March 16, 1926. 1,577,394

W. G. WEHR

I-BEAM MONORAIL

Filed July 6, 1925

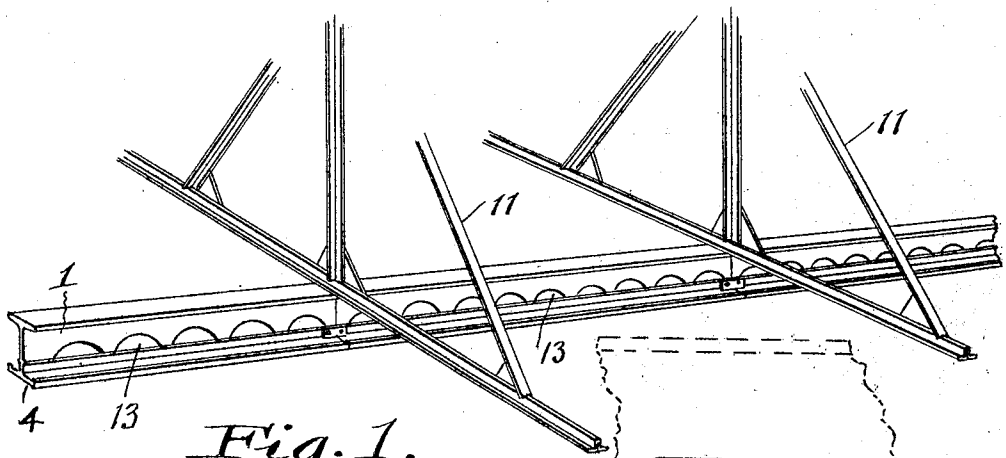


Fig. 1.

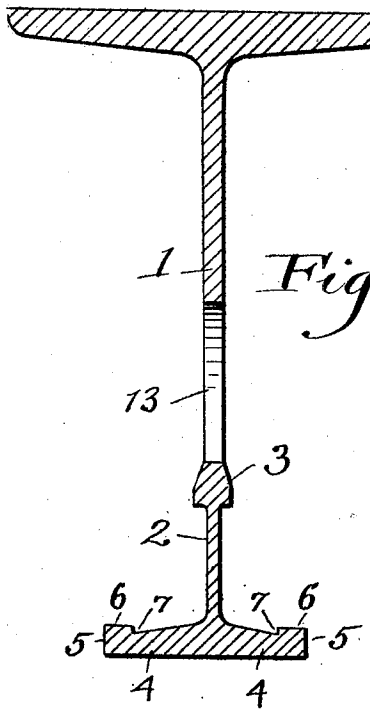


Fig. 2.

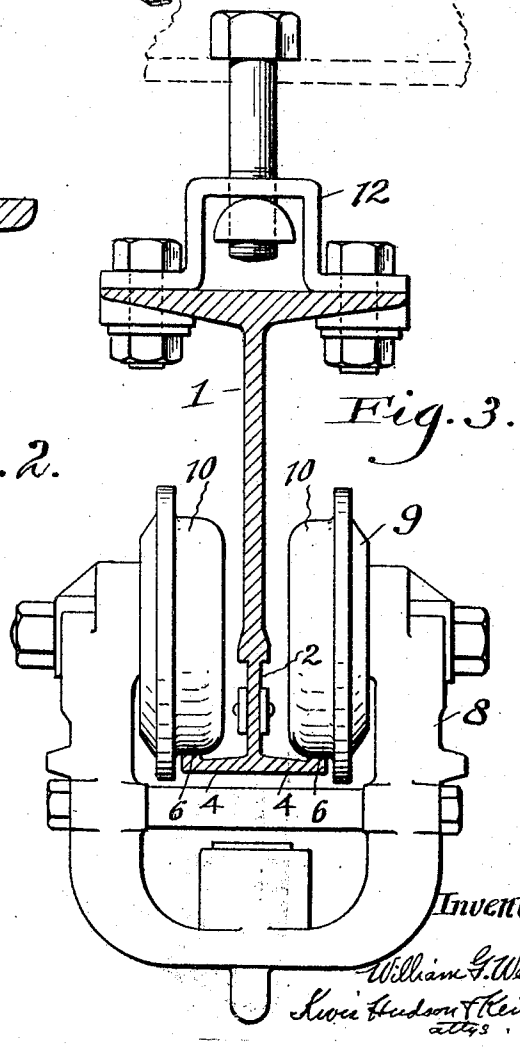


Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM G. WEHR, OF EAST CLEVELAND, OHIO, ASSIGNOR TO THE CLEVELAND CRANE AND ENGINEERING COMPANY, OF WICKLIFFE, OHIO, A CORPORATION OF OHIO.

I-BEAM MONORAIL.

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To all whom it may concern:

Be it known that I, WILLIAM G. WEHR, a citizen of the United States, residing at East Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in I-Beam Monorails, of which the following is a full, clear, and exact description.

This invention relates to I-beam monorails and has for its object to provide a monorail of I-beam form in which the lower flanges are of proper material and of the proper shape to serve effectively as a track for overhead carriers.

A further object is to provide an I-beam monorail adapted to serve as a structural member in a building or to bridge a wide space between supporting members and additionally to provide a monorail in which the carrier supporting flanges are of a special form adapted to withstand the peening action of carrier wheels.

With the above and other objects in view, the invention may be said to comprise the I-beam monorail as illustrated in the accompanying drawings, hereinafter described, and particularly set forth in the appended claims together with such variations and modifications thereof as will be apparent to one skilled in the art to which the invention appertains.

Reference should be had to the accompanying drawings forming a part of this specification in which Fig. 1 is a perspective view showing an I-beam monorail embodying the invention, serving as a track for an overhead carrier and also as a structural member in a building; Fig. 2 is a transverse section through the I-beam monorail showing a carrier thereon; and Fig. 3 is a transverse section through the I-beam monorail.

Referring to the accompanying drawings, the I-beam monorail of the present invention is formed of an upper rolled T-bar 1 of structural steel and a lower rolled T-rail 2 formed of a steel having a higher carbon content and of suitable strength and wear-resisting qualities such as are desirable for overhead carrier rails, the rail 2 being preferably formed of manganese steel. The webs of the two T-sections are secured together edge to edge by welding, the secured joint being indicated at 3 in the drawing.

The T-rail section 2 is formed with tapering flanges 4 which are thickened along their outer edges to provide tread portions 5, the upper faces of which lie in a plane at right angles to the web. The tread surfaces 6 are raised slightly above the inner portions of the flanges 4 so that shallow depressions 7 are provided between the tread portions and the web. These shallow depressions form a space above the body of the flanges 4 into which the metal of the tread portions 5 may flow as the tread portions are subjected to the continual peening action of the carrier wheels passing over the same. In Fig. 3 of the drawing, a carrier 8 is shown which is provided with wheels 9 which travel upon the opposite flanges 4 of the rail section, the wheels 9 being provided with cylindrical tread portions 10 which roll upon the raised tread surfaces 6 of the flanges.

As shown in Fig. 1, the I-beam monorail may be employed as a structural part of a building, the beam being shown in Fig. 1 as a supporting member for roof trusses 11. In some instances it may be desirable to flexibly suspend the carrier rails and in Fig. 2 the flexible hanger 12 is shown for supporting the monorail.

The I-beam may be lightened if desired by cutting away portions of the web of the upper T-section at intervals to provide openings 13 alternating with welded portions 3. By cutting away portions of the web the web is made more flexible so that if a portion of the rail should be slightly out of level the web will flex under the weight of a carrier and the driving wheels engaging opposite flanges of the beam will remain in full engagement with the flanges and unequal traction is avoided.

Having thus described my invention, I claim:

1. An I-beam monorail comprising two T-bars having their webs secured together edge to edge, one of said T-bars being a rolled structural steel bar and the other being a rolled rail of a wear resisting steel.

2. An I-beam monorail comprising a rolled T-bar of structural steel and a rolled T-rail having flanges of less width than the T-bar and having its web in the plane of the web of the first mentioned bar and secured thereto.

3. An I-beam monorail comprising a rolled

T-bar of structural steel and a rolled T-rail having their webs secured together edge to edge, said T-rail having raised flat tread portions along the outer edges of the flanges upon which carrier wheels roll.

4. An I-beam monorail comprising a rolled T-bar of structural steel and a rolled T-rail of smaller cross section having their edges secured together edge to edge, the T-rail having a flat base and tread portions along the outer edges of the flanges, said tread portions having flat upper faces parallel with the base upon which the carrier wheels run, shallow depressions being formed between the tread portions and webs into which the metal of the tread portions may be caused to flow by the peening action of carrier wheels.

5. An I-beam monorail comprising a rolled T-bar of structural steel and a rolled T-rail having their webs secured together edge to edge, said structural steel T-bar having wider flanges than the rail and a web of greater height, the web of said structural steel T-bar having portions cut away at intervals along the length thereof to lighten the beam and to impart flexibility to the web thereof.

In testimony whereof, I hereunto affix my signature.

WILLIAM G. WEHR.