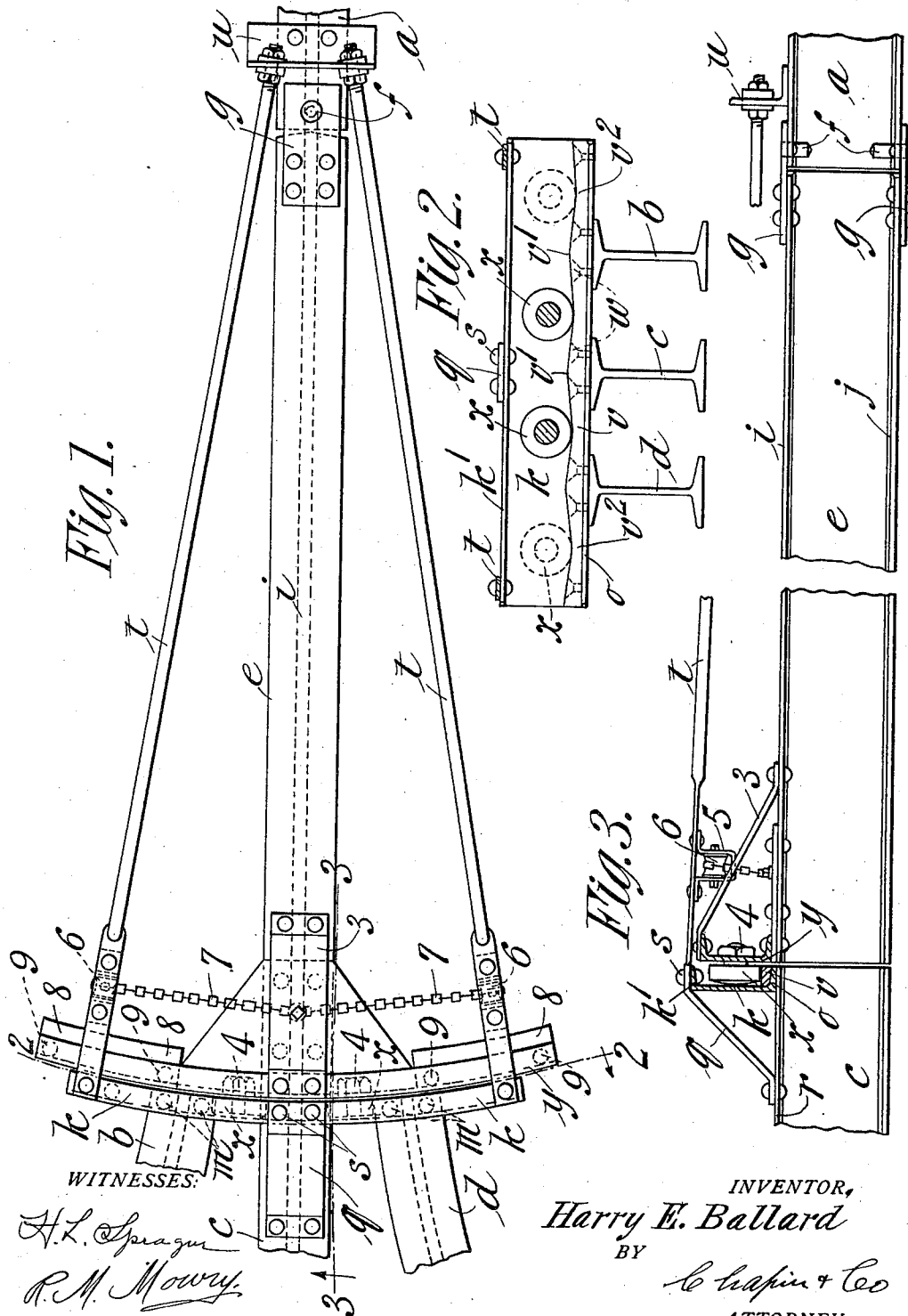


H. E. BALLARD.
 SWITCHING DEVICE FOR OVERHEAD TROLLEYS.
 APPLICATION FILED APR. 11, 1912.

1,032,368.

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UNITED STATES PATENT OFFICE.

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SWITCHING DEVICE FOR OVERHEAD TROLLEYS.

1,032,368.

Specification of Letters Patent.

Patented July 16, 1912.

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To all whom it may concern:

Be it known that I, HARRY E. BALLARD, a citizen of the United States of America, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Switching Devices for Overhead Trolleys, of which the following is a specification.

This invention relates to improvements in switching devices for overhead trolleys of the type in which the truck or carriage moves on the horizontal webs of an I-beam.

The object of the invention is to provide means for quickly and accurately shifting the movable track-section between the ends of the main end sections to permit the truck to pass from one track to another.

The switch is designed for a double-throw I-beam construction.

Broadly, the invention consists in providing a track-bar which is formed with hollows and elevations so that the wheels which carry or support the swinging end of the movable track-section will always maintain the end of the movable track-section in exact registration with the end of the main sections; or, in other words to prevent the movable section of the track from coming to rest out of registration with the end of the main sections.

In the drawings, Figure 1 is a plan-view of the invention showing the opposite ends of the main sections, the swinging section movable between the ends of these sections, and the tie-rods for strengthening and connecting together the ends of the main section. Fig. 2 is a sectional view on the line 2—2 of Fig. 1, showing the construction of the tread-bar on which the supporting wheels of the movable track section move. Fig. 3 is a sectional view on the line 3—3 of Fig. 1, showing the supporting rollers on the tread-bar, the tie-rods, the pivotal connection of the movable track section with the main section and the pull chains to operate the movable section.

Referring to the drawings in detail, *a* designates an end of the main section of I-beam construction and *b*, *c*, and *d* the oppositely located track sections with which the movable section *e* is designed to register; these sections being formed of I-beam construction.

f designates pivot-pins which are carried

by the plates *g*, that are riveted or otherwise secured to the upper and lower horizontal webs *i* and *j* of the movable section *e*.

k designates a curved bar of channel iron that is riveted to the ends of the sections *b*, *c* and *d*, as indicated at *m*, on its lower web *o*. Its upper web *k* is secured in place by means of the brace-bar *q* located at its center. The brace-bar *q* is secured at one end to the upper web *r* of the section *c* and at its other end to the upper web *k*¹ of the curved channel bar *k* as indicated at *s*. The outer ends of the bar *k* are secured in place by means of the tie-rods *t* which extend rearwardly to the fixed section *a* to which they are secured by means of the angle iron *u*.

Secured by means of the rivets *w* to the web *o* of the channel iron *k* is a tread-bar *v*. This bar as shown in Fig. 2, is formed with elevations and depressions *v*¹ and *v*².

The swinging or movable section *e* is provided with rollers which are spaced from each other a distance equal to the distance between two of the depressions and elevations of the tread-bar *v*, which distance is also equal to the distance from the centers of the end sections *b*, *c* and *d*, whereby the movable section *e* will always exactly register with its desired section when the wheels *x* are in two of the depressions *v*². The elevations *v*¹ between the depressions automatically cause the rollers *x* to descend by force of gravity to the depressions *v*², thus preventing the movable section from assuming a position that does not register with either one of the end sections *b*, *c*, or *d*.

The wheels or rollers *x* are secured to the movable section *e* by means of the curved channel iron member *y* which is held in place by means of the brace 3 riveted thereto. The wheels are mounted on the stub shafts 4.

Depending from the tie-rods *t* are hangers 5 in which are pivotally supported the rollers 6 over which pass pull chains 7 to enable the operator to move the section *e* so as to bring it into registration with either one of the sections *b*, *c* or *d*. From this construction it will be seen that the section *e* will automatically come to rest in registration with some one of the track sections *b*, *c* or *d*, regardless of the position in which the section *e* is left by the operator, since the rollers *x* will, by the force of grav-

ity, cause the section *e* to be moved into registering position with some one of the sections *b*, *c*, or *d*. No accident can therefore result from such a structure whereby a trolley truck cannot become derailed.

In order to prevent a trolley truck from accidentally running off from the end of any one of the sections *b*, *c* or *d*, stop plates 8 are secured to the plate *y* by means of the rivets 9. These plates, it will be seen, lie across the ends of the sections *b*, *c*, or *d*, when not in registration with the movable section *e*, see Fig. 1.

What I claim is:—

1. In a double-throw switch device, the combination with the main track-sections, of a swinging section, means to automatically position and maintain the swinging section in alinement with the ends of the main track sections, said means comprising a tread-bar formed with inclined sides which extend in opposite directions from an elevated portion or point, and rollers on the movable section to engage said bar.

2. In a double-throw switch device, the combination with the main track-sections, of a swinging section, means to automatically maintain the swinging section in alinement with the ends of the main track sections, and means comprising a tread-bar formed with elevations and depressions, and

rollers on the movable section to engage said bar, the rollers being spaced from each other equal to the distance from one depression or elevation to the other which distance is equal to the distance from one end section to the other.

3. A double-throw switch device having in combination with the ends of track sections, a swinging section interposed between the ends of said sections, a tread-bar secured to a plurality of track sections and formed with surfaces which meet in elevations and depressions, roller devices to engage the said surfaces of the track-bar and carried by the swinging section to automatically lock the sections in alinement with each other.

4. In a switch device, the combination, main track-sections, a channel bar to secure a plurality of the sections together, a tread-bar secured to the channel-bar, a swinging section, devices on the tread-bar and swinging section to automatically cause the two sections to always register with each other regardless of the position in which the swinging section is left.

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Witnesses:

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