

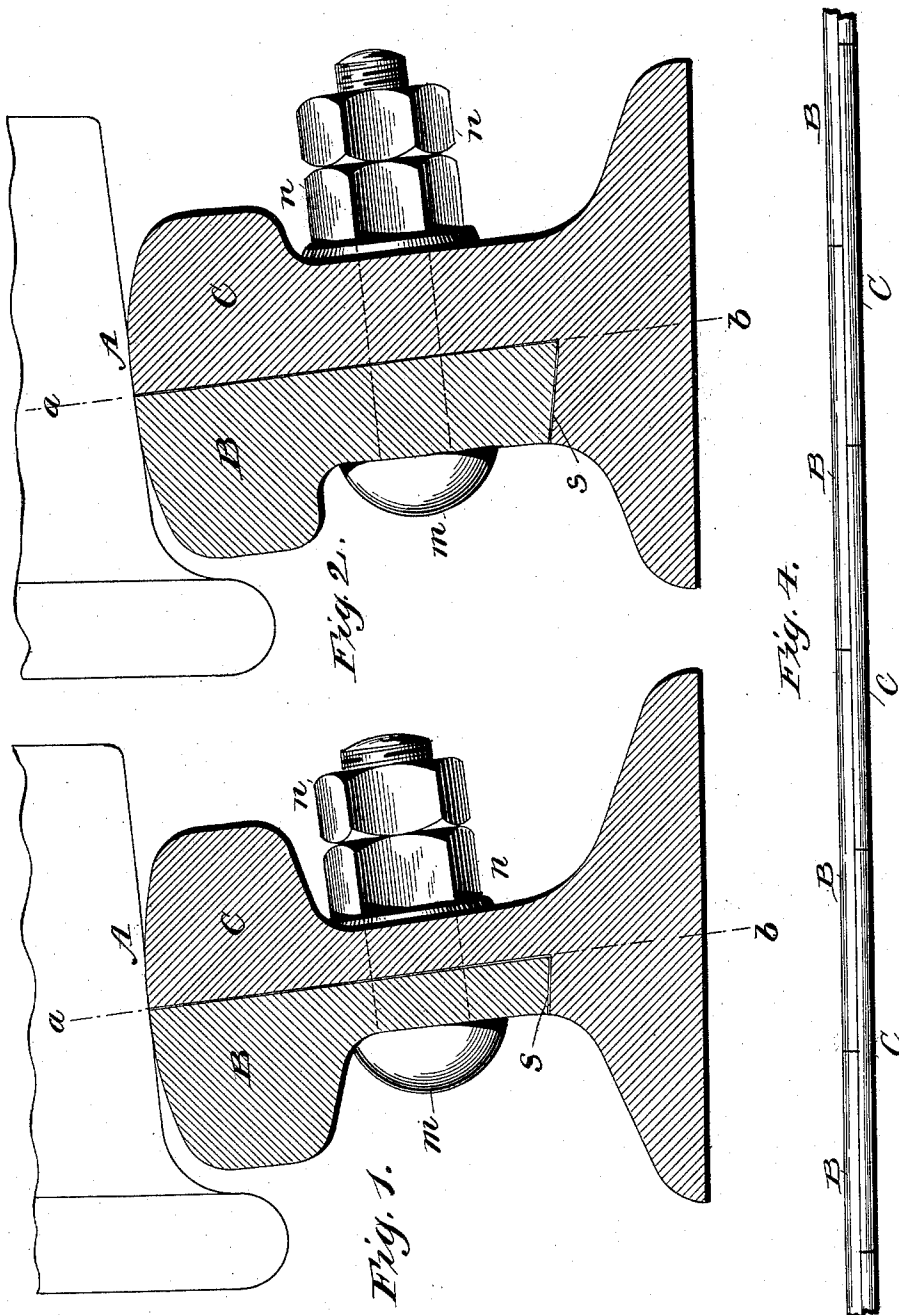
(No Model.)

2 Sheets—Sheet 1.

F. I. SMITH.
RAILROAD RAIL.

No. 487,133.

Patented Nov. 29, 1892.



Witnesses

L. C. Mills
C. A. Dix

Inventor

Fredrick I. Smith
by Marshall Bailey
Attorney

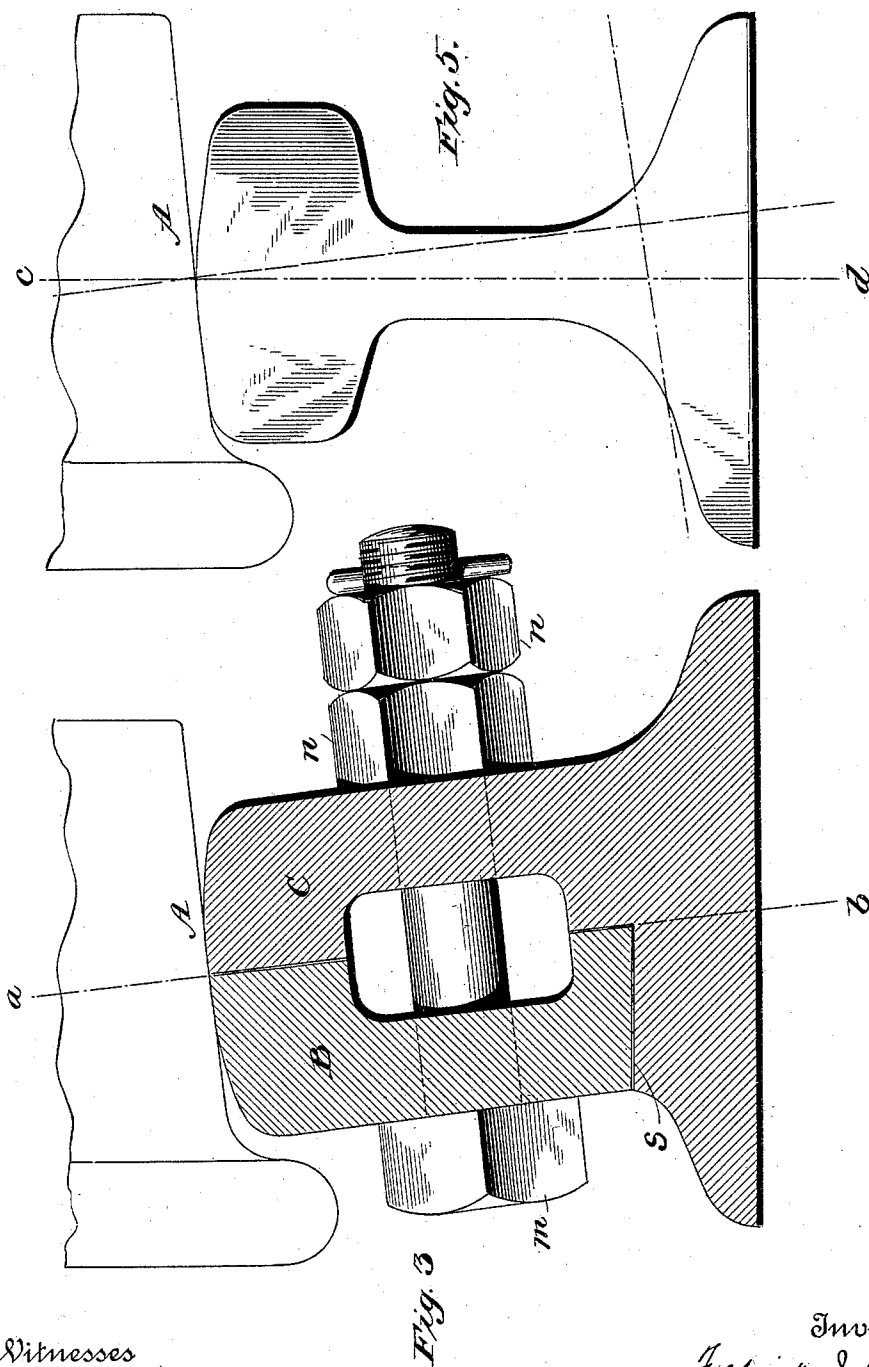
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Inventor

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Attorney

UNITED STATES PATENT OFFICE.

FREDERICK I. SMITH, OF CHARLESTON, SOUTH CAROLINA, ASSIGNOR OF
THREE-FOURTHS TO GEORGE S. VALENTINE, OF NEW YORK, N. Y.

RAILROAD-RAIL.

SPECIFICATION forming part of Letters Patent No. 487,133, dated November 29, 1892.

Application filed August 2, 1892. Serial No. 441,933. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK I. SMITH, of Charleston, in the State of South Carolina, have invented a new and useful Improvement in Railroad-Rails, of which the following is a specification.

The object I have in my invention is to make a railroad-rail on which greater smoothness and rapidity of run can be had and the injurious hammering at the joints which takes place when a wheel passes over ordinary track-rails shall be prevented. To this end I make the rail with a body which is inclined to the base and is longitudinally divided into two parts in a plane perpendicular to the inclined tread of the car-wheel, the head of the rail being so formed that the wheel-tread will rest equally upon both sections of the rail and these sections being so arranged that they shall break joint with each other.

To enable others skilled in the art to make and use my invention, I shall now proceed to describe it in detail by reference to the accompanying drawings, in which—

Figures 1, 2, and 3 are end elevations of rails slightly differing from one another, but all embodying my invention. Fig. 4 is a plan of the compound rail. Fig. 5 is a view mainly diagrammatic and in end elevation of the ordinary rail now in use, this figure being added in order to graphically indicate the difference between my rail and that which now is generally used.

My rail has a base with the ordinary flat horizontal under surface and a body consisting of a web and head, which is inwardly inclined, so as to be at right angles with the inclined or beveled tread or face of the wheel A, and it is divided longitudinally into two sections B C, the line of division being in a plane $a b$, which is vertical to the plane of inclination or bevel of the face or tread of the wheel, as clearly indicated in Figs. 1, 2, and 3. The rails shown in these figures slightly differ between themselves in section. The rails in Figs. 1 and 2 are T-rails, the web in Fig. 2 being somewhat thicker than the web in Fig. 1, while the rail in Fig. 3 is a hollow or $\cap$ rail with a solid base. The base in each case is on the outer section, and the inner section at its lower end takes and fits into an undercut seat s in the outer section. The head of

the compound rail is so formed and arranged that the wheel contacts with and rests upon both sections equally. The sections are secured together by bolts and nuts $m n$ and are so arranged that they break joint with each other, as seen in Fig. 4. Under this arrangement each section bears equally the weight of the wheel, so that when it (the wheel) is passing a joint between two abutting sections it will be supported by a solid portion of the opposite section, in consequence of which all jar and hammering is prevented. The inward inclination of the rail also neutralizes the tendency of the wheel to push or tilt the rail outwardly, which is a serious difficulty in the system now in use.

By reference to Fig. 5, which represents the system last referred to, it will be seen that the wheel contacts with and rests entirely upon that portion of the rail to one side of the axis of the rail, which axis (marked $c d$) is at an inclination to the plane of the tread of the wheel instead of being in a plane $a b$ perpendicular thereto. The difference between this system and the one proposed by me is obvious.

Having described my invention and the best way known to me of carrying the same into effect, I state in conclusion that I do not claim, broadly, a compound rail divided vertically into two longitudinal sections; nor do I claim breaking joint between the sections of such a rail; but

What I do claim as my improvement in compound rails intended for use with wheels having a beveled or inclined tread is—

The compound rail herein described, having a body inclined to the base and longitudinally divided into two sections in a plane perpendicular to the inclined tread of the car-wheel, the head of the rail being so formed that the wheel-tread will bear equally upon both sections and these sections being so arranged as to break joint with each other, substantially as and for the purposes hereinbefore set forth.

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

FREDERICK I. SMITH.

Witnesses:

ANNIE B. SMITH,
ETTA B. SMITH.