

(No Model.)

V. ANGERER.

COMBINED FOOT AND BRACE FOR RAILWAY RAILS.

No. 483,889.

Patented Oct. 4, 1892.

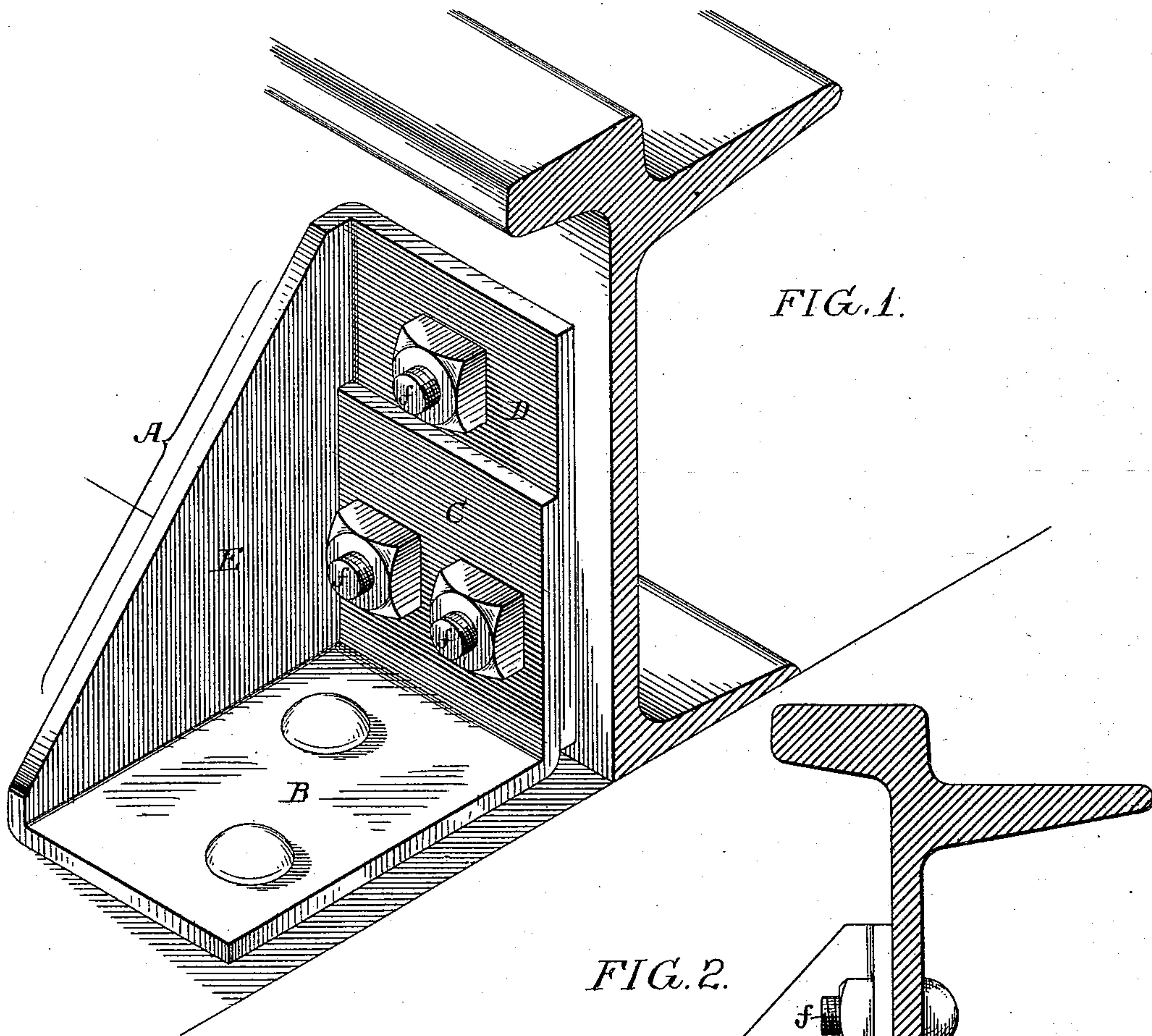


FIG. 1.

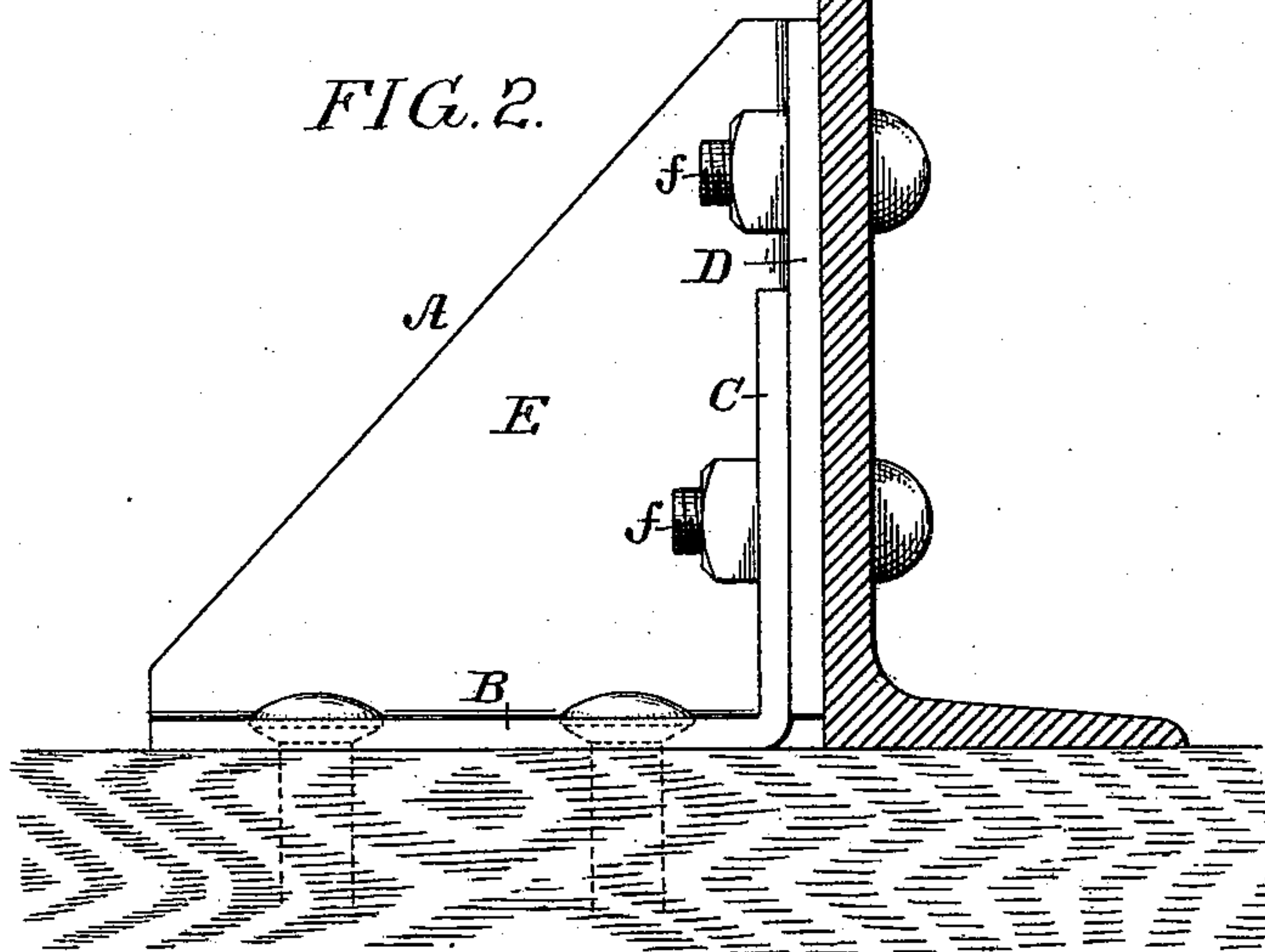


FIG. 2.

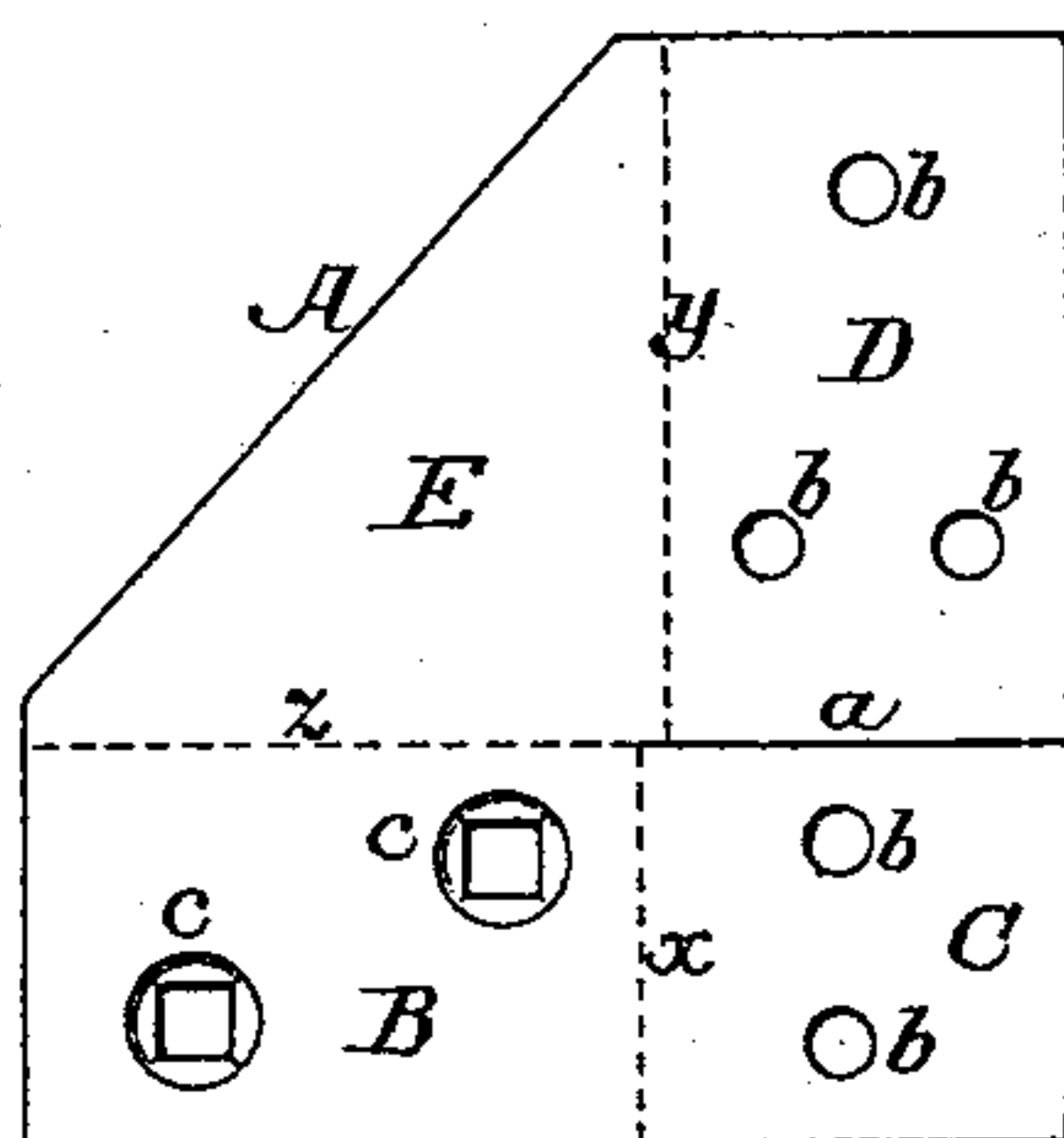


FIG. 3.

Witnesses:  
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# UNITED STATES PATENT OFFICE.

VICTOR ANGERER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
THE WILLIAM WHARTON, JR., AND COMPANY, OF SAME PLACE.

## COMBINED FOOT AND BRACE FOR RAILWAY-RAILS.

SPECIFICATION forming part of Letters Patent No. 483,889, dated October 4, 1892.

Application filed May 16, 1892. Serial No. 433,139. (No model.)

*To all whom it may concern:*

Be it known that I, VICTOR ANGERER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented  
5 an Improved Combined Foot and Brace for Railway-Rails, of which the following is a specification.

The object of my invention is to construct a combined foot and brace for railway-rails.

10 My invention is especially adapted for use in connection with the rail for which application for patent was filed by Edward Samuel on the 14th day of December, 1891, Serial No. 414,937; but it will be understood that my  
15 invention can be applied to certain other forms of rails as well.

In the accompanying drawings, Figure 1 is a perspective view showing my combined foot and brace applied to a rail. Fig. 2 is a trans-  
20 verse sectional view of the rail, showing the foot and brace attached; and Fig. 3 is a view of a blank from which the combined foot and brace is formed.

The rail shown in the accompanying drawings has a head, web, and one base-flange, which projects only from one side of the web and is preferably situated on the inner side of the rail. At each cross-tie a combined foot and brace-piece is secured to the rail, this foot  
30 and brace-piece comprising the vertical brace-flange A, preferably triangular, vertical wings C and D, secured to the web of the rail, and an extended base B, which provides an increased bearing for the rail upon the tie as  
35 compared with the flange ordinarily formed at the base of the rail.

The foot and brace-piece is preferably formed in the following manner: A blank is first cut to the shape shown in Fig. 3, an incision is made on the line  $a$ , the several bolt-  
40 holes  $b$  are punched or drilled, and the spike-holes  $c$  in the base are also punched or drilled. The blank is then bent upward on the line  $x$  to form the wing C at right angles to the base  
45 B, and the wing D is then formed by bending

it upward at right angles to the brace portion E on the line  $y$ . The wing D is so located in respect to the wing C that when the brace A is bent upward on the line  $z$  at a right angle to the base B said wing D will bear against  
50 the wing C, as shown clearly in Fig. 2. The bolt-holes  $b$  in the wing C will be in line with the lower holes in the wing D, so that suitable bolts  $f$  can be passed through the various holes  
55  $b$  and through openings in the web of the rail.

Besides providing an extended base for the rail, the device has the brace A, which extends upwardly from the base, so as to abut against the rail, and thus effectually resist  
60 transverse strains upon the rail. The base-flange of the rail also rests upon the cross-tie, so that downward movement of the rail, such as would cause shearing action on the bolts  
65  $f$ , is prevented.

The combined foot and brace above described is very readily made from sheet metal with little or no waste and can be manufactured without the use of special machinery. One or other of the wings C D may be omitted  
70 in some cases.

I claim as my invention—

1. A combined rail, foot, and brace having a base for bearing on the tie, overlapping vertical wings, to both of which the web of the rail is secured, and a brace-flange tying one  
75 of the wings to the base, the whole being made of one piece of sheet or plate metal, substantially as described.

2. The within-described blank for a rail, foot, and brace, said blank being of the shape  
80 shown in Fig. 3 and having an incision  $a$  and holes  $b$  and  $c$ , substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

VICTOR ANGERER.

Witnesses:

W. J. BURNS,  
HARRY SMITH.