

UNITED STATES PATENT OFFICE.

EDWARD Y. MOORE, OF CLEVELAND, OHIO.

SWITCH FOR TROLLEY-TRACKWAYS.

1,015,578.

Specification of Letters Patent.

Patented Jan. 23, 1912.

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To all whom it may concern:

Be it known that I, EDWARD Y. MOORE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Switches for Trolley-Trackways, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to the trackway for a trolley or trolley hoist, and the object of the invention is to provide simple and effective means for switching the traveling trolley or trolley hoist between a main track and branches thereof.

My mechanism is especially well adapted for a trackway composed of I-beams. It provides simple mechanism whereby a movable switching portion of an I-beam trackway may be caused to cooperate with either of two branches provided by I-beams diverging from the switching portion.

The invention not only provides convenient means for shifting the switch point, but means for supporting it and holding it in position.

The invention is hereinafter more fully explained and its essential characteristics set out in the claims.

In the drawings, Figure 1 is a plan of an I-beam trackway having a pair of branching trackways and a movable switch point combined with my operating mechanism; Fig. 2 is a horizontal section through the main and branch trackways; Fig. 3 is a side elevation of a trackway equipped with my switching mechanism; Fig. 4 is a vertical section of the same looking toward the branch trackways, as indicated by the line 4-4 of Fig. 1.

As shown in the drawings, 10 represents the main portion of the trackway, 11 a movable switch point connected therewith, and 12 and 13 a pair of branch trackways with either of which the switch point is adapted to cooperate. Each of the members mentioned is preferably of I-beam section. The switch point 11 is so secured to the main trackway 10 as to allow some lateral movement of the switch point. This securing is shown as accomplished by flat, metallic straps 14 overlapping the abutting webs 15 and 16 of the track portion 10 and 11 and secured to these webs by rivets 18 and 19. The ends of the flanges of the switch point 11 are slightly cut away, as shown at 20, to

enable the switch point to be swung slightly from one direction to the other, the slight bending and slipping of the plates 14 allowing this movement.

The branch trackways 12 and 13 extend into opposite sides of the extreme end of the switch point 11. This switch point, at its free end, is given the form shown by tapering to a point the upper and lower flanges of the I-beam, as shown at 23 and cutting away the web 16 some distance back from the extreme end, and oppositely beveling the end of the web, as shown at 24. The branch trackways 12 and 13 extend onto opposite sides of the tapered point 23, the flanges of these I-beams being cut away diagonally, as shown at 26 and 27. The webs 28 and 29 of these branch I-beams are also cut away adjacent to the diagonal edge, as shown at 30 and 31. These cut away portions 30 and 31 are preferably such as to leave the end of the webs concaved, as shown in Fig. 3. The outer edges of the lower flanges of the branch tracks 12 and 13 are cut off at 32 and 33 to taper them toward the extreme end of the flange and enable them to form a close junction with the switch point 11.

Fig. 2 shows the switch point 11 in the position it occupies when cooperating with the track 13. It will be seen that in this position there is provided a continuous trackway from the lower flange of the member 11 to the lower flange of the member 13, while there is suitable space between the switch point 11 and the member 12 to allow passage of the side frame of the trolley. The other position of the switch point is shown in Fig. 1 wherein the point 11 cooperates with the trackway 12. In this position the cut away portion 32 of the lower flange of the trackway 12 terminates at the angle in the edge of the lower flange of the switch point 11, and suitable clearance for the side frame of the trolley is provided between the switch point and the branch track 13. The openings 30 and 31 through the webs of the branch tracks allow the passage of the overhanging portions of the trolley frame when the wheels are riding onto or off of the pointed lower flange of the switch point. As heretofore noted, the straps 14 connecting the movable point with the stationary part of the trackway are thin enough to allow this point to have the slight movement necessary to connect with either branch.

It is to be understood that the main trackway 10 and the branches 12 and 13 are suitably supported from above. The straps 14 support the switch point 11 at one end. To support it at the other end I provide a plate 40, riveted at 41 to the upper flange of the point 11 and extending in each direction therefrom and resting upon the upper flanges of the branches 12 and 13.

To enable convenient shifting of the switch point, I provide a longitudinally movable bar 45 slidably mounted in a housing 46 secured by bolts 48, or otherwise, to the ceiling or other support. This bar has a diagonal slot 44 into which extends a downward projection 43 of the plate 40. A suitable downwardly extending handle 49 on the bar furnishes convenient means for shifting it.

The friction of the plate 40 with the top of the branch tracks and with the bar 45 and the friction of the bar 45 with its housing prevent accidental displacement of the switch point so that the same remains in whatever position it may be given. When it is desired to change the position, it is only necessary for the operator to take hold of the handle 49 and shift the bar 45, thereby shifting the switch point to the other extreme position.

The dotted lines in Figs. 3 and 4 illustrate any suitable trolley adapted to travel on the trackway. This trolley is shown as having wheels 60, side frame 61 and a suitable supporting hook 62, and such structure is to be taken as illustrative of any suitable trolley or trolley hoist. The side frames of such traveling structure may be provided with openings 64 to enable them more conveniently to pass the salient angle of the switch point where its tapered bottom flange joins the parallel sided portion of the flange. This particular kind of a hoist frame is covered in my Patent #997,690, issued July 11, 1911.

In the operation of my device the switch point is shifted to the place desired by moving the handle 49. Then the hoist or trolley is shifted by hand to or from the branch track with which the switch point is co-acting. The switch point may be then left in this position until it is desired to bring it into coaction with the other branch track when the reverse movement of the handle 49 accomplishes this change.

Having thus described my invention, what I claim is:

1. In a mechanism of the character described, the combination, with an overhead main track and branch tracks, of a movable switch point coöperating with the main track and adapted to coöperate with either of the branches, a member secured to such switch point and resting on top of the branch tracks to support the switch point

and extend into one side of one of the branches, a longitudinally movable member suitably guided alongside of the trackway, and a movable connection between said two members consisting of an inclined guide on one member and a shoulder on the other, whereby the movement of the longitudinal member may laterally shift the switch point.

2. In mechanism of the character described, the combination, with a pair of branch tracks, of a switch point having a tapered end projecting between the two and movable to coöperate with the beveled end of either, a plate secured to the switch point and resting on the branch tracks, and a movable member alongside of the trackway and having an inclined guideway with which a shoulder on the plate coacts.

3. The combination, with a pair of I-beams constituting branch trackways, of a movable I-beam switch point adapted to coöperate with either, a movable plate secured to the upper flange of the switch point and resting on the upper flanges of the branch tracks, a longitudinally movable member alongside of the trackway, and an inclined sliding connection between the same and said plate.

4. The combination, with a pair of I-beams constituting branch trackways, said I-beams being tapered on their inner sides adjacent to their ends, of a movable I-beam switch point having a tapered portion extending between the tapered ends of the trackways, a plate secured to the top of the switch point near its end and resting on the tops of the tapered ends of the branches, said plate extending beyond the outer side of one of the branches, and means at such point engaging such plate for shifting the switch point.

5. The combination, with a stationary main trackway and a pair of branch trackways, of a movable switch point connected with the main trackway and adapted to coöperate with either of the branch trackways, all of said parts being of I-beam cross section, plates overlapping the junction of the main track web and the switch point web and secured to the respective webs, and a plate secured to the upper flange of the switch point and extending over and resting upon the top flanges of the branch tracks.

6. The combination, with a stationary main trackway and a pair of branch trackways at an angle to each other and having their ends cut off diagonally to leave a pointed space between them, of a movable switch point connected with the main trackway and pointed at its other end to occupy said pointed space and coöperate with either of the branch trackways, all of said parts being of I-beam cross section, a plate secured to the upper flange of the switch point

and extending over and resting upon the top flanges of the branch tracks, and mechanism engaging said plate for shifting it and thereby shifting the switch point.

5 7. The combination, with a stationary main trackway and a pair of branch trackways, of a movable switch point connected with the main trackway and adapted to co-operate with either of the branch trackways,
10 all of said parts being of I-beam cross section, plates overlapping the junction of the main track web and the switch point web and secured to the respective webs, a plate secured to the upper flange of the switch point and
15 extending over and resting upon the top flanges of the branch tracks, a housing alongside of the trackway, and a bar slidable in said housing and having an inclined guideway coöperating with a shoulder on the
20 plate.

8. The combination, with a main trackway and a pair of branch trackways and a switch point adapted to connect the main trackway with either branch trackway, all of
25 said parts being of I-beam cross section, the switch point having its top and bottom flanges at the free ends tapered to a point and the web removed for some distance back from the point, and the branch tracks having
30 their outer flanges tapered to cause them to terminate adjacent to the angles of the switch point where its tapered edges join its parallel edges, and means for supporting the switch point adjacent to its free end.

35 9. The combination, with a main trackway and a pair of branch trackways and a switch point adapted to connect the main trackway with either branch trackway, all of said parts being of I-beam section, the
40 switch point having its top and bottom flanges at the free ends tapered to a point and the web removed for some distance back from the point, and the branch tracks having their outer flanges tapered to cause them
45 to terminate adjacent to the angles of the switch point where its tapered edges join its parallel edges, means connecting the web of the switch point with the web of the main track, and a plate secured to the top of the

switch point and resting on the tops of the 50 branch tracks, and mechanism engaging said plate and adapted to shift it and the switch point in one direction or the other.

10. In mechanism of the character described, the combination of a main trackway, 55 a pair of branch trackways extending at an acute angle from the line of the main trackway and having their ends cut off diagonally, a switch point supported at one end adjacent to an end of the main trackway and
60 having its other end tapered from opposite sides and extending between the cut off ends of the branch beams, the lower flanges of the branch beams being cut off diagonally on their outer sides to cause them to terminate
65 adjacent to the angles between the parallel edges and tapered edges of the switch point, a plate riveted to the top of the switch point and resting on the tops of the branch beams, said plate having a downwardly extending
70 lug, a housing opposite the upper edge of the junction of the switch point and branches, a longitudinally slidable bar in said housing having a slot occupied by said lug, and a depending
75 handle on the bar.

11. In a mechanism of the character described, the combination, with a main trackway and a pair of branch trackways all adapted to depend from a support and carry
80 a depending traveling trolley, of a movable switch point connected with the main trackway adapted to coöperate with each of the branch trackways, a movable member for supporting the switch point and moving it,
85 said member resting on the top surface of the branch trackways and being secured to the top of the switch point, a stationary housing adjacent to the outer side of one of the branch trackways near its point, a bar
90 longitudinally slidable in said housing and having an inclined guideway, and a shoulder on the plate coöperating with said guideway.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

EDWARD Y. MOORE.

Witnesses:

V. MUMFORD MOORE,

C. A. PAGE.