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SWITCH FOR OVERHEAD TRACKS

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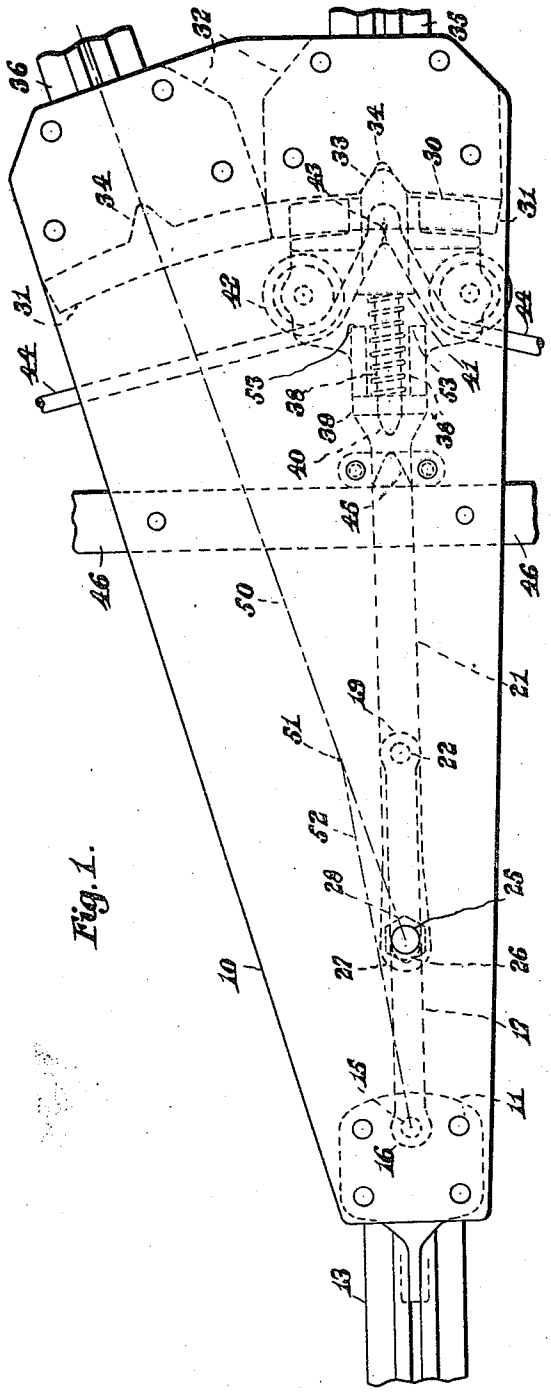


Fig. 1.

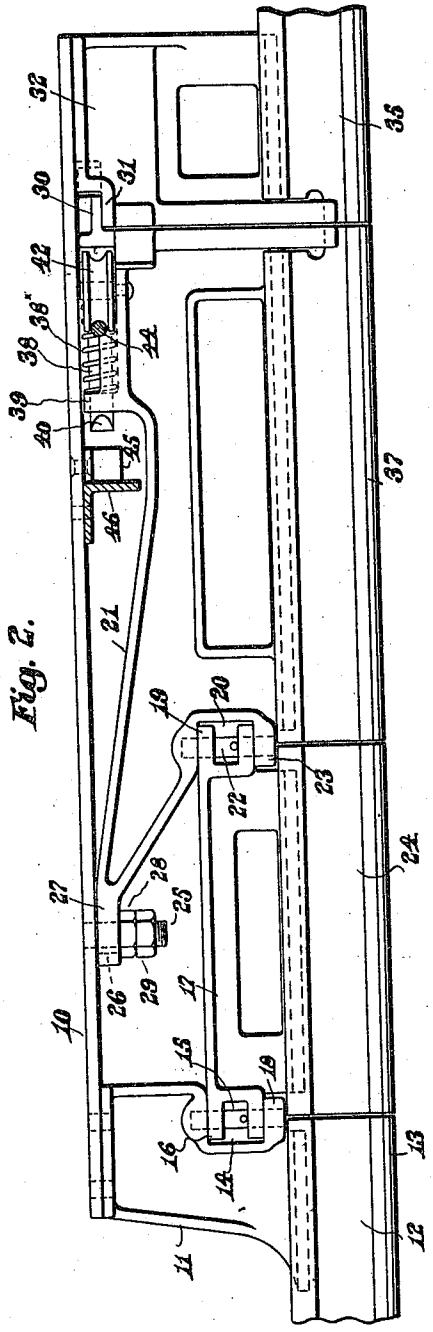


Fig. 2.

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SWITCH FOR OVERHEAD TRACKS.

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This invention relates to switches for overhead trackage and has for its object the production of a switch wholly supported from above and adapted, when operated, to reduce the angle of deflection between the main track and a side track with which said switch may connect.

This object is attained by the mechanism illustrated in the accompanying drawings.

For the purpose of illustrating the invention, one preferred form thereof is illustrated in the drawings, this form having been found to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized, and the invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described except as required by the scope of the appended claims.

Of the drawings:—

Figure 1 represents a plan of a main track and side track and a switch embodying the principles of the present invention and adapted for movement from its main track position to a position connecting with the side track, and

Figure 2 represents a side elevation of the same.

Similar characters indicate like parts throughout the several figures of the drawings.

In the drawings 10 is a support in the form of a flat plate which may be fixedly secured to any suitable framework.

At one end of this support 10 is secured a depending bracket 11 the lower edge of which has secured thereto a section 12 of the main track provided with outwardly extending flanges 13 on which the trolley wheels run.

One edge of the bracket 11 is provided with a recess 14 in which is disposed a vertical pivot pin 15, the axis of which is immediately over the end of the track section 12.

The pin 15 extends through ears 16 on one end of a connector 17, said ears 16 projecting into the recess 14, the bracket ear 18 forming a support for the end of the connector 17.

The opposite end of the connector 17 has similar ears 19 extending into a recess 20 in a movable or swinging member 21 which is provided with a pivot pin 22 extending through the ears 19.

An ear 23 on the member 21 forms a support for the adjacent end of the connector 17.

This connector 17 has depending therefrom a track section 24, the ends of which are beneath the axes of pivot pins 15, 22.

At a point midway of the pivot pins 15, 22 and above the connector 17, the support 10 has a downwardly extending pin 25 extending through a slot 26 in the end 27 of the swinging member 21.

This end 27 is supported by the nut 28 and lock nut 29, both threaded to the lower end of pin 25.

The free end of the member 21 is provided with an outwardly extending flange 30 which rests upon shelves 31 formed upon blocks 32 depending from and secured to the support 10 side by side.

The flange 30 has an opening therethrough through which extends a locking bolt 33, the outer end of which is wedge-shaped and adapted to extend into a notch 34 in the upper end of either block 32.

One block 32 has secured to its under edge a section 35 of the main track and the other block 12 has secured to its under edge a section 36 of a side track.

Secured to the under edge of swinging member 21 between the axis of pin 22 and the outer end of said frame 21 is a track section 37.

The bolt 33 has a shank 38 extending through a rib 39 projecting upwardly from the member 21 and surrounding this shank is a spring $38^{\times}$ adapted to force the bolt 33 outwardly.

The projecting end 40 of the shank 38 is wedge-shape as shown in Fig. 1.

The bolt 33 has a wedge-shaped projection 41 on its upper face and on opposite sides thereof the support 10 has revoluably mounted thereon the rollers 42.

At 43 is secured a cable or cord 44 which extends in opposite directions between the wedge-shaped projection 41 and the rollers 42.

By means of this cable 44 the end of the bolt 33 may be withdrawn from the notch 34 and the member 21 moved about its pivot 27 to bring its free end in alinement with the track section 36, or said member 21 may

be moved in the opposite direction to bring it again into alinement with the main track 12, 35.

In the path of the bolt 33 is a wedge-shaped block 45 secured to the under face of the support 10.

When the bolt 33 is withdrawn the wedge end 40 thereof comes into contact with this block 45 and moves along one side face thereof.

Any strain brought to bear upon the block 45 at this time is partially sustained by the angle iron 46 secured to the under face of the support 10.

When the switch is in the position shown in the drawings the track sections 12, 24, 37 and 35 of the main line are all in alinement, that is, are in coacting or connecting position with respect to each other.

When the member 21 is moved about its pivot 25 so that its free end will be in position for the track section 37 to coact with track section 36, its center will be on line 50 and the pin 22 will be moved to the point 51, thereby moving the connector 17 and its track section 24 to the line 52, said connector 17 moving about the pivot 15.

In doing this the member 21 will move endwise to the right until the end of the slot 26 engages the pin 25, said slot 26 being necessarily slightly elongated as the distance between the axis of pin 25 and the point 51 is slightly greater than the distance between the axes of the pins 25, 22.

By providing the connector 17 the angles between the track sections 12, 24 and 24, 37 are greatly reduced in comparison with the angle which the track sections would assume when no connector 17 is used.

This is of great importance as by thus reducing the angles the trolley wheels move more freely over the track sections.

The cable or cord 44 extends in opposite directions from the bolt 33 to any suitable point in reach of the operator and a pull upon either end thereof will disengage the bolt 33 from the notch 34 and permit the member 21 to be moved about its pivot 25 and the connector 17 about its pivot 15.

The withdrawal movement of the bolt 33 is limited by the projection 41 coming into contact with the shoulders 53 on the rib 39.

As the bolt 33 is withdrawn from the notch 34 the member 21 will be swung about its pivot 25 bringing the wedge-shaped end 40 out of alinement with the tapered end of the fixed block 45 and the continuation of the withdrawal movement will cause one side face of the end 40 to ride along one inclined face of said block 45.

These two faces will be in contact when the bolt 33 is fully withdrawn.

If under these conditions the cable 44 is pulled in the opposite direction the inclined contacting faces of the end 40 and block 45 will cause a positive end thrust to be given to the bolt 33 so that its end will be forced into a notch 34 as soon as it comes into alinement therewith.

When the end of bolt 33 has entered the notch 34 the spring 38^{x} will retain it in said notch until the operator again withdraws it by pulling upon the cable 44.

It will be seen, therefore, that dependence is not placed upon the spring 38^{x} to force the bolt 33 into locking position in the notches 34 but means are provided whereby this locking action of the bolt 33 is positively assured.

This is of great advantage as no opportunity is given for the member 21 to be swung about its pivot from one position without positively locking it in the new position it is to assume.

It is believed that the operation and many advantages of the invention will be readily understood without further description.

Having thus described my invention, I claim:—

1. A switch for overhead trackage comprising a fixed support, a bracket and two blocks depending therefrom and supporting the main track and a side track, and means supported from above and composed of two sections pivoted together adapted to be moved about a pivot at one end so that the opposite end will connect with either the main track or the side track supported by said blocks.

2. A switch for overhead trackage comprising a fixed support, a bracket and two blocks depending therefrom and supporting two sections of the main track and a side track, and means supported from above and composed of two sections pivoted together adapted to connect always with one section of main track with its opposite end connecting with either the other section of main track or the end of a side track.

3. A switch for overhead trackage comprising a fixed support, a bracket depending therefrom and provided with a pivot pin, two blocks side by side also depending from said support and supporting a section of the main track and a side track, another section of the main track being supported by the bracket, a member pivoted beneath said support and adapted to be moved about its pivot to cause its free end to connect with either track supported by said blocks, said member having a track section depending therefrom and being provided with a pivot pin, and a connector on said pivot pins having a track section depending therefrom.

4. A switch for overhead trackage comprising a fixed support, two separated sections of main track and a section of side track beneath and depending from said support, a swinging member having a track section depending therefrom and pivotally con-

nected to said support and movable about its pivot to connect with a main track section or said section of side track, and a connector supporting a track section and pivotally connected at opposite ends to said swinging member and one of the main track sections.

5. A switch for overhead trackage comprising a fixed support, two separated sections of main track and a section of side track beneath and depending from said support, a swinging member pivotally connected to said support and movable about its pivot to connect a track section depending therefrom with the main track section or said section of side track, and a connector supporting a track section and pivotally connected at opposite ends to said swinging member and one of the main track sections said pivotal connectors being equi-distant from the pivot of said movable member.

6. A switch for overhead trackage comprising a fixed support, a bracket depending therefrom, two blocks also depending from said support provided with shelves, tracks supported by said bracket and blocks, a movable member pivoted at one end to said support and provided at its opposite end with a flange resting upon said shelves, a track section secured to said movable member, a connector pivoted at opposite ends to said bracket and movable member, and a track section secured to said connector.

7. A switch for overhead trackage comprising a fixed support, a bracket depending therefrom, two blocks also depending from said support, tracks supported by said bracket and blocks, a movable member pivoted at one end to said support and provided at the opposite end with a locking bolt adapted to engage notches in said blocks, a track section secured to said movable member, a connector pivoted at opposite ends to said bracket and movable member, and a track section secured to said connector.

8. A switch for overhead trackage comprising a fixed support, a bracket depending therefrom, two blocks also depending from said support, tracks supported by said bracket and blocks, a movable member pivoted at one end to said support and provided at the opposite end with a spring pressed locking bolt adapted to engage notches in said blocks, a track section secured to said movable member, a connector pivoted at opposite ends to said bracket and movable member, and a track section secured to said connector.

9. A switch for overhead trackage comprising a fixed support, a bracket depending therefrom, two blocks also depending from said support, tracks supported by said bracket and blocks, a movable member pivoted at one end to said support and provided at the opposite end with a locking bolt adapted to engage notches in said blocks, a track section secured to said movable member, a connector pivoted at opposite ends to said bracket and movable member, a track section secured to said connector; and means carried by said movable member for withdrawing the locking bolt.

10. A switch for overhead trackage comprising a fixed support, a bracket depending therefrom, two blocks also depending from said support, tracks supported by said bracket and blocks, a movable member pivoted at one end to said support and provided at the opposite end with a locking bolt adapted to engage notches in said blocks, a track section secured to said movable member, a connector pivoted at opposite ends to said bracket and movable member, a track section secured to said connector; and a cable secured to said bolt and extending therefrom in opposite directions around rollers carried by said movable member.

11. A switch for overhead trackage comprising a fixed support, a bracket depending therefrom, two blocks also depending from said support, tracks supported by said brackets and blocks, a movable member pivoted at one end to said support and provided at the opposite end with a locking bolt adapted to engage notches in said blocks, a track section secured to said movable member, a connector pivoted at opposite ends to said bracket and movable member, a track section secured to said connector, a spring surrounding said locking bolt and forcing it outwardly, said bolt being wedge-shaped at its inner end, and a wedge-shaped block secured to a fixed support in the path of said locking bolt.

12. A switch for overhead trackage comprising a fixed support, a bracket depending therefrom, two blocks also depending from said support, tracks supported by said brackets and blocks, a movable member pivoted at one end to said support and provided at the opposite end with a locking bolt adapted to engage notches in said blocks, a track section secured to said movable member, a connector pivoted at opposite ends to said bracket and movable member, a track section secured to said connector, a spring surrounding said locking bolt and forcing it outwardly, said bolt having a wedge-shaped projection on its upper side, rollers revolubly mounted on the under face of said support, and a cable secured to said bolt and extending in opposite directions between said projection and said rollers.

13. A switch for overhead trackage comprising two sections of track normally interposed between separated sections of the main track and adapted to be moved to connect one section of the main track with a side track, said two sections being supported from above and having angular move-

ment relatively to each other when moved into position to connect with the side track.

14. A switch for overhead trackage comprising two sections of track normally interposed between separated portions of the main track and adapted to be moved to connect one portion of the main track with a side track, said sections being supported from above and pivoted together with one section also pivoted to a main track portion and the other section also pivoted to an overhead support at a point substantially midway of the length of the first mentioned section.

15. A switch for overhead trackage comprising two sections of track normally interposed between separated portions of the main track and adapted to be moved to connect one portion of the main track with a side track, said sections being supported from above and pivoted together with one section also pivoted to a main track portion and the other section also pivoted to an overhead support at a point substantially midway of the length of the first mentioned section, and means carried by the last mentioned section adapted for locking it to either the other portion of main track or said side track.

16. A switch for overhead trackage comprising two sections of track normally interposed between separated portions of the main track and adapted to be moved to connect one portion of the main track with a side track, said sections being supported from above and pivoted together with one section also pivoted to a main track portion and the other section also pivoted to an overhead support at a point substantially midway of the length of the first mentioned section, and a locking bolt carried by the last mentioned section and adapted to engage a notch in either the side track or the adjacent portion of the main track.

17. A switch for overhead trackage comprising two sections of track normally interposed between separated portions of the main track and adapted to be moved to connect one portion of the main track with a side track, said sections being supported from above and pivoted together with one section also pivoted to a main track portion and the other section also pivoted to an overhead support at a point substantially midway of the length of the first mentioned section, a locking bolt carried by the last mentioned section and adapted to engage a notch in either the side track or the adjacent portion of the main track, and fixed means for imparting a thrust to said bolt during the swinging movement of said sections to insure its insertion in one of said notches.

18. A switch for overhead trackage comprising two sections of track normally interposed between separated portions of the main track and adapted to be moved to connect one portion of the main track with a side track, said sections being supported from above and pivoted together with one section also pivoted to a main track portion and the other section also pivoted to an overhead support at a point substantially midway of the length of the first mentioned section, a locking bolt carried by the last mentioned section and adapted to engage a notch in either the side track or the adjacent portion of the main track, and a cable secured to said bolt and extending in opposite directions therefrom and by which the bolt may be disengaged from a notch and said sections moved about their pivot.

19. A switch for overhead trackage comprising a fixed support, two separated sections of main track and a side track in the same horizontal plane, a swinging member having a track section depending therefrom and pivotally connected to said support and movable about its pivot to coact in continuation with a main track or side track, and a connector supporting a track section and pivotally connected at opposite ends to said swinging member and one of the main track sections.

20. A switch for overhead trackage comprising a plurality of sections of track normally interposed between separated sections of the main track and adapted to be moved to connect one section of the main track with a side track, said plurality of sections being supported from above and having angular movement relatively to each other when moved into position to coact with the side track.

21. A switch for suspended trackage comprising a fixed support, a main track at one side of the support and another main track and a side track at the other side of the support, movable track sections interposed between and adapted to coact with the first said main track and either of the second said main track or side track, and jointed means supported from the fixed support and carrying and movable with the movable track sections.

22. A switch for suspended trackage comprising a support, a plurality of track sections therebeneath and interposed between separated sections of a main track and movable to coact with one section of a main track and with either another section thereof or with a side track, and movable means jointedly connected together and carried by the said support for carrying the said movable track sections.

Signed by me at 746 Old South Bldg., Boston, Mass., this 15th day of March, 1926.

FRANK C. HARRIS.