

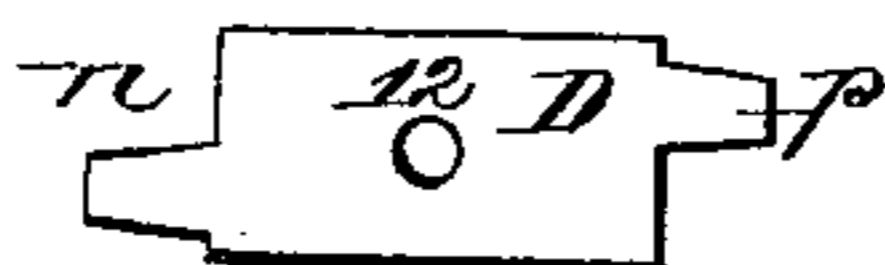
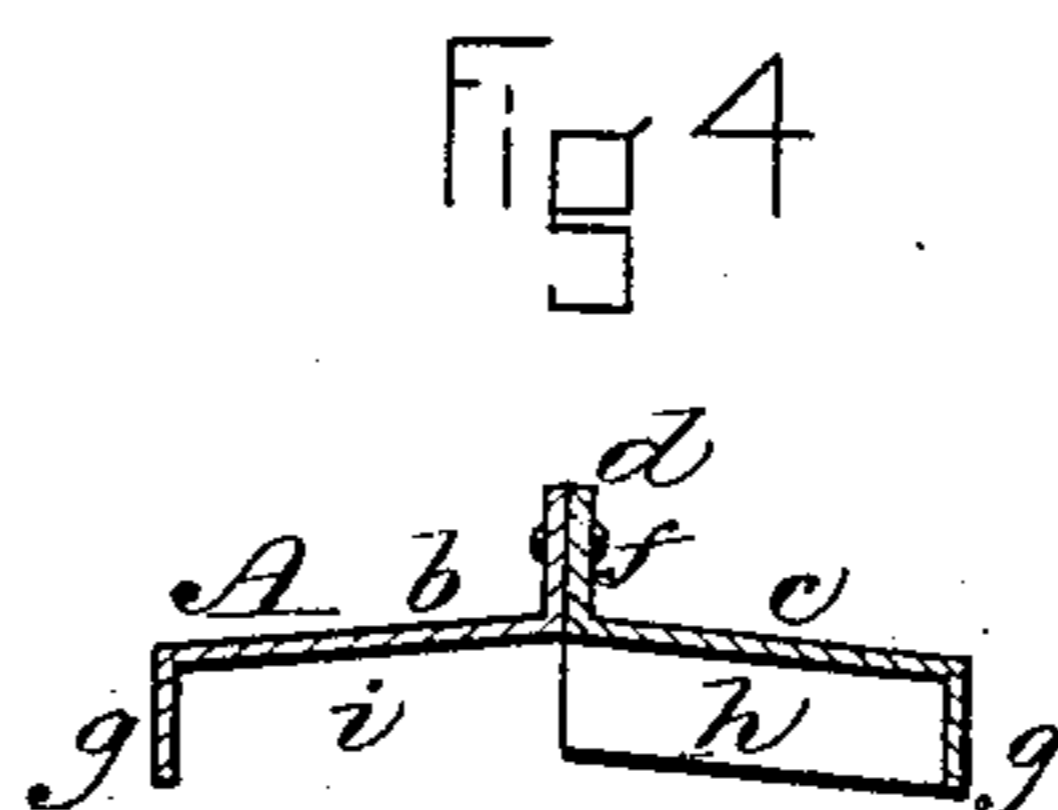
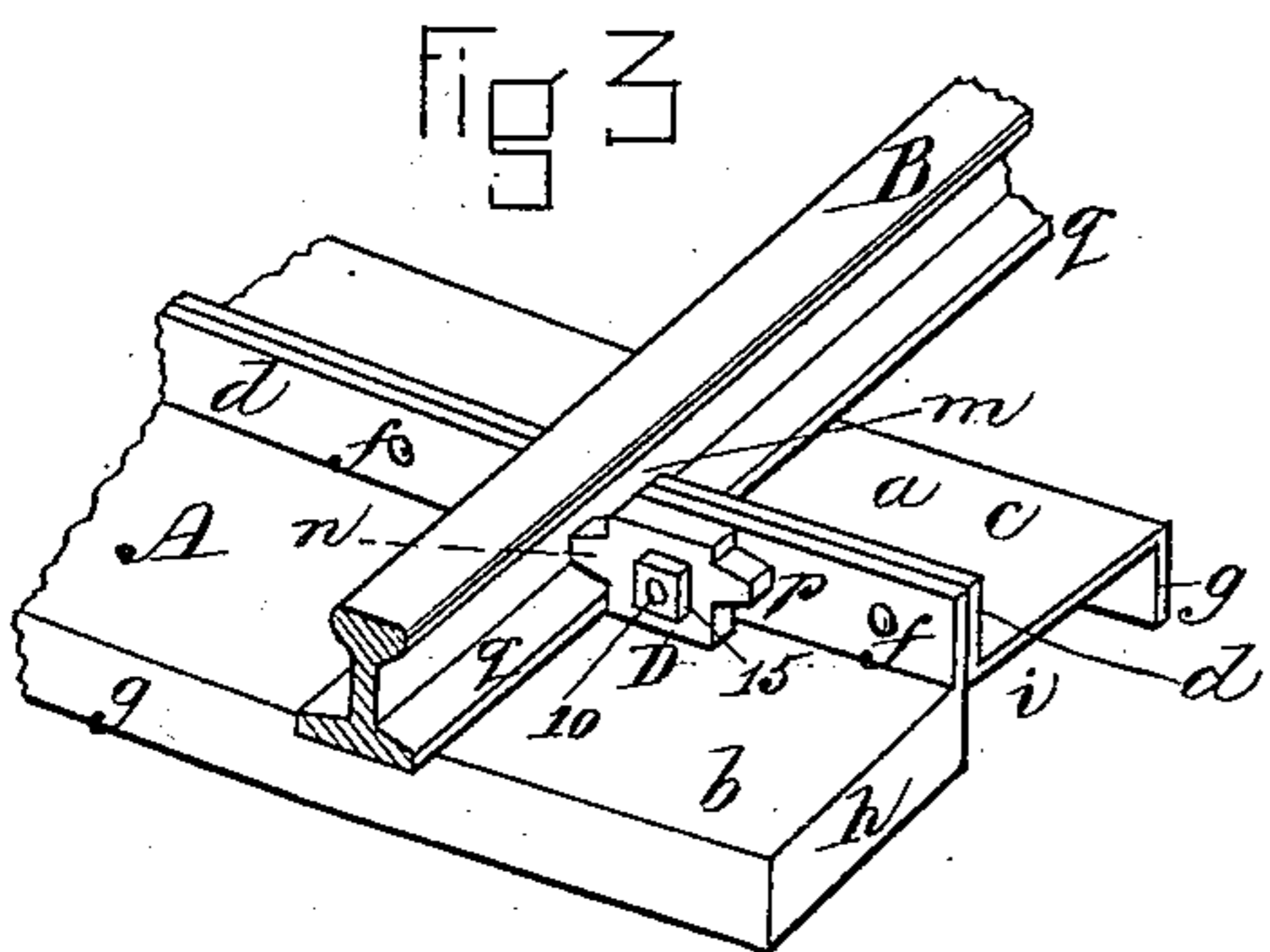
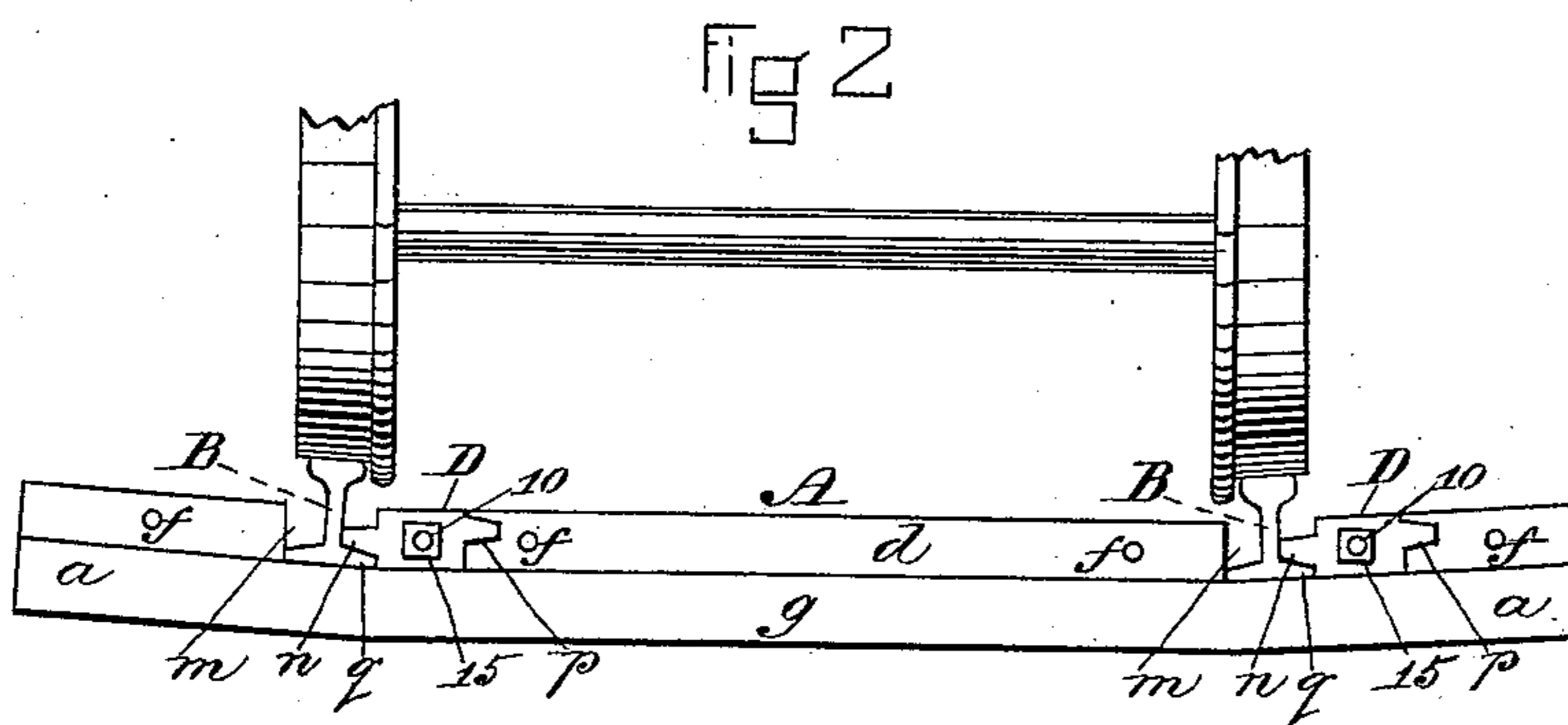
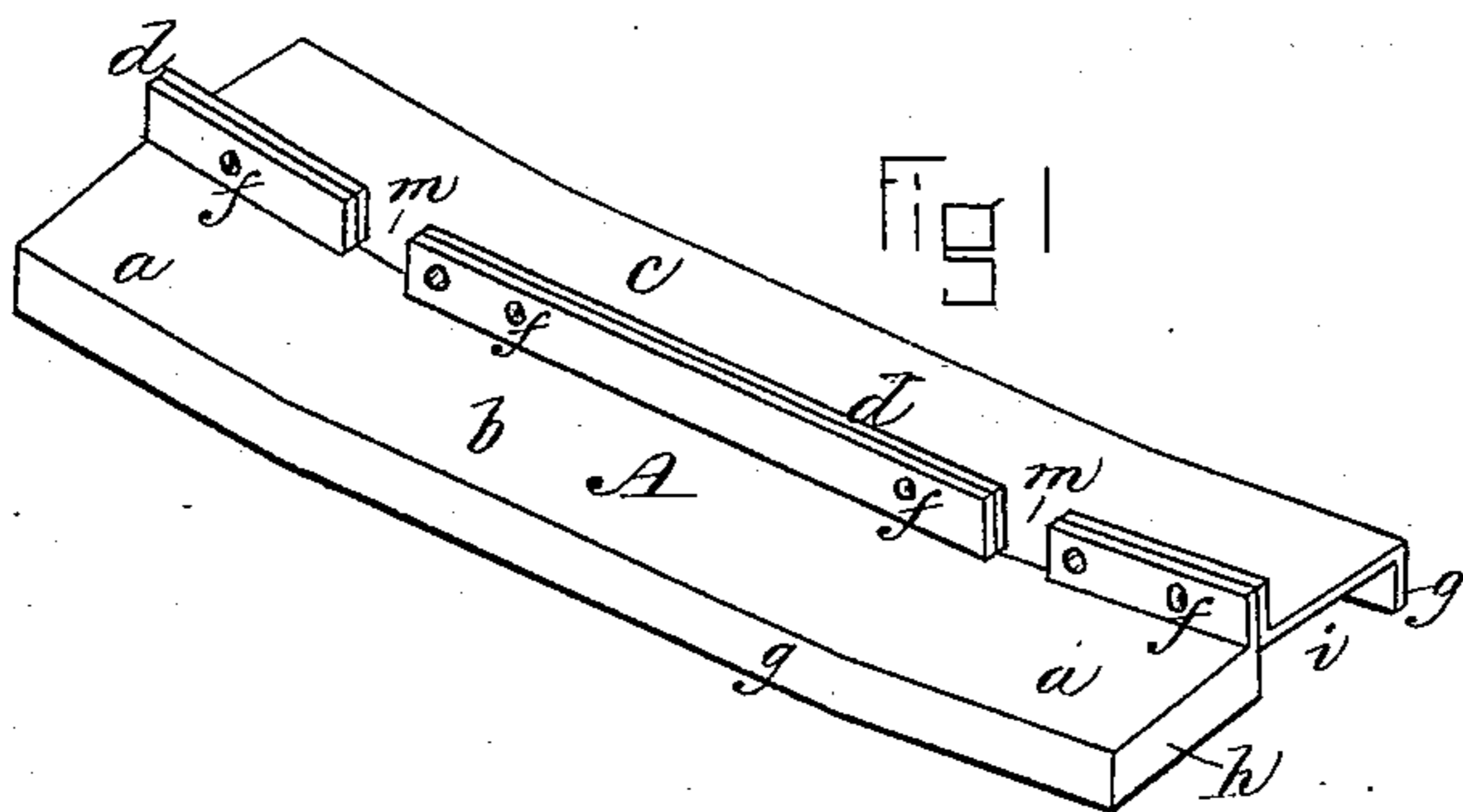
(No Model.)

E. N. HIGLEY.

RAILWAY TIE.

No. 334,228.

Patented Jan. 12, 1886.



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

EBEN N. HIGLEY, OF SOMERSWORTH, NEW HAMPSHIRE.

RAILWAY-TIE.

SPECIFICATION forming part of Letters Patent No. 334,228, dated January 12, 1886.

Application filed October 14, 1885. Serial No. 179,907. (No model.)

To all whom it may concern:

Be it known that I, EBEN N. HIGLEY, of Somersworth, in the county of Strafford and State of New Hampshire, have invented certain Improvements in Railway-Ties, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved railway-tie. Fig. 2 is a side elevation of the same with the rails in place thereon. Fig. 3 is a perspective view of one end of the tie with a rail secured in place thereon. Fig. 4 is a vertical transverse section of the tie. Fig. 5 is a side elevation of one of the rail-clamping plates detached.

My invention relates to certain improvements in metallic railway-ties; and it consists in the combination, with a metallic railway-tie having a flange provided with a notch or aperture for the reception of the rail, of a clamping-plate, provided at its opposite ends with projections of different heights, which, by changing or reversing the position of said clamping-plates, are brought into the proper position for holding the rail when raised or lifted up more or less above the surface of the tie by introducing plates or pieces thereunder, as occasion may require.

In the said drawings, A represents the tie, and B B the rails. The body of the tie is composed of stout sheet metal, preferably steel, and consists of two sections or portions, *b c*, arranged side by side and provided with upwardly-turned flanges, which are firmly connected by a series of rivets, *f*, forming a central vertical flange, *d*, extending from one end of the tie to the other. The body of the tie is provided at its outer edges or sides with downwardly-projecting flanges *g g*, and at either end with a downwardly-projecting flange, *h*, extending about half-way across the same, the flanges *g h* being adapted to engage the earth and hold the tie in proper position when in use, while the open spaces *i* at the ends of the tie, serve to admit the earth or ballast and allow the same to be tamped or packed tightly thereunder. Two notches or apertures, *m*, are formed at proper distances apart in the vertical flange *d*, for receiving

the rails B and preventing them from spreading.

The tie thus far described is constructed substantially like that for which Letters Patent of the United States No. 312,717 were granted to me February 24, 1885. Each end *a* of the tie A is bent or inclined slightly upward from the ends or shoulders of the rail-notches *m* nearest the center of the tie, as seen in Figs. 1 and 2, by which construction the rails B, when secured in place, are inclined inward toward the center in the direction of their width, thus causing their treads to lie parallel with the inclined treads of the car-wheels, as seen in Fig. 2, whereby a more extended and even bearing of the wheels upon the rails is secured, which increases the traction and produces more uniform wear upon both rails and wheels. The rails B are secured to the tie A, after being inserted within the notches or aperture *m* of the flange *d*, by means of clamping-plates D, Figs. 2, 3, and 5, which are placed alternately on opposite sides of the rail. One of these plates D is secured to the side of the central vertical flange, *d*, on one side of each notch *m*, by means of a bolt, 10, passing through a hole, 12, and a nut, 15, and is provided at its opposite ends with inclined projections *n p*, one of which projects over and bears upon the base-flange *q* of the rail B, as seen in Figs. 2 and 3, and thus serves to hold the rail firmly to the tie. It will be seen that the projections *n p* are located at different heights, and that neither of them is in the center; consequently by reversing the ends of the plate D or turning it over, these projections or their different sides can be brought into the proper position for holding the rail when raised or lifted up more or less above the surface of the tie by placing small plates or pieces beneath it, as is often necessary in leveling up when the contiguous ties become raised by frost or other causes.

The above-described method of securing the rails in place by means of the clamping-plates D, bolted to a vertical rail-flange extending upward from the body of the tie, is exceedingly simple, strong, and inexpensive, while it affords ready means of adjustment, and admits of the rails being removed and replaced with the minimum amount of labor.

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

5 In a metallic railway-tie, the combination, with a vertical flange having a notch or aperture for the reception of the rail, of a reversible clamping-plate, D, bolted to one side of said flange and provided with projections *n p* at its opposite ends, adapted, by changing the position of the said clamping-plate, to bear

upon the base-flange of the rail when raised at 10 different heights above the surface of the tie, substantially as described.

Witness my hand this 9th day of October, A. D. 1885.

EBEN N. HIGLEY.

In presence of—

P. E. TESCHEMACHER,
W. J. CAMBRIDGE.