No. 837,706. PATENTED DEC. 4, 1906.

B. B. MOSS.

TIE PLATE.

APPLICATION FILED JUNE 18, 1906.

Fig. 1.

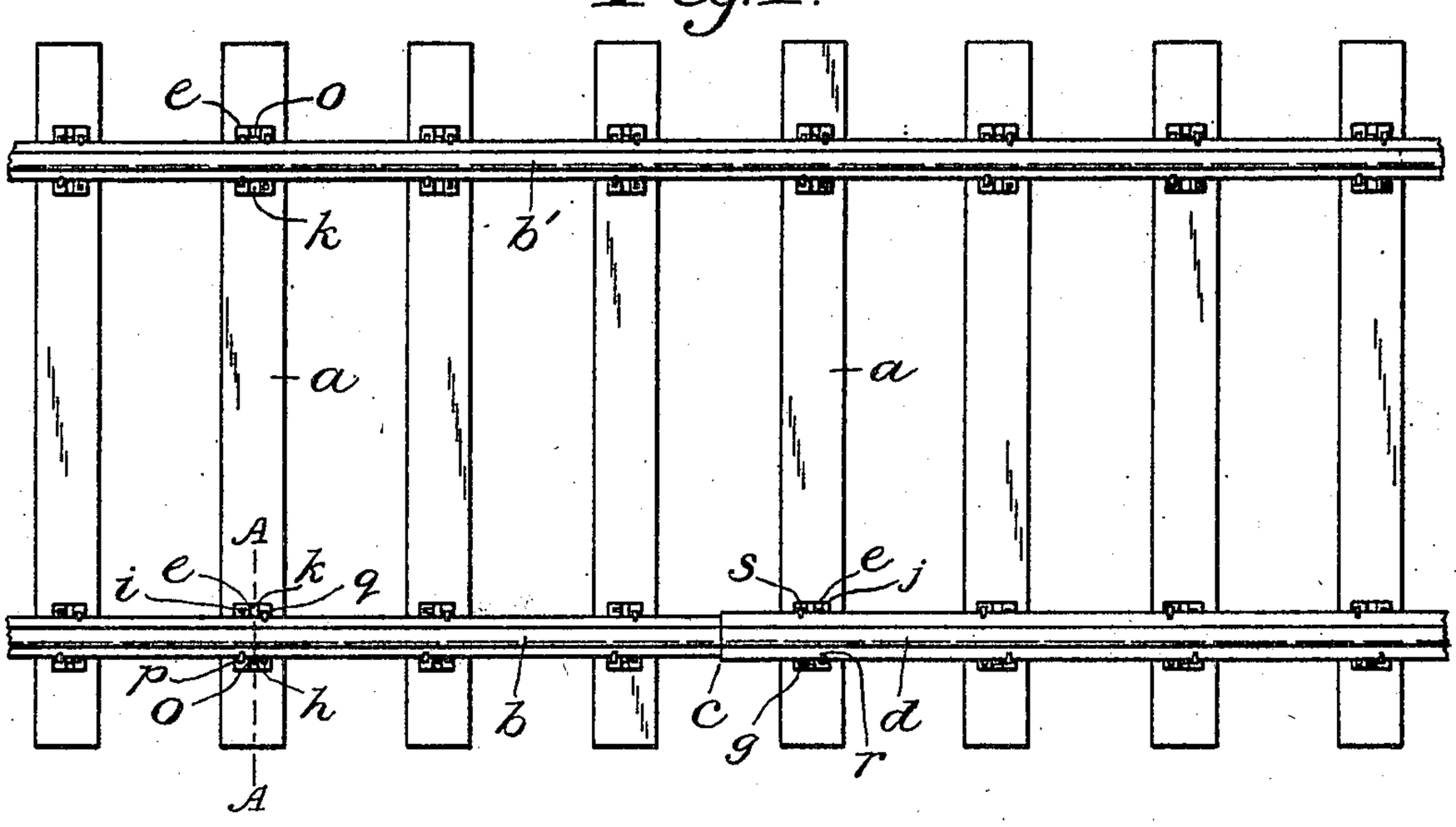


Fig. 2.

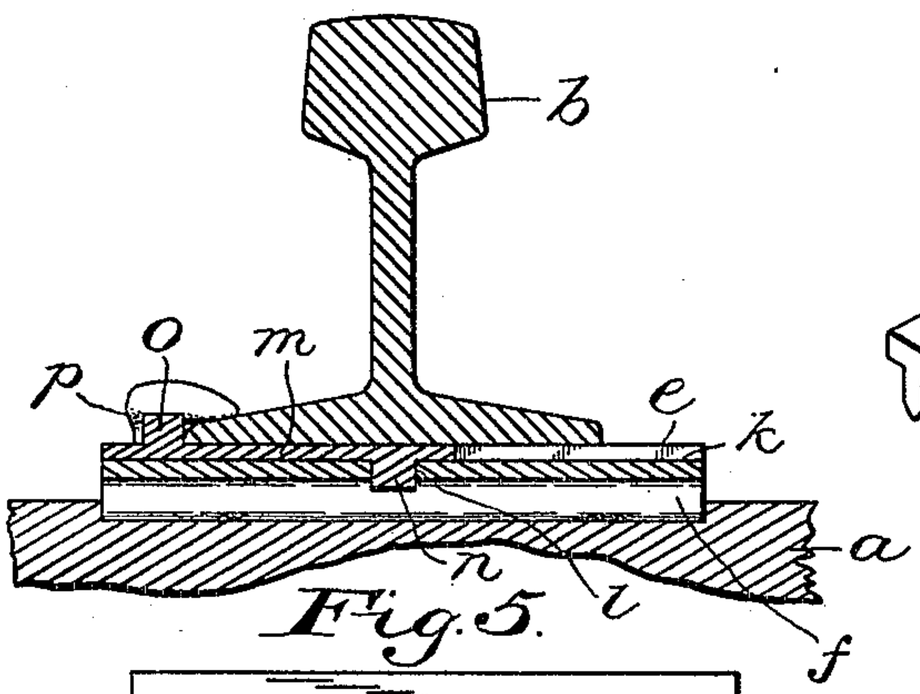


Fig. 3.

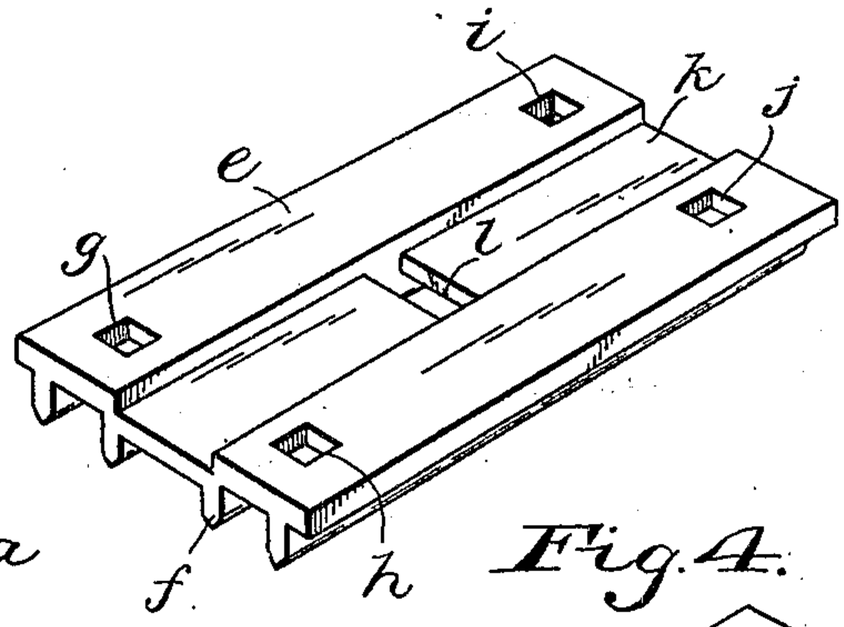


Fig. 4.

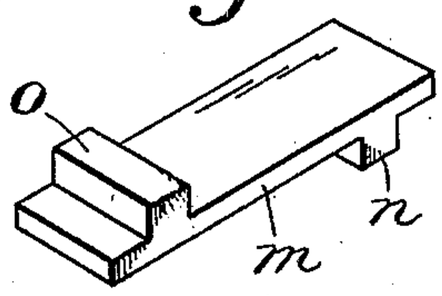
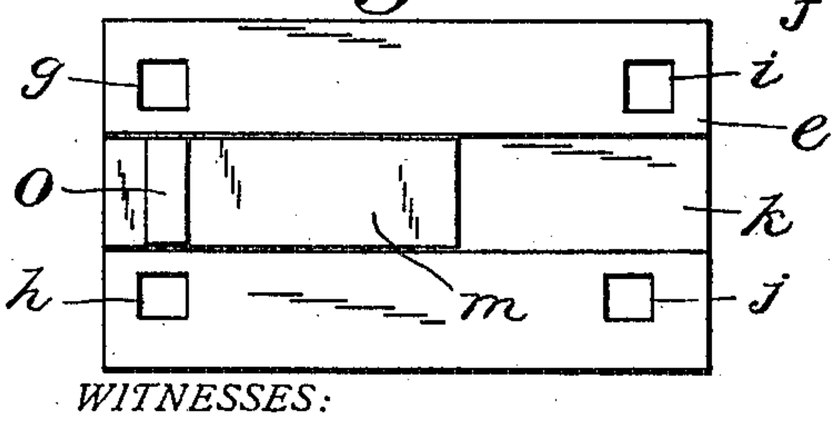


Fig. 5.



WITNESSES:

Wm. H. Payne.

Stella Snider.

INVENTOR:

Bertie B. Moss.

BY

E. T. Silvius.

ATTORNEY.

UNITED STATES PATENT OFFICE.

BERTIE B. MOSS, OF SALEM, INDIANA, ASSIGNOR OF ONE-HALF TO CHARLES L. JEWETT, OF NEW ALBANY, INDIANA.

TIE-PLATE.

No. 837,706. Specification of Letters Patent. Patented Dec. 4, 1906.

Application filed June 18, 1906. Serial No. 322,174.

To all whom it may concern:

Be it known that I, BERTIE B. MOSS, a citizen of the United States, residing at Salem, in the county of Washington and State of Indiana, have invented new and useful Improvements in Tie-Plates; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to railways, and has reference particularly to metallic plates that are designed to be placed upon the wooden cross-ties, beneath the rails thereof, for directly supporting the rails, and on curves, augmenting the area of the side wearing-surfaces, where excessive abrasion usually occurs between the securing-spikes of the rails and the outer rail-flanges.

Objects of the invention are to provide tie-plates which may be cheaply produced by the rolling processes and comprise few parts, of durable form; to provide tie-plates having relatively small parts that are exposed to inevitable wear adapted to be renewed or displaced by new ones at small expense without incurring the losses due to discarding whole worn-out plates; to provide a tie-plate with the maximum amount of surface against the edge of the outer flange of the rail; to relieve the wear of the spikes and flange, especially on curves, a further object being to provide a tie-plate that may be reversed and also be used with different widths of rails.

With the above-mentioned and minor objects in view the invention consists in a tie-plate comprising a main part having two pairs of spike-holes therein, with the two holes of one pair spaced differently in distance apart than the holes of the other pair, the main part having also a groove extending across the top part thereof and a lug-hole extending from the bottom of the groove through the metal of the main part, and a reversible lug-plate adapted to be seated in the groove and having a lug fitting into the lug-hole and also a lug adapted to bear against a rail-flange in proximity to a securing-spike, so that the lug and the spike will both at the same time receive the thrust and wear of the rail-flange, more particularly as hereinafter described in detail and referred to in the appended claims.

Referring to the drawings, Figure 1 is a plan view showing a fragment of a railway in which the improved tie-plate is shown in connection with the ties and rails, one of the rails being wider than the others; Fig. 2, a fragmentary transverse sectional view on the line A A in Fig. 1; Fig. 3, a perspective view of the main part of the tie-plate; Fig. 4, a perspective view of the reversible lug-plate, and Fig. 5 a top plan of the complete tie-plate.

Similar reference characters in the different figures of the drawings designate corresponding elements or features of construction.

In the drawings, *a* designates the cross-ties; *b* and *b'*, the rails, the rail *b* being joined at *c* to a rail *d*, that has a broader base than the rail *b*, and *e* designates the main part of the tie-plate.

The main part *e* is rolled from steel or iron bars and is made of suitable width, with a number of longitudinal ribs *f* on the under side thereof to bite into the ties, and then the parts are sawed off to the desired lengths to form rectangular plates, after which two spike-holes *g* and *h* are punched in the body of the part equal distances from an end thereof, between the ribs, and two other spike-holes *i* and *j* are punched in the body of the part, near the opposite end thereof, one being nearer than the other to the end, so that the distance is greater between the holes *g* and *i* than between the holes *h* and *j*.

In rolling the main part a groove *k* is formed in the top thereof, extending along the middle portion from end to end thereof, the remaining upper surfaces of the part being flat. A rectangular lug-hole *l* is punched in the middle of the main part, extending through the metal of the bottom of the groove. The metal at the bottom of the groove and at either side thereof is approximately equal in thickness.

Each complete tie-plate includes a lug-plate *m*, these being formed by rolling out bars of steel or iron and then sawed off to desired widths, the major dimensions or lengths being determined by the rolls, as are the principal or important dimensions of two lugs *n* and *o*, which are formed on opposite sides of the plate, near the ends thereof, the lugs being equal in dimensions, so that either lug may enter the lug-hole *l* of the main part when the plate *m* is placed in the groove *k*, the plate-body being adapted to fit into the groove and

extend from either end thereof beyond the lug-hole.

In practical use the complete tie-plates are placed upon the ties. Then the rails are laid, gaged, and spiked with the lugs *o* (or *n*) at the outside of the rails, the greater portions of the bodies of the plates *m* being covered and held in place by the rails. With the narrower rails *b* the spikes *p* are placed in the holes *g* and spikes *q* are placed in holes *j*, the outward pressure of the rail-flange being exerted against the spike *p* and the lug *o*, while the spike *q* assists the spike *p* in preventing the plate from creeping outwardly. With the broader rails *d* a spike *r* is inserted in the hole *h* and a spike *s* is inserted in the hole *i*, the spikes being driven as usual into the ties. If the upper lug *o* becomes worn, the plate *m* may be inverted and reversed with the lug *o* in the hole *l* and the preserved lug *n* in contact with the rail-flange, the wear on the lugs occurring close to the body of the plate *m*. On straight track, if desired, the lug-plate *m* may be omitted from the main plate, the latter serving well as a simple rail-chair.

Having thus described the invention, what is claimed as new is—

1. A tie-plate having a reversible lug-plate provided at opposite sides thereof with counterpart lugs, one lug near one end and the other lug near the opposite end thereof.

2. A tie-plate comprising a main part having a groove extending from end to end thereof in one side of the part with ribs on the opposite side thereof, the main part having a lug-hole in the middle portion of the groove, and a reversible lug-plate having two counterpart lugs at opposite sides thereof, one lug being near one end and the other lug near the opposite end of the body thereof, either lug being insertible in the lug-hole.

3. A tie-plate comprising a main part having a groove in one side extending from end to end thereof with ribs on the opposite side thereof, the part having two pairs of spike-holes therein spaced apart different distances between the two holes of the pairs, said main part having also a lug-hole in the middle portion of the said groove, and a reversible lug-plate having two counterpart lugs at opposite sides thereof, one lug being near one end and the other lug near the opposite end of the body thereof, either lug being insertible in the lug-hole, the body of said lug-plate fitting into said groove.

4. In a tie-plate, the combination of a main part for supporting a rail provided with a groove in the top thereof extending across said top and having a lug-hole extending across the groove at the middle portion thereof, with a lug-plate fitting into said groove and lug-hole.

5. In a tie-plate, the combination with a main part having a groove therein and a lug-hole in the groove, of a lug-plate fitting into the groove from either end thereof and extending beyond the lug-hole, the plate having a lug on one side near an end thereof and another lug on its other side near the opposite end thereof, either lug fitting into the said lug-hole.

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

BERTIE B. MOSS.

Witnesses:
OLIVER T. MARTIN,
ASA ELLIOTT.