

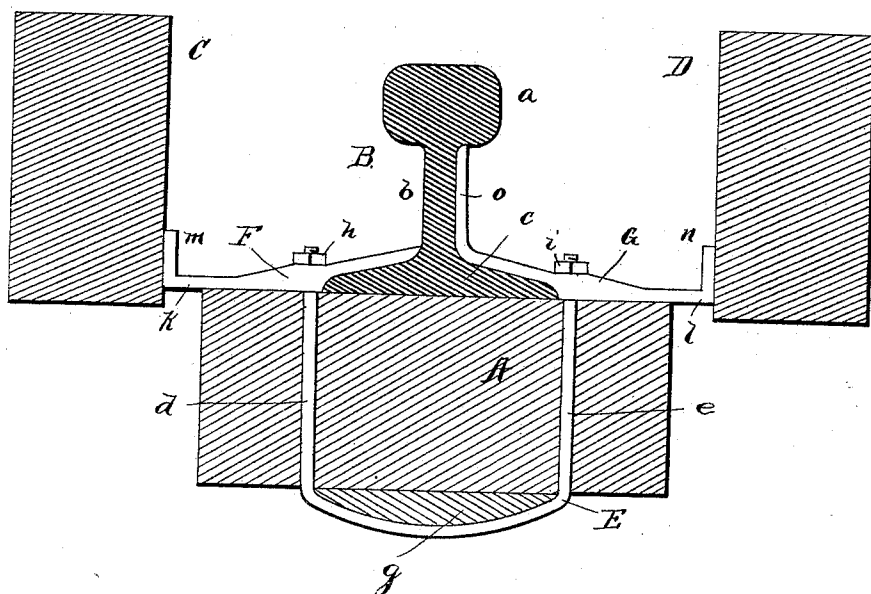
(No Model.)

R. MORRELL.

RAIL FASTENING FOR LONGITUDINAL STRINGERS.

No. 467,548.

Patented Jan. 26, 1892.



WITNESSES:
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ROBERT MORRELL, OF SUMMIT, NEW JERSEY.

RAIL-FASTENING FOR LONGITUDINAL STRINGERS.

SPECIFICATION forming part of Letters Patent No. 467,548, dated January 26, 1892.

Application filed January 19, 1891. Serial No. 378,318. (No model.)

To all whom it may concern:

Be it known that I, ROBERT MORRELL, a citizen of the United States, residing at Summit, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Rail-Fastenings for Longitudinal Stringers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which forms a part of this specification.

My invention relates to fastenings for securing railway-rails to longitudinal stringers such as are used in elevated railways, and has for its object to furnish a fastening which will hold the rail securely to the stringer, may be readily and easily applied or removed, and will brace the rail against movement in any direction whatever, no matter how the strain may be exerted against or upon it.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the subjoined claims.

My invention is illustrated in the accompanying drawing, which is a transverse section of a longitudinal stringer with a rail attached, with the fastening devices shown in side elevation, transverse sections of two adjacent beams, which serve as rail-guards, especially in elevated roads, being shown in their proper positions. The means for supporting the stringer and the rail-guards being no part of my invention, it is not deemed necessary to illustrate them. Any suitable or well-known means may be used.

In said drawing, A is the longitudinal stringer, upon which a rail B is supported, and C and D are the rail-guards set alongside of the rail a short distance therefrom and having their upper edges slightly above the level of the head of the rail. The rail is of the ordinary construction, being composed of a head *a*, web *b*, and base *c*. A U-bolt E is placed in position with its ends *d e* projecting upward through and slightly above the stringer A, its bow *f* being below the stringer and a metal block *g* being placed between

the bow and the bottom of the stringer, so that the bolt, when tightened, will not injure the wood of the stringer. The upper ends of the U-bolt E also pass through clips F G, which lie upon the flanges of the base *c* of the rail B and the top of the stringer A, and suitable nuts *h i* are provided, which, when screwed down tightly upon the bolts, cause the clips to forcibly clamp and hold the rail down upon the stringer.

In order to make the whole structure stronger and stiffer, I extend the clips F G, as at *k l*, which extensions reach and bear against the inner sides of the rail-guards C and D, and to give a more extended bearing for these extensions of the clips against the rail-guards, so as to prevent abrasion or injury to their surfaces, I provide flanges *m n*, which, while shown as turned upward, may be turned in other directions or may be formed as heads, if desired. To further strengthen the rail, especially against outward side-thrust, I extend the clip G upward at its inner end, as at *o*, said extension bearing against the outside of the web *b* of rail B and having its upper end under and supporting the head *a* of said rail.

My invention will be readily understood from the foregoing description, taken in connection with the drawing. The holes in the stringer to receive the bolt are at the edges of the base of the rail, and the rail being considerably narrower than the stringer sufficient wood is left outside of the bolt-holes to give great strength and solidity and to resist all probable side thrust or strain upon the rail. The extension of the clips to bear upon the inner sides of the rail-guards utilizes the strength of all the fastenings of the rail-guards to assist in rendering the stringer and rail rigid in its position and prevent any possible misplacement of the stringer which would alter its position with relation to the rail-guards, substantially making a solid structure of the stringer and rail-guards. The upward extension of the inner end of the clip serves to give additional support to the web against side-thrust and to the head against downward thrust, forming in substance a reinforce to the web.

Having thus fully described the construction, operation, and advantages of my invention, what I claim as new therein, and desire

to secure by Letters Patent of the United States, is—

1. In combination, the rail, the longitudinal stringer upon which said rail rests, the rail-
5 guards secured parallel to the rail and stringer, the clips for securing the rail to the stringer, having extensions with flanged ends bearing against the rail-guards, and the U-bolt and
10 nut for securing the clips, substantially as set forth.

2. In combination, the longitudinal stringer, the parallel rail-guards, the rail, the clips for

securing the rail to the stringer, having extensions bearing against the rail-guards, and fastenings for securing the clips, one of 15 the clips having an inner extension bearing against the side of the web and under the head of the rail, substantially as set forth.

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

ROBERT MORRELL.

Witnesses:

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S. BRASHEARS, Jr.