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L. J. STEVENS

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MONORAIL CONVEYER

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Fig. 1.

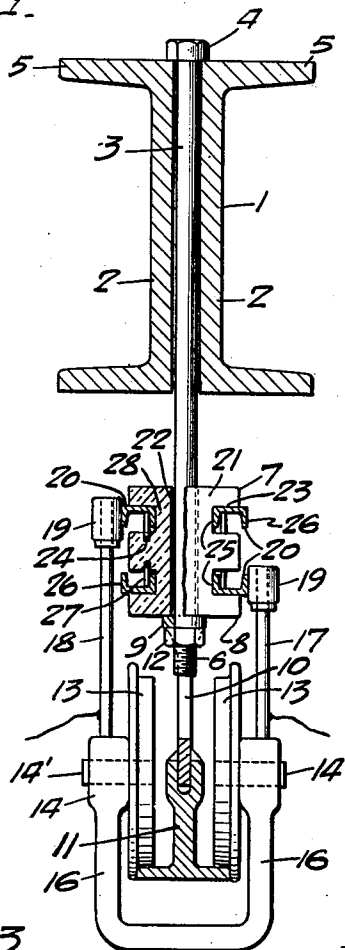


Fig. 2.

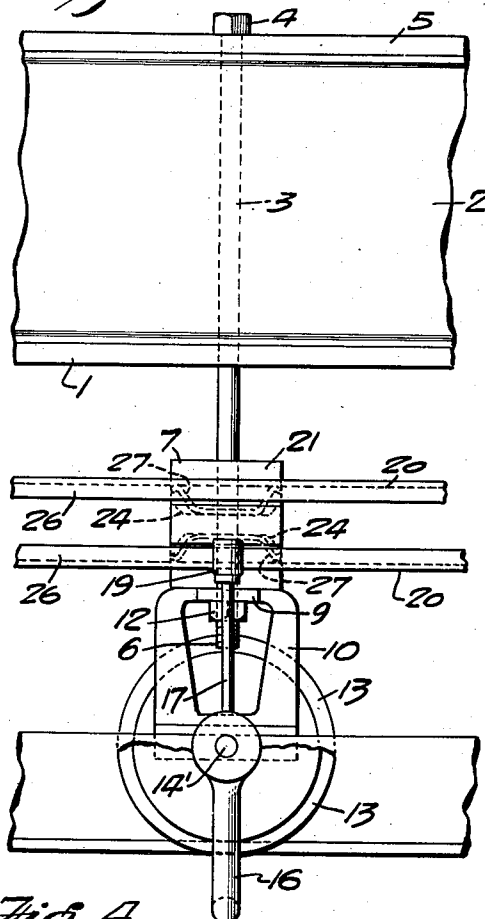


Fig. 3.

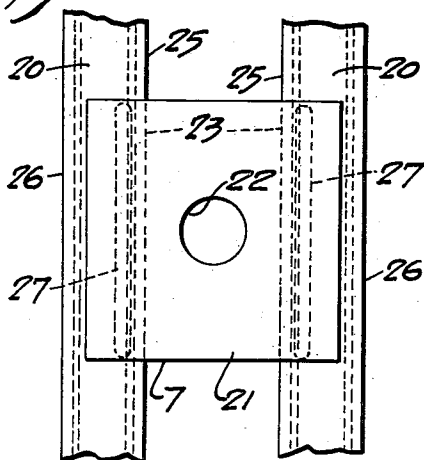
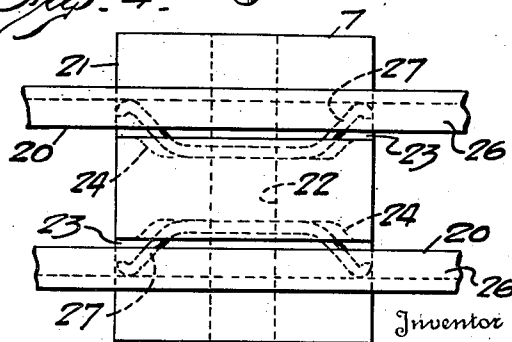


Fig. 4.



LELAND J. STEVENS.

By *Emmet S. Mecklin*  
his Attorney

## UNITED STATES PATENT OFFICE

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## MONORAIL CONVEYER

Leland J. Stevens, Baltimore, Md., assignor to  
Locke Insulator Corporation, Baltimore, Md., a  
corporation of Maryland

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4 Claims. (Cl. 191—32)

The invention relates to monorail conveyers or hoists and more particularly to methods of supporting such monorails and to means whereby the electric contact plates for the current for operating the conveyer or hoist may be supported in conjunction with the monorail.

The principal object of my invention is to provide a monorail support carrying a ceramic or porcelain insulator, the latter serving to insulate from the monorail the necessary electrical conductors for the operation of a conveyer or hoist supported by the monorail.

Another object of my invention is to provide, in connection with the support for a monorail, a porcelain insulator carried by the support and positioned above the monorail, said insulator being adapted to detachably hold the conductor rails in operative relation and insulated from each other and from the support.

Other objects of the invention will be hereinafter set forth in the more detailed description of the single embodiment thereof illustrated on the accompanying drawing in which

Figure 1 is a view partially in elevation and partially in section illustrating the invention.

Figure 2 is a side elevational view showing the method of supporting the monorail.

Figure 3 is a top plan view of the insulator showing the position of the conductor rail.

Figure 4 is a side elevational view of the insulator and the conducting rail showing the same assembled.

In the drawing the numeral 1 designates a main supporting element preferably comprising a pair of channel beams 2—2 placed back to back but spaced apart sufficiently to receive between the same the bolt or rod 3. The bolt is maintained in position by a head or nut 4 overlying the upper flanges 5 of the beams 2. The bolt 3 projects downwardly beneath the beam and terminates in a threaded end 6. Mounted on the bolt is a porcelain insulator 7 which will hereinafter be described in greater detail. The lower face 8 of the insulator rests upon a washer 9, the washer being connected to the supporting bracket 10, and the latter being preferably welded to the inverted T-shaped monorail beam 11. The washer 9, bracket 10 and the monorail 11 are supported in position by means of the nut 12 secured to the threaded portion 6 of the bolt 3. Supported by means of flanged wheels 13 mounted on the flanges of the beam 11 is a U-shaped support 14 for the hoist or conveyer, the wheels 13 being journaled to the U-shaped bracket or support 14 by a pair of stub axles 14'. Extend-

ing upwardly from the upper ends of each of the arms 16 of the support 14 are posts 17 and 18 respectively, each of which carries a contact roller 19 rotatably mounted on the post, through which contact with the conductor rails 20 carried by the insulator 7 is made.

The insulator 7 preferably comprises a substantially rectangular block 21 having a centrally disposed opening 22 through which the bolt 3 is adapted to extend. On opposite faces of the insulator 7 there are provided a pair of rectangular grooves or recesses 23. Each of these recesses is provided in one of its walls with an undercut or recessed portion 24 shown most clearly in Figure 4.

The conducting rails 20 are preferably of channel formation, the web of the channel engaging the side wall or face of each groove 23 opposite to the undercut portion 24. The inner flange 25 of the conductor rail is adapted to seat against the inner wall of the groove 23 and the outer flange 26 of the rail projects outwardly beyond the plane of the side face of the insulator so as to engage the contact rollers 19 carried by the arms 17 and 18.

In order to interlockingly connect the conducting rails 19 to the insulator there is interposed between the inner web of each conducting rail and the recess 24 of each groove a U-shaped spring member 27 also shown most clearly in Figure 4, the base of each spring member engaging within the recess 24 and the arms engaging against the inner face of the web of each channel conducting beam.

It will be apparent from the foregoing description that, since the thrust from the rollers 19 is directed parallel to the web of each beam 20, each of the spring members 27 will securely interlock the coacting beam in the recesses 23 of the insulator and since the insulator has an insulating wall 28 interposed between the inner flange of each of the conducting rails or beams and the supporting rod 3, the rails will be insulated from the support and of course insulated from the main supporting means 1.

By the construction described I have provided a simple and efficient means for supporting a monorail hoist or conveyer utilizing but few parts and providing for interlockingly connecting the conducting rails to an insulator and supporting the same against vertical movement in one direction by the bracket of the monorail. I have also provided means by which the conducting rails may be detached from the insulator without the use of tools and which will enable the ordinary

workman to replace either the rails or the insulator in case of damage to either.

I claim:

1. In a device of the character described, the combination with a support of a monorail carried by said support, an insulator carried by said support and surrounding the same, said insulator being positioned above said monorail, conductor rails carried by opposite sides of said insulator, and spring means for interlockingly connecting each of said rails to said insulator.

2. In a device of the character described, the combination of a support beam, of means for supporting a monorail, said means being carried by and depending from said beam, an insulator carried by said means and positioned above said monorail, conducting rails positioned in recesses on opposite sides of said insulator, and a plurality of spring means, each of said springs being adapted to interlock one of said connecting rails to said insulator.

3. An insulator adapted to support an electric

conductor rail, comprising a substantially rectangular insulating block having in one of the outer side walls thereof a transversely extending groove, one wall of said groove being provided with a recess portion, and springs means removably positioned in said recess portion for interlocking and connecting the conductor rail within said groove.

4. An insulator adapted to support a plurality of channel shaped electric conductor rails, comprising a substantially rectangular block of ceramic insulating material, said block having a centrally disposed opening therethrough, a pair of oppositely disposed side walls in said block, each being provided with a pair of transversely extending vertically spaced grooves, one wall of each groove having therein a depressed portion, each of said grooves being adapted to receive one of said rails, and means detachably seated within the depressed portion of each groove for detachably interlocking a rail within said groove.

LELAND J. STEVENS.