(No Model.)

R. T. WHITE.

METALLIC TIE OR SLEEPER FOR RAILROADS.

No. 386,420. Patented July 17, 1888.

FIG. 1.

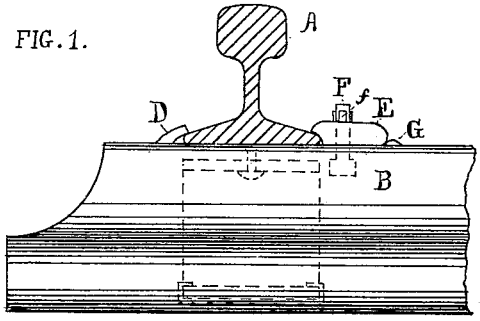


FIG. 4.

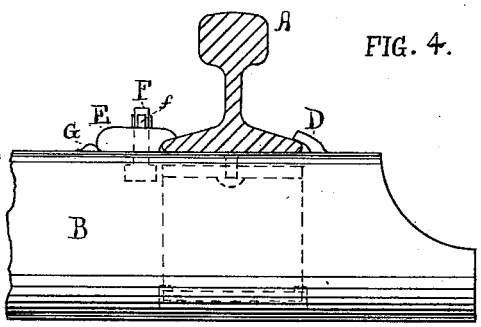


FIG. 2.

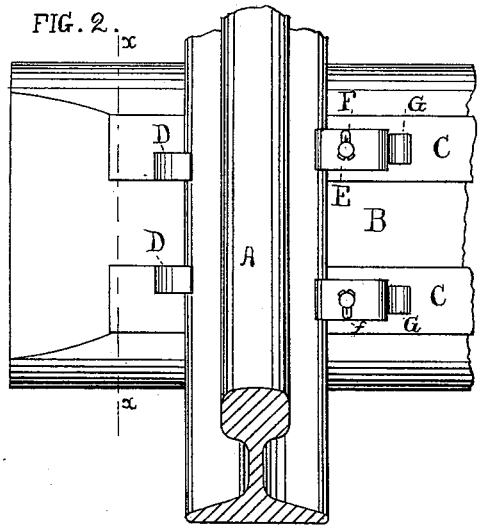


FIG. 5.

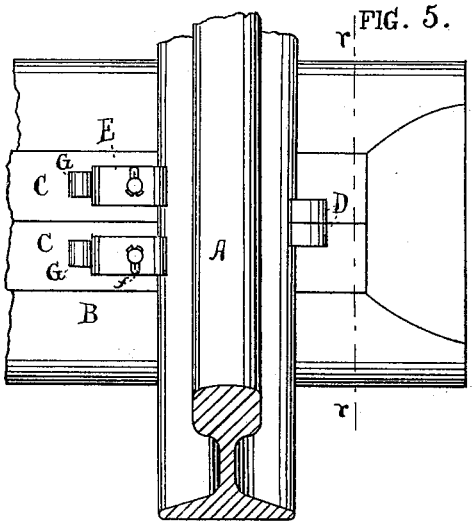
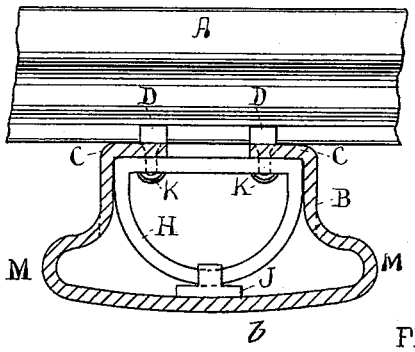


FIG. 3.

FIG. 6.



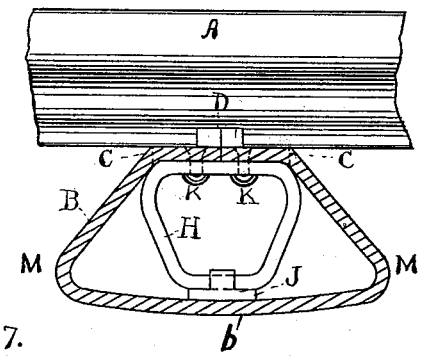


FIG. 7.

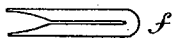
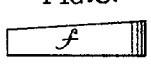


FIG. 8.



Witnesses,
George F. Fleets,
A. T. Starkey.

Inventor.
R. T. White.

UNITED STATES PATENT OFFICE.

REYNOLDS T. WHITE, OF BOSTON, MASSACHUSETTS.

METALLIC TIE OR SLEEPER FOR RAILROADS.

SPECIFICATION forming part of Letters Patent No. 386,420, dated July 17, 1888.

Application filed November 21, 1887. Serial No. 255,706. (No model.)

To all whom it may concern:

Be it known that I, REYNOLDS T. WHITE, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Metallic Ties or Sleepers for Railroads; 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to produce a metallic tie or sleeper for railroads; and my invention consists in certain details of construction, as shown in the accompanying drawings, and described in the following specification, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a tie embodying my invention. Fig. 2 is a plan view of Figs. 1 and 3. Fig. 3 is an end view of Figs. 1 and 2. Figs 4, 5, and 6 show a slight modification of the form of the end of the tie and spring or band. Figs. 7 and 8 show top and side views of a split key.

A in the accompanying drawings represents a rail of the usual pattern for steam-railroads, and B is a sheet of steel of proper dimensions bent or formed longitudinally, substantially as shown in Figs. 3 and 6, with bottom *b*, that rests on the ground, slightly round, so as to be easily tamped and then turned on a small radius at the bottom corners, M, and then either straight or curved on an inward incline to the top edges or flanges, C, and then inwardly, as shown, to make flanges C and a bearing for rails A.

D are outside stops for rails A, and are made by turning upward a part of the inside edges of flanges C, so as to fit the bottom edges of rails A, as shown, and on the inside of rails A, on flanges C, I secure stops E by a key-bolt, F, passing through stops E, and flanges C, with split-key *f*, as shown in Figs. 7 and 8, driven through key-hole in end of key-bolt F and clinched, and at the inside of stops E, I punch upward a small part of the flanges C, to make an end bearing, G, for stops E, and stops E fit tightly between bottom of rails A and end bearing, G, thus securely holding rails A between stops D and E on flanges C of tie B.

H are springs or bands of steel of suitable dimensions, and bent or formed as shown in Figs. 3 or 6. J are their wearing-plates lipped over spring H to hold it in place between bottom of tie *b* and spring H, and springs H are secured to flanges C on tie B by rivets K.

It will be seen in the drawings that I have two outside stops, D, one on each flange C, for the outside bottom edges of rails A to fit under to prevent rails A from spreading, and two inside stops, G; but on the inside of rails A stops E may be placed in opposite corners. A series of holes may be made through bottom *b* of sleeper B, to let the water run out of the sleeper. It will also be seen that there are many ways to make or form a sleeper of this construction, so as to give it the necessary spring or elasticity, and there are many ways to make spring H. Similar forms may be used; but I prefer to make them about as shown, and have them to fit close and secured inside of tie B and to flanges C, and directly under the rails A, thus making a very strong and elastic sleeper, and the tie may be covered with any material to prevent it from rusting.

Having thus described my invention, what I claim is—

1. A metallic tie or sleeper made of sheet-steel formed with a slightly-rounded bottom, then turned on each bottom corner on a suitable radius inwardly, then straight or curved toward the center of the top of the tie, then over inwardly, as shown, to form flanges, as and for the purposes set forth.

2. A tie or sleeper made of sheet-steel formed as shown, with its upper surface narrower than its lower surface, thereby making it elastic its entire length, and having a spring-band secured to its flanges on its inside under the rails, as and for the purposes set forth.

3. In a metallic tie, B, made as shown, the combination of the stops D, G, and E, and key-bolt F and key *f*, to secure rails A to flanges C on tie B, substantially as shown and described.

4. A metallic tie, B, being slightly rounded at bottom *b*, and then turned inwardly on a suitable radius at the bottom corners, M, and

then straight or curved on an inward incline to its top flanges, C, to make a bearing for rails A, substantially as shown and described.

5. A metallic spring tie, B, having springs H, wearing-plates J, rivets or bolts K, stops D, G, and E, and keyed key-bolt F, in combination with rails A, as and for the purposes set forth.

6. A sheet of steel formed, as shown, to make a flexible railroad tie or sleeper its entire length, and having semicircular flexible bands secured to its flanges on its inside, and having a part of its flanges turned upward to form stops to prevent the rails from spreading, and suitable inside clips, stops, and bolts to hold the rails in position, all arranged substantially as shown and described, and for the purposes set forth.

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

REYNOLDS T. WHITE.

Witnesses:

GEORGE F. STEELE,

A. T. STARKEY.