PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements relating to Monorail Systems

We, ROAD MACHINES (DRAYTON) LIMITED, of Horton Parade, West Drayton, Middlesex, a British Company, and WILLIAM MUIR ROBB, of the Company's address, a British Subject, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed to be particularly described in and by the following statement:—

This invention has reference to improvements in monorail systems of the kind which can be readily erected on ground or other surface in sectional unit lengths and upon which can be traversed a power or gravity controlled vehicle to be utilised, for example, in the transference of material such as concrete from a mixer to a point of usage.

The invention has for its object to provide a monorail system which makes use of unit lengths of rail which are of relatively light though rigid construction, thereby rendering their transportation and erection simple.

The invention consists of a monorail system characterised in that each rail length comprises a cylindrical head connected by a web to a cylindrical foot of greater diameter than the head and furnished at each end with a bracket serving for the interconnection of the rail length with a transversely disposed supporting pedestal.

A convenient embodiment of the present invention will now be described with particular reference to the accompanying drawings, in which:—

Fig. 1 is a side elevation showing the adjacent ends of two rail lengths interconnected with a supporting pedestal;

Fig. 2 is an end view of a supporting pedestal;

Fig. 3 is a perspective view of an end of a rail length; and

Fig. 4 is an end view of a rail length.

Each unit length of rail comprises a head 5 of tubular cylindrical form which is connected to a tubular cylindrical foot 6 of greater diameter than the head by a vertically extending web 7. The head 5 of each length of rail extends at each end beyond the extremity of the foot and web and is furnished with a downwardly projecting peg 8 whilst welded to each end of the web 7, a part of the foot 6 and the underside of the head 5 is the one limb of an L-shaped bracket 9 the other limb whereof projects beneath the extending portion of the head 5 and has formed therein a circular aperture 10 the centre whereof is in axial alignment with the central axis through the peg 8 which is cylindrical.

Each end of each rail length is adapted for engagement with a supporting pedestal which extends transversely relative to the rail to provide rigidity. This pedestal comprises a cross member of H-section girder 11 secured at each end to a tubular socket 12 within which is adjustably accommodated the vertically extending leg 13 having a foot 14. By virtue of the fact that the legs 13 can be adjusted in the tubular sockets 12 the height of the pedestal relative to the ground can be adjusted and further the legs 13 can be adjusted in the sockets 12 to maintain the cross member 11 horizontal even though the feet 14 are engaging ground at different levels. In order to admit of the variable setting of the legs 13 in their associated sockets 12, the sockets are provided with a plurality of pairs of diametrically opposed holes 15 which are equally spaced throughout the height of the sockets and the legs 13 are provided with a plurality of transversely extending holes 16 which are spaced apart by a distance equal to the spacing apart of the pairs of holes 15 in the socket 12 so that any one of the holes 16 can be brought into register with any one of the pairs of holes 15 in the socket 12 and locked in this position by the insertion through the holes 15 and the hole 16 of a locking pin 17. Mounted transversely on

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the member 11 at the centre thereof is an inverted U-shaped lower bridge-piece 18 on which is centrally mounted a pillar 19 supporting at its upper end an upper bridge-piece 20 which is parallel to the lower bridge-piece 18 and of substantially equal length. The upper bridge-piece 20 has formed therein a pair of circular holes 21 which are adapted to receive the pegs 8 on adjacent ends of two rail lengths and the centre of these holes is aligned with the central vertical axis of a pair of upwardly projecting pegs 22 on the upper face of the lower bridge-piece 18, these pegs 22 being adapted for engagement with the holes 10 in the bracket 9 on adjacent ends of the pair of rail lengths.

The upper bridge-piece 20 has mounted thereon a short length of cylindrical rail head 23 which serves to fill the gap obtaining between the ends of the heads of two rail lengths engaged with the pedestal.

It will be understood that since the central vertical axes of the pegs 8 and pegs 22 are aligned when rail lengths are engaged with a pedestal the rail lengths can be hinged about a vertical axis relative to the pedestal to admit of a rail head 5 being set at a slight angle in a horizontal plane relative to the rail head 23. To provide for the free running of a vehicle over the junction between the rail head 5 and the rail head 23 which are not in absolute alignment, the ends of the rail heads 5 and 23 are chamfered as shown at 5*a* and 23*a*.

To prevent inadvertent disengagement of a rail length from a pedestal due to excessive vibration or any other cause, there are provided on the pillar 9 a pair of gravity catches 24 which depend from pivot points 25, the lower portions of these catches being adapted to overlay the projecting limbs of the brackets 9 which are engaged with the pedestal and prevent these limbs from rising relative to the pedestal to disengage the holes 10 from the pegs 22 until the catches 24 have been manually swung from their vertically depending position.

What we claim is:—

1. A monorail system characterised in that each rail length comprises a cylindrical head connected by a web to a cylindrical foot of greater diameter than the head and furnished at each end with a bracket serving for the interconnection of the rail length with a transversely disposed supporting pedestal.

2. A monorail system according to Claim 1, wherein the head and foot of the rail length are both of tubular form.

3. A monorail system according to Claim 2, wherein each end of the head of each rail length project beyond the web and foot of the rail length and are each provided with a downwardly projecting peg adapted to engage with an aperture in a part of the supporting pedestal.

4. A monorail system according to Claim 3, wherein the ends of the head of the rail lengths are chamfered for the purpose herein set forth.

5. A monorail system according to Claim 3, wherein the bracket is L-shaped and has one limb welded to the rail length, the other limb of the bracket extending beneath the projecting end of the head of the rail length and having an aperture therein for engagement with a peg on the supporting pedestal, said aperture being axially aligned with the peg on the end of the head of the rail length.

6. A monorail system according to Claim 1, wherein the transversely disposed supporting pedestal is provided with adjustable legs whereby the height of the pedestal can be adjusted and whereby the pedestal can be established vertically upon uneven ground.

7. A monorail system according to Claim 6, wherein the pedestal is provided with a short cylindrical length of rail serving to fill the space between adjacent ends of the heads of a pair of rail lengths engaged with the said pedestal.

8. A monorail system constructed, arranged and adapted for erection substantially as herein described with reference to the accompanying drawings.

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