983,818.

C. J. GADD.

BRACE TIE PLATE.

APPLICATION FILED OCT. 27, 1909.

Patented Feb. 7, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

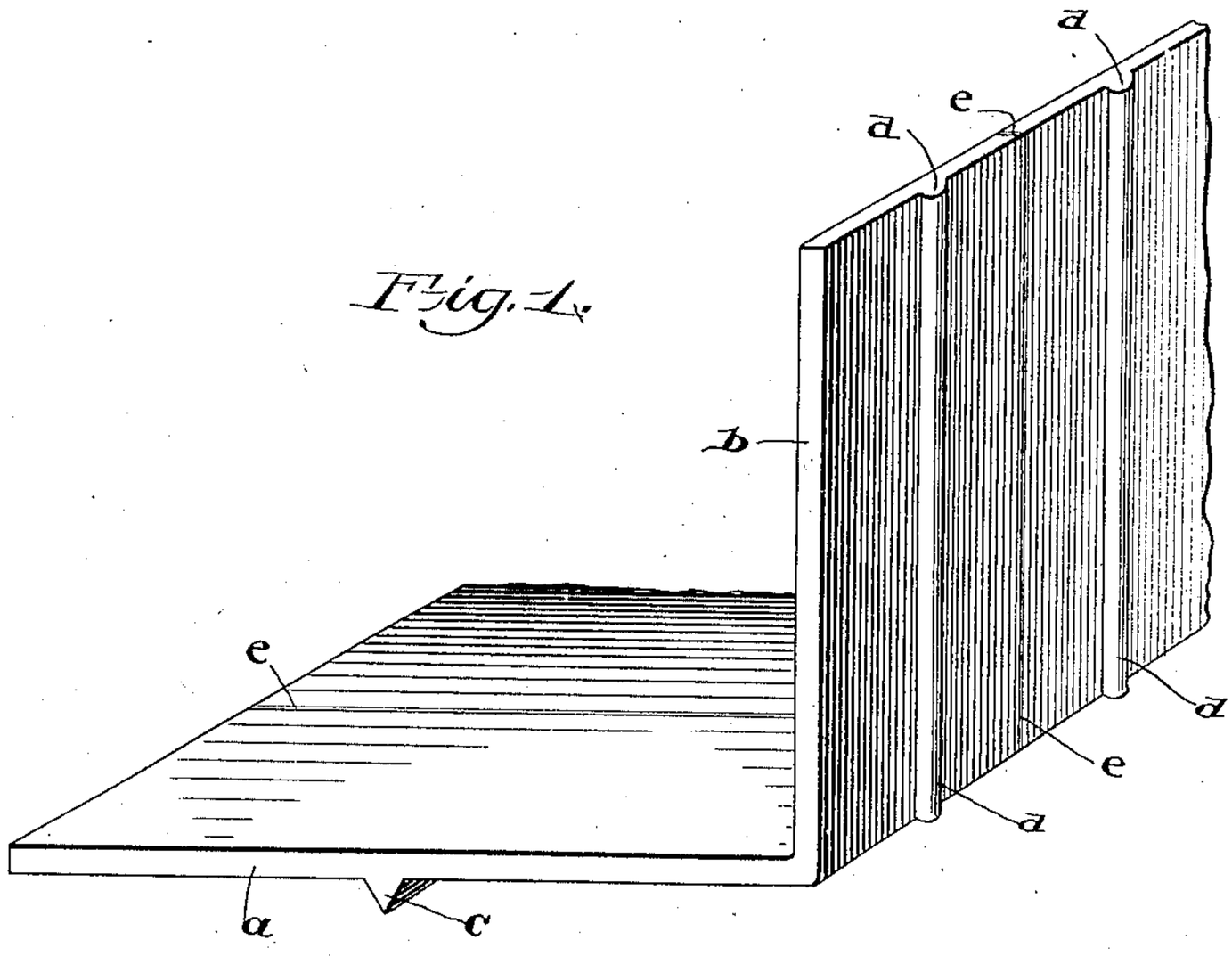
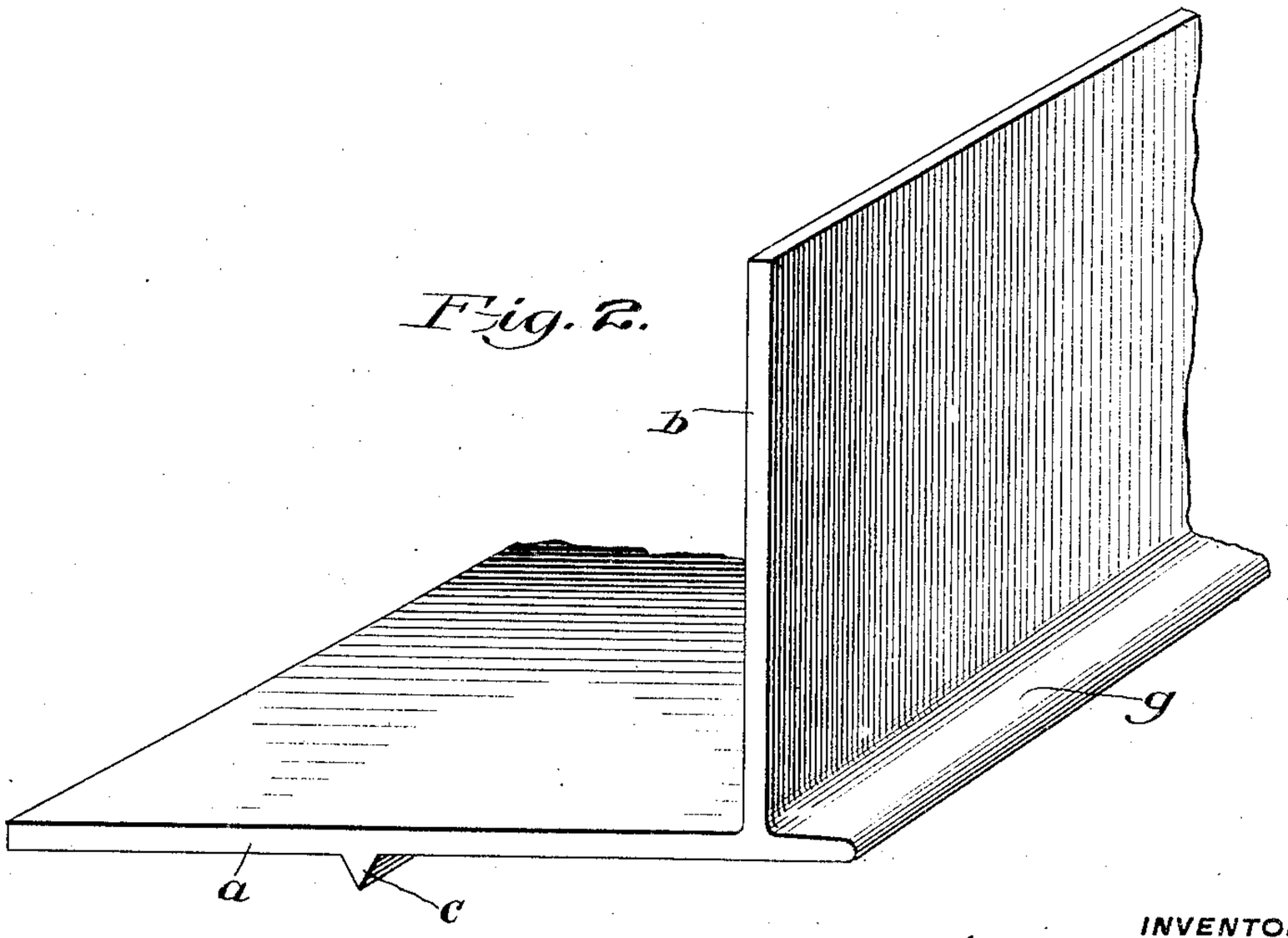


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

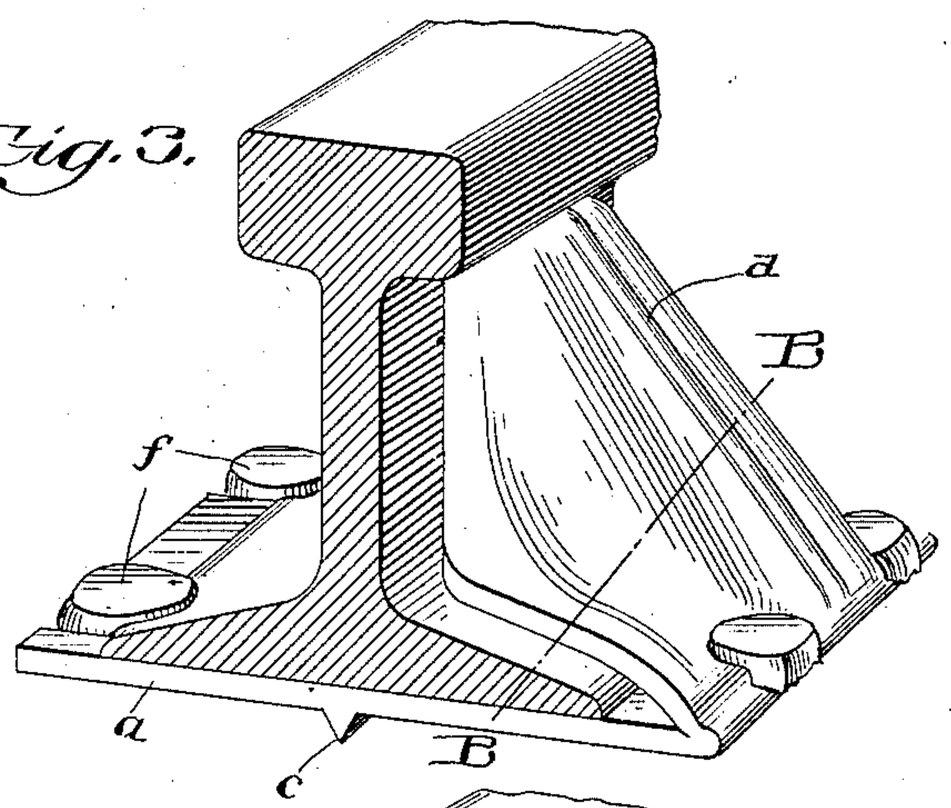


Fig. 4.

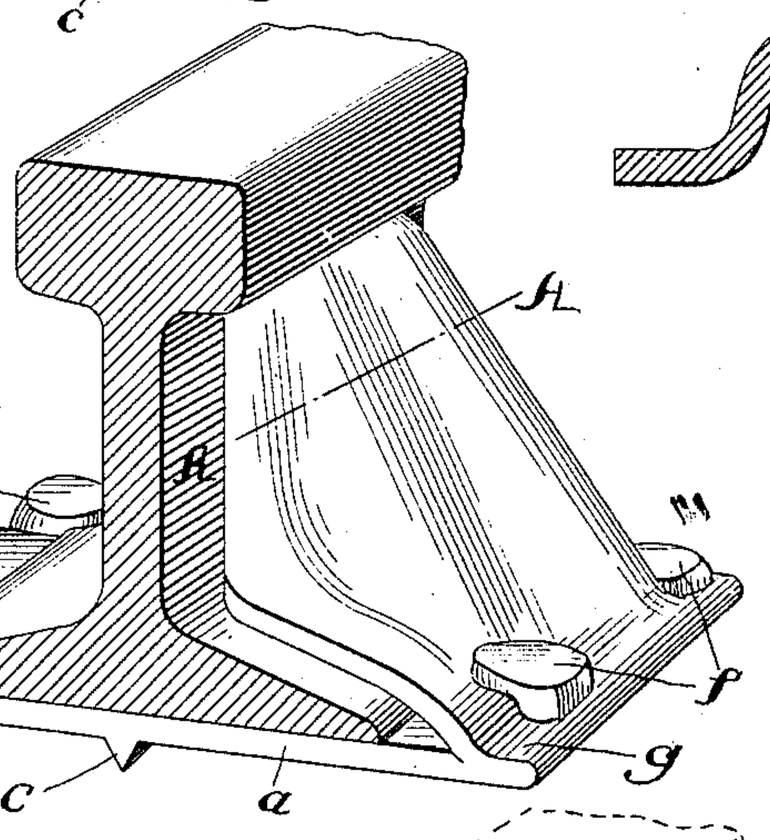


Fig. 7.

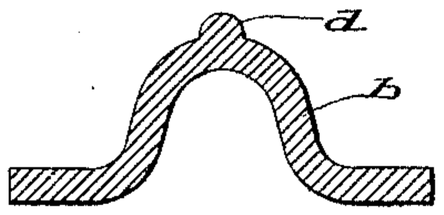


Fig. 6.

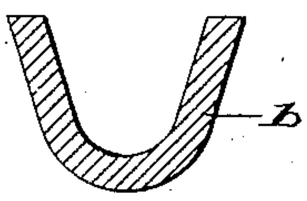
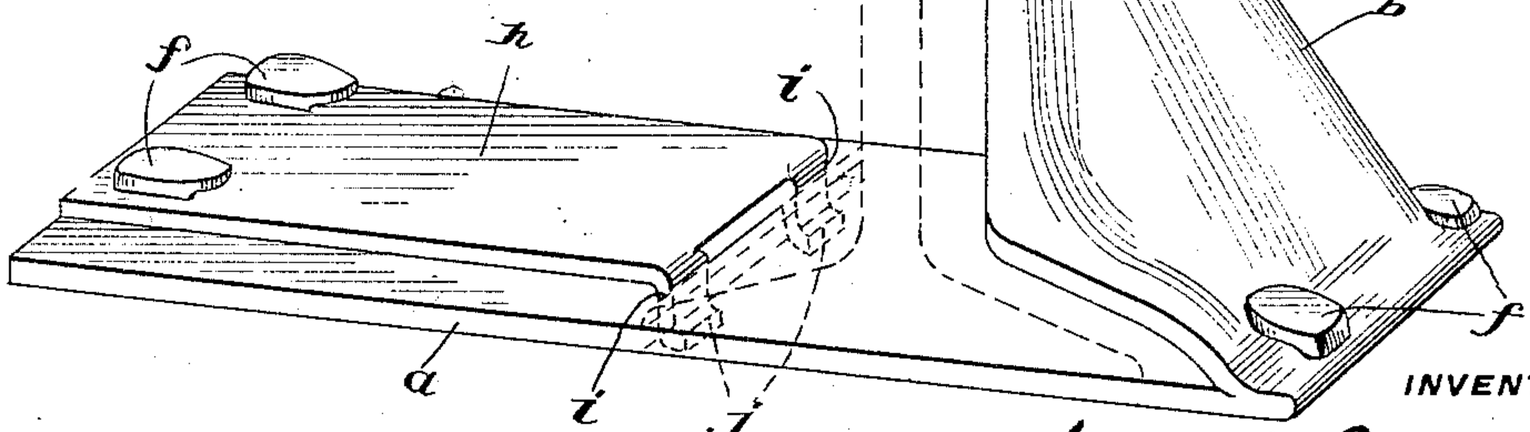


Fig. 5.



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CHARLES J. GADD, OF STEELTON, PENNSYLVANIA, ASSIGNOR OF FORTY-NINE ONE-HUNDREDTHS TO EDWARD P. PYEWELL, OF LEBANON, PENNSYLVANIA.

BRACE TIE-PLATE.

983,818. Specification of Letters Patent. Patented Feb. 7, 1911.

Application filed October 27, 1909. Serial No. 524,785.

To all whom it may concern:

Be it known that I, CHARLES J. GADD, a subject of the King of Great Britain, and a resident of Steelton, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Brace Tie-Plates, of which the following is a specification.

My invention relates to improvements in brace tie-plates for railway rails, and the objects of my invention are to furnish a brace tie-plate, integrally constructed, the initial cost of which will be small, which will be very efficient, which will not be apt to bend or spread in use, and which can be used equally well upon straight or curved track or, by increasing the length of the part forming the tie-plate, and by using a riser plate, at switches.

My tie-plate and rail-brace is formed from a specially rolled section of metal which has an L shape which I shear into suitable lengths and finally bend in dies to the required shape. Upon one or both legs of the section may be rolled ribs for strengthening the completed article or for forming anchors to assist in securing it to the tie.

In the accompanying drawings forming part of this specification, and in which similar letters of reference indicate similar parts throughout the several views: Figure 1, is a perspective view of one form of specially rolled section from which my brace-tie-plate may be formed. Fig. 2, a perspective view of another form of section from which the brace-tie-plate may be formed. Fig. 3, a perspective view of a completed tie-plate and rail-brace, made from the section shown in Fig. 1, applied to a rail; Fig. 4, a perspective view of a completed tie-plate and rail-brace, made from the section shown in Fig. 2, applied to a rail; Fig. 5, a perspective view of the brace-tie-plate arranged for use at a switch, a riser plate for elevating the switch rail being shown on the top of the tie plate; Fig. 6, a section through the rail-brace on line A—A Fig. 4; Fig. 7, a section through the rail-brace on line B—B, Fig. 3.

The brace tie-plate is formed from a single piece of L shaped metal which is bent in dies to the desired shape, one leg of the L shaped piece forming the tie plate, the other the rail brace.

In Figs. 1 and 2 are shown two forms of L shaped rolled sections from which my brace tie-plate may be formed. In Fig. 1 the leg *a* is shown furnished with a sharp lug *c* upon its under side and the leg *b* with ribs *d* upon its outer side, the section being adapted to be sheared transversely upon the line *e*, midway between the ribs *d*, to form the blanks out of which the completed article is formed.

In Fig. 3 the completed brace-tie-plate formed from blanks cut from the section shown in Fig. 1 is shown, the leg *a* forming the tie plate and the leg *b* being bent down over the leg *a* and bent so as to engage the top of the base of the rail, the side of the web and the under part of the head.

In order to give rigidity and strength to the rail brace it is arched longitudinally, its sides being bent inwardly so as to engage the top of the base and the side of the web of the rail as shown and its middle being bent upwardly as illustrated in Figs. 6 and 7. Either before or after bending the rail-brace, preferably after, holes are punched for the spikes *f*.

In Fig. 4 a perspective view of a brace-tie-plate made from the section shown in Fig. 2 is shown. With the exception of the lip *g* and the rib *e* this article is similar to that shown in Fig. 3. The use of the lip *g* is an advantage in that the spike holes are more easily punched in it than through the edge of the angle of the blank shown in Fig. 1, and it also gives a greater base to the completed article.

From both Figs. 3 and 4 it will be seen that the leg *b* is bent over so as to engage the top of the base of the rail without folding the metal over on itself as is the case when such an article is formed from a flat blank thus reducing the liability of the rail-brace springing away from the tie-plate.

In Fig. 5 the article as arranged to carry a riser plate *h* is shown. This necessitates a longer part *a* which is furnished with holes *i* to pass the lugs *j* on the inner end of the riser plate which lock this end of the plate to the tie plate *a*, the outer end of the riser plate being secured by the spikes *f*. When a riser plate is used the inner end thereof engages and holds the side of the base of the rail without the use of spikes being necessary at this point.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent:

1. A brace-tie-plate constructed from a substantially L shaped rolled metal section the vertical leg of which is bent to form a rail-brace and the horizontal leg of which is flat to form a tie-plate and furnished with a lip projecting past the vertical leg.

2. A brace-tie-plate constructed from a substantially L shaped rolled metal section the vertical leg of which is bent to form a rail-brace and the horizontal leg of which is flat to form a tie-plate and furnished with a lip projecting past the vertical leg and upon the under side with a lug *c*.

CHARLES J. GADD.

Witnesses:
C. E. UHLAND,
ALBERT F. LEEDS.