

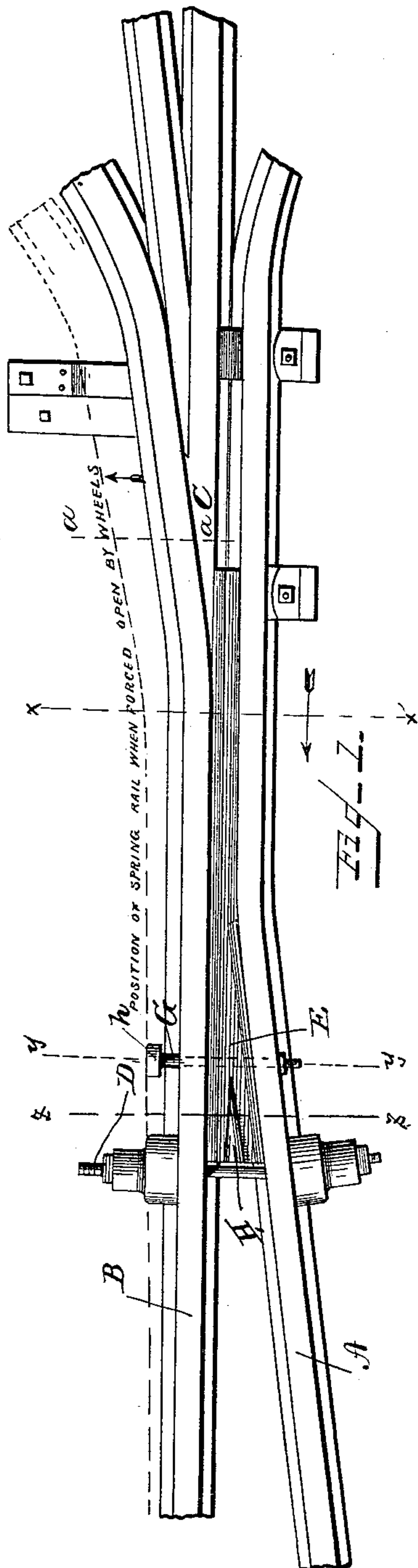
(No Model.)

2 Sheets—Sheet 1.

D. F. VAUGHAN.
RAILROAD FROG.

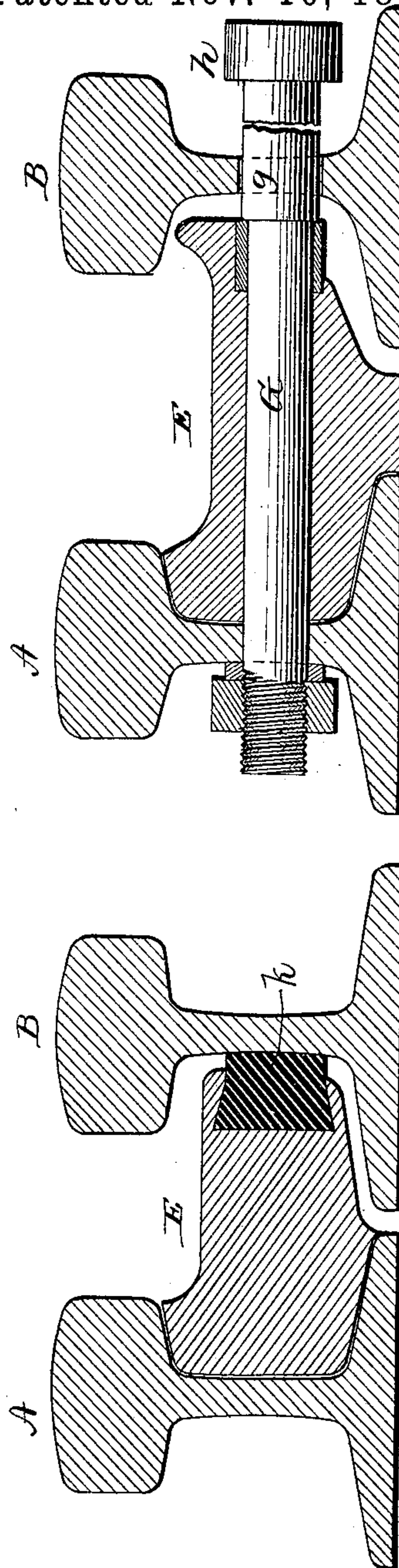
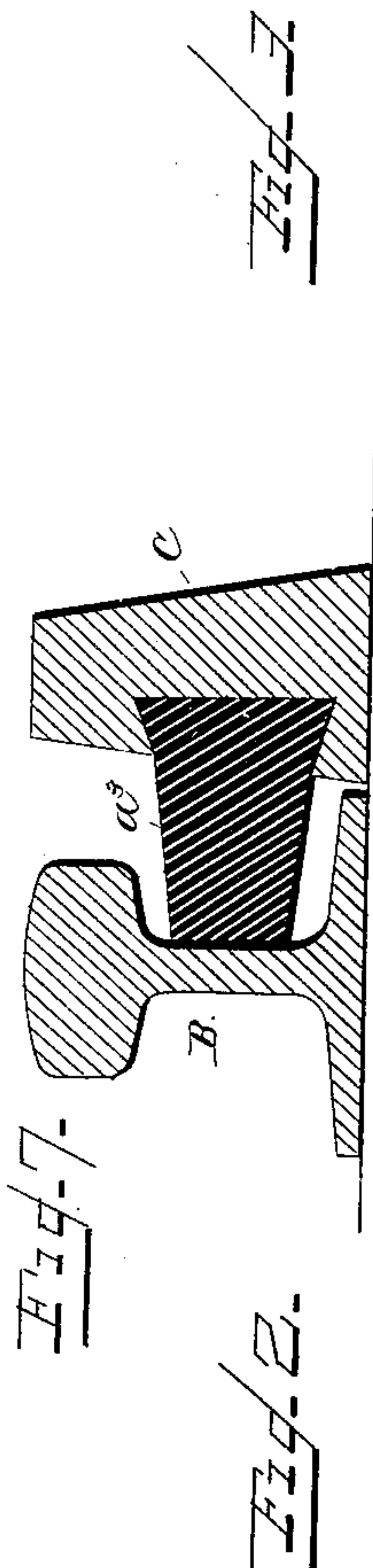
No. 329,979.

Patented Nov. 10, 1885.



WITNESSES
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 4.

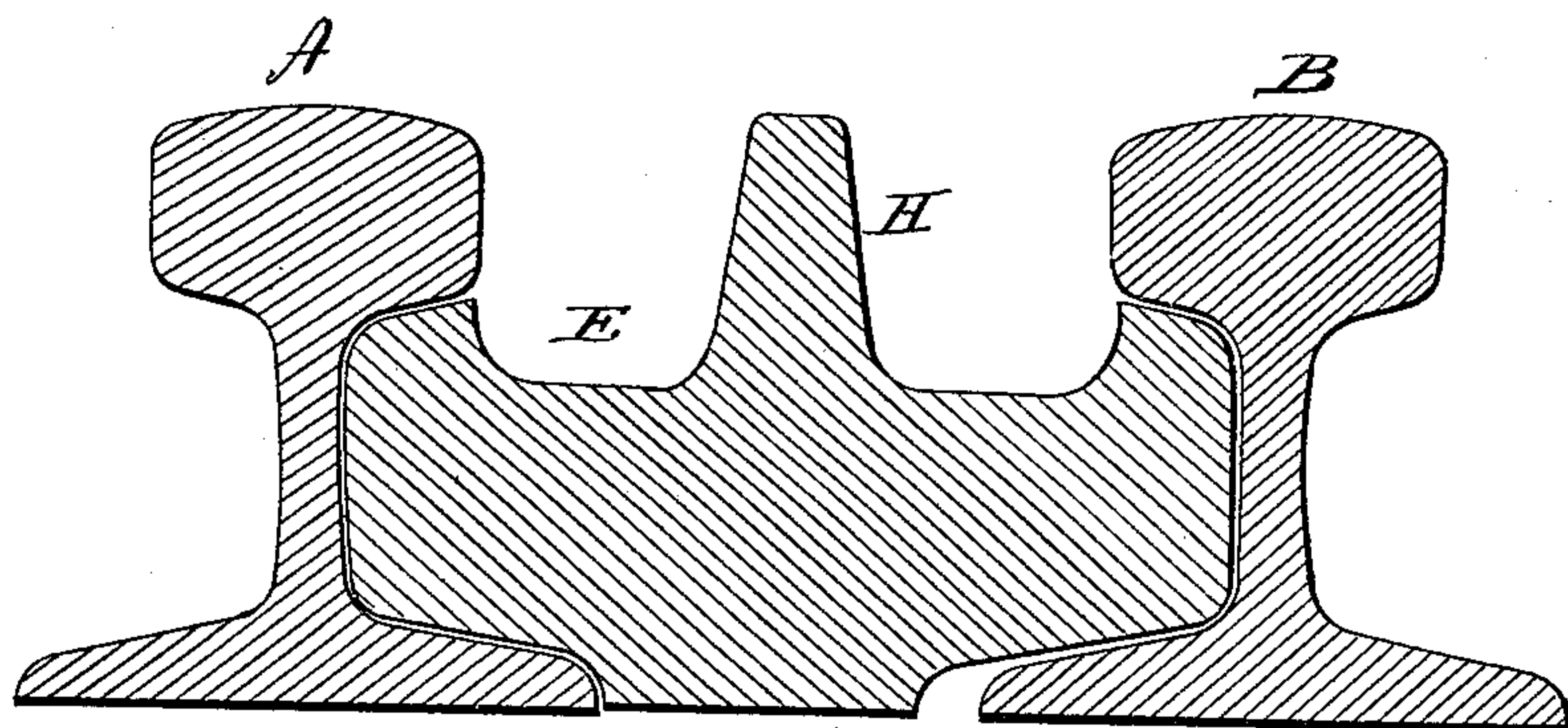


Fig. 5.

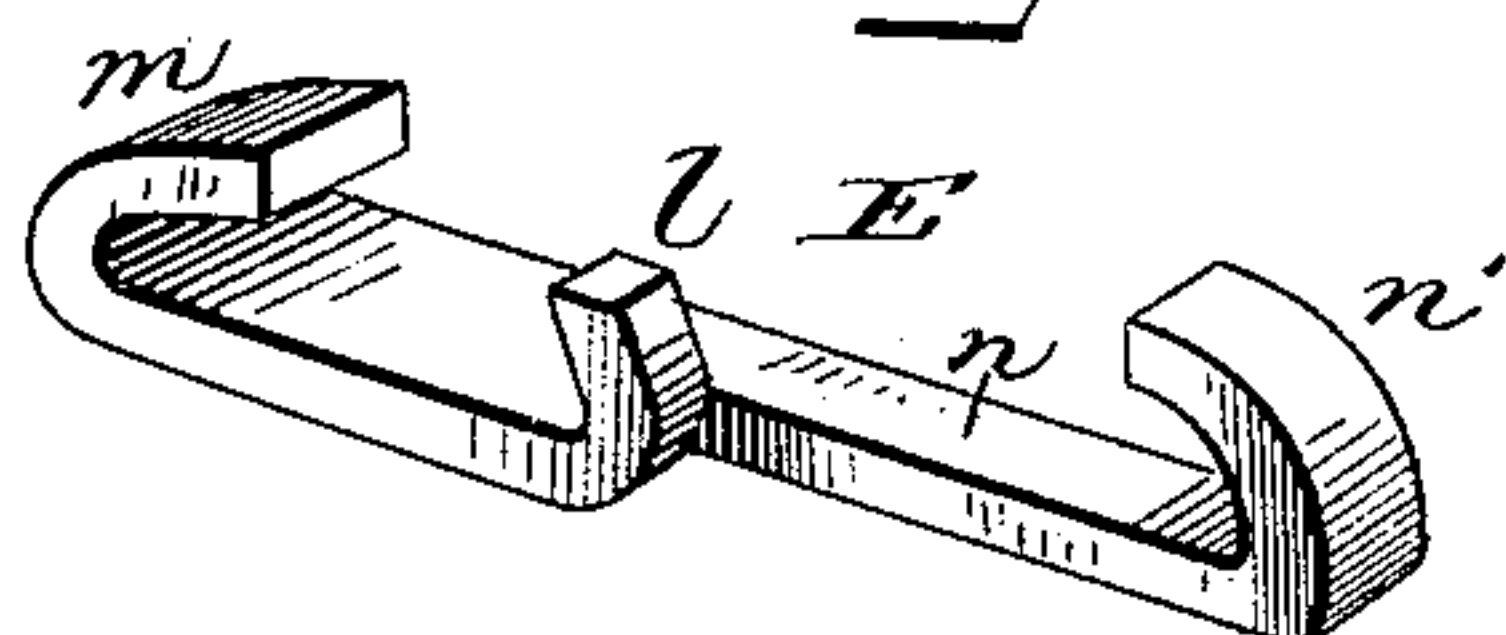
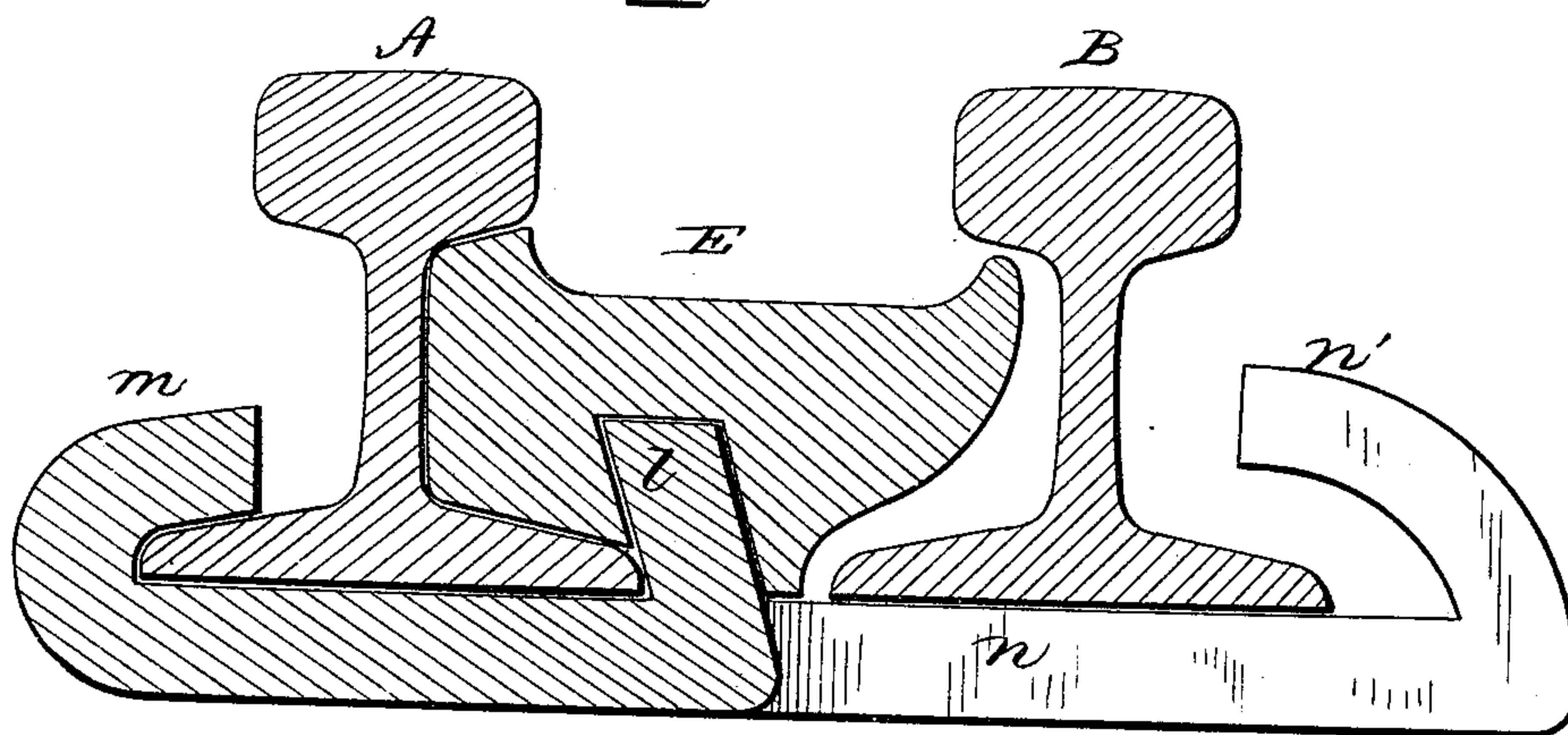


Fig. 6.



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UNITED STATES PATENT OFFICE.

DAVID FISHER VAUGHAN, OF MONONGAHELA CITY, PENNSYLVANIA.

RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 329,979, dated November 10, 1885.

Application filed April 25, 1885. Serial No. 163,471. (No model.)

To all whom it may concern:

Be it known that I, DAVID F. VAUGHAN, a citizen of the United States, residing at Monongahela City, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Frogs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

In the frogs of railroad turn-outs or crossings, where a spring-rail is employed, there is a space left between the spring-rail and the rigid or stiff rail, and if the spring-rail is not held in proper position, because of weakness thereof or other cause, the train is likely to be derailed with the usual direful results.

The object of my present invention is to make such provision whereby, if the spring-rail is not held in the proper position, thereby letting wheels passing over the main track drop in between the rigid and spring rails, the train will, instead of being wrecked or otherwise damaged, be rerailed by the time it reaches a point where the gage is sufficiently contracted to receive them. The means I provide for this purpose constitute my invention, which will be hereinafter fully disclosed.

In the accompanying drawings, in which similar letters of reference indicate like parts in the different figures, Figure 1 is a plan view of one side of a railroad provided with my improvement. Fig. 2 is a section on the line xx , Fig. 1, looking in the direction of the arrow; and Figs. 3 and 4 are sections on the lines yy and zz , respectively, looking in the same direction. Fig. 5 is a detail perspective of a clamping or fastening device for the bar or casting, and Fig. 6 a section to show how it is employed. Fig. 7 is a detail sectional view on the line aa of Fig. 1.

A represents the rigid or stiff rail, and B the spring-rail; C, the point of the frog, against which the spring-rail is normally held by the spring-bolt D, all these being constructed and laid upon the road-bed as usual.

In the angular space between the stiff or rigid rail A and spring-rail B, I secure to the stiff or rigid rail, by means of bolts or clamps G, the triangular bar or casting E, constructed,

as indicated in the several sectional views, to snugly fit the side of the rigid or stiff rail. The upper surface of this bar or casting is grooved or hollowed out, so that said surface will be below the top of the rail about a distance equal to that between the edge of the flange and surface of the tread of the wheel. The small end of this casting or bar is sufficiently long to extend between the point of the frog and the stiff or rigid rail A, the said end taking the place of the small casting or filler now commonly employed, which is removed when mine is applied.

The bolt or clamp G, as shown in Fig. 3, has an extension, g , passing through the spring-rail, and is provided with a head, h , to limit the movement of the said spring-rail.

The modification of this fastening device, as shown in Figs. 5 and 6, consists of a flat plate or bar, which has a hook or projection, l , extending upwardly into a hole in the under side of the casting, and the end m is turned around the flange of the rail to secure the casting E in place. This plate is provided with an extension, n , which passes beneath the spring-rail, and provided on its end with a hook, n' , which serves to limit the movement of said spring-rail.

The bar or casting E may be provided with cushions or springs k , of rubber or other suitable material, placed in the side thereof adjacent the spring-rail, to prevent concussion or a too rapid closing of the spring-rail. Cushions a^3 , similar to those just described, may also be placed in the point of the frog adjacent the spring-rail.

To prevent the center, or what is termed the "blind" driving-wheel commonly used on freight-engines from dropping in between the rigid and spring rail, I may form with the bar or casting E the triangular portion or projection H, the upper surface of which is inclined downwardly from the wide end of the casting and vanishing at about the point where the bolt G passes through, as clearly indicated in Fig. 1. This projection will receive said driving-wheel, which will run upwardly on it until high enough to get back upon the main-track rail. If the gage is widened too greatly, the wheels, instead of falling between the usual space, will be received on their flanges upon

the bar or casting E, which will sustain and direct the said wheels until they have reached a point on the spring-rail where the gage is sufficiently narrow to receive them on their
5 treads. Should the spring-rail break off at any point between the bolt D and the point of the frog, the train would still be rerailed.

My improvement may be applied to frogs already upon the road-bed, or they may be applied
10 to frogs before being laid while being constructed in the shops.

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

1. The combination, with the frog and rigid
15 and spring rails, of a bar or casting secured at its larger end between said rails and having its lesser end extending in rear of and located between the point of the frog and the stiff rail, substantially as set forth.

20 2. The combination, with the frog and the rigid and spring rails, of a bar or casting hollowed out on its upper face, and secured at its larger end between the rigid and spring rails, and having its lesser end extending in rear of
25 and located between the point of the frog and the stiff rail.

3. The casting or bar E, secured between the rigid and spring rails, provided with cushions or springs *k*, substantially as described.

4. In a turn-out or crossing frog in which
30 a spring-rail is employed, the point of the frog C, provided on its side adjacent the spring-rail with cushions or springs, for the purpose specified.

5. The casting or bar E, secured between
35 the rigid and spring rails, having the projection H on its upper surface, the said projection having its upper surface formed as an inclined plane, the highest point of which is at the widest end of the casting or bar, substantially as described, and for the purpose set
40 forth.

6. The clamp for the casting between the spring and rigid rail, consisting of the flat plate having the projection *l*, to engage the
45 under side of said casting, the hooked end *m*, passing around the flange of the rigid rail, whereby the casting is secured in place, combined with the extension *n* of said plate passing beneath the spring-rail, and provided with
50 the hook to limit the outward movement of said spring-rail, as set forth.

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

DAVID FISHER VAUGHAN.

Witnesses:

S. P. KELLER,

I. C. ANDERSON.