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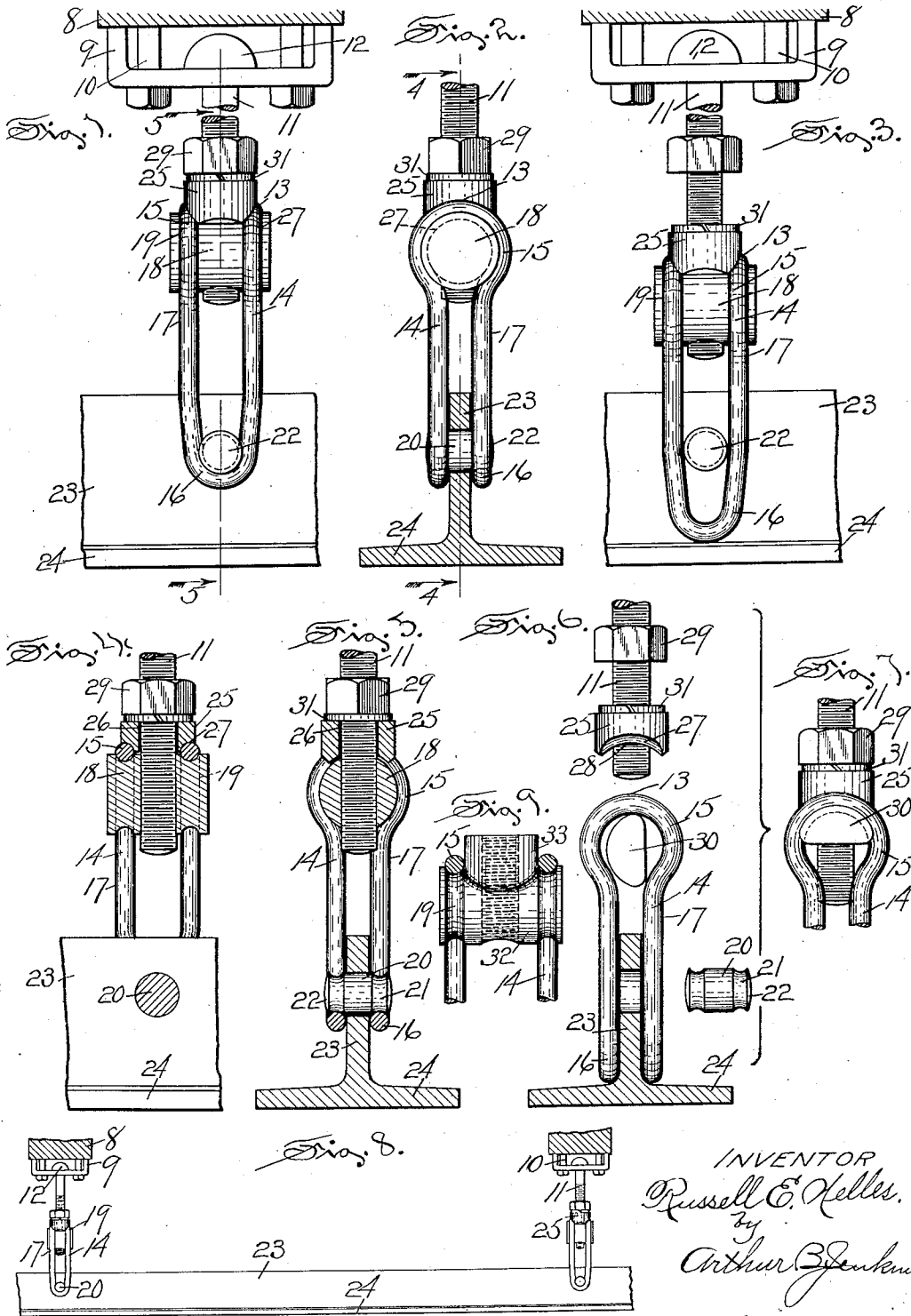
R. E. NELLES

2,175,087

TRACK HANGER

Filed Oct. 14, 1937

2 Sheets-Sheet 1



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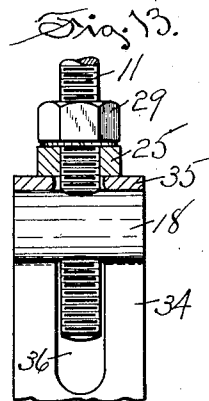
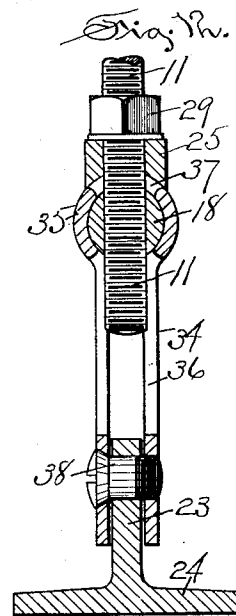
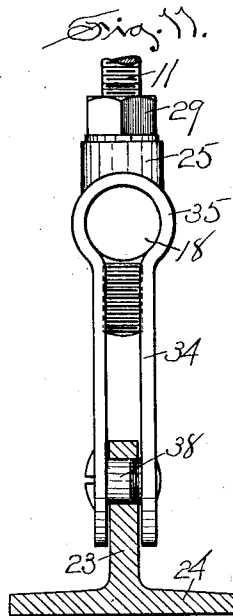
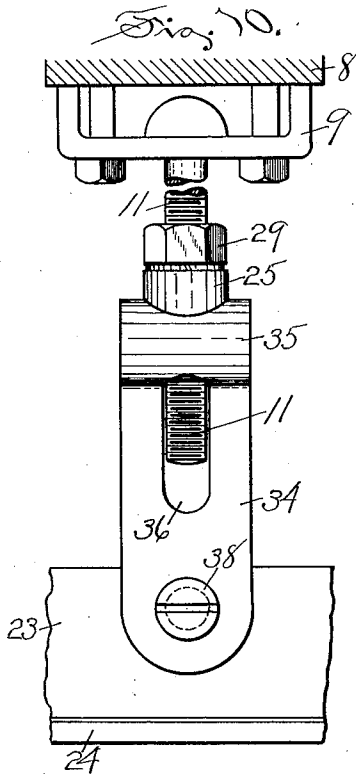
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TRACK HANGER

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TRACK HANGER

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Application October 14, 1937, Serial No. 168,863

16 Claims. (Cl. 104—111)

My invention relates to the class of devices that are employed for suspending tracks commonly of the monorail type and upon which carriages provided with hoists are movably mounted above working areas for the purpose of conveying work to different localities, and an object of my invention, among others, is the production of a fixture of this type that shall be simple in construction, extremely durable, that may be readily assembled, and that shall be particularly efficient for the purpose for which it is designed.

One form of a hanger embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawings in which

Figure 1 is a view in elevation of my improved track hanger.

Figure 2 is a view from a point at the right of Fig. 1.

Figure 3 is a view similar to Fig. 1 but illustrating the manner of assembling the device.

Figure 4 is a view in section on a plane denoted by the dotted line 4—4 of Fig. 2.

Figure 5 is a view in section on a plane denoted by the dotted line 5—5 of Fig. 1.

Figure 6 is a view in section illustrating a modified form of the device, the parts being disconnected but arranged in assembling relation.

Figure 7 is a view illustrating this last mentioned device with parts assembled.

Figure 8 is a view illustrating a general means of utilizing the device.

Figure 9 is a detail view illustrating a modification of the invention.

Figure 10 is a view in side elevation illustrating a modified form of the invention.

Figure 11 is an edge view of the same.

Figure 12 is a view in central vertical section.

Figure 13 is a similar view but on a plane at right angles to the plane of view of Fig. 12.

In the accompanying drawings the numeral 8 denotes a supporting timber commonly used in mill construction overhead and 9 indicates a conventional bracket that may be secured to the timber by lag bolts 10 or other means. A hanger rod 11 depends from the bracket 9, being held in place as by means of a head 12 in a manner common to fixtures of this type.

In order to simplify the construction I employ a piece of wire which is cut to proper length and the ends of which are securely welded together, this being bent into the form of a single loop having parallel sides and rounded ends. This loop is then bent at its center 13 to form two

side members 14 of duplicate construction each of which is enlarged at its end to form a loop 15, thereby creating a pair of loops spaced apart at one end of the structure. This structure constitutes a frame or clevis, the loops 15 of which are located at one end and suspension bends 16 being located at the opposite end. The distance between the branches 17 of the side members 14 is increased above the bends 16 for a purpose to be hereinafter described.

A saddle pin 18 preferably round in cross section, as shown in Figs. 2 and 5, is provided near its opposite ends with annular grooves 19 within which the loops are received to form a pivotal suspension for the frame or clevis. This saddle pin is bored and threaded to receive the threaded hanger rod 11 which extends downwardly to a considerable distance between the sides 14. The clevis is preferably fitted to the saddle pin by bending the frame around the pin in a manner to shape the loops as shown in Fig. 2, the saddle pin thus comprising a form to determine the size of the loops.

A track pin 20 is formed of a length substantially equal to the distance between the outer sides of the members 14, this pin having annular grooves 21 at its opposite ends corresponding in shape to the cross-sectional shape of the suspension bends 16. These grooves create heads 22 which are larger than the space between the sides of the bends 16, the diameter of said heads being substantially equal to the distance between the branches 17 so that said heads may be passed between said branches and then, when positioned in the bends 16, the heads will prevent endwise movement of said pins, the bends being received in the grooves 21. A vertical web 23 extending from the flanges 24 of a T-bar section of track is provided with a hole to receive the pin 20, and as shown in Figs 5 and 6 of the drawings.

After the loops 15 have been pivotally mounted in the grooves in the ends 19 of the saddle pin, as hereinbefore described, said pin will be securely locked against endwise movement. The hanger rod being engaged within the threaded hole in the saddle pin and being turned, as by means of a wrench applied to the rod, the wire type rail clamp may be placed at approximately the required elevation. The web 23 of the T-bar section of track is positioned between the members 14 so that the heads 22 of the track pin 20 may be inserted through the widest space between the branches 17, and through the hole in the web of the T-bar section and the latter may then be placed to engage the grooves in the ends

of the pin with the narrower portions of the spaces in the suspension bend, and as illustrated in Fig. 6, the ends of said bends, when the pin is inserted, being close to the flanges 24 of the track and as illustrated in Fig. 3. After the track has been thus suspended it may be leveled at such parts required by turning the hanger rod 11 as by means of a Stillson wrench. The description of the structure thus far has applied to a single suspension device, including a single wire type rail clamp with its connected parts, but it will be understood that several of such frames are commonly employed and are secured to the webs 23 of a T-rail section of track, as illustrated in Fig. 8. In the modified form of the device shown in Figs. 6 and 7 the saddle pin 30 is formed substantially half round in cross section, the ends being provided with grooves as in the device hereinbefore described. These grooves receive the loops 15 which provide a pivotal connection between the frame and saddle pin as in the other structure. In order to assemble this device the saddle pin is placed in a position as shown in Fig. 6 so that it may be passed into the loops 15, and then being turned substantially ninety degrees, said loops will be located in the grooves in the ends of the saddle pin, thereby locking the latter against endwise movement. Otherwise the structure is assembled as hereinbefore described.

In order to secure the parts firmly in place I provide a seat 25 having a hole 26 through which the hanger rod 11 extends. This seat is preferably round as to its main portion and it has grooves 27 on opposite sides shaped to loosely receive the loops 15, as shown in Fig. 4 of the drawings, and it also has a recess 28 formed to loosely fit the saddle pin 18. It is flat on its end opposite said recess and thereby affords a flat surface against which a lock nut 29 threaded upon the rod 11 may be screwed to retain the parts tightly in place. A lock washer 31 may be employed if desired between the saddle pin and lock nut. It will be appreciated from what has been said that the frame or clevis is freely pivotally mounted on the pin 18.

It will be understood that the term "wire" as employed herein refers to any strip material independent of its particular shape in cross section.

In the form of the invention shown in Figure 9 the saddle pin 32 is provided with an integrally formed neck 33 extending upwardly therefrom, this neck serving the purpose of the seat 25 in the other structures herein shown. The threaded hole for the hanger rod 11 is formed through the neck and saddle pin, as shown in dotted lines in Fig. 9. This neck is preferably of a size to border the grooves 19 in the saddle pin, the loops 15 therein being closely but loosely associated with said neck. In some cases this construction would represent the preferred form of the invention.

While the trackage is shown herein as of T-shape it is intended that the hanger shall be adapted for supporting monorail trackage of any shape and may be used with any standard rail of any shape in cross section or sections, hot or cold rolled or drawn, which may be utilized as a monorail trackage section on which one or more pairs of single flanged trolley wheels are made to run and such sections as may be utilized to constitute crane runways on which cranes of the underhung type are made to operate.

In that form of the invention shown in Figures 10 to 13 the frame or clevis is formed from a strip of sheet metal comprising sides 34 having

a loop 35 connecting their upper ends. Slots 36 are formed through the sides more especially for clearance for the hanger rod 11 projecting downwardly from the bracket 9 in the manner as hereinbefore described. The frame has the seat 25 and lock nut 29 as hereinbefore described and said rod passes through the saddle pin 18 as in the other structures. A slot 37 is formed through the upper part of the loop 35 to receive the hanger rod 11 and as shown in Fig. 12 of the drawings.

A track pin 38 is secured within the lower ends of the sides 34, this pin being preferably headed at one end to engage one of the sides and screw threaded at its opposite end to engage the opposite side, as shown in Fig. 12 of the drawings. As hereinbefore mentioned the web 23 of the track is engaged with the pin.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim:

1. A track hanger including a frame composed of a single piece of wire and comprising spaced apart side members of substantially like construction and facing each other and each having spaced apart branches, spaced apart loops formed by said branches at one end of said frame, means engaged in said loops for attachment of a hanger rod, and means at the opposite end of said frame to support a track.

2. A track hanger including a frame composed of a single strand of wire formed into an endless piece, said frame comprising side members each having a loop at one end and said frame having suspension bends at the opposite end, means within said loops for attachment of a hanger rod, and means within said bends to support a track.

3. A track hanger including a frame composed of a single piece of wire and comprising spaced apart side members each having spaced apart branches, a pivotal connection for a hanger rod at one end of said frame and a pivotal connection for a track at the opposite end of said frame, the axes of said pivotal connections extending at right angles to each other thereby providing a universal connection between said hanger rod and track.

4. A track hanger including a frame composed of a single piece of wire and comprising spaced apart side members each having spaced apart branches, loops formed at the ends of said side members, bends formed at the opposite ends of each of said side members, a saddle pin for a hanger rod supported in said loops, and a track pin for a track supported in said bends, the axes of said pins extending at right angles to each other, thereby providing a universal connection between said hanger rod and track.

5. A track hanger including a frame composed of a single piece of wire and comprising spaced apart side members, each having spaced apart branches, loops formed at the ends of said side members, each of said loops being open on one side, a saddle pin cut away on one side to permit its entrance into said loops through said openings, said pin being greater in diameter in one direction than the diameter of said loops whereby it is locked when in one position, means on said pin

to receive a hanger rod, and means in the opposite ends of said side members for attachment of a track.

6. A track hanger including a frame composed of a single piece of wire and comprising spaced apart side members each having spaced apart branches, loops formed at the ends of said side members, each of said loops being open on one side, a saddle pin having grooves in its opposite ends to engage said loops, said pin being greater in diameter in one direction than the diameter of said loops whereby it is locked when in one position against lateral movement and engagement of said loops in said grooves preventing endwise movement of the saddle pin, means on said pin to receive a hanger rod, and means in the opposite end of said frame for attachment of a track.

7. A track hanger including a frame composed of a single piece of wire and comprising spaced apart side members each having spaced apart branches, the latter being bent to create narrow and wider openings in each of said members, means for attachment of a hanger rod to the upper part of said frame, a track pin insertable through the wider parts of said openings and having grooves to engage the narrower parts of said openings whereby the pin is locked in position, and means on said pin to receive a track.

8. A track hanger comprising a frame composed of a single piece of wire and including spaced apart side members each having spaced apart branches, said side members each having a bend at one end reduced in size from a wider opening thereabove, a pin insertable through said wider openings and having grooves at opposite ends to engage said reduced openings whereby said pin is locked against endwise movement, a T-rail having a hole to receive said pin, means at the opposite end of said frame to screw threadedly receive a hanger rod, and a hanger rod screw threaded to engage said means.

9. The combination in apparatus for supporting stiff rigid trackage of a track hanger including a one-piece frame having spaced apart loops at its upper end, means engaged in said loops for pivotally supporting said frame at said upper end on an axis extending parallel and lengthwise with said trackage, and means for pivotal attachment of a track on a horizontal axis transverse to the aforementioned axis in the opposite end of said one-piece frame, said pivots being thus arranged to provide a universal joint connection between the supporting means and the trackage.

10. A track hanger including a frame comprising side members having loops at one end of said frame, a saddle pin pivotally engaged within said loops, a hanger rod extending into and rigidly secured to said pin, and means at the opposite end of said frame to support a track.

11. A track hanger including a frame formed from pressed steel and having a loop at one end thereof comprising part of a circle of more than 180° forming a substantially tubular bearing, a saddle pin journaled in said bearing, means for disengaging attachment of a hanger rod to said saddle pin, and means for attachment of a track at the opposite end of said frame, the axis of the saddle pin being in a plane common with the plane of the track whereby the track and hanger frame may oscillate laterally only about the axis of the saddle pin.

12. A track hanger including a pin for support of a monorail with grooves at the opposite ends of said pin, a second pin grooved at its opposite ends and having means for threaded connection to a supporting hanger rod, said pins lying in spaced parallel planes, and a frame composed of an endless piece of wire and having loops at its opposite ends to receive said pins with their axes relatively transversely disposed to constitute a universal joint connection between said supporting hanger rod and a suspended monorail track.

13. A monorail track hanger including a frame comprising spaced-apart side members connected together at their upper ends, a saddle pin mounted in the upper end of the frame for adjustable attachment to a supporting hanger rod, and means at the lower end of the frame for the support of a monorail track, the axes of said pin and track being substantially parallel and said saddle pin mounting including spaced bearing areas, a line through which is in a plane common with the plane of the track, whereby the track and frame may swing laterally only about the axis of the saddle pin and independently of the supporting hanger rod.

14. A monorail track hanger including a frame comprising spaced-apart side members connected together at their upper ends, a saddle pin mounted in the upper end of the frame for adjustable attachment to a supporting hanger rod, the lower end of the frame being constructed for a track pin connection with a monorail track with the axis of the track pin at right angles to the axis of the saddle pin and axes of said saddle pin and track being substantially parallel, the saddle pin mounting including spaced bearing areas, a line through which is in a plane common with the plane of the track whereby a universal joint connection is formed between the supporting hanger rod and the monorail track.

15. A monorail track hanger including a frame formed of pressed steel and comprising spaced-apart side members with a connecting loop at their upper ends, a saddle pin journaled in said loop and adapted to have threaded connection with a supporting hanger rod and the lower ends of said side members being constructed for a track pin connection to a monorail track, the axes of said saddle pin and track being substantially parallel and the axis of said saddle pin being in a plane common with the plane of the monorail track and at right angles to the axis of said track pin, said saddle pin and track pin mountings combinedly forming a universal joint connection between the supporting hanger rod and the monorail track.

16. A monorail track hanger including a pressed steel frame comprising side members, a loop at the upper end of the frame in the vertical plane thereof and forming a part of the frame, a saddle pin journaled in said loop and adapted to have threaded connection with a supporting hanger rod and the lower ends of said side members being constructed for connection to a monorail track, the axes of said saddle pin and track being substantially parallel and the axis of said saddle pin being in a plane common with the plane of the monorail track whereby the monorail track hanger frame may oscillate laterally only about the axis of the saddle pin.

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