D. E. WILLARD

RAIL FOR OVERHEAD CARRIERS

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To all whom it may concern:

Be it known that I, Donald E. Willard, a citizen of the United States, and resident of Danville, in the county of Vermilion and State of Illinois, have invented certain new and useful Improvements in Rails for Overhead Carriers, of which the following is a specification.

My invention relates to overhead or monorail carrier systems, and has particular reference to a novel form of track for use in connection therewith.

The tracks which act as the support for the trolleys used in overhead carrier systems are commonly of I-beam shape in cross section, the beam being placed with its web vertical, the upper flanges being used as means of attachment to a support, while the lower flanges are utilized as the tracks for the trolley. A beam of this sort is not economical, for the reason that the metal is not so disposed as to give its greatest efficiency.

An object in the construction of the present track is to provide a pressed or rolled metal article in which the metal is so disposed as to give maximum efficiency for a given weight. The result is attained by combining two duplicate sections of pressed metal in back-to-back relation and riveting the same in this position. A track is thereby secured which is of the required I-beam shape in cross section and which is provided with wide attaching flanges, the required convex wheel-engaging flanges and a web of only such thickness as is necessary to carry the necessary weight. The track is in effect a skeleton I-beam in which the same efficiency is secured as in a solid beam of relatively greater weight.

The invention will be more readily understood by reference to the accompanying drawings wherein—

Figure 1 is a perspective view of a fragment of a track constructed in accordance with my invention, and Fig. 2 shows the same track with a slightly modified form of mounting.

As shown, the track is composed of two duplicate sections, each thereof being provided with an upper lateral flange 10 and a vertical web 11, which is deflected sidewise at 12. At 13 the web is bent sharply outwardly and upwardly and is re-bent at 14 to form a tubular track portion on which a trolley wheel may run. The metal projects tangentially from the track 14, its lower marginal edge being bent into a vertical plane substantially parallel with the portion 12 of the web. When two duplicate sections, as shown in Fig. 1, are placed back to back, the portions 12 and 15 will be in contact and will be suitably riveted as at 16, 17. When so combined, an I-beam track is secured which is light in weight, in fact much lighter in weight for a given efficiency than a solid beam of the same dimensions. The portions 15 of the track which are brought together beneath the wheel-engaging surfaces act as struts or braces, thus utilizing the metal on both sides of the track surface 14 as resistance to bending.

If only a single trolley is to be used, the track may be mounted as shown in Fig. 2, in which construction one of the sections heretofore described is secured by means of rivets or bolts 18 to a vertically extending board 19. The wide horizontal attaching flange provides for a secure attachment of the tracks to a support, and it will be noted the load is applied inside of the point of attachment of the bracket to the support.

Obviously the invention is not limited to the exact shape shown in the drawings, and such modifications as are within the scope of my claims I consider within the spirit of my invention.

I claim:

1. A track for overhead carriers, comprising a relatively wide horizontal attaching flange, a vertical web, the lower portion of the web being bent outwardly, then inwardly to form a convex wheel-engaging track, the lower marginal edge of the metal being bent to lie in the plane of the web of the track and to act as a brace for the wheel-engaging portion, substantially as described.

2. An I-beam track for overhead carriers comprising in combination two duplicate sections placed back to back, each section comprising a horizontal attaching flange, a vertical web laterally deflected in its height, a convex track-engaging portion and a brace, the inner end of which terminates in the plane of the web of the section, substantially as described.

3. A track for overhead carriers, comprising a relatively wide horizontal attaching flange, a vertical web, the lower portion of the web being bent outwardly, then inwardly
to form a convex wheel-engaging track, the lower marginal edge of the metal being bent to lie in the plane of the web of the track and to act as a brace for the wheel-engaging portion, and a vertical supporting member to which said web and said brace are secured, substantially as described.

4. An I-beam track for overhead carriers, comprising in combination two duplicate sections placed back to back, each section comprising a horizontal attaching flange, a vertical web laterally deflected in its height, a convex track-engaging portion and a brace, the inner end of which terminates in the plane of the web of the section, the laterally deflected portions of the web and the inner ends of the braces of the two sections being in contact, substantially as described.

5. A pressed or rolled metal composite I-beam track for overhead carriers comprising two duplicate sections, each section having an upper lateral attaching flange, a vertical web which is laterally deflected in its height, the lower portion of the web being bent outwardly and upwardly, thence downwardly and inwardly, thereby forming a tubular convex track, said downwardly and inwardly extending portion acting as a brace and support for said track, the two sections being rigidly united with the deflected portions of their web and the terminal portions of their braces in contact, substantially as described.

Signed at Danville, Illinois, this 4 day of January, 1916.

DONALD E. WILLARD.

Witnesses:
S. C. FUNK,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D.C."