seats, a base member slidingly engaging the lower edges of said body, the sides of said body being provided with intumed fingers adapted to engage rail fastening devices.

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

FRANK J. SCHISLER.

Witnesses:

V. L. COLLAMER,
L. O. HILTON.