

(No Model.)

R. MORRELL.
METALLIC RAILWAY TIE.

No. 483,853.

Patented Oct. 4, 1892.

Fig. 1.

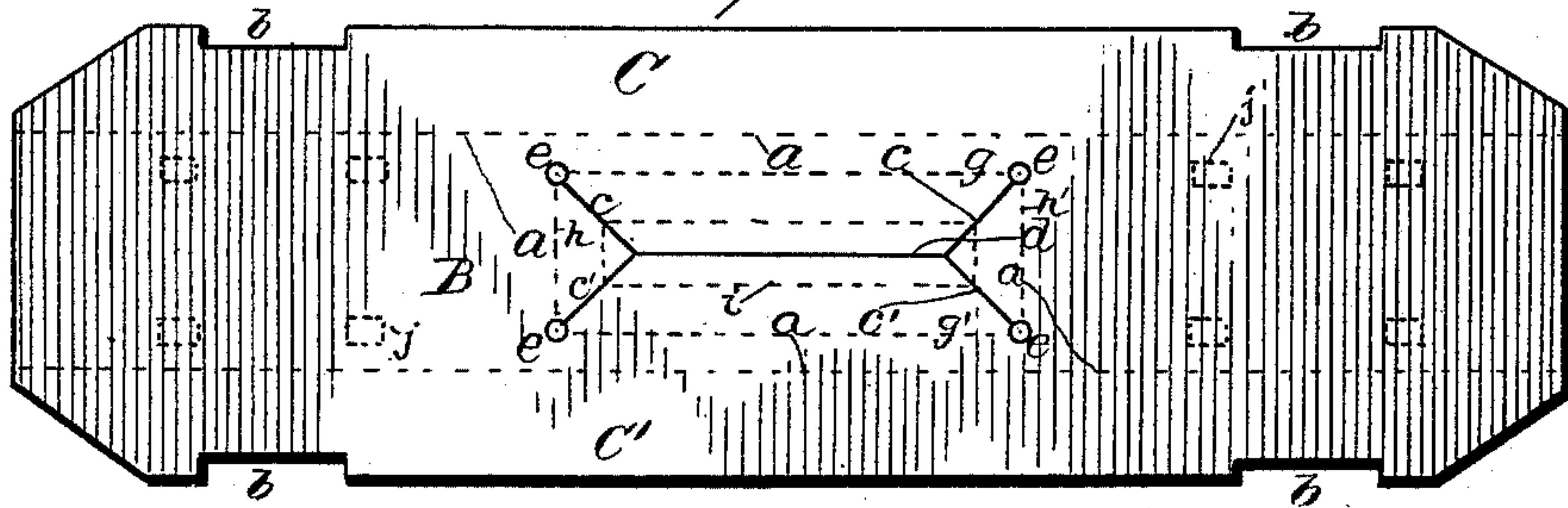


Fig. 2.

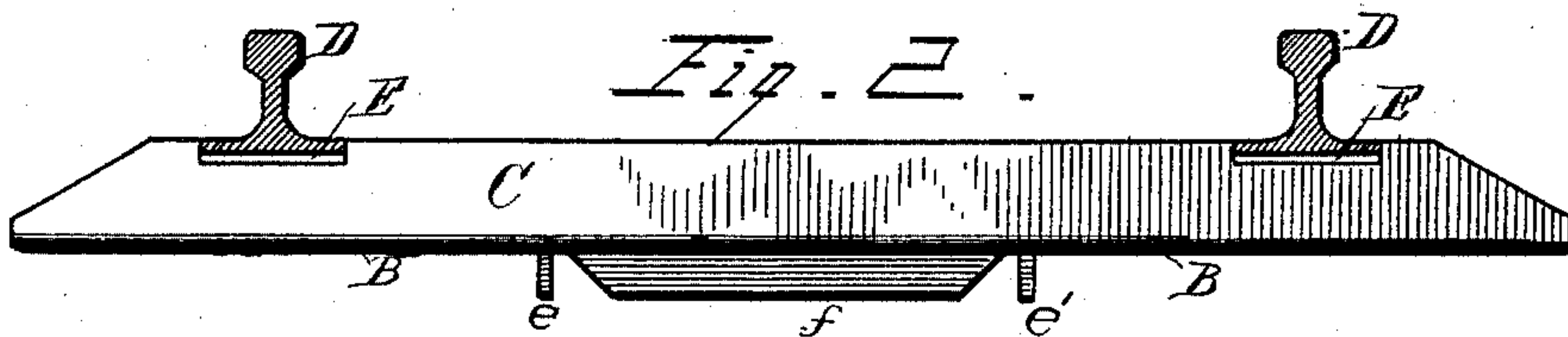


Fig. 3.

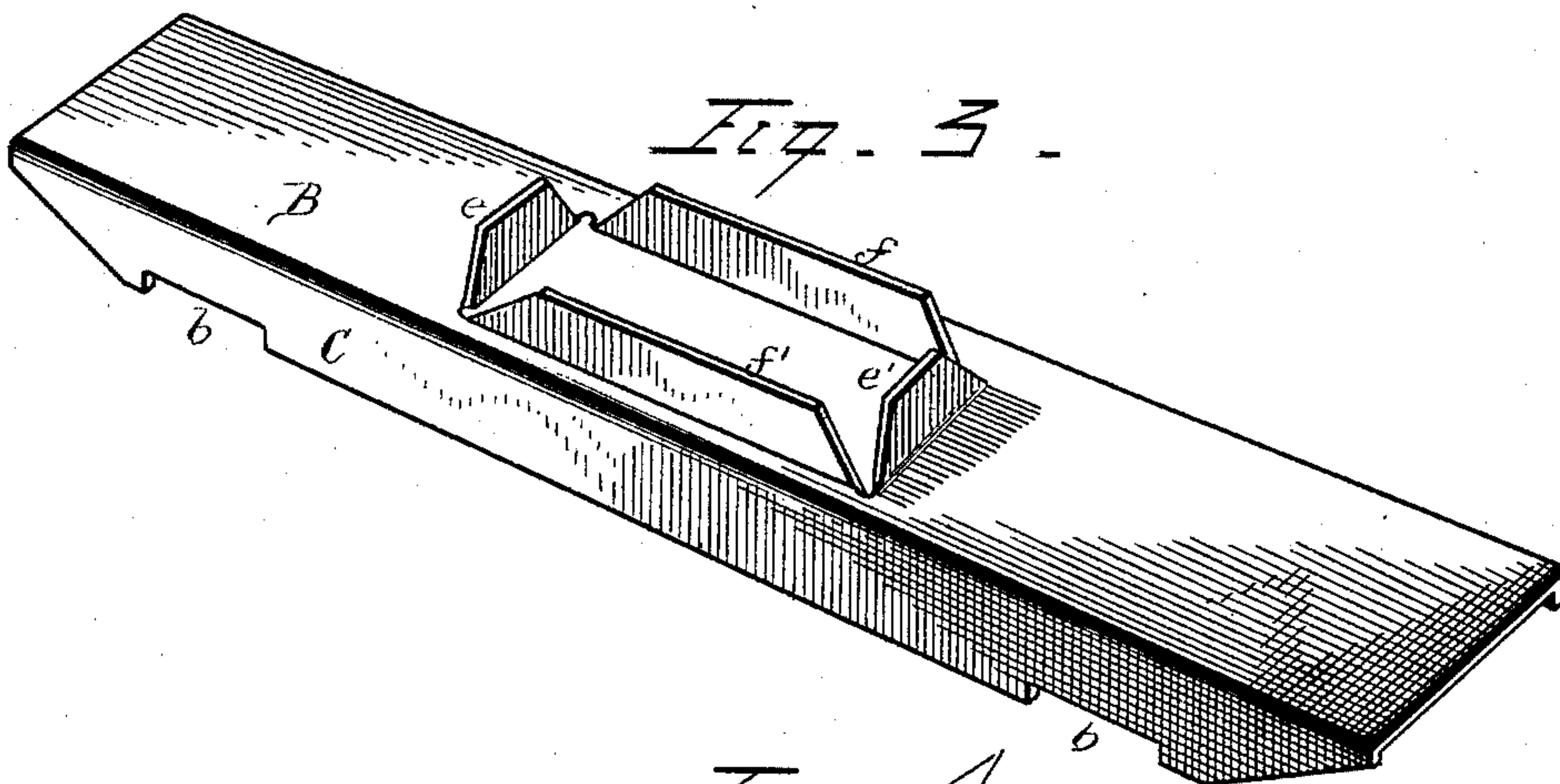
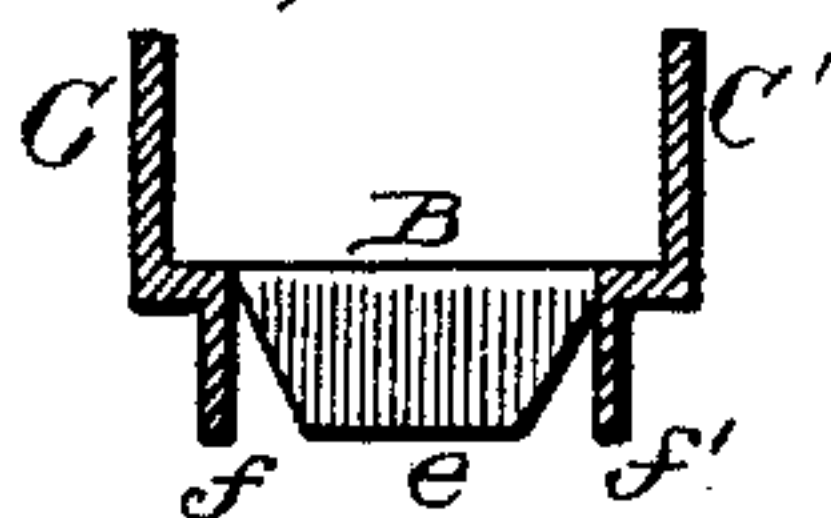


Fig. 4.



WITNESSES

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METALLIC RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 483,853, dated October 4, 1892.

Application filed December 29, 1891. Serial No. 416,403. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MORRELL, a citizen of the United States, residing at Summit, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Metallic Railway-Ties; 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 of reference marked thereon, which form a part of this specification.

My invention relates to railway-ties, and is in the nature of improvements upon the well-known metallic railway-tie.

It consists in the improved construction hereinafter described, and afterward specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of the sheet or blank of metal out of which my tie is formed. Fig. 2 is a view of my improved tie in side elevation, the rails being shown in position, but not secured therein. Fig. 3 is a perspective view of the tie in a reversed position, or bottom upward. Fig. 4 is a central vertical transverse sectional view.

Like letters mark the same parts wherever they occur in the various figures of the drawings.

In the drawings is shown a sheet of metal, Fig 1, out of which my tie is formed, the dotted lines *a a* indicating where the sheet is bent, the part B forming the bottom and the parts C C', which are bent up at right angles to the bottom B, forming the sides. These sides may be beveled off at the ends and have notches *b b*, in which the bases of the rails D rest (upon suitable blocks E) when the road is built.

In making my improved tie I cut the bottom of the tie on the lines *c c' d* and bore or punch holes *e* at the ends of the cuts or slits

to prevent the extension of said slits by tearing or breaking. The parts *e e'* and *f f'* are then bent downward on the lines *g g'* and *h h'*, respectively, and form projecting flanges or anchors to prevent the longitudinal or transverse displacement of the ties when in use. If desired, these flanges may be composed of all the metal between the dotted lines *g g' h h'*; but I prefer to cut out the central portion surrounded by the inner dotted line *i*, as shown in the plan view, Fig. 1, so that the finished flanges will be shaped as shown in Figs. 2, 3, and 4. It will be observed that a small portion of metal is left between the lines upon which the sides are bent upward and those upon which the flanges are bent downward, which makes the central portion of the sides of the shape of a double-angle plate, said portion being marked *k* and being clearly shown in Figs. 3 and 4. This makes a very stiff and strong structure and one not likely to buckle, bend, or spring out of shape under any extra pressure or strain which may be brought upon it. The transverse flanges prevent the ties being displaced longitudinally and the longitudinal flanges provide against transverse displacement.

The dotted lines at *j* in Fig. 1 show where the bolt-holes (for securing the rails to the tie) are made.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A blank for a metallic railway-tie, provided on its edges with notches and in its central portion with slits or cuts *c c'*, ending in holes *e*, and a slit *d*, connecting slits *c c'*, as and for the purpose set forth.

2. A metallic railway-tie provided with a central opening in the base thereof, the displaced metal being turned downward and forming longitudinal and transverse flanges, as at *f f'* and *e e'*, as set forth.

3. A metallic railway-tie provided with lon-

gitudinal and transverse downward flanges formed of the metal of the base of the tie by slitting the tie on the lines $c\ c'\ d$ and then bending the metal downward, as set forth.

- 5 4. A metallic railway-tie provided with longitudinal and transverse downward flanges cut from the body of the bottom and bent downward, the points at the junctions of these

flanges being cut out, forming a rounded ending to the cuts, for the purpose set forth. 10

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

ROBERT MORRELL.

Witnesses:

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E. G. BRASHEARS.