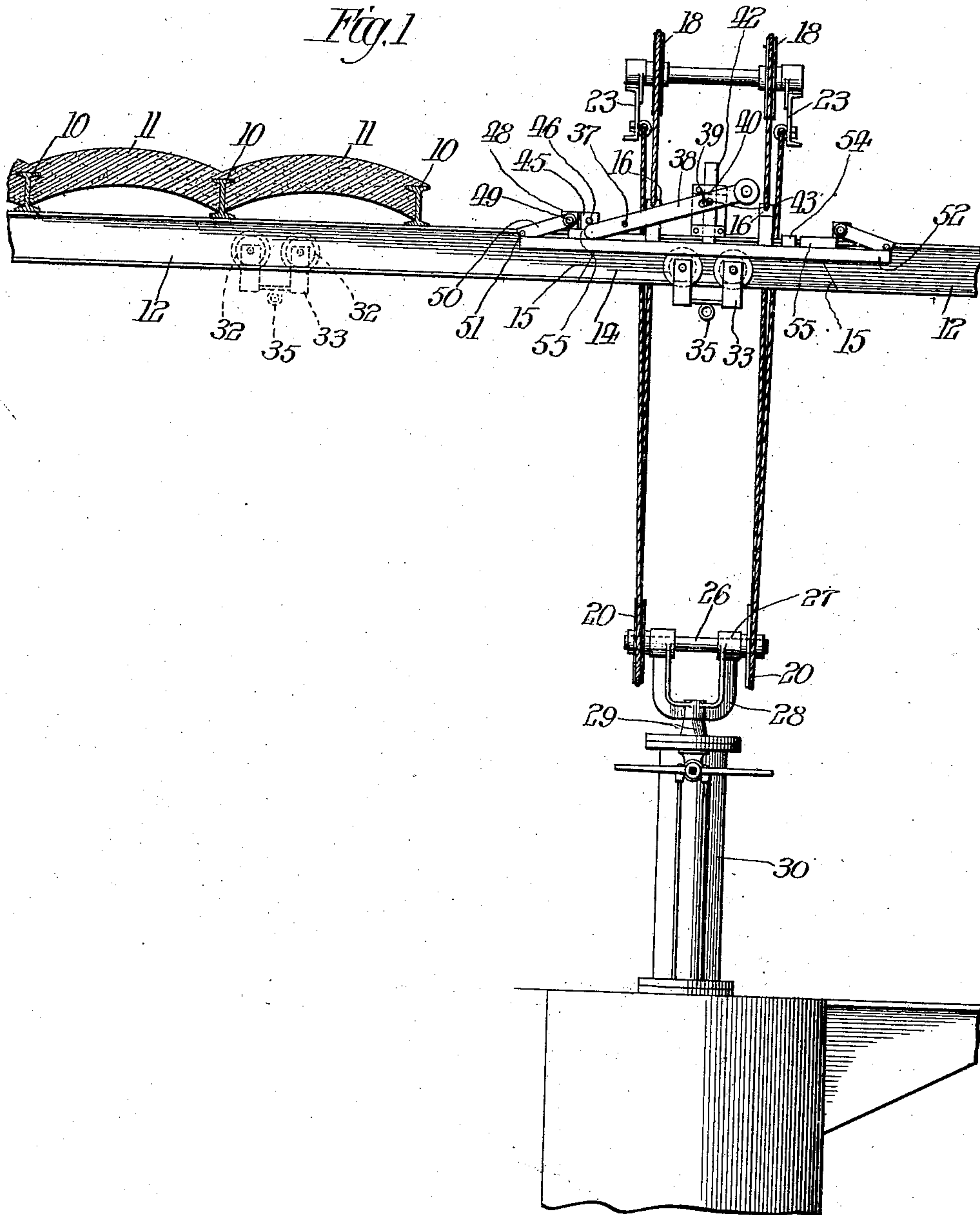


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MOVABLE TRACK SECTION TRAM RAIL SYSTEM.
APPLICATION FILED MAY 18, 1908.

915,604.

Patented Mar. 16, 1909.
3 SHEETS—SHEET 1.



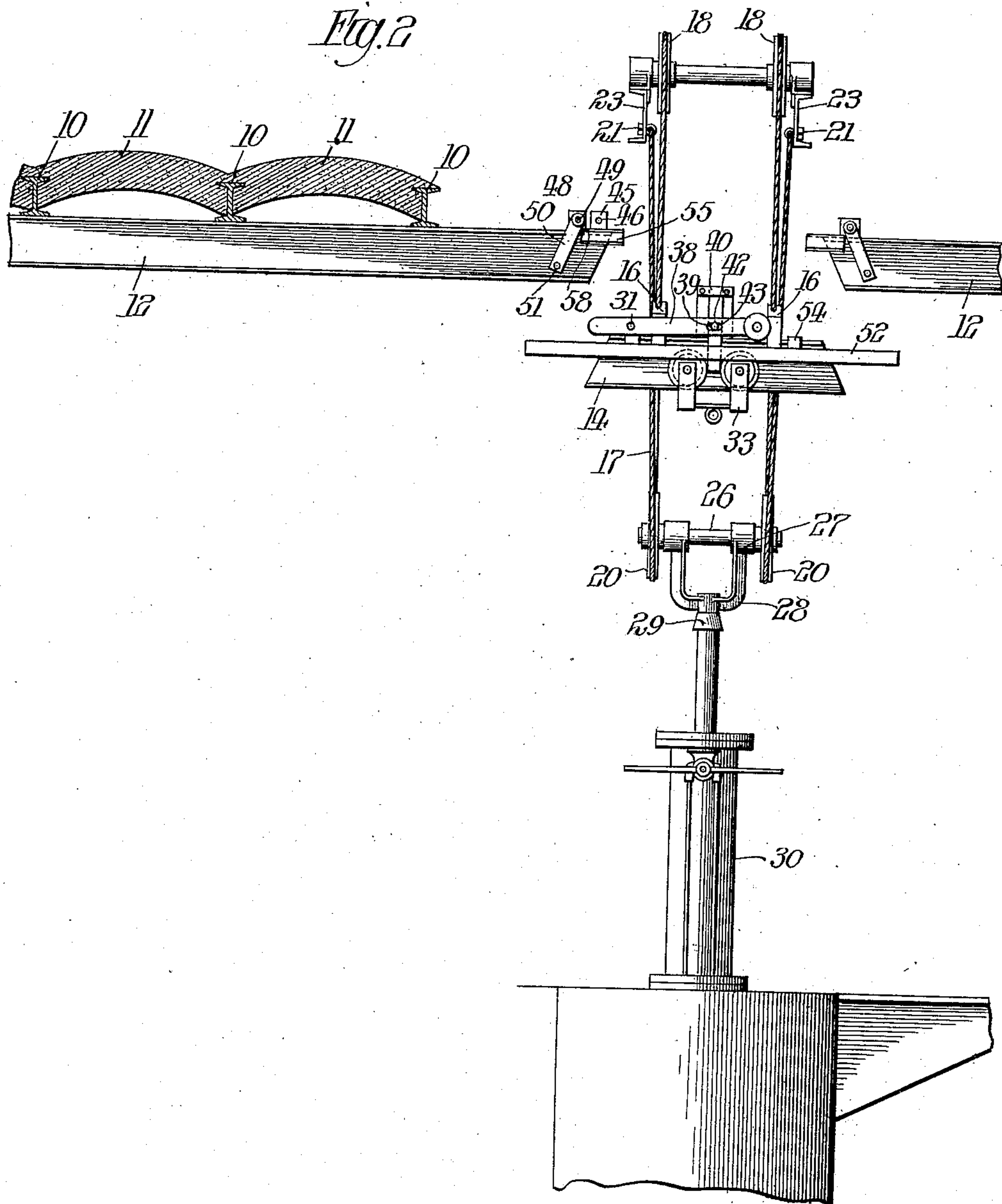
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Fig. 3

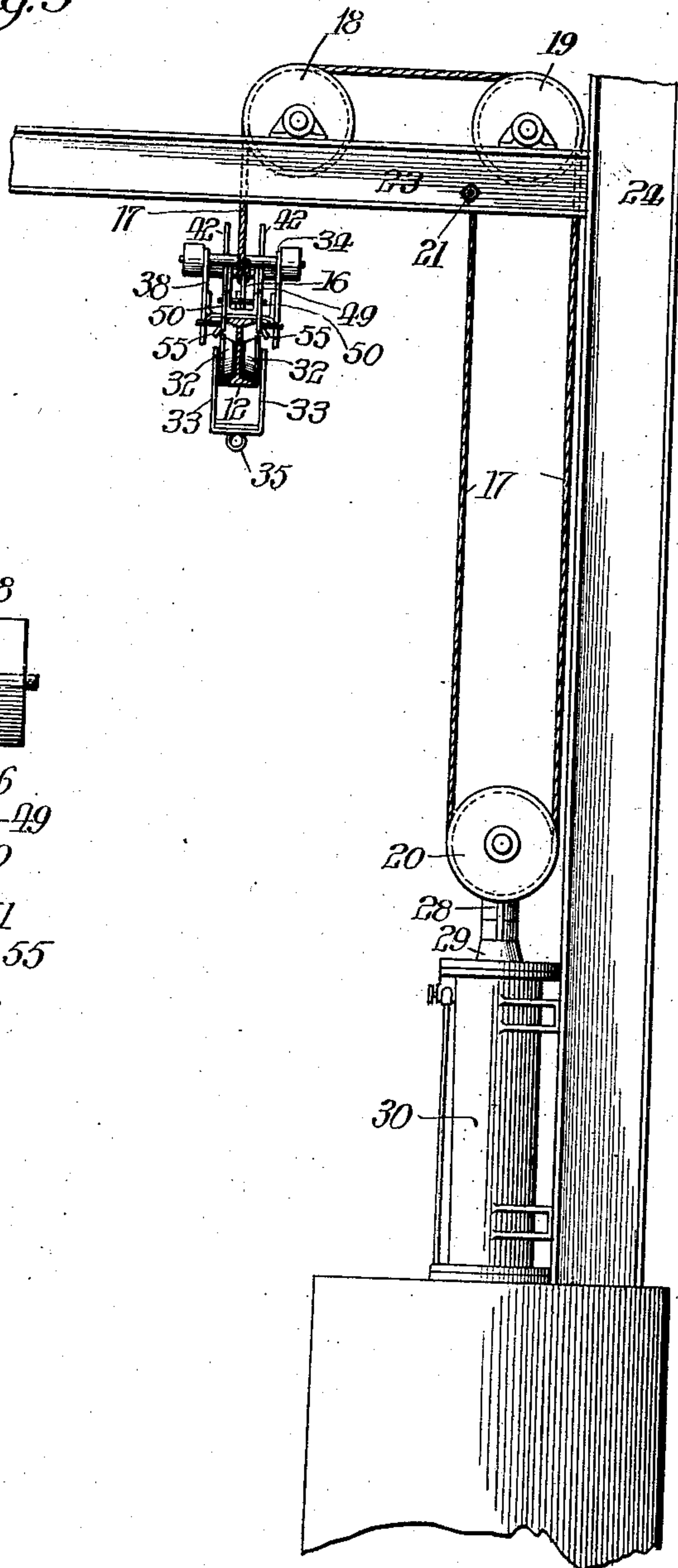
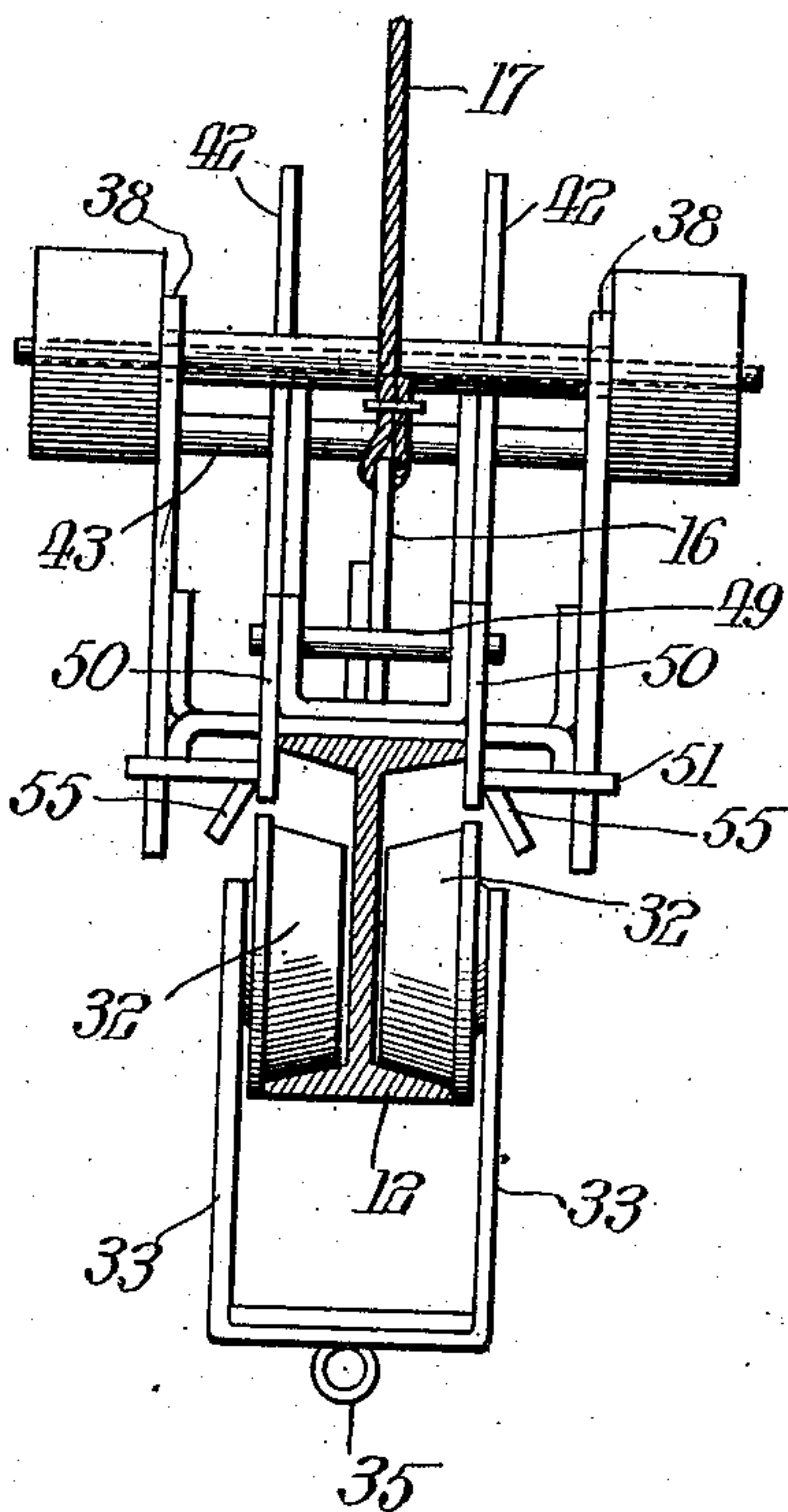


Fig. 4



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UNITED STATES PATENT OFFICE.

JAMES HYSLOP, OF HARVEY, ILLINOIS, ASSIGNOR TO WHITING FOUNDRY EQUIPMENT COMPANY, OF HARVEY, ILLINOIS, A CORPORATION OF ILLINOIS.

MOVABLE-TRACK-SECTION TRAM-RAIL SYSTEM.

No. 915,604.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed May 18, 1908. Serial No. 433,466.

To all whom it may concern:

Be it known that I, JAMES HYSLOP, a subject of Great Britain, residing at Harvey, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Movable-Track-Section Tram-Rail Systems, of which the following is a specification.

This invention relates to devices for use in foundries and other similar places by means of which the small trolley bearing a load may travel along a tram rail to a given point in the room or building at which point it passes onto a movable section of the tram rail which is arranged to be raised and lowered with the trolley thereon.

The object of this invention is to equip such a device with novel mechanism for securing the traveling trolley upon the rail section, for locking the stationary portions of the track so that any other trolley thereon may not run off while the movable portion of the track is out of connection therewith and in novel means for guiding the rail section and trolley as it is brought back into contact with the stationary portions of the track.

The invention consists in novel mechanism capable of accomplishing the foregoing objects, which can be easily and cheaply made and installed, which is efficient in operation and is not readily liable to get out of order.

More specifically the invention consists in novel connections between the movable section and the stationary portions of the track; in the guiding means for assuring the replacement of the movable section in the track and the automatic stops or locks for preventing trolleys upon the stationary track, from running off when the movable section of rail is removed therefrom.

It also consists in more specific details of construction which will be hereafter more fully described and claimed as the specification proceeds.

Figure 1 is a side elevation of a tram rail having one form of the device of this invention installed therein. Fig. 2 shows the same parts as in Fig. 1, the movable section of the tram rail of the trolley thereon being partially lowered. Fig. 3 is a side view at right angles to Fig. 1. Fig. 4 is an enlarged detail view of the trolley viewed as in Fig. 3.

In Figs. 1 and 2 are shown eye beams 10

supporting roof arches 11 of a building or room in which the device is installed. To these beams 10 is suspended by any suitable means and at any suitable height a tram rail track 12 made as best shown in Fig. 4 in the form of an eye beam. At one point in this eye beam is a removable section 14 joining the other parts of the beam 12 in the angular lines 15. This beam 12 may be made of any suitable shape extending to any part of a room or series of rooms in which the device is installed. The movable section 14 of the beam has securely attached to it hangers 16 to which are connected ropes 17 passing over pulleys 18, 19 and 20, finally secured at 21 to a permanent supporting beam 23 mounted upon the framework 24 of the building. The pulleys 20 are mounted upon opposite ends of a shaft 26, journaled in bearing 27, upon a cross head 28 mounted upon the end of a piston rod 29 movable in and out of a hydraulic compressed air or other power cylinder 30. This cylinder 30 is equipped with suitable valves so that working fluid may be admitted to one or both sides of the piston, within the cylinder so that the reciprocation of the piston and piston rod 29 within this cylinder causes the track section 14 to move upward and downward between the position of Fig. 1 and that of Fig. 2 and to such other positions as the length and stroke of the piston 29 and the reeving of the ropes 17 will permit. In other words means are here provided for elevating and lowering the section 14 of the tram rail between the position of Fig. 1 and some position below the rail 12 from which it will appear that if a load is upon said rail section 14 it will also be raised and lowered.

A suitable trolley is provided adapted to run upon a track 12. The particular form of trolley here illustrated comprises four wheels 32 two on each side of the eye beam as shown in Fig. 4 connected together by a suitable framework 33 of the ordinary type to which a load may be attached by means of the link 35. In the particular form of trolley here used the wheels are spaced apart lengthwise of the track as best shown in Figs. 1 and 2. Rigidly secured to this movable section 14 of the track is a block or other suitable device containing pivotal bearings 37 on which are journaled levers 38 provided with elongated slots 39. Slid-

ably mounted in a suitable frame 40 at approximately the middle of the movable section 14 of the track are one or more vertically movable locking pins or bars 42.

5 Extending from these bars 42 are pins 43 entering the slots 39, heretofore described, in the levers 38, the parts being all so adjusted that when they are in the full line position of Fig. 1 locking bars 42 clear the trolley

10 upon the track and it may move freely in either direction along section 14 of the track onto the stationary portions 12 of the track and that when the parts are in the position of Fig. 2 these locking bars enter partially

15 or wholly between the wheels on each side of the eye beam track and thereby lock the trolley upon the movable section 14 so that the trolley with load attached can not possibly accidentally roll off from this

20 section of the track when it is lowered out of contact with the main track. In order that this operation of the levers 38 and locking pins 42 may be automatic stops 45 are provided carrying pins 46 so located that

25 they are only engaged by the short ends of the levers 38 as the parts approach the position of Fig. 1 and when they are so engaged by said levers the levers 38 are automatically moved to the position shown

30 in Fig. 1. As the movable section 14 and trolley on it are moved from position of Fig. 1 toward that of Fig. 2 the levers partially disengage from these pins 46 with the result that the locking pins 42 are

35 moved into the position 42 before the movable section 14 becomes sufficiently clear of engagement with the sections 12 so that the trolley thereon could not possibly run off from the movable section 14.

40 In order to automatically prevent a trolley upon the stationary portion 12 of the track running off from it through the openings left by the parts of the movable portion 14 when in the position of Fig. 2, blocks 48 are pro-

45 vided adjacent to the ends of the stationary portions of the track to which are pivotally mounted, at 49, swinging levers 50, carrying pins 51 adapted to engage supplemental rails 52 rigidly secured to the upper flanges

50 of the eye beam by suitable strap members 54 or other suitable means. When the section 14 of the track is in the position of Fig. 1 these supplemental rails 42—52 engage the pins 51 and thereby hold up the levers 50 in

55 the position shown in Fig. 1 with the result that they do not in any way interfere with the movement of the trolley upon the track. When the parts are moved toward that of Fig. 1 the supplemental rails 52 are moved

60 out of engagement with these pins 51 with the result that the levers 50 drop to the position shown in Fig. 2 in which position they engage any suitable stops 58 and are thereby retained in the position of that figure where

65 they effectually block the passage of any

trolleys upon the track 12 off from said track through the opening in which the section 14 belongs. When the parts are moved from the position of Fig. 2 to that of Fig. 1 the supplemental rails or bars 52 engage the bars 70 51 and move the levers back in the position of Fig. 1 in which position the trolleys upon the track have free movement as heretofore stated.

In order to insure the proper return en- 75 gagement of the movable section 14 of the track with the ends of the main track 12 as the parts return from the position of Fig. 2 to that of Fig. 1 suitable guide flanges 55 are provided. These flanges are in the form of 80 an inverted U with flaring lower edges so that if the movable section 14 is slightly out of the line of track 12 it engages the outer portions of the flanges and is thereby caused to rotate toward proper position. The neces- 85 sity for these guiding flanges 55 is due to the fact that the rope 17 being flexible and somewhat yielding the movable track is therefore flexibly connected to the lifting means and it is possible for the movable track section 90 to swing out of line with the main track section when the movable section is lowered away from the main track.

The claims are:

1. In a device of the class described, the 95 combination of a suitable track having a movable section adapted to be removable therefrom, a trolley adapted to travel along said track, means, for moving said movable section into and out of working position with 100 the main track, and automatic means operating as the movable section leaves the main track to lock the trolley upon the movable section whenever it is moved out of engagement with the main track and adapted to 105 clear said trolley when the movable section is in engagement with the stationary portions of the track.

2. In mechanism of the class described, the combination of a rail having a section 110 movable from normal position in engagement therewith to a different position away from the main track, means for so moving said movable section, a trolley adapted to travel 115 upon said track including the movable section, automatic means for locking the trolley upon the movable section whenever it is out of engagement with the main track, and automatic means for preventing the escape 120 of trolleys upon the stationary track through the opening left by the movable section of track when it is removed from engagement with the main track.

3. In a device of the class described, in combination with a stationary track and a 125 movable track movable from engagement with the main track to a position removed therefrom; means for so moving the movable section of track, a trolley adapted to move 130 along the track, automatic means operated

by the movement of the movable section for locking the trolley upon the movable section and means for preventing another trolley upon the stationary track escaping through the opening in the track formed by the removing of the movable section.

4. In mechanism of the class described, the combination of a tram rail comprising a stationary section and a movable section engaging therewith, means flexibly connected to the movable section for moving said movable section in vertical direction into and out of engagement with the stationary section, the planes of engagement between the stationary and movable sections being at an angle to the length of the track.

5. In mechanism of the class described, the combination of a tram rail track comprising a stationary section and a movable section, the latter engaging the former, in planes angular to the length of the track, and means flexibly connected to the movable section for moving the movable section into and out of engagement with the stationary section.

6. In mechanism of the class described, the combination of a tram rail track comprising a stationary section and a movable section, the latter engaging the former, in lines angular to the length of the track, means flexibly connected to the movable section for moving the movable section into and out of engagement with the stationary section, and supplemental guiding members adapted to be engaged by the movable section as it approaches the stationary section for the purpose of guiding the angular surfaces of the movable section into engagement with the proper surfaces on the stationary section.

7. In mechanism of the class described, the combination of a tram rail track comprising a stationary section and a movable section movable out of and into engagement therewith, means for so moving said movable section, and an automatic switch upon the stationary section adjacent to the point of engagement with the movable section automatically movable between two positions in one of which it prevents the escape of trolleys upon the stationary track when the movable section is out of engagement with the stationary section and in the other of which it leaves said track unobstructed.

8. In mechanism of the class described, the combination of a track comprising a

stationary section and a movable section movable out of and into engagement therewith, means for so moving said movable section, switch levers pivotally mounted upon the stationary section adjacent to the movable section, and mechanism on the movable section engaging said switch levers in such a way that when the movable section is in engagement with the stationary section of the track said switch levers are held clear of the path of travel of the trolley on the track and that when the movable section is started to be moved out of engagement with the fixed section said levers are allowed to swing to such a position that they obstruct the path of travel of a trolley upon the stationary section and therefore hold it thereon.

9. In mechanism of the class described, the combination of a track comprising a stationary section and a movable section in engagement therewith, a trolley movable upon both sections of the track, a locking bar slidably mounted upon the movable section adapted to move transversely to the path of travel of the trolley upon the track and automatic means for moving said locking bar into and out of engagement with the trolley upon the track as said movable section is moved out of and into engagement with the stationary section of the track, and means for so moving the movable section.

10. In mechanism of the class described, the combination of a track comprising a stationary and a movable section, means for moving the movable section into and out of engagement with the stationary section, a trolley adapted to travel upon both sections of the track, a locking bar movable into and out of engagement with said trolley upon the movable section, a lever mechanism engaging said locking bar and engaging a fixed member upon the stationary section of the track, the whole arranged to automatically lock and unlock the trolley as the movable section is moved out of and into engagement with the stationary section of the track.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

JAMES HYSLOP.

Witnesses:

G. R. BRANDON,
E. FAIRCHILD.