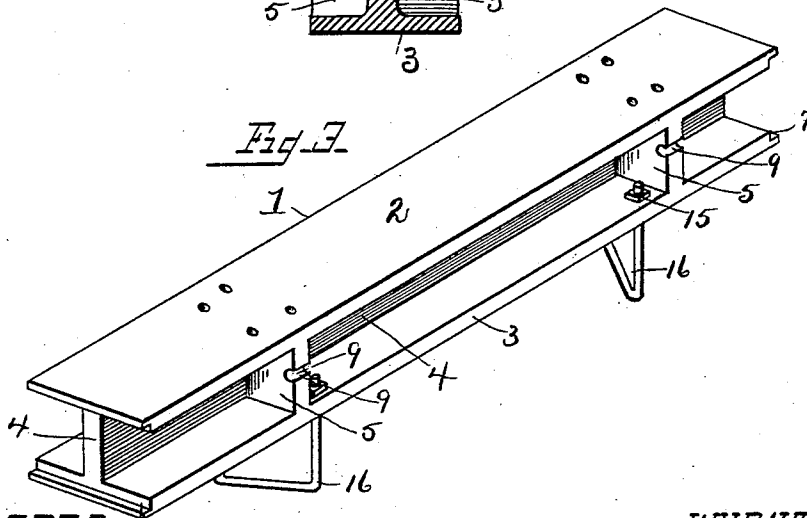
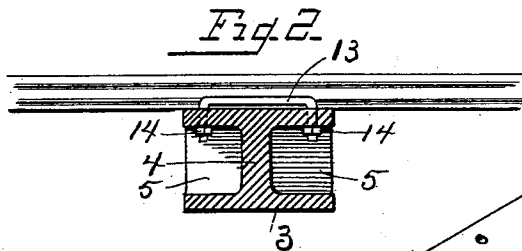
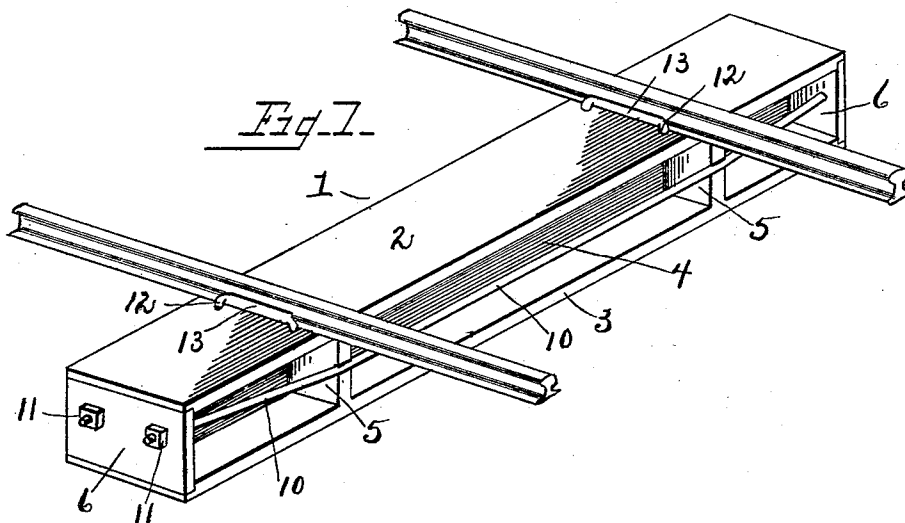


(No Model.)

E. L. SAWYER.
METAL TIE.

No. 569,427.

Patented Oct. 13, 1896.



WITNESSES.

Charles J. Webster
Maud Schumacher.

INVENTOR.

Edgar L. Sawyer
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Atty

UNITED STATES PATENT OFFICE.

EDGAR L. SAWYER, OF PERRYSBURG, OHIO.

METAL TIE.

SPECIFICATION forming part of Letters Patent No. 569,427, dated October 13, 1896.

Application filed May 4, 1896. Serial No. 590,140. (No model.)

To all whom it may concern:

Be it known that I, EDGAR L. SAWYER, of Perrysburg, county of Wood, and State of Ohio, have invented certain new and useful
5 Improvements in Metal Ties; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings,
10 and to the figures of reference marked thereon, which form part of this specification.

My invention relates to a metallic tie, and has for its object to provide a tie made of a
15 minimum amount of metal and will therefore be inexpensive to construct.

The invention consists in a metallic double-T-shaped tie in cross-section formed with integral side braces, having a truss upon each
20 side of the same to further strengthen the tie.

The invention further consists in the details of construction for securing the rails to the tie; also, in means for securing the tie to a stringer, bridge, &c.

25 In the drawings, Figure 1 is a perspective view of a tie constructed in accordance with my invention, the rails being secured thereto. Fig. 2 is a sectional end view of the same. Fig. 3 is a perspective view of a tie, illustrating
30 the under loops for embracing the stringer over bridges, &c., the end plates and braces being omitted.

1 designates the tie, formed of metal double-T shaped, thereby forming the flat top portion 2 and the bottom 3 similar thereto, the two being connected by the web 4, and in order to further strengthen the tie there are integral side webs 5, connecting the upper and
35 lower portions 2 and 3 upon each side of the central web.

6 designates end plates held from vertical movement by the shoulders 7. Passing through the plates and resting in the recesses 9 in the side webs 5 is a truss-rod 10, which
45 when the nuts 11 are screwed up forms an additional strengthening device for the tie, whereby it is impossible for the same to break or bend. In order to secure the rails to the

upper face of the tie, there are perforations 12 in the tie, through which pass the ends of
50 U-shaped fastenings 13, there being nuts 14 by which to hold the fastening upon the flange of the rail.

The tie thus far described in practice is secured upon the ground and tamped in position, as are the wooden ties now in use; but in
55 order to secure the same to the stringer of a bridge the under sides 3 of the ties are perforated, as at 15, to receive the end of the loops 16, which embrace the stringers and
60 positively prevent side motion.

It will thus be seen that I have provided a metallic tie which is inexpensive of construction, being formed of cast metal and of so few
65 parts that the same is applicable to the requirements of railroad construction, and is durable and not liable to breakage.

It will readily be seen that the construction can be used as a bridge-stringer as well as a tie, and that there are various other uses
70 that the construction can be applied to without departing from the spirit of my invention.

What I claim is—

1. A metallic tie having side webs, recesses
75 in the webs, end plates upon each end of the tie, a truss-rod passed through the end plates and seated in the recesses of the webs, and nuts secured upon the rods outside of the end plates.

2. A metal tie formed of double-T-shaped metal having connecting side webs, shoulders upon each edge of the plates of the tie, end plates arranged upon the ends of the tie and held from vertical movement by the shoulders,
80 recesses in each of the webs, a truss-rod passed through the end plates and seated in the recesses of the webs and nuts secured upon the rods outside of the end plates.

In testimony that I claim the foregoing as
90 my own I hereby affix my signature in presence of two witnesses.

EDGAR L. SAWYER.

Witnesses:

CARROLL J. WEBSTER,
CARL H. KELLER.