Feb. 16, 1965 L. E. RUSTON 3,169,489

MONORAIL TRACKS

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Fig. 1.

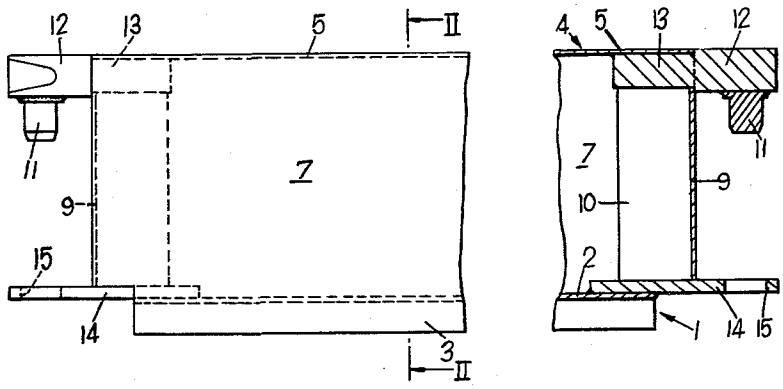
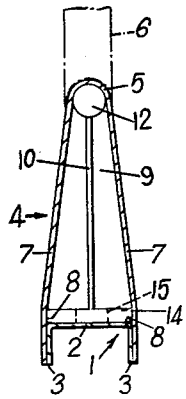


Fig. 2.



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MONORAIL TRACKS

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This invention relates to monorail tracks, and in particular to monorail track units of the kind adapted to be interconnected end-to-end to form a continuous monorail track.

Monorail track units normally comprise a solid rail head welded to supporting members which are fixed to a rail foot. All the parts of the track unit in such a construction are welded together and the strength of the track units and the load which they can carry depends on the strength of the welded joints, as well as that of the components of the unit.

It is a main object of the present invention to provide a monorail track unit which is simpler and cheaper to manufacture than the previous designs of track units, and is also lighter in weight and stronger than previous units.

According to the invention a monorail track unit comprises a longitudinally extending base, and a rail of inverted V-section whose sides are secured to the base and whose apex is shaped to provide a rail head for engagement by the wheels of monorail vehicles.

In a preferred construction, the rail is formed of sheet steel which is bent to form said V-section in such a way that the apex of the V-section forming the rail head is of arcuate section.

Preferably the longitudinally extending base is an inverted channel section and the bottoms of the sides of the V-section rail are welded to the sides of the channel section.

Further according to the invention two rail stiffeners of triangular shape may be respectively fixed inside the V-section rail at the ends of the track unit.

Connecting means may be provided at each end of the track unit for connecting the track unit to a supporting stand, whereby a series of track units are interconnected and supported.

The invention also comprehends a monorail system including a number of track units of the kind referred to above interconnected end-to-end and supported to form a continuous track.

In order that the invention may be more clearly understood an embodiment thereof will now be described, by way of example, with reference to the accompanying drawings in which:

FIGURE 1 is a side elevation, partly in section, of a monorail track unit according to the invention, and

FIGURE 2 is a section on line II—II of FIGURE 1.

Referring to the drawings a monorail track unit comprises a longitudinally extending base formed by an inverted steel channel section 1 which has a floor 2 and sides 3.

Secured to the base channel section 1 by welding is a rail 4 of inverted V-section, which rail is formed of steel sheet which is bent to form the V-section in such a way that the apex 5 of the V-section is shaped to provide a rail head for engagement by the wheels of monorail vehicles. One such wheel is indicated in dotted lines at 6.

In the embodiment illustrated the apex 5 of the V-section forming the rail head is of arcuate section, but this apex may be bent to any suitable shape for matching the profile of the rim of the monorail vehicle wheels.

The bottom of the sides 7 of the V-section rail are welded to the sides 3 of the channel section 1, as indicated at 8.

To provide additional strength two rail stiffeners 9 of substantially triangular shape are respectively fixed inside the V-section rail 4 at the ends of the track unit. Each of these stiffeners is of T-section including an integral central web 10 which extends inwardly lengthwise of the rail.

Connecting means are provided at each end of the track unit for use in connecting the unit to a supporting stand, whereby a series of track units are interconnected in series to form a continuous supported track. The connecting means at each end comprises a dependent pin 11 which is welded to one end of a cylindrical shaft 12. The other end 13 of the shaft 12 is of lesser diameter and fits into the apex of the V-section rail as shown in FIGURE 2. As shown in FIGURE 1 the outer end of the shaft 12 forms a continuous rail head surface with the head 5 of the rail and the inner end 13 of the shaft fits into a corresponding cut-out recess in the top of the rail stiffener 9.

A plate 14 is welded to the floor 2 of the channel section base 1. The plate 14 extends outwardly from the end of the track unit and is formed with a socket 15 in which a peg, not shown, is fitted when the track unit is fixed to a supporting stand.

The invention thus provides a monorail track unit which is simple to construct, is of relatively light weight, and because of its unitary construction is capable of carrying much heavier loads than previous rails.

I claim:

1. A monorail track unit comprising a longitudinally extending base, and a sheet metal rail of inverted V-section, whose sides are secured to the base and whose apex is shaped to provide a rail head for engagement by the wheels of monorail vehicles.

2. A monorail track unit according to claim 4, wherein the longitudinally extending base is an inverted channel section and the bottoms of the sides of the V-section rail are welded to the sides of the channel section.

3. A monorail track unit according to claim 2, including two rail stiffeners of triangular shape respectively fixed inside the V-section rail at the ends of the track unit.

4. A monorail track unit comprising a longitudinally extending base, and a sheet metal rail of inverted V-section whose sides are secured to the base, the apex of the V-section forming the rail head and being of arcuate section for engagement by the wheels of monorail vehicles.

5. A monorail track unit comprising a longitudinally extending base, a sheet metal rail of inverted V-section whose sides are secured to the base, the apex of the V-section forming the rail head and being of arcuate section for engagement by the wheels of monorail vehicles, and means at each end of the track unit for connecting the track unit to a supporting stand, whereby a series of track units are interconnected and supported.

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