

(No Model.)

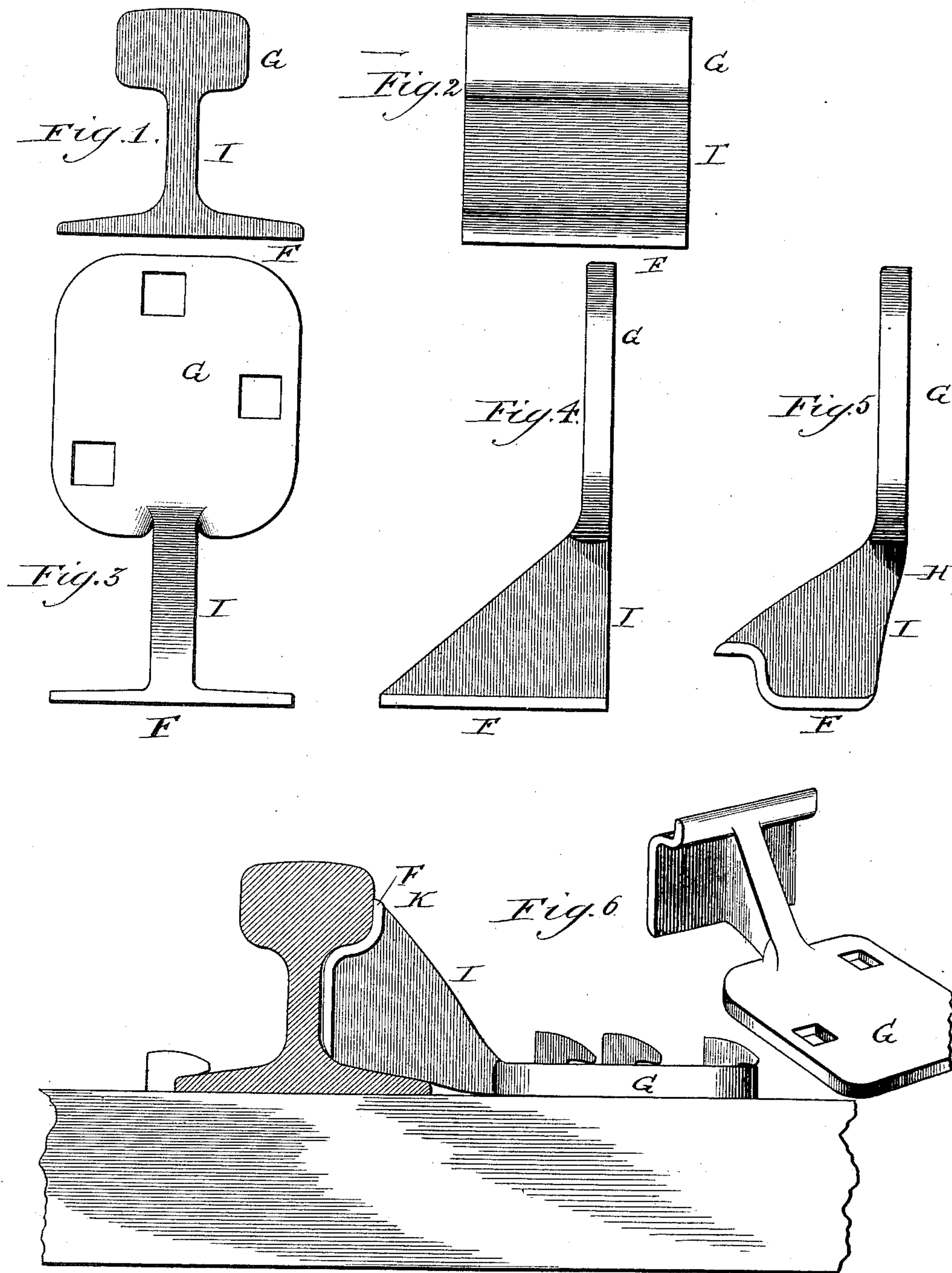
2 Sheets—Sheet 1.

T. A. GRIFFIN.

RAIL BRACE.

No. 338,953.

Patented Mar. 30, 1886.



Witnesses.
W. Rossiter.
J. I. Veeder

Inventor.
Thos. A. Griffin
By *Thos. A. Griffin*
Attys.

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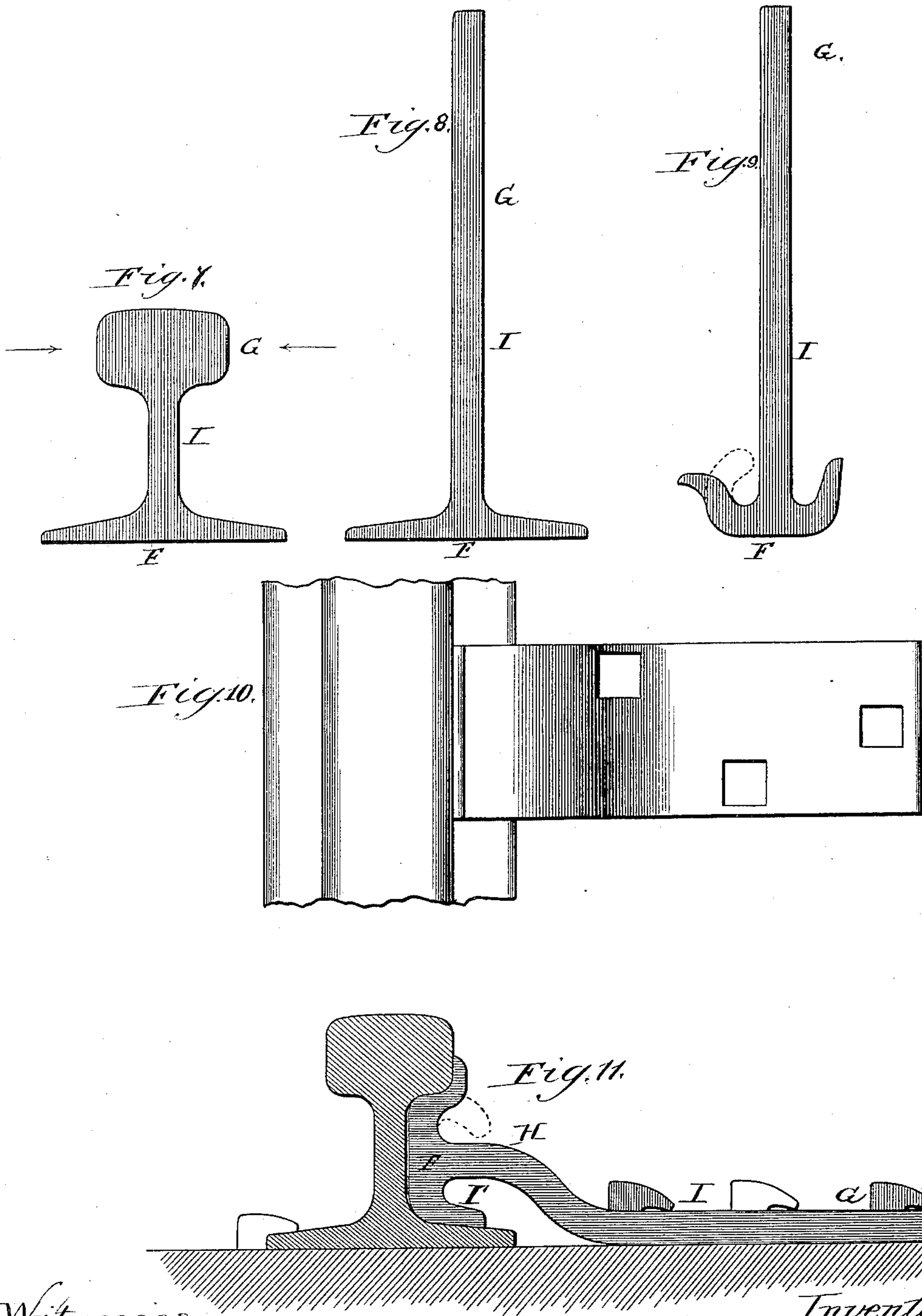
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Inventor:
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UNITED STATES PATENT OFFICE.

THOMAS A. GRIFFIN, OF CHICAGO, ILLINOIS.

RAIL-BRACE.

SPECIFICATION forming part of Letters Patent No. 338,953, dated March 30, 1886.

Application filed January 5, 1886. Serial No. 187,667. (No model.)

To all whom it may concern:

Be it known that I, THOMAS A. GRIFFIN, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Rail-Braces, of which the following is a full, clear, and exact description.

My invention relates to rail-braces made from short sections of T-rails.

10 The objects of my invention are, first, in a new and effective manner to utilize the sag and crop ends of steel and wrought-iron rails, of which it is difficult to make useful application sufficient to consume the large and ever
15 increasing supply; second, to produce a brace of such new form and disposition of the metal as better to withstand weight and strain; and, third, to produce a large even spiking-surface so that careless applications will not by acci-
20 dental blows break or disintegrate the metal.

My invention consists, first, in so utilizing short sections of T-rails by shaping the foot rather than the head of the rail section or blank to fit the track-rail, and in shaping
25 the head rather than the foot for the spiking or attaching part; and, second, in a brace of a new construction with a new disposition of the metal to produce the proper resistance substantially in accordance with Figs. 6 and
30 11 of the drawings hereto attached, and with the modifications and additions hereinafter specified.

In the accompanying drawings the same letters indicate corresponding parts.

35 Figures 1 and 2 show, respectively, an end and a side view of the blank, and Figs. 3, 4, 5, and 6 illustrate the shapes of the blank at the successive steps of its formation into the brace shown in Fig. 6. Fig. 7 shows a like
40 blank in cross-section out of which the brace of the form shown in Figs. 10 and 11 is constructed, Figs. 8 and 9 being illustrations of the successive steps and shapes of said formation.

45 The three special objects of my invention may be attained as follows: The head of the rail section or blank is drawn out or flattened either by a force applied upon the end thereof, as indicated by the arrow in Fig. 2, of the
50 successive steps of which application the several Figs. 1 to 6, both inclusive, are illustrations, or by a force applied to the sides

of the blank, as indicated by the arrows in Fig. 7, and of the successive steps of this application the several Figs. 7 to 11 are illus- 55
trations, all of which will be readily understood by a comparison of the corresponding parts having the same letters in the several figures of the drawings as noted. The next step is to shape the foot to fit against the
60 track-rail. This is done by placing the partially-formed blank in one of a pair of dies having a slot to receive the parts G and I, Fig. 4 or 8, the face of said die being of such
65 conformation that when the other die is brought against the foot F it will take the shape shown in either the full or dotted lines in Fig. 5 or 9, and also shown as applied to the track-rail
in Figs. 6 and 11. The offset H, Fig. 5 or 11, may then be put in, the spike or bolt holes 70
being punched at the same time, if desired.

While I have thus described the process of making my braces, I do not wish to be limited to the exact procedure described, as the order of the successive operations and machinery 75
for performing them may be varied, or two transformations may be effected in one operation without altering the result. For example, the offset H, Fig. 5 or 11, may be made
80 by a side blow, while in the first forming dies before the second die is brought against the foot of the rail-section to shape it to fit the track-rail.

Figs. 6 and 11 show different forms of my invention as applied to a railroad-track rail 85
constructed, preferably, from blanks substantially of the form of a T-rail, in both of which illustrations of the second branch of my invention the brace rests upon the flange of the supported rail, and there is also provided a lip or
90 flange which conforms to the outer, downward, and inward curve of the head of the supported rail, across which curve, at different points, under different circumstances, is always found the line of direction of the strain to be resisted. 95

By making a rail-brace as described so that the foot of the rail-section of which it is constructed is presented to the track-rail and the flattened head is made the attaching portion, I gain these among other advantages: first, 100
adaptability to any height or shape of track-rail, as by proper dies the foot of the blank may be made to fit in any desired manner the said track-rail; second, the width of the foot

of the rail-section allows the lip K, Fig. 6 or 11, to be formed, which, fitting against the side of the head of the track-rail, supports it against side pressure or tilting in a more efficient manner, since in this construction the chief bearing-points are against the head and flange only of the track-rail rather than against its web, thereby, without any nicety of fit, providing for the oblique strain or pressure produced by the contact between the flange of the wheel and the upper and inner surface of the rail; third, by using the head of the rail-section for making the spiking or attaching portion a larger and better-shaped area is available for spikes or bolts; fourth, there are no sharp bends necessary, and the metal is improved rather than injured by forging it, and iron rails can be used as well as steel; fifth, if it be used for analogous purposes—such as for fastening the longitudinal sleepers of street-railway tracks to the cross-ties below—the foot F, Fig. 8, being left in its original flat shape, can be drilled or punched for spiking or bolting to said sleepers.

The disposition of the metal in the brace as herein described and the utilization of the head of the blank for the foot of the brace and the foot of the blank for the head of the brace are the main essential features of my invention, and the lip or flange K, so formed as to admit of, or, preferably, prevent, contact between the head of the brace and the web of the track-rail, is an additional feature thereof.

I am aware that rail-braces have been heretofore made out of the fag or crop ends of T-rails, in the construction of which, however, the head of the blank has been used in bulk for the head of the brace, and in which the web of the blank has been necessarily turned over almost parallel with the base.

I am also aware that in other constructions broad, flat, spiking, or anchorage surfaces have been provided.

It is apparent that either of the constructions of my improved brace may be applied to analogous uses, and I do not confine myself to the use thereof in railroad-tracks.

I claim—

1. A brace constructed from a blank of the form in cross-section of a T-rail, the head of the blank forming the foot of the brace and the foot of the blank forming the head of the brace.

2. A rail-brace constructed with a lip or flange on the head of the brace which supports the outer, downward, and inward curve of the head of the rail, the head of the brace being constructed to rest upon the flange or foot of the supported rail, substantially as and for the purpose set forth.

THOMAS A. GRIFFIN.

Witnesses:

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J. I. VEEDER.