

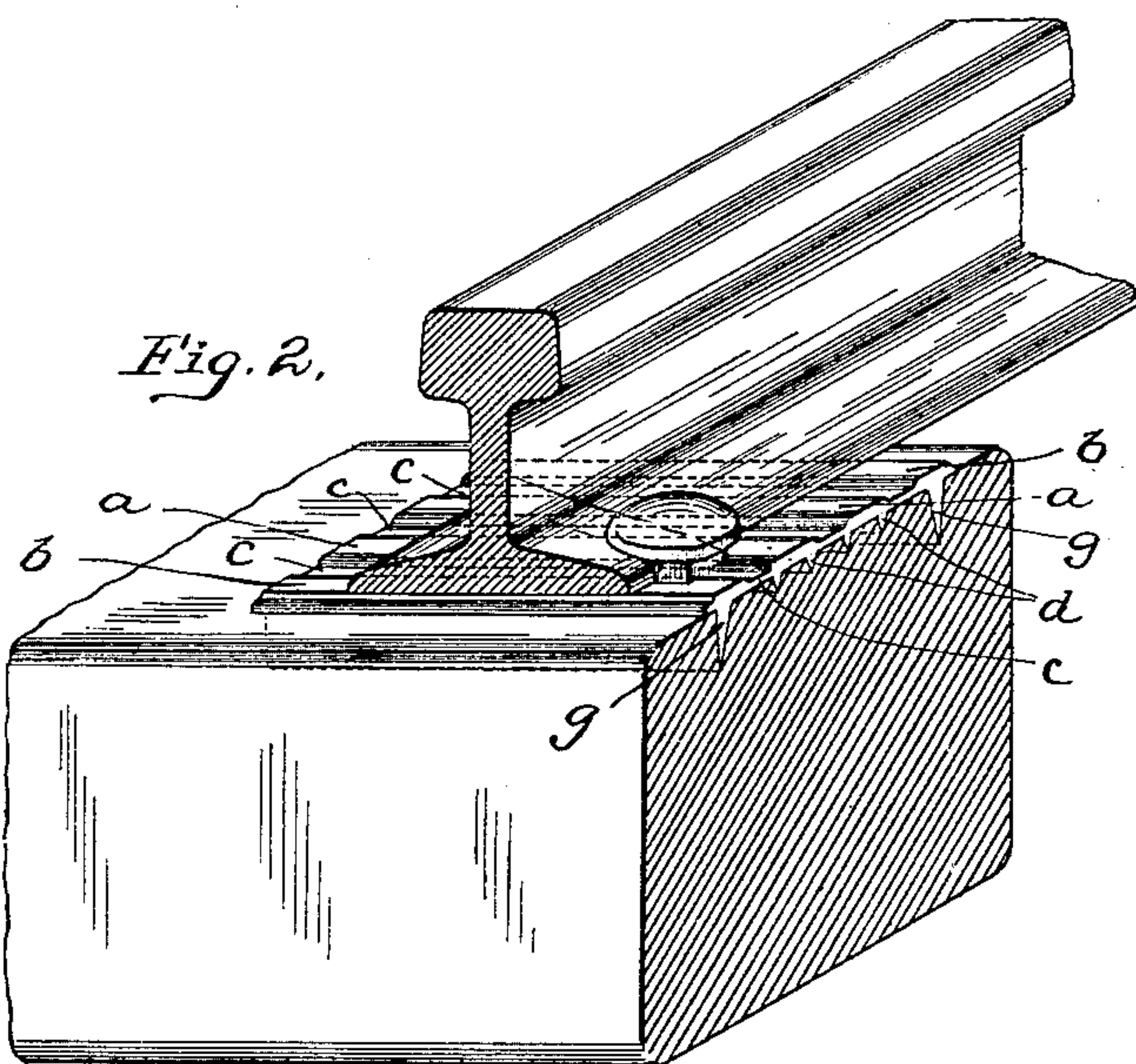
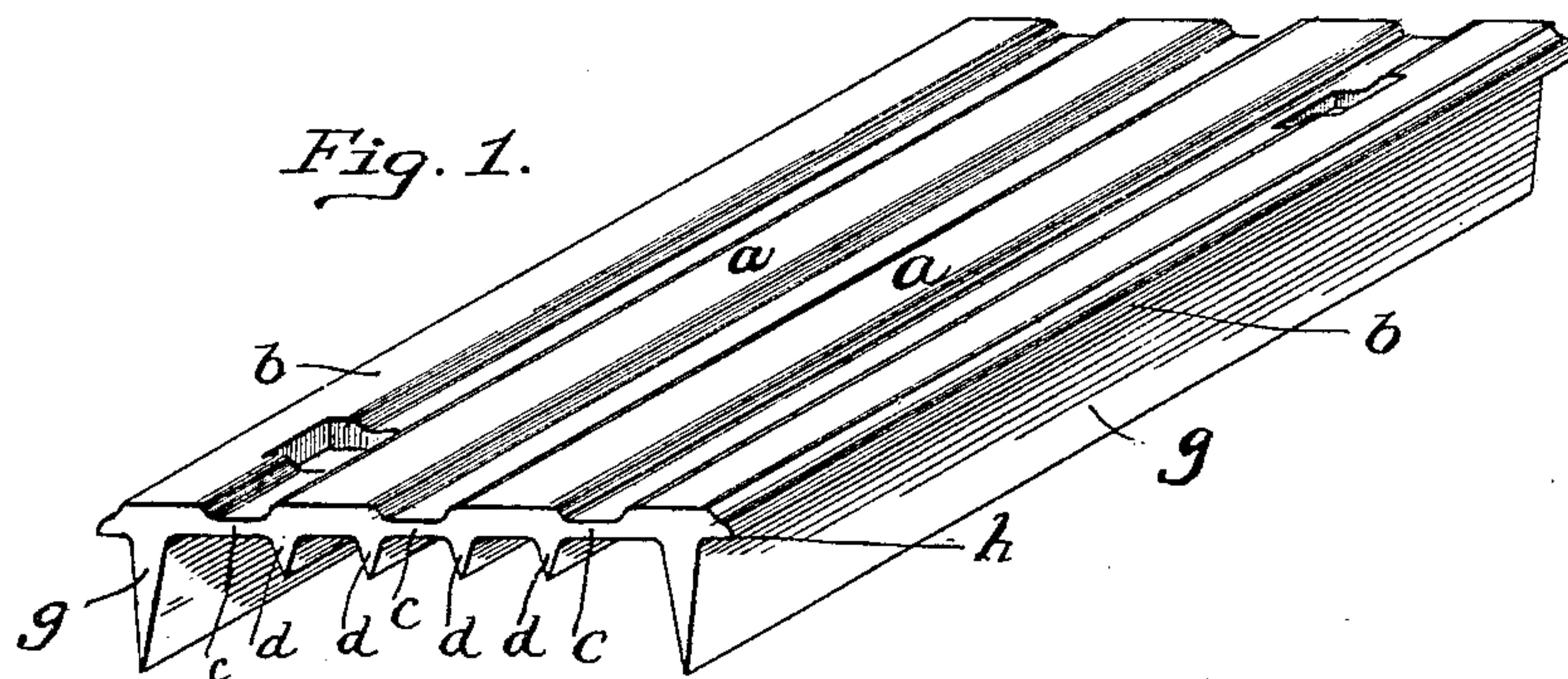
No. 631,039.

Patented Aug. 15, 1899.

W. GOLDIE.  
TIE PLATE.

(Application filed June 12, 1899.)

(No Model.)



Witnesses:

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Grace C. Raymond

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# UNITED STATES PATENT OFFICE.

WILLIAM GOLDIE, OF PITTSBURG, PENNSYLVANIA.

## TIE-PLATE.

SPECIFICATION forming part of Letters Patent No. 631,039, dated August 15, 1899.

Application filed June 12, 1899. Serial No. 720,276. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM GOLDIE, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a  
5 new and useful Improvement in Tie-Plates; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to tie-plates, its object being to provide an efficient and cheap form  
10 of tie-plate for use with straight tracks or those where there is little curve, so that the lateral strain upon the rails is slight.

The invention relates to the same general class of tie-plates as shown in Patent No.  
15 610,179, granted to me September 6, 1898. In that patent is shown a rail-sustaining plate having its body formed of two or more thick rigid rail-sustaining bars connected by one or more thin webs and downwardly-projecting  
20 flanges below and extending along the bars and adapted to enter the tie longitudinally of the grain thereof, the depending flanges, with the thick bars, forming, in effect, T-bars, while the thin webs reduce the weight  
25 of the plate, so that the thickness and stiffness of the bar portions thereof may be increased without increasing the weight of the plate.

The present invention has for its object to  
30 provide a tie-plate of increased strength by taking advantage of what might be termed a "channel-bar" construction; and it comprises, generally stated, a rail-sustaining plate having its body provided with one or more  
35 thick flat bar portions and two depending flanges below each such bar portion, one extending along each outer edge of the same, and thin webs connecting the thick bar portions of the plate. It also comprises certain  
40 other improvements, which will be more fully hereinafter set forth.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying  
45 drawings, in which—

Figure 1 is a perspective view of the plate, and Fig. 2 shows the same with the rail resting thereon and the tie-plate embedded in the tie.

Like letters of reference indicate like parts 50 in each figure.

The tie-plates are formed by rolling bars to the desired section, cutting them to length, and punching them. The plate has its body formed of the thick rail-sustaining bar or  
55 bars *a*, forming the inner bar or bars of the plate, and the outer thick rail-sustaining bars *b*, and these rail-sustaining bars lie horizontal and, together with the thin web portions *c*, form the body of the tie-plate. Each inner  
60 bar *a* has depending below the same two flanges *d d*, one such flange extending along each outer edge of the bar portion, so that such bar portion forms, with said flanges, in effect, a channel-bar and is stiffened not only  
65 by its thick body, but is further stiffened and braced by the two depending flanges, which largely increase the strength of the bar portion, as they brace it near its edges, and the two flanges in connection with each bar portion  
70 act together in bracing such bar portion. The depending flanges *d* being applied to the inner bars are preferably made shallow, so that they will not cut very deep into the tie-body, while they increase the adhe-  
75 sion of the plate to the tie and as they are not of any great depth will not break up or injure the tie-body. I prefer, however, to depend more largely on the deeper depend-  
80 ing flanges of the outer bars *b* for the adhesive or holding powers of the plate, such outer flanges *b* being provided with deep thin sharp tie-entering flanges *g*, which extend  
85 along such bar portions *b* and take into the tie-body, so as to obtain a stronghold thereon. I also prefer to provide the body with the outwardly-extending flanges or lips *h*, which extend beyond the outer depending flanges *g*,  
90 so as to fully prevent the entrance of water or moisture into the seat formed in the tie by such flanges. As so constructed I am enabled to obtain a tie-plate in which the strength and rigidity of the inner thick rail-sustaining bars are increased, the deep outer depending flanges *g* serving to brace the outer  
95 bars *b*, while the depending flanges *d d* on each inner bar, though not of so great depth, serve to impart practically as great rigidity



on account of each bar portion carrying two such flanges, while the fear of destroying the tie by the inner depending flanges is overcome, as such flanges are short and do not  
5 sink any great depth into the tie.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A rail-sustaining plate having a body provided with a thick flat bar portion and two  
10 depending flanges below such bar portion, outer thick bar portions beyond the same and thin webs connecting such thick bar portions, substantially as set forth.

2. A rail-sustaining plate having a body  
15 provided with a thick flat bar portion and two depending flanges below such bar portion, one extending along each outer edge thereof, outer thick bar portions beyond the same and thin webs connecting such thick bar portions,  
20 substantially as set forth.

3. A rail-sustaining plate having a body provided with a thick flat bar portion and two

depending flanges below such bar portion, outer thick bar portions and thin webs connecting the thick bar portions, the outer bar  
25 portions each having a single depending flange below and extending along the same, substantially as set forth.

4. A rail-sustaining plate having a body provided with a thick flat bar portion and two  
30 depending flanges below such bar portion, outer thick bar portions, and thin webs connecting the thick bar portions, the outer bar portions each having a single depending flange below and extending along the same,  
35 and of greater length than the depending flanges of the inner bar portion, substantially as set forth.

In testimony whereof I, the said WILLIAM GOLDIE, have hereunto set my hand.

WILLIAM GOLDIE.

Witnesses:

G. C. RAYMOND,  
ROBERT C. TOTTEN.