

Sept. 2, 1958

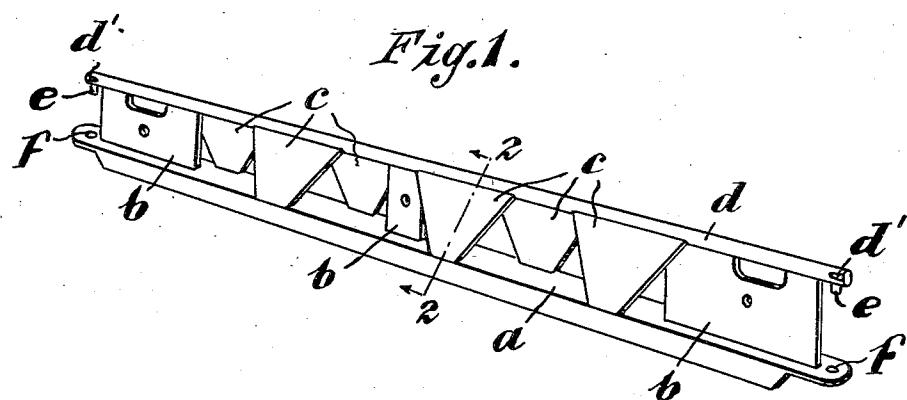
W. M. ROBB

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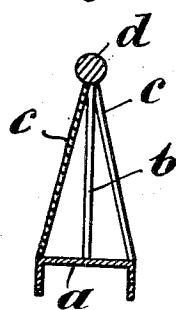
RAIL SECTIONS

Filed Nov. 23, 1955

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*Fig. 2.*



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Fig. 3.

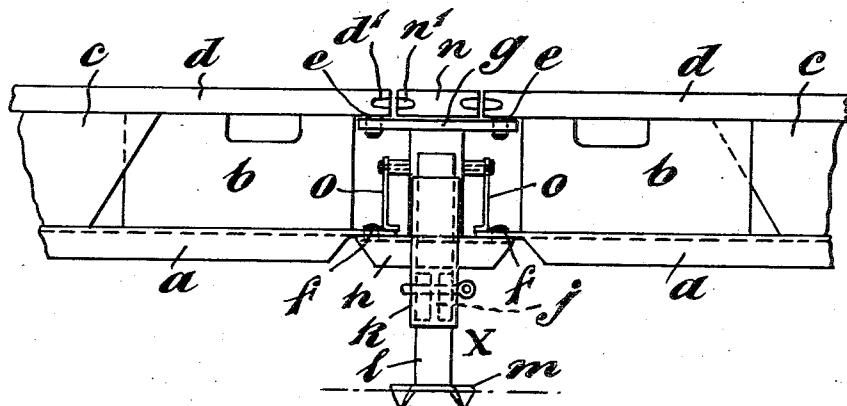
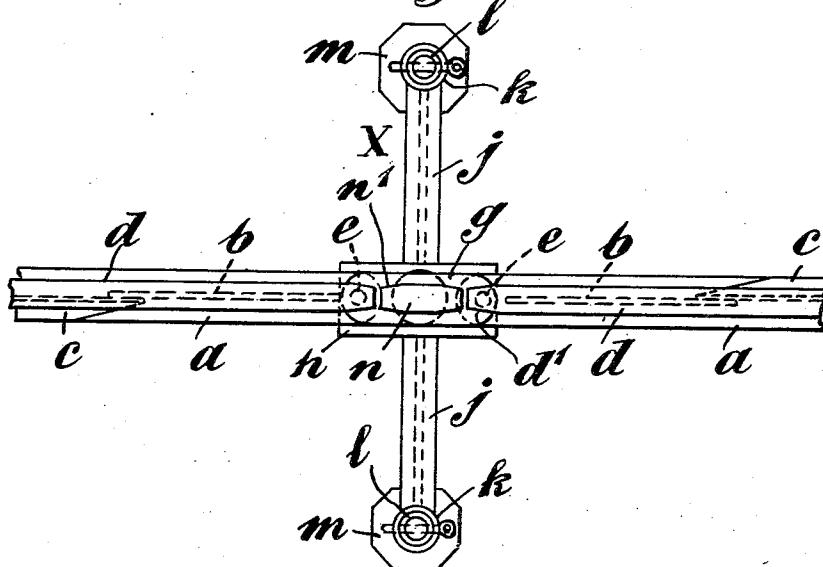


Fig. 4.



# United States Patent Office

2,850,243

Patented Sept. 2, 1958

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2,850,243

## RAIL SECTIONS

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Application November 23, 1955, Serial No. 548,737

2 Claims. (Cl. 238—149)

This invention has reference to improvements in and connected with rail sections and relates in particular to unit rail sections of the mono-rail type adapted to be coupled one to the other in series substantially in the manner described in the complete specification of our prior United States Patent No. 2,768,588 filed April 28, 1953.

The object of the present invention is to improve the construction of the rail sections so as to increase their adaptability and relative strength and to provide a more rigid rail structure than that described in the original specification referred to.

This invention consists of a mono-rail unit which is a modification of the mono-rail described and claimed in U. S. Patent No. 2,768,588, characterised by an inverted channel section base or foot and a substantially circular head section having intermediate therebetween and rigidly connected thereto a series of spaced vertical web plates and a series of staggered inclined bracing or strut plates.

The invention will now be described with particular reference to the accompanying drawings in which:

Fig. 1 is a perspective view of a sectional unit of mono-rail according to the present invention, Fig. 2 is a sectional elevation on the line 2—2 seen in Fig. 1, Fig. 3 is a side elevation showing the adjacent ends of two rail sections interconnected with a supporting pedestal and Fig. 4 is a plan view of the ends of the two rail units and the supporting pedestal seen in Fig. 3.

Each mono-rail sectional unit comprises an inverted channel section base or foot *a* to the upper face of which is rigidly connected by a welding or other process the lower edge of a series of web plates *b* and inclined bracing or strut plates *c* the upper edges whereof are welded or otherwise rigidly connected to the underside of a circular rail head *d* which may be of tubular or solid form. The web plates *b* are conveniently disposed one at each end of the unit and one say midway therebetween, while the inclined bracing or strut plates *c* have a staggered relationship along the length of the rail unit. The bracing or strut plates are of substantially triangular formation as clearly seen in Fig. 1 of the drawings, each of the triangular plates being secured to the rail head. It will be appreciated that this triangular formation provides a maximum support along the entire length of the rail head with the requirement of minimum weight and serves to make the structure very rigid and stable in use without involving any substantial increase in the weight of the unit comparable with the structure described in the aforesaid prior specification.

At each end of the rail head *d* and the base *a* of the rail unit there is provided a dependent pin *e* and a socket *f*, respectively, which are adapted to engage with registering pairs of sockets and pins provided at the ends of the

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upper and lower bridge pieces *g* and *h*, respectively, of a supporting pedestal *X*. The supporting pedestal *X* also comprises a cross-member of H-section girder *j* constituting the mounting for the upper and lower bridge pieces *g* and *h*. The girder *j* is secured at each end to a tubular socket *k* within which is adjustably accommodated a vertically extending leg *L* having a foot *m*. By virtue of the fact that the legs *L* can be adjusted in the tubular sockets *k* the height of the pedestal relative to the ground can be adjusted, and further the legs *L* can be adjusted in their sockets *k* to maintain the cross-member *j* horizontal even though the feet *m* are engaging the ground at different levels. The upper bridge piece *g* of the pedestal *X* has mounted thereon a short length of cylindrical rail head *n* which serves to fill the gap between the adjacent ends of the heads *d* of the two rail lengths engaged with the pedestal, and to permit the free running of a vehicle over the junction between the rail heads *d* and the rail head *n* when these rails are not in absolute alignment, i. e., when the mono-rail negotiates a bend, the ends of the rail heads *d* and *n* are chamfered as shown at *d*<sup>1</sup> and *n*<sup>1</sup> in Fig. 3. To prevent inadvertent disengagement of a rail length from the pedestal due to excessive vibration or any other cause the pedestal is provided with a pair of gravity catches *o* the lower portions whereof are adapted to overlay the projecting ends of the base *a* of the rail units.

The ends of the dependent flanges of the inverted channel section base or foot are removed so as to provide a convenient mounting of the ends of the unit on the transverse pedestal.

I claim:

1. A mono-rail unit comprising a longitudinally extending head section, a base having its longitudinal axis parallel to the longitudinal axis of said head section, said base extending in a generally horizontal direction laterally beyond each side of said head section, a plurality of spaced vertical web plates oriented in a single plane parallel to said longitudinal axis of said head section and connected to the upper surface of said base between its lateral edges and to the lower surface of said head section, and a plurality of trapezoidal strut plates having their major planes inclined transversely of the head section, each of said struts having a major base parallel to the axis of said head section and joined to the underside thereof along its length and each having a minor base joined to the outer edge of the unit base, each of said web and strut plates having their edges joined to said head section in overlapping relation, said strut plates being staggered whereby successive strut plates are connected to opposite outer edges of the unit base.

2. A mono-rail unit according to claim 1 wherein said base comprises a channel having its longitudinal axis parallel to the longitudinal axis of said head section and its flanges extending away from said head section.

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UNITED STATES PATENT OFFICE  
CERTIFICATE OF CORRECTION

Patent No. 2,850,243

September 2, 1958

William Muir Robb

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

In the grant, line 2, for "assignor to Road Machines (Drayton) Limited," read -- assignor of one-half to Road Machines (Drayton) Limited, --; line 12, for "Road Machines (Drayton) Limited, its successors" read -- William Muir Robb, his heirs or assigns, and Road Machines (Drayton) Limited, its successors in the heading to the printed specification, lines 3 and 4, for "assignor to Road Machines (Drayton) Limited," read -- assignor of one-half to Road Machines (Drayton) Limited, --.

Signed and sealed this 27th day of January 1959.

(SEAL)

Attest:

KARL H. AXLINE

Attesting Officer

ROBERT C. WATSON  
Commissioner of Patents