March 24, 1925. 1,531,075

W. B. CLUBINE

CONVEYER FOR RAILROAD TRAINS

Filed April 25, 1924 3 Sheets-Sheet 1

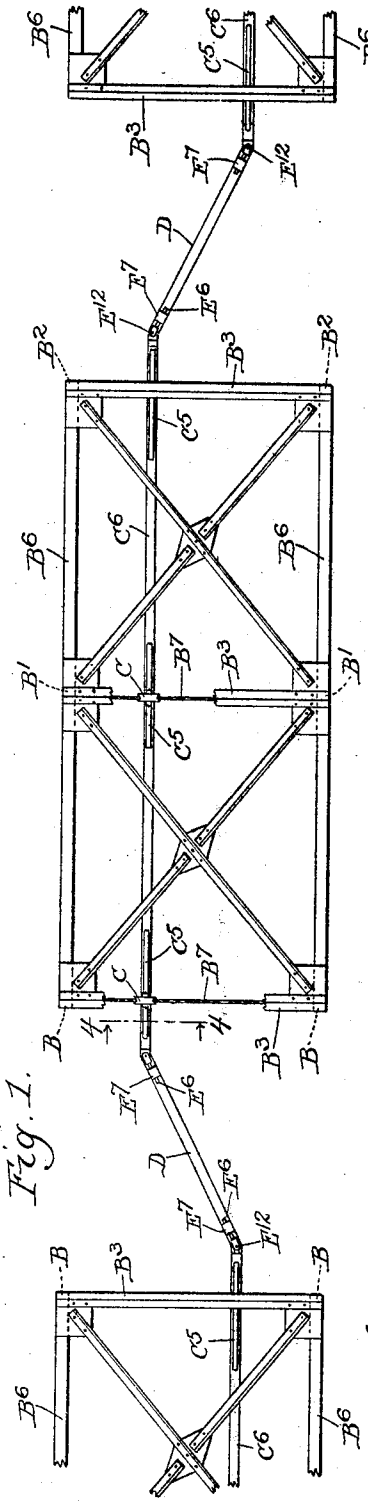


Fig. 1.

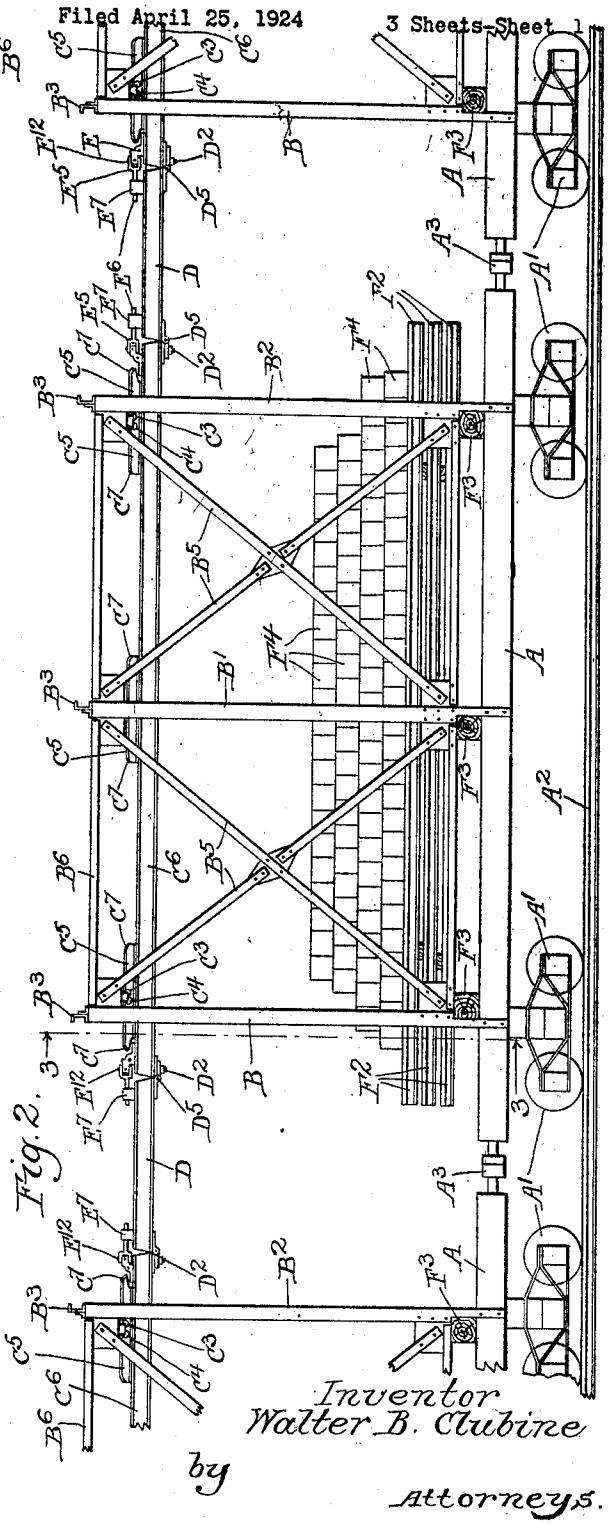


Fig. 2.

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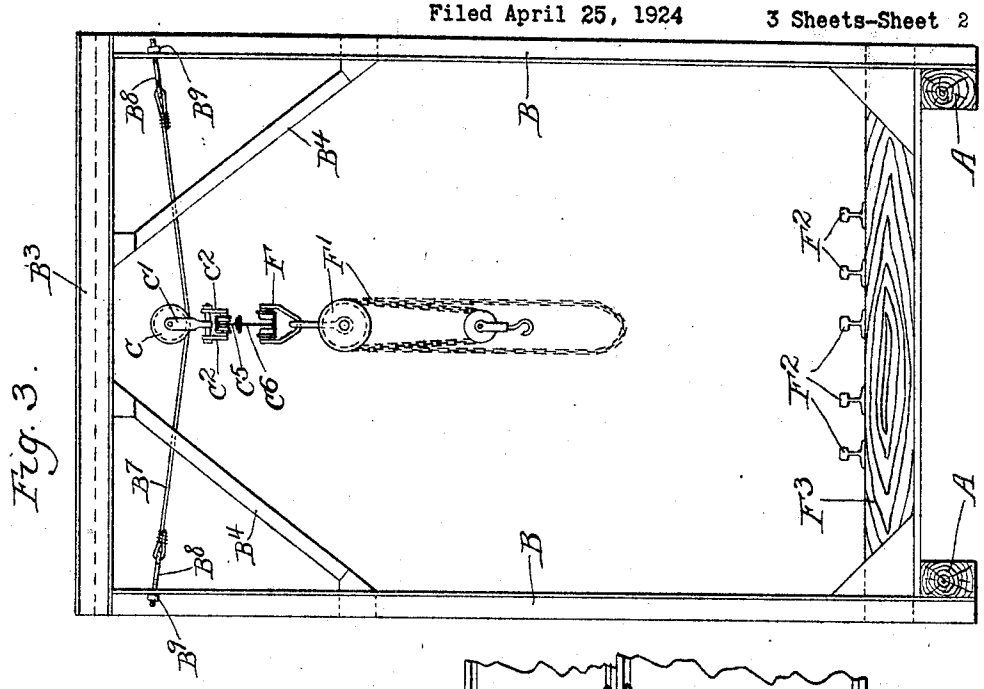


Fig. 3.

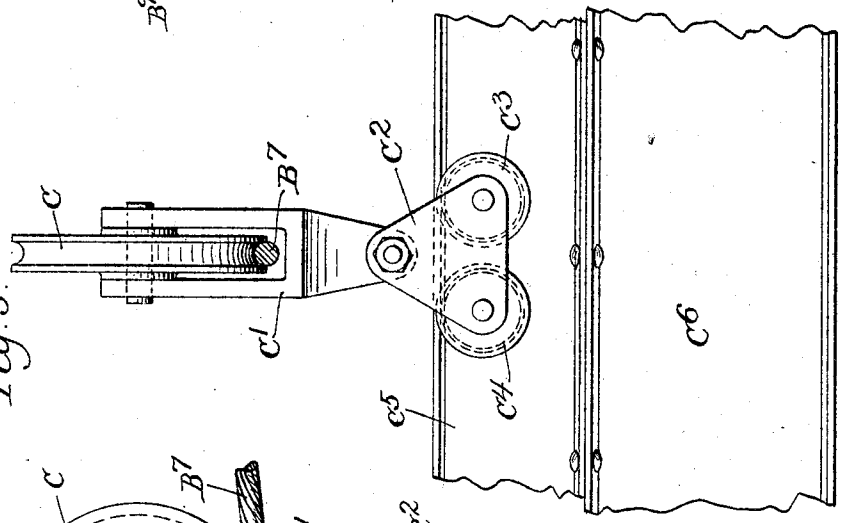


Fig. 5.

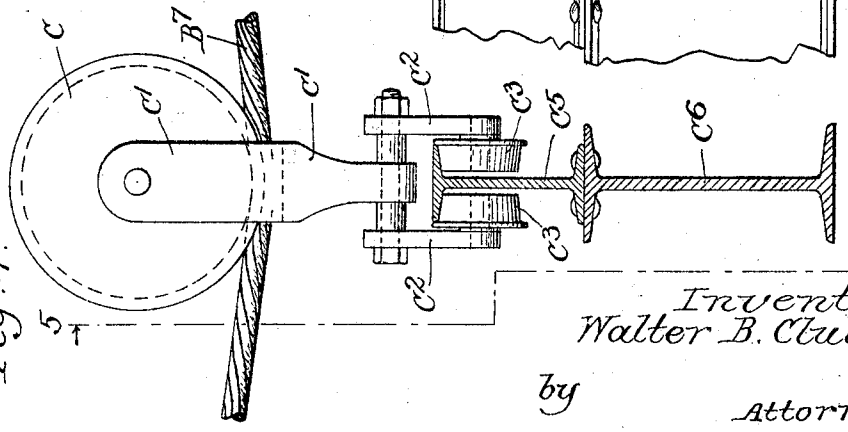


Fig. 4.

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CONVEYER FOR RAILROAD TRAINS

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Fig. 7.

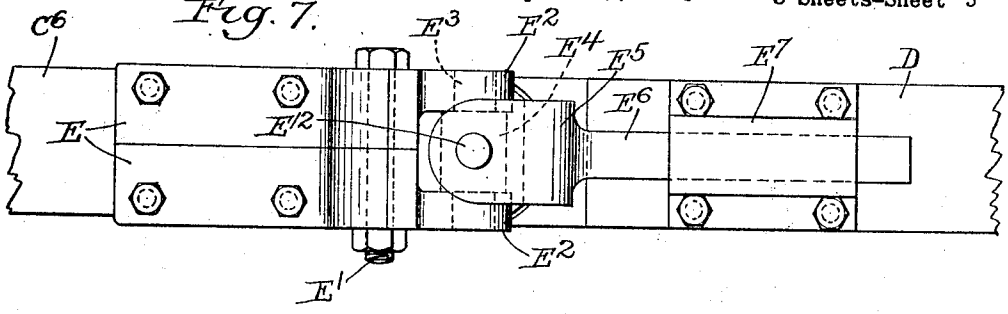


Fig. 6.

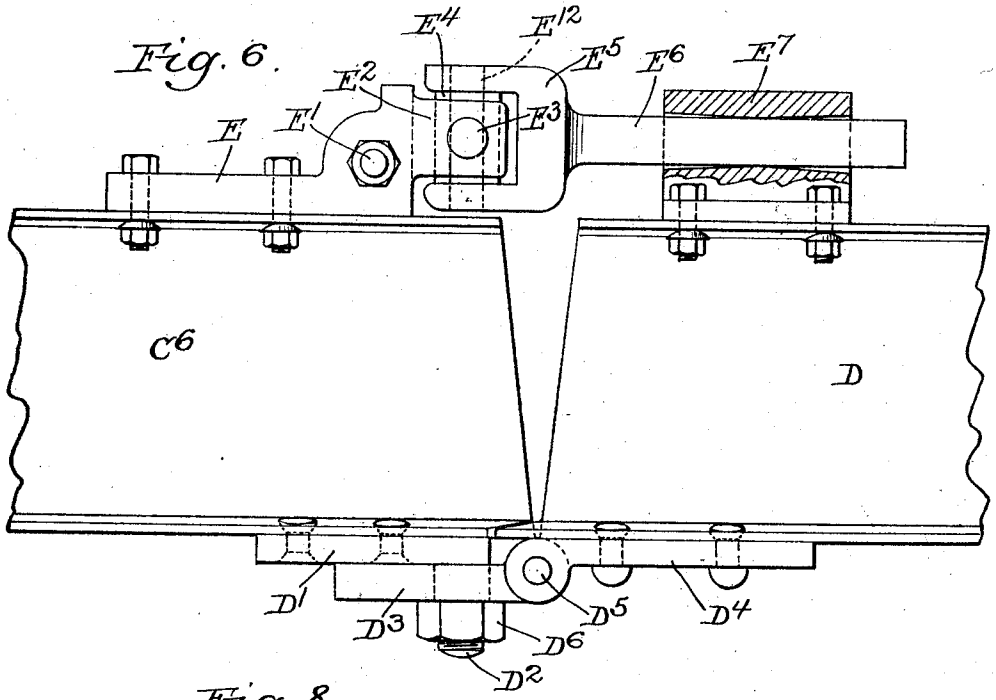
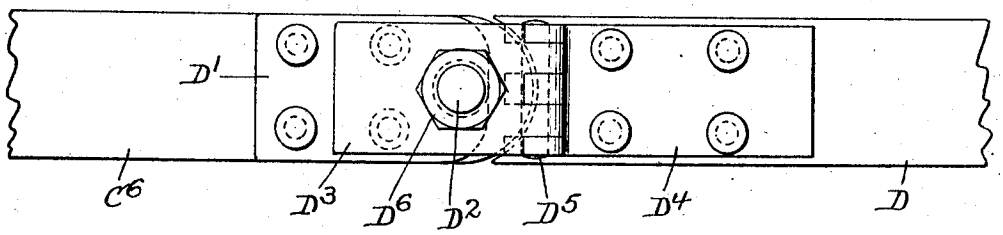


Fig. 8.



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Patented Mar. 24, 1925. 1,531,075

UNITED STATES PATENT OFFICE.

WALTER B. CLUBINE, OF PARK FALLS, WISCONSIN.

CONVEYER FOR RAILROAD TRAINS.

Application filed April 25, 1924. Serial No. 708,958.

To all whom it may concern:

Be it known that I, WALTER B. CLUBINE, a citizen of the United States, residing at Park Falls, in the county of Price and State of Wisconsin, have invented a certain new and useful Improvement in Conveyers for Railroad Trains, of which the following is a specification.

My invention relates to improvements in conveyers and has for one object to provide a new and improved form of conveyer mechanism which may be associated with railroad cars for the purpose of conveying and handling rails and ties in connection with track raising and laying. Another object is to provide a conveying mechanism which may be carried on railroad cars so that the cars of a train may be loaded from the end of the train without interfering with the arrangement of the cars. Other objects will appear from time to time in the specification and claims.

My invention is illustrated more or less diagrammatically in the accompanying drawings, wherein—

Figure 1 is a plan view with parts omitted;

Figure 2 is a side elevation of a railroad train with my device in place;

Figure 3 is a section along the line 3—3 of Figure 2;

Figure 4 is a detail section on an enlarged scale along the line 4—4 of Figure 1;

Figure 5 is a section along the line 5—5 of Figure 4;

Figure 6 is a detail in part section of the joining ends of two conveyer rails;

Figure 7 is a top plan view of the parts shown in Figure 6;

Figure 8 is a bottom plan view of the parts shown in Figure 6.

Like parts are indicated by like characters throughout the specification and drawings.

A, A are railroad cars supported on trucks A^1 adapted to travel along the track rails A^2. Couplings A^3 are interposed between the cars.

B, B^1, B^2 are frame members projecting upwardly from the car, there being preferably three, one at each end and one at the center of each car. These frame members comprise transverse beams B^3 and diagonal stiffening members B^4 and are joined together by the cross members B^5 and longitudinal members B^6. Suspended from the upper portion of each frame member B, B^1, B^2 is a transverse cable B^7 supported at either end by eyelets B^8 associated with nuts B^9 whereby the tension on each cable B^7 may be adjusted.

C is a pulley adapted to travel on the cable B^7. This pulley carries the hanger C^1 upon which is pivoted at either side thereof a triangular frame C^2. Rollers C^3, C^4 are pivoted on each of the triangular frames C^2 and these rollers carry and support I-beams C^5, the upper flange of which rides on the rollers being held in position by the flanges thereof. There is one such I-beam associated with each of the frames B, B^1, B^2. Riveted to these I-beams are the longitudinal I-beam tracks C^6, there being one track beam for each car extending throughout the entire length of the car and projecting beyond the frames B, B^1, B^2. Each beam C^6 is thus supported by three I-beams C^5, each such I-beams being in turn supported by the rollers depending from a cross cable B^7. There is thus one beam C^6 for each car and this beam is free to move longitudinally along the car. Each of the I-beams C^5 has its upper flange bent down as indicated at C^7 at each end so as to limit the movement of the I-beam and prevent the rollers C^3, C^4 from running off the track and dropping the beam.

Interposed between the opposed ends of the tracks C^6 are short I-beam tracks D. Each of these tracks has riveted to the lower side of its lower flange a hinge member D^1 from which projects downwardly a pivot pin D^2. The pivot pin passes through a hinge element D^3 pivoted on a hinge element D^4 riveted to the lower flange of the beam D. There is thus the possibility of pivot movement about the horizontal pivot pin D^5 and about the vertical pivot pin D^2. A nut D^6 associated with the threaded end of the pivot pin D^2 holds the parts together. On the upper flange of each track or beam C^6 is bolted or otherwise fastened a two-part hinge block E, the two parts of which are held together by a bolt E^1. Each of these hinge block elements has a forwardly projecting element E^2 and a horizontal pivot pin E^3 projecting from a block E^4, passes through these ears E^2. Vertical pivot pins E^{12} project from this same block and engage the upper and lower arms of the yoke E^5 on a guide pin E^6 which guide pin travels in the guide block E^7 on the upper flange of

the beams D. This guide block E^7 is cut away above and below so as to permit the shank E^6 to rock in a vertical plane when movement about the pivot pin D^5 takes place but the walls of this block are parallel with the vertical walls of the shank E^6 so as to prevent rotation in a horizontal plane. The vertical pivot pins E^{12} are on the same center as the pivot pin D^2 so that this arrangement permits movement between the members C^6 and D about both a vertical and a horizontal plane.

F is a wheeled trolley adapted to run along the lower flange of the beam C^6 or beam D. Reference to Figure 8 will show that the end of these beams are curved and articulated so that this trolley may travel from one to the other independent of angular displacement and may therefore run along the entire length of the track of the train. Depending from this trolley is a chain block F^1 which may raise material to be carried along with the trolley. F^2, F^2 are track rails which as shown are deposited on the cross stringers F^3 on the car platform and F^4, F^4 are railroad ties resting on these rails.

As here shown my apparatus is arranged for and shown in connection with a track laying assembly. There will be on the front car any suitable means not shown extending out beyond the car so that the trolley can run along, pick up rails, carry them back and deposit them on one of the cars of the train as shown. Later if desired, it can pick up the ties upon which the tracks were resting and deposit them on the rails, then the train may proceed somewhere else where track is to be relaid. The tracks will be picked up, run forward along the train, dropped on the ground and the rails will then be picked up and dropped into position on the ties. My apparatus may be used for other purposes where it is desired to load a long train with heavy loads from the end of the train without the use of additional conveying machinery or apparatuses.

The arrangement of the device is such that each length of I-beam or track carried by a car is free to move both laterally and longitudinally along the car. The adjacent lengths are connected by a short section which bridges the gap between the two cars. Because of the flexible support giving movement in two directions and because of the articulation giving angular movement both about vertical and horizontal axes, the track is able to conform to the train itself. If the train is extended, the track will pull out with the pull on the train from one end; with the train pulled out to its maximum length, the track will still remain as a unit moving transversely across the train to conform to the curvature of the track, if any. If the train is shortened by compression, the track still remains as a unit and any change in length not taken care of by the longitudinal movement of the track as a body, will be taken care of by angular displacement of the connecting pieces as shown in Figure 1 and whatever that angular displacement is, the trolley will still be free to move along the track from end to end. Thus the train can be handled as a unit and goods can be handled along the train at all times independent of train or position.

It will be evident that while I have shown in my drawings an operative device, still many changes might be made in the size, shape and arrangement of parts without departing materially from the spirit of my invention. I wish, therefore, that my showing be taken as in a sense diagrammatic.

I claim:

1. A material handling apparatus comprising a plurality of railroad cars coupled in train, a flexible track suspended above the cars free to move laterally and longitudinally with respect to each car and extending throughout the length of the train and a trolley free to travel along the track independent of the position thereof with respect to the train.

2. A material handling apparatus comprising a plurality of railroad cars coupled in train, a flexible track suspended above the car otherwise free to move laterally and longitudinally with respect to each car and extending throughout the length of the train and a trolley free to travel along the track independent of the position thereof with respect to the train, the track comprising a plurality of relatively stiff members, one suspended on each car and flexible connections between the members on adjacent cars.

3. A material handling apparatus comprising a plurality of railroad cars coupled in train, a flexible track suspended above the car otherwise free to move laterally and longitudinally with respect to each car and extending throughout the length of the train and a trolley free to travel along the track independent of the position thereof with respect to the train, the track comprising a plurality of relatively stiff members, one suspended on each car and flexible connections between the members on adjacent cars, the flexible connection comprising a short track element pivoted and supported at either end on the car track element and free to rotate with respect to such element about horizontal and vertical axes.

4. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and longitudinally with respect to the car.

5. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and lon-

gitudinally with respect to the car, the track supporting means including a plurality of transverse cables suspended by the frame, pulleys adapted to travel along said cables and a supporting connection between each pulley and the track.

6. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and longitudinally with respect to the car, the track supporting means including rollers carried by the frame and engaging and supporting the track, the track being free to move longitudinally with respect to said rollers.

7. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and longitudinally with respect to the car, the track supporting means comprising transverse cables carried by the frame, pulleys mounted for movement therealong, rollers suspended from the pulleys and engaging and supporting the track, the track being free to travel longitudinally with respect to said rollers.

8. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and longitudinally with respect to the car, the track supporting means including rollers carried by the frame and engaging and supporting the track, the track being free to move longitudinally with respect to said rollers, short track sections connected to the main track elements and adapted to engage the rollers so as to leave the main track element unobstructed.

9. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and longitudinally with respect to the car, the track supporting means comprising transverse cables carried by the frame, pulleys mounted for movement therealong, rollers suspended from the pulleys and engaging and supporting the track, the track being free to travel longitudinally with respect to said rollers, short track sections connected to the main track elements and adapted to engage the rollers so as to leave the main track element unobstructed.

10. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and longitudinally with respect to the car, the track supporting means including rollers carried by the frame and engaging and supporting the track, the track being free to move longitudinally with respect to said rollers, short track sections connected to the main track elements and adapted to engage the rollers so as to leave the main track element unobstructed, means at the ends of the short track sections to limit the travel of the rollers.

11. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and longitudinally with respect to the car, the track supporting means comprising transverse cables carried by the frame, pulleys mounted for movement therealong, rollers suspended from the pulleys and engaging and supporting the track, the track being free to travel longitudinally with respect to said rollers, short track sections connected to the main track elements and adapted to engage the rollers so as to leave the main track element unobstructed, means at the ends of the short track sections to limit the travel of the rollers.

12. A material handling apparatus comprising a railroad car, a supporting frame mounted thereon and a track element carried by the frame to move laterally and longitudinally with respect to the car, the track supporting means including a plurality of transverse track members suspended by the frame, pulleys adapted to travel along said track members and a supporting connection between each pulley and the track.

Signed at Park Falls, county of Price and State of Wisconsin, this 8th day of April 1924.

WALTER B. CLUBINE.