(No Model.) 3 Sheets—Sheet 1.

D. Y. WILSON.

RAILWAY TIE.

No. 445,325. Patented Jan. 27, 1891.

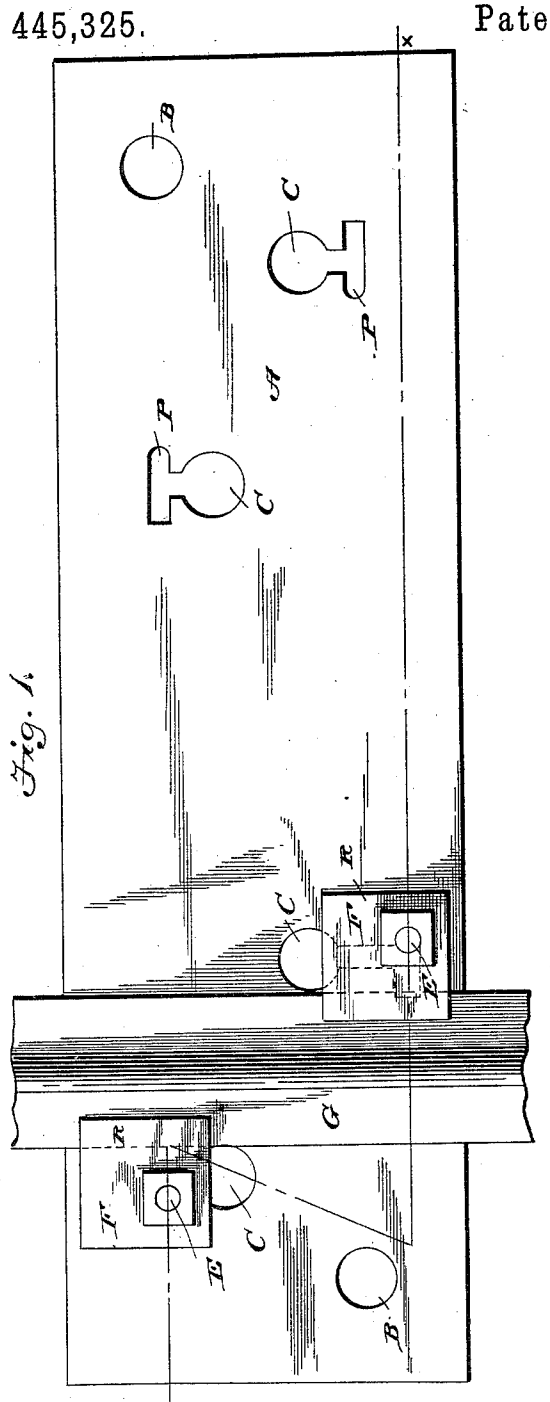


Fig. 1.

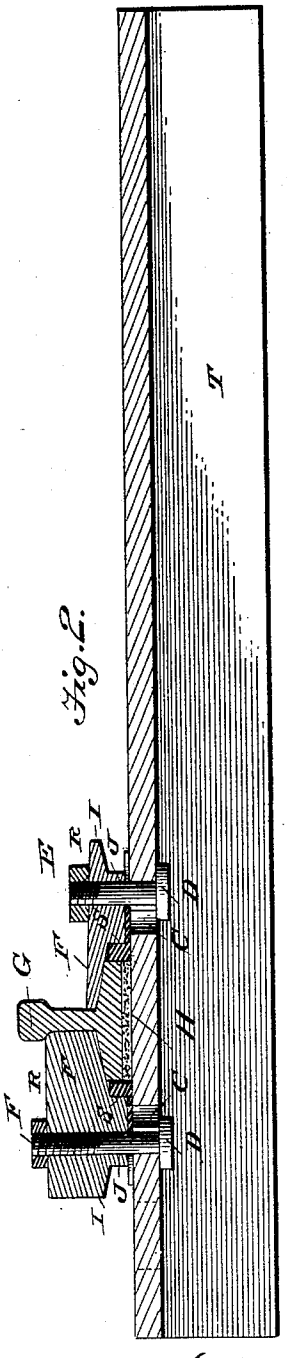


Fig. 2.

Witnesses:

"D. Y. Wilson"

John B. Kelley

Inventor:

David Y. Wilson—

By,

Chas. E. Barber

Attorney.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 2.

D. Y. WILSON.

RAILWAY TIE.

No. 445,325. Patented Jan. 27, 1891.

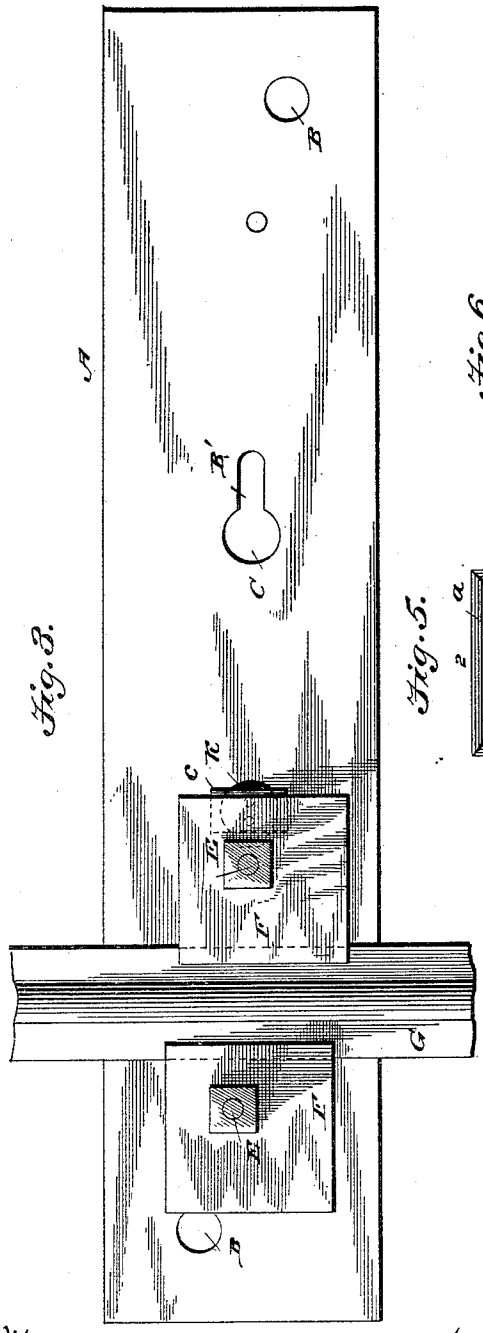


Fig. 3.

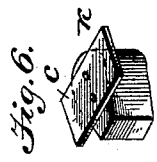


Fig. 6.

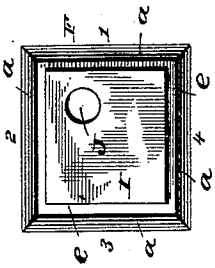


Fig. 5.

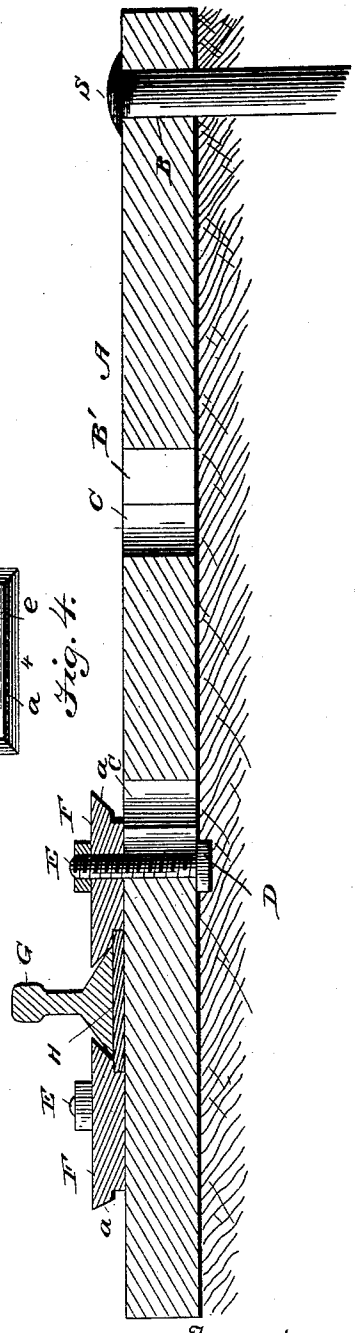


Fig. 4.

Witnesses

[signature]

[signature]

David Y. Wilson

Inventor

By his Attorney

Chas. E. Barber

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 3 Sheets—Sheet 3.

D. Y. WILSON.

RAILWAY TIE.

No. 445,325. Patented Jan. 27, 1891.

Fig. 7.



Fig. 8.

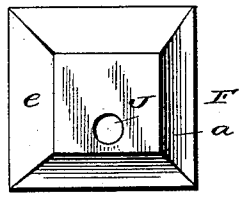


Fig. 9.

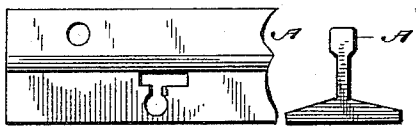


Fig. 10.

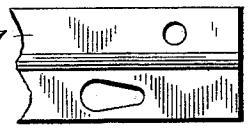


Fig. 11.



Fig. 12.

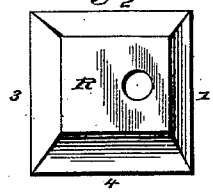


Fig. 13.

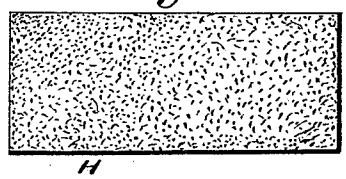


Fig. 14.

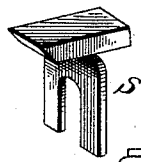


Fig. 16.

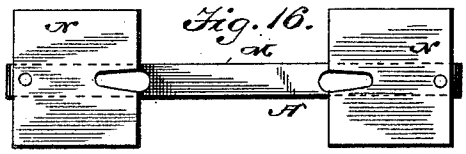
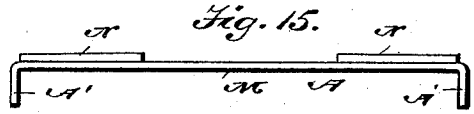


Fig. 15.



Witnesses

David Y. Wilson - Inventor

By his Attorney

Chas. E. Barker

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DAVID Y. WILSON, OF GUM TREE, PENNSYLVANIA.

RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 445,325, dated January 27, 1891.

Application filed February 17, 1890. Serial No. 340,718. (No model.)

To all whom it may concern:

Be it known that I, DAVID Y. WILSON, a citizen of the United States, residing at Gum Tree, in the county of Chester and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Ties and Appurtenances for Use Therewith, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved railroad-tie, illustrating the rail in position thereon. Fig. 2 is a longitudinal sectional view of the same, taken on the line X X. Fig. 3 is a plan view of the tie, showing the rail secured in place thereon by another fastening-plate. Fig. 4 is a longitudinal sectional view of the same. Fig. 5 is a bottom plan of one of the fastening-plates. Fig. 6 is a detailed perspective view of the locking device. Fig. 7 is an edge view of another form of fastening-plate. Fig. 8 is a bottom plan of the same. Fig. 9 is a top plan view of a railroad-tie having the opening therein for securing the rail. Fig. 10 is a top plan of the same, showing another form of opening. Fig. 11 is an edge view of still another form of fastening-plate. Fig. 12 is a bottom plan view of the same. Fig. 13 is a plan view of the elastic or felt cushion. Fig. 14 is a detailed perspective of another form of locking device. Fig. 15 is a side elevation of another form of tie. Fig. 16 is a top plan of the same.

The object of my invention is to construct a railroad-tie entirely of metal, by the use of which all danger and disadvantages caused by the rail working loose on the tie now in use will be entirely avoided.

Another object of my invention is to construct a tie which when put in place need not be removed in order to facilitate the removal of the track and the devices for securing the same to the tie.

Another object of my invention is to provide the bolts with washers or strips which will prevent the rail from slipping out of position when in use.

Another object of my invention is to provide devices for use and connection with my railroad-tie which will enable me to shift the track in the shortest possible time and with the greatest accuracy, and with the least expense of mechanical and physical force.

The objects generally of my invention are to construct a tie which will be comparatively inexpensive, long lived, simple, not liable to get out of order, and one which will hold the track in place with the greatest certainty under all the trials to which the track is subjected by reason of varying degrees of temperature and humidity and the strain to which the track is subjected as the train moves over the road by down grades, short curves, and over trestles and bridges, &c.

The invention consists in novel construction and arrangement of parts, as will be hereinafter described, and particularly pointed out in the claims at the end of the specification.

Before going into the description of the figures I will mention among the prominent features of my invention the particular style which I use and will state here that in going round curves the train is very likely to crowd the outside rail away from its proper seat, thus broadening the track or increasing the distances between the railroad-rails to such an extent that in the course of time the wheel drops down between the tracks, tearing them up and derailing the train.

Heretofore it has been customary to put up heavy metallic plates secured to the outside of the track to prevent the displacement laterally of the rail. By the employment of a washer-block such as I have shown this same result will be secured with the greatest degree of certainty at less expense and in less time.

In the accompanying drawings, A designates a tie which is provided with anchor-spike openings B, and at one end of which tie is provided an enlarged opening C. Through the enlarged portion C is inserted the head D of the bolt E, which, after it is inserted, is moved toward the closed end of the slot B′, thus drawing it in the position to clamp the washer-block F securely against the flange or web of the track G, as may be found desirable and expedient.

Between the metallic tie and rail I place a cushion-strip H. This cushioning may be made of wood, leather, felt, paper, oakum, ambreate, asbestus, or any other suitable or elastic ma-

terial suitable for use in this connection. The cushioning H may be saturated with tar, pitch, or oil, as may be found desirable and expedient.

The washer-block F is provided with a raised platform I and is perforated at J in such position with respect to its four sides as to make four separate and different distances between the perforations J and the respective edges of the platform I, as will be clearly understood by reference to the drawings, especially Figs. 5 and 12, where the distances are indicated by lines numbered 1, 2, 3, and 4 in their order.

From the base of the platform I to the outside edge of the washer F extends a beveled shoulder *a*, which corresponds approximately to the bevel on the upper sides of the flange of the track G. In some instances there is a horizontal portion *e e*, forming a rectangular recess. (Shown clearly in Figs. 4 and 5.)

In Fig. 6 I show a plug K, which is adapted to be inserted into the opening designated by B′ C, as will be readily understood by reference to Fig. 3, and this plug K (shown in Fig. 6) is provided with a plate *c*, which forms a seat projection to hold the plug against dropping through the tie.

After the bolt E has been put into its operative position in the closed end of the slot B′ the plug K is inserted back of it, as shown in Fig. 3, and is held against vertical displacement by the washer-block F and the plate *c*, respectively. This plug K is made of iron and holds the bolt readily against lateral displacement.

In Figs. 9 and 10 I show a tie made of the original T-rail, which may be used, if found desirable.

In Figs. 15 and 16 I show a tie made of strip of metal M, which is readily riveted to plates N, which are secured near the ends of the tie and above the bent portions A′ A′, which form anchors for the tie.

I have shown the enlarged washer-block R, which is brought up against the side of the rail on the outside and abuts against the plate of the rail and is held against displacement on account of the centrifugal force of the moving train.

A metallic key designated by the letter S (shown clearly in Fig. 2,) will prevent the track from crawling or moving away crosswise in its seat on the tie. This is a marked advantage over the spike now in use, as the latter works up and out and falls far short of meeting the requirements of the case in this respect.

The tie shown in Figs. 1 and 2 is made of channel-iron, which in position on the track is virtually an inclined trough with its ends cut for leaving the side flanges T T to project down and embed themselves into the roadbed.

The device shown in Figs. 3 and 4 is simply a flat piece of iron, and where anchors are needed in this form of tie they may be provided by driving plugs through the perforations B B, as will be readily understood.

From the foregoing it will be readily understood that the railroad-tie constructed after this plan and provided with fastening devices, as described, will form a complete answer to the requirements of railroad people.

Cross-reference is hereby made to my other application now pending, and numbered 354,308, and the subject-matter covered by the claims in that case is hereby disclaimed in this case.

Having described the objects, uses, and advantages of my device, what I wish to secure by Letters Patent and what I therefore claim is—

1. A metallic tie-fastening consisting of a tie having perforations which are extended from an enlarged portion, the extensions being narrower than the main perforation, and having an extending portion at the narrower end, which extends at right angles to the line of the track when in its operative position, in combination with a bolt, a cushioning for the rail, and a washer-block having a raised polygonal portion on its lower side, and also having beveled edges and a key beneath the washer-block, all constructed and combined to operate substantially as described.

2. A metallic tie-fastening consisting of a tie having perforations which are extended from an enlarged portion, the extensions being narrower than the main perforation made T shape at its narrower end, in combination with a bolt, a cushioning for the rail, a washer-block having a raised polygonal portion on its lower side, and also having beveled edges and provided with recesses at the various sides for the reception of the edges of the cushioning, and a bifurcated key beneath the washer-block with its bifurcated end astride the bolt, all constructed and combined to operate substantially as described.

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

DAVID Y. WILSON.

Witnesses:

CHARLES F. GERRY,

CHARLES ELSWORTH BARBER.