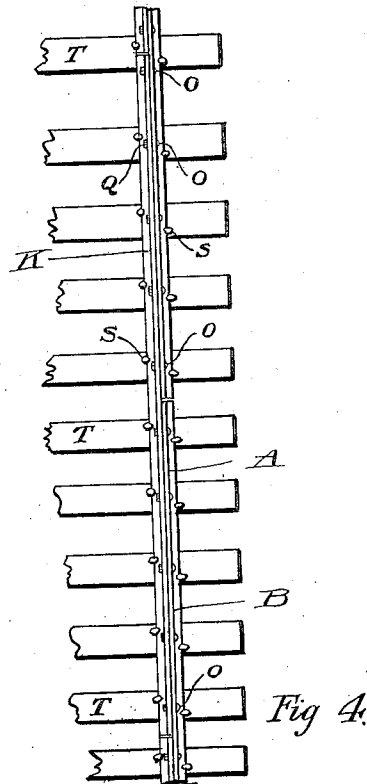
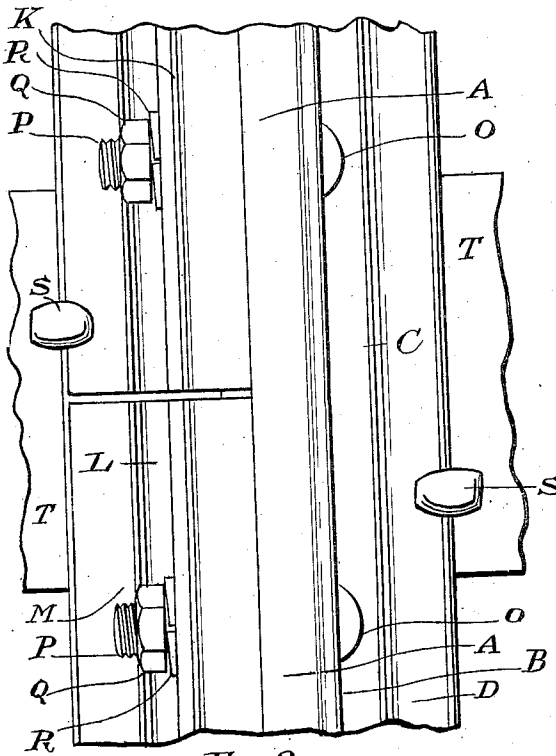
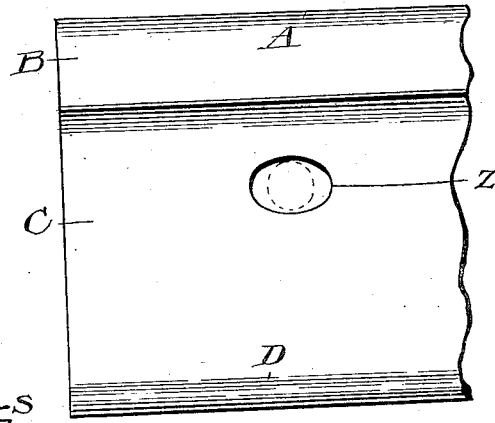
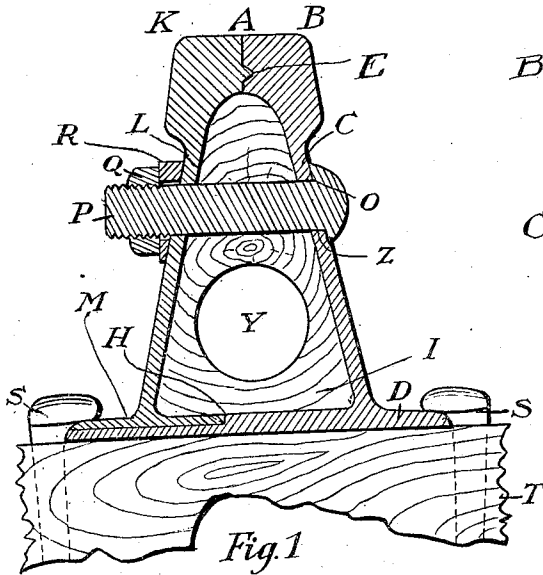


No. 845,147.

PATENTED FEB. 26, 1907.

J. N. VANDEGRIFT.
RAIL FOR RAILWAYS.
APPLICATION FILED DEC. 10, 1904.



Witnesses
J. L. Barry.
Edw. W. Vaill Jr.

Inventor
James N. Vandegrift
by *James Peters*
Attorney

UNITED STATES PATENT OFFICE.

JAMES N. VANDEGRIFT, OF BRYN MAWR, PENNSYLVANIA.

RAIL FOR RAILWAYS.

No. 845,147.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed December 10, 1904. Serial No. 236,280.

To all whom it may concern:

Be it known that I, JAMES N. VANDEGRIFT, a citizen of the United States, and a resident of Bryn Mawr, in the county of Montgomery, State of Pennsylvania, have invented certain new and useful Improvements in Rails for Railways, of which the following is a full, clear, and complete disclosure.

The object of my invention is to produce a rail for railways such that the usual pounding or hammering due to the joints of the rails will be overcome, the amount of material for a rail having a certain strength will be reduced, the support and structure of the rail will be stiffened and will take up the stresses due to contact with the wheels, especially upon curves, with greater reliability and efficiency, and also in other features hereinafter to be more fully described, and pointed out in the accompanying claims.

Briefly stated, my invention comprises a rail formed of two longitudinal members, the supports of which are separated by interior spaces, said members being held together by suitable bolts or other fastening devices and being provided with a connecting-base.

For a full, clear, and exact description of this embodiment of my invention, reference may be had to the following specification, and to the accompanying drawings, forming a part thereof, in which—

Figure 1 is a transverse sectional view of my improved rail, showing the manner of holding the parts or members together. Fig. 2 is a plan view thereof, showing the joint between one pair of longitudinal members. Fig. 3 is an elevation of one end of a member of my improved rail. Fig. 4 is a plan view of my improved rail, showing one complete member and the manner of overlapping the same with the adjacent members.

Referring to the drawings, the letter A indicates the bearing-surface of the rail, which is formed by the upper portions K and B of the two members of the rail. These upper portions K and B may be provided with a groove and corresponding rib E, which will more definitely and firmly locate the parts in relation to each other and prevent sliding, though I do not consider this essential to the successful employment of my improved rail. From the portions K and B extend supports, preferably in the form of platens or webs C and L. These platens extend downwardly from said portions K and B and diverge so as to brace the wheel-bearing portions and

give a broad base for the support of said portions. The web C is attached to a transverse base-plate D, which extends for the whole width of both members of the rail and is provided with a recess or groove H, within which is seated the base plate or foot M of the web L. As clearly shown in Fig. 4, the members of the rail just described are assembled so that adjacent pairs overlap for about one-half their lengths, thus forming a continuous rail without transverse joints, thereby doing away with fish-plates, angle-irons, and other similar connecting means for the ends of the rails. For the purpose of holding the rails in their relative positions I provide a series of bolts P, which are provided with suitable washers or nut-locks R and nuts Q, said bolts having their heads inclined, as indicated at O, to correspond to the angle of the web C in relation to the axis of the bolts. This arrangement of the head of the bolt forms a means for preventing the bolt and nut-lock R from rotating on its axis, not only when being placed in position, but after the rail is in use. The holes Z, through which the bolts pass, are more or less elongated to allow for the expansion and contraction of the rail due to heat and cold.

The space between the webs C and L and the base D may be provided with a block or bars I, having a hole or conduit Y therein. Within this hole or conduit Y may be placed telephone or telegraph cables, or, in the case of electric railways, the feeder or conductor cables. These blocks of wood or other similar material not only form a filling for the interior spaces of the rail, but also strengthen the same and tend to deaden the vibrations and the sound produced by the wheels passing over the rails.

My improved rail is attached to the ties T in any suitable or well-known manner, as by the use of the spikes S.

It will be seen from the above description that I have produced a rail which is scientifically constructed and has the effect of a well-designed steel truss or of a pair of combined girders and is also provided with a broad base over which the weight of the vehicle carried by the rails is distributed. The wheel portion is effectively braced, and the strains resulting from the lateral forces acting upon the vehicle are much more efficiently taken up by the inclined webs than by a single web heretofore employed. Furthermore, a reduction in the amount of material for the

same amount of strength is attained without involving difficulties in the manufacture or rolling of the rail, while at the same time spaces are provided which may be utilized to inclose telegraphic or telephonic cables or feeders for electric railways. The inclination of the webs also provide means for locking the bolt to prevent the same from turning.

10 Having thus described my invention, it will be obvious that certain changes may be made in the form and arrangement of parts without departing from the spirit and scope of my invention; but

15 What I claim, and desire to protect by Letters Patent of the United States, is—

1. A railway-rail, comprising a wheel-bearing portion consisting of two longitudinal members, webs or supports extending therefrom and diverging relatively, and a base connecting said webs, said base being integral with one of said webs, and forming a support for the other of said webs.

2. A railway-rail, comprising a wheel-bearing portion consisting of two longitudinal members, supports or webs diverging therefrom, a plate carried by one of said webs, and extending transversely to form a base for the other of said webs.

30 3. A railway-rail, comprising a wheel-bearing portion, webs or supports carried thereby, and a base-plate integral with one of said webs, forming a base or support for both webs.

35 4. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging from said divisions, bolts connecting said webs for holding said divisions in engagement with each other, a base-plate connected with one of said webs, said base-plate having a recess therein to form a base for the other of said webs, and means carried by the other of said webs and engaging said recess.

45 5. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging from said divisions, bolts connecting said webs, a base-plate carried by one of said webs and extending to the other of said webs, and having a recess or groove

therein, a bearing-plate carried by said other web and adapted to be supported and retained in said groove or recess.

6. A railway-rail, comprising a wheel-bearing portion divided longitudinally, the divisions of said portion overlapping each other to form break-joints, webs or supports diverging from said portion, and a base-plate integral with one of said webs, forming a support for both webs.

7. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging therefrom, and a wooden block provided with a longitudinally-extending hole forming a conduit located between said webs.

8. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging therefrom, and blocks or bars provided with a longitudinally-extending hole located between said webs, to form a conduit between said webs.

9. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging therefrom, and wooden blocks or bars located between said webs, one of said webs being provided with a base to support said blocks and webs.

10. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging therefrom, wooden blocks or bars having a conduit located between said webs, and bases for each web, the base-plate for one web forming a support for the other web.

11. In a railway-rail, a supporting portion therefor having relatively inclined surfaces, bolts passing through said supporting portions, said bolts having inclined heads and washers to correspond to the angle of said supporting portion, and a base portion carried by one of said portions forming a support for the other supporting portion.

In witness whereof I have hereunto set my hand this 9th day of December, A. D. 1904.

JAMES N. VANDEGRIFT

Witnesses:

JOHN F. GRADY,
EDW. W. VAILL, Jr.