P. H. MADDEN.

RAIL TRUCK.

APPLICATION FILED MAY 8, 1918.

1,352,076. **Patented Sept. 7, 1920.**

2 SHEETS—SHEET 1.

Fig. 1.

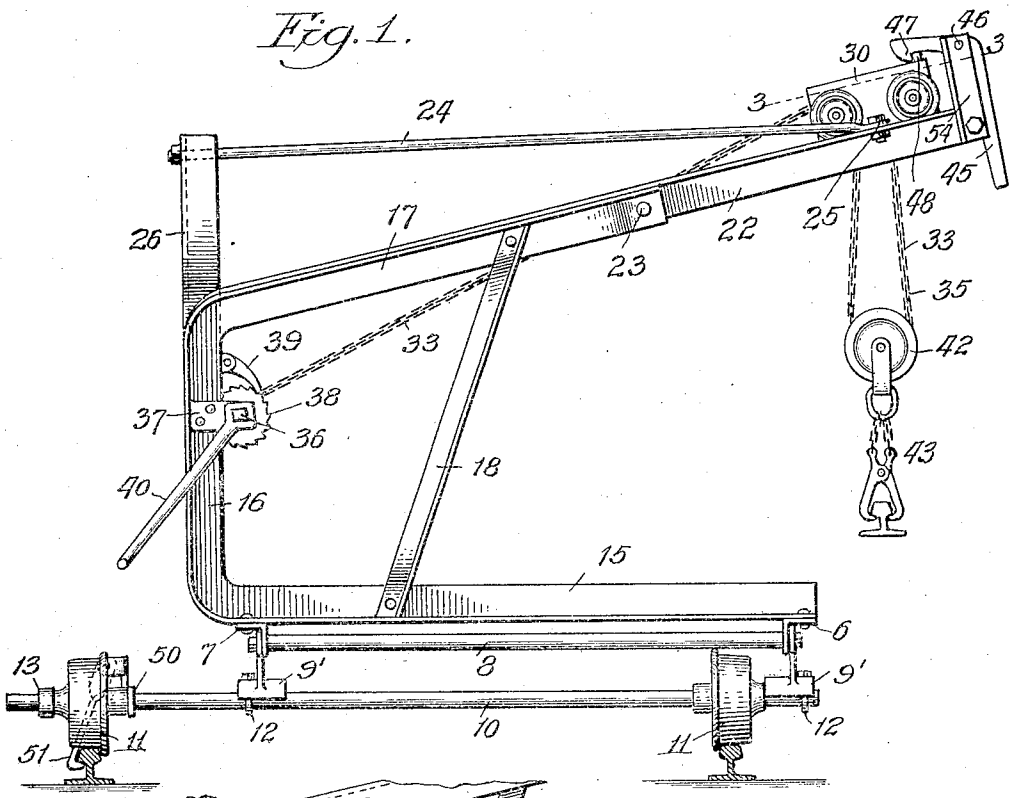


Fig. 2.

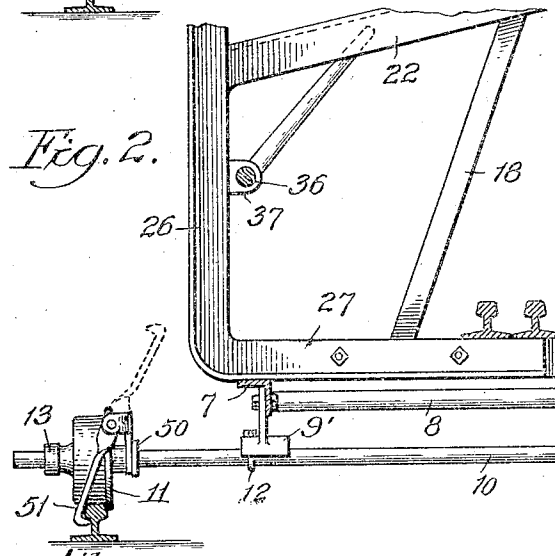
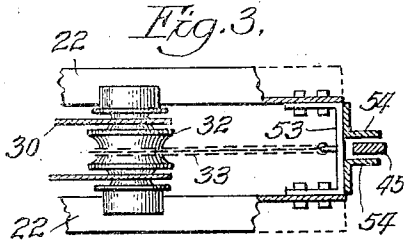


Fig. 3.



Witness:
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2 SHEETS—SHEET 2.

Fig. 4.

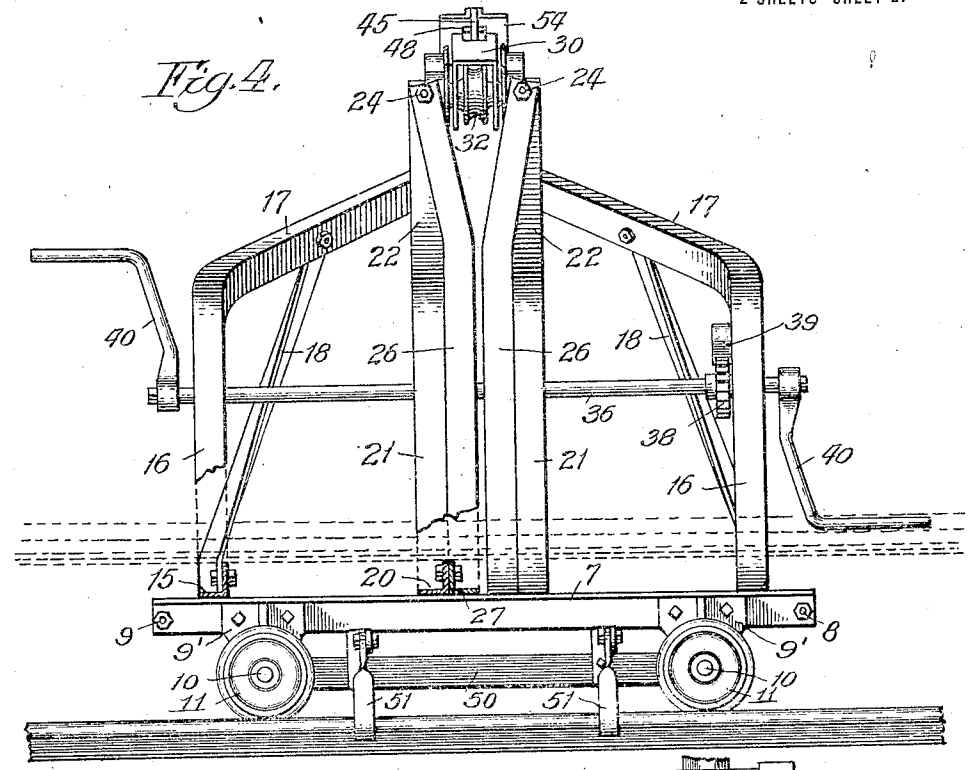
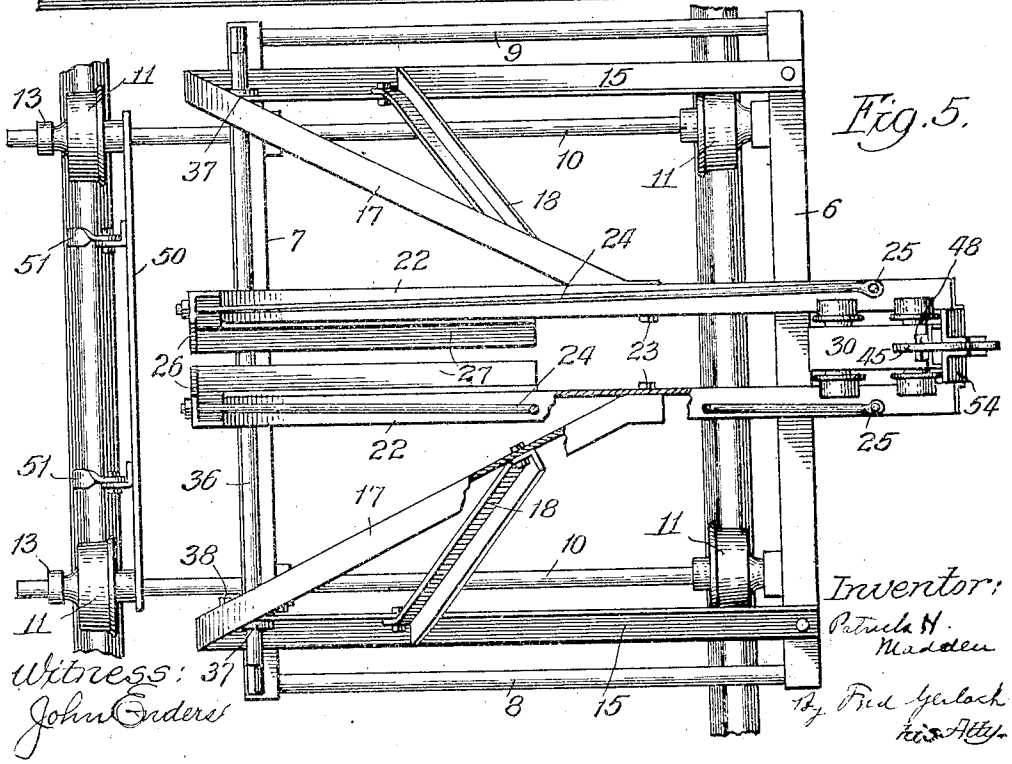


Fig. 5.



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UNITED STATES PATENT OFFICE.

PATRICK H. MADDEN, OF SPARTA, WISCONSIN.

RAIL-TRUCK.

1,352,076. Specification of Letters Patent. Patented Sept. 7, 1920.

Application filed May 8, 1918. Serial No. 233,241.

To all whom it may concern:

Be it known that I, PATRICK H. MADDEN, a citizen of the United States, and a resident of Sparta, in the county of Monroe and State of Wisconsin, have invented certain new and useful Improvements in Rail-Trucks, of which the following is a full, clear, and exact description.

The invention relates to rail trucks.

In re-laying railway rails, repairing tracks or laying additional tracks, the work can be facilitated by providing a truck which is adapted to travel on the rails and whereby a number of rails may be transported from the point where they have been delivered for distribution, to the place where they are to be used, or a number of worn rails can be collected and transported to a loading point. By providing a truck that can be easily pushed along the track and which is provided with a hoisting device which is adapted to lift rails from a point at one side of the track and to be moved transversely to deposit onto the truck and vice-versa, the work involved in distributing and collecting rails will be materially facilitated, and by constructing the truck so that it can be lifted onto and off the railway-track, it is usable without interfering with the traffic.

The primary object of the invention is to provide a rail truck which will meet these requirements and will facilitate this work.

Other objects of the invention will be apparent from the following specification.

The invention consists in the several novel features hereinafter set forth, and more particularly defined by claims at the conclusion hereof.

In the drawings: Figure 1 is a side elevation of a rail-truck embodying the invention. Fig. 2 is a transverse section. Fig. 3 is a section taken on line 3—3 of Fig. 1, the carriage being moved inwardly. Fig. 4 is a front elevation and Fig. 5 is a plan, parts being shown in section.

The improved truck comprises a frame made up of a pair of sills 6 and 7 and which are secured together in spaced relation by rods 8 and 9 adjacent the ends of the frame. Brackets 9′ are secured to the sills 6 and 7 and are supported by a pair of axles 10, each of which is provided with a pair of flanged wheels 11 which are spaced apart on the axles to travel upon a railway track of standard gage. The axles are secured to the brackets 9 by U-bolts 12. The flanged wheels 11 are held against movement longitudinally of the axles by collars 13 and some of the brackets 9. The structure thus far described exemplifies a wheeled truck-frame adapted to run on the usual railway track, being normally held on the track by the flanges 11 at the inner sides of the wheels.

A super-structure to support a rail hoisting device, whereby the rails may be shifted from a point at one side of the track onto the car and vice versa, comprises a pair of central members, each having a transverse bar 20 secured upon the sills 6 and 7, a standard 21, integral with said bar, and a transverse upwardly inclined arm 22 which extends completely across the frame and beyond one side thereof. This structure also comprises a pair of end members, each having a bar 15 secured to the tops of sills 6 and 7, an integral standard 16 and inwardly and upwardly inclined brace arms 17 which are secured to arms 22, as at 23. Braces 18 extend between bars 15 and arms 17. The outer ends of the arms 22 are additionally supported or braced by rods 24 which are secured to said arms, as at 25, and extend through standards 26 which are disposed between the standards 21 and are provided with lower bars 27 which are secured to the inner sides of bars 20. The sills and members of the super structure are preferably formed of angle iron.

The arms 22 are spaced apart to form an inclined runway or track for a carriage 30 which is provided with two sheaves 32 for guiding a hoisting cable 33. The latter has one of its ends fixed to the superstructure, is formed into a pendent loop 35 between the sheaves 32 and passes from the inner sheave 32 to a windlass or shaft 36 which is mounted in the brackets 37 fixed to standards 16 which is adapted to operate the cable to raise or lower the load. A ratchet 38 on the windlass is engaged by a dog 39 to prevent it from unwinding the cable when desired. Removable cranks 40 at the ends of the windlass are adapted to operate it to wind up or pay out the hoisting cable 33. A pulley 42 is suspended in the loop 35 of the cable 33 and a suitable grappling device 43 adapted to grasp one or more rails, is suspended from the pulley. A latch 45, pivoted at 46 to bars 54 and provided with a hook 47 adapted to engage a lug 48 on the carriage

30, serves to lock the carriage adjacent the outer end of arm 22 so that the pending loop of the hoisting cable and the grappling device will be held against transverse movement at a point at one side of the railroad track to position it for lifting or depositing a rail at a point at one side of the railroad track. When the latch is released, the carriage 30 will be free to run down the inclined arms 22 to bring the pending loop above the carriage and more particularly above those portions of the bars 15 and 20 which are adapted to receive the rails to be transported. The outer ends of arms 22 are secured together by a bracket 53 and bars 54 are secured to said bracket and serve as a stop for the carriage and a support for latch 45.

A characteristic of the structure set forth is that, it embodies a support adapted to receive rails for transportation and an overhead transversely movable hoisting device which is supported so that the rails may be shifted laterally from a point at one side of the railroad track to a portion of the carriage which is disposed between the rails of the track, so that the weight of the rails being transported will not be applied to tilt the carriage, and for this purpose there is clearance between the upper and lower portions of the supporting structure. The upper portions extend laterally to permit the hoisting pulley and carriage 30 to be held above the roadway at the side of the railroad track and inwardly and downwardly to permit transverse movement of the carriage and grappling device to deposit rails onto the carriage between the track-rails. To attain supporting efficiency in the superstructure, sill 6 is disposed outside of the wheels 11 at one of the trucks and sill 7 is disposed between the wheels at the sides of the truck respectively.

A bar 50 extends longitudinally between and is carried by axles 10 and latches 51 are pivotally supported by said bar. These latches are adapted to be swung into position shown by full lines in Fig. 2, to lock the carriage to one of the rails of the railroad track during the loading or unloading of the car. When the truck is being pushed along the railroad track to transport the rails, the latches 51 may be swung into inoperative position shown by dotted lines in Fig. 2.

The invention contemplates a rail truck which is so light in weight that it can be lifted or thrust off the track whenever it is necessary to let a train pass and, therefore, the use of means exemplified by the latches 51 for preventing the car from being tilted transversely by the weight of a rail at the opposite side of the car is necessary.

When it is desired to transport a number of rails which are usually stored or unloaded at one side of the track, the truck is pushed into position adjacent the rails and latches 51 are swung downwardly to lock the car against being overbalanced by any load on the hoist. The carriage 30 will be latched into position shown in Fig. 1 and then the grappling device 43 can be lowered and attached to one or several rails, then the windlass can be operated to lift these rails into position shown in Fig. 1. When the carriage 30 is released, it will run inwardly toward the center of the car and when it reaches the desired transverse position, the windlass can be operated to lower the grappling device to deposit the load on the bars 15, and 20. This operation can be repeated until the car has received a full load. Upon release of the latches 51, the truck and the rails thereon can be pushed along the railroad and the rails can be individually deposited wherever desired by securing the carriage 30 in its outermost position, attaching the grapple to a rail on the truck, operating the windlass to lift the grapple and its load until the pulley 42 will be suspended below the carriage 30 and at one side of the truck. The windlass can then be operated to lower the pulley 42 and deposit a load at the side of the track. Obviously, the car may be used to collect and transport rails which have been removed from the track and replaced with new ones by similar manipulation.

The invention exemplifies a rail truck which is simple in construction and which is made up of parts which avoid excessive weight so that it is possible to lift it off the railroad track whenever it is necessary in order to avoid interference with the traffic. Also one which includes a wheeled frame with an overhead suspension device and hoist which is adapted to lift rails from a portion of the truck between the rails of the railroad track to a point at one side of the truck and vice versa. Also one which can be operated with facility to load and unload the truck.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a rail truck, the combination of a frame, carrying wheels for said frame spaced apart and arranged to run on the rails of a railway track and provided with means for retaining the truck on the track-rails, a supporting structure sustained by said frame comprising vertically extending members disposed entirely adjacent one side of the frame so as to leave space on the other side thereof to permit rails to be laid

on and supported by the frame between the track rails and an elevated supporting member extending transversely from the vertical members over said clearance space and projecting beyond the track-rail at the side of the track adjacent said load-space, and rail-hoisting means whereby a load-rail may be lifted from the ground at one side of the track and deposited onto the frame so it will be supported thereon between the track-rails.

2. In a rail-truck, the combination of a frame, carrying wheels for said frame spaced apart and arranged to run on the the rails of a railway track and provided with means for retaining the truck on the track-rails, a supporting structure sustained by said frame comprising vertically extending members disposed entirely adjacent one side of the frame so as to leave space on the other side to permit rails to be laid on and supported by the frame between the track-rails and an elevated supporting member extending transversely from the vertical members over said space and beyond the track-rail at the side of the track adjacent said space, a carriage supported by and movable transversely on said transversely extending elevated supporting member from a point above said load-space on the frame to a point outside of the track, and rail-hoisting means whereby a rail may be lifted from the ground and connected to said carriage so that the load may be shifted from the ground at one side of the track and deposited in said load space.

3. In a rail truck, the combination of a frame, carrying wheels for said frame spaced apart and arranged to run on the rails of a railway track and provided with means for retaining the truck on the track-rails, a supporting structure sustained by said frame comprising a pair of central members each having a base-bar, a standard at one side of the frame and an overhead arm extending transversely over the frame and projecting beyond the other side thereof, and braces between the ends of the frame and said arms, the standards and braces being disposed to leave clearance on the other side of the frame between the track-rails for load-rails, and rail-hoisting means whereby the rail may be lifted from the ground at one side of the track and deposited onto the frame so it will be supported thereon between the track-rails.

PATRICK H. MADDEN.