

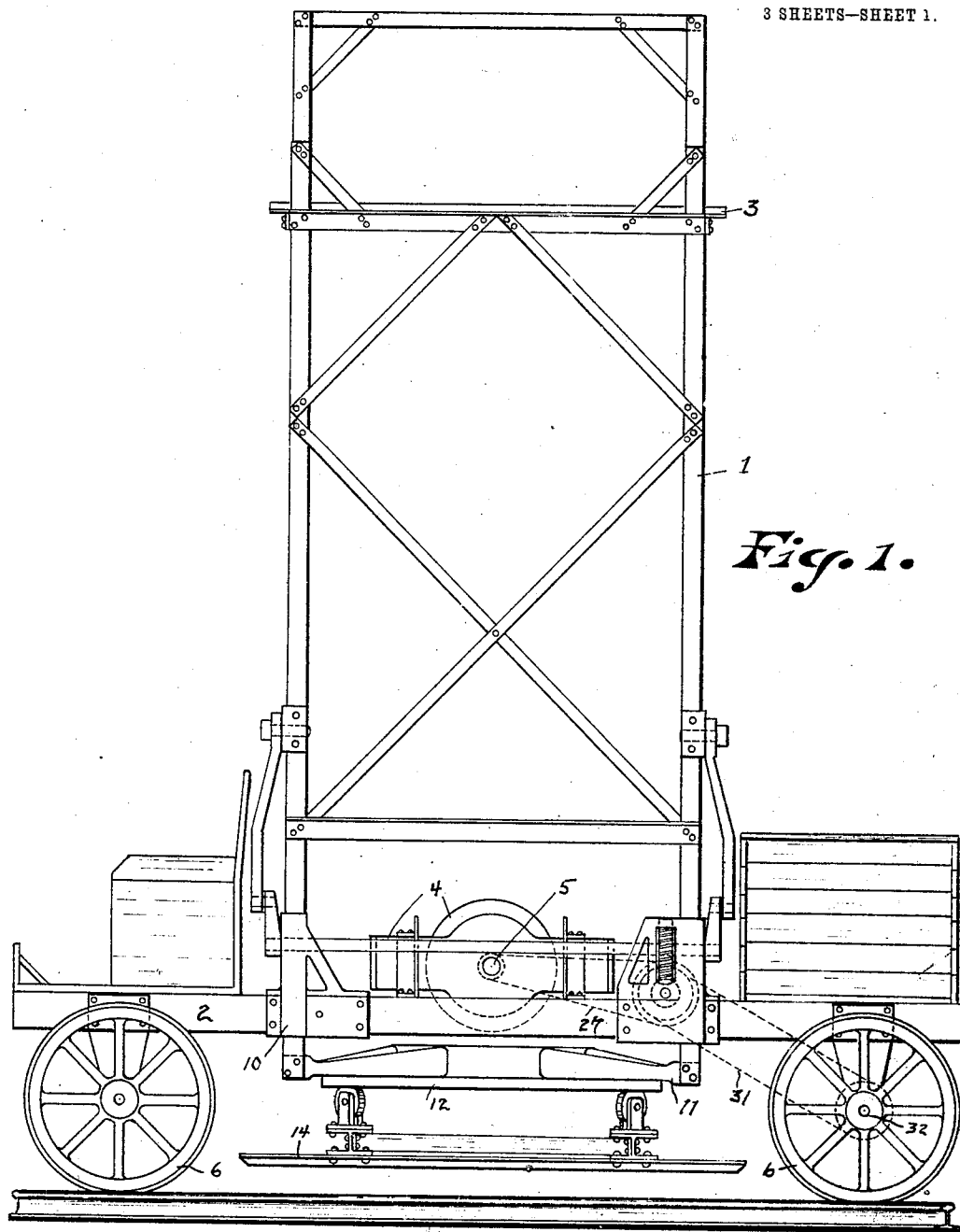
No. 824,188.

PATENTED JUNE 26, 1906

P. J. MITTEN.
REMOVABLE CAR FOR RAILWAYS, &c.

APPLICATION FILED SEPT. 25, 1905.

3 SHEETS—SHEET 1.



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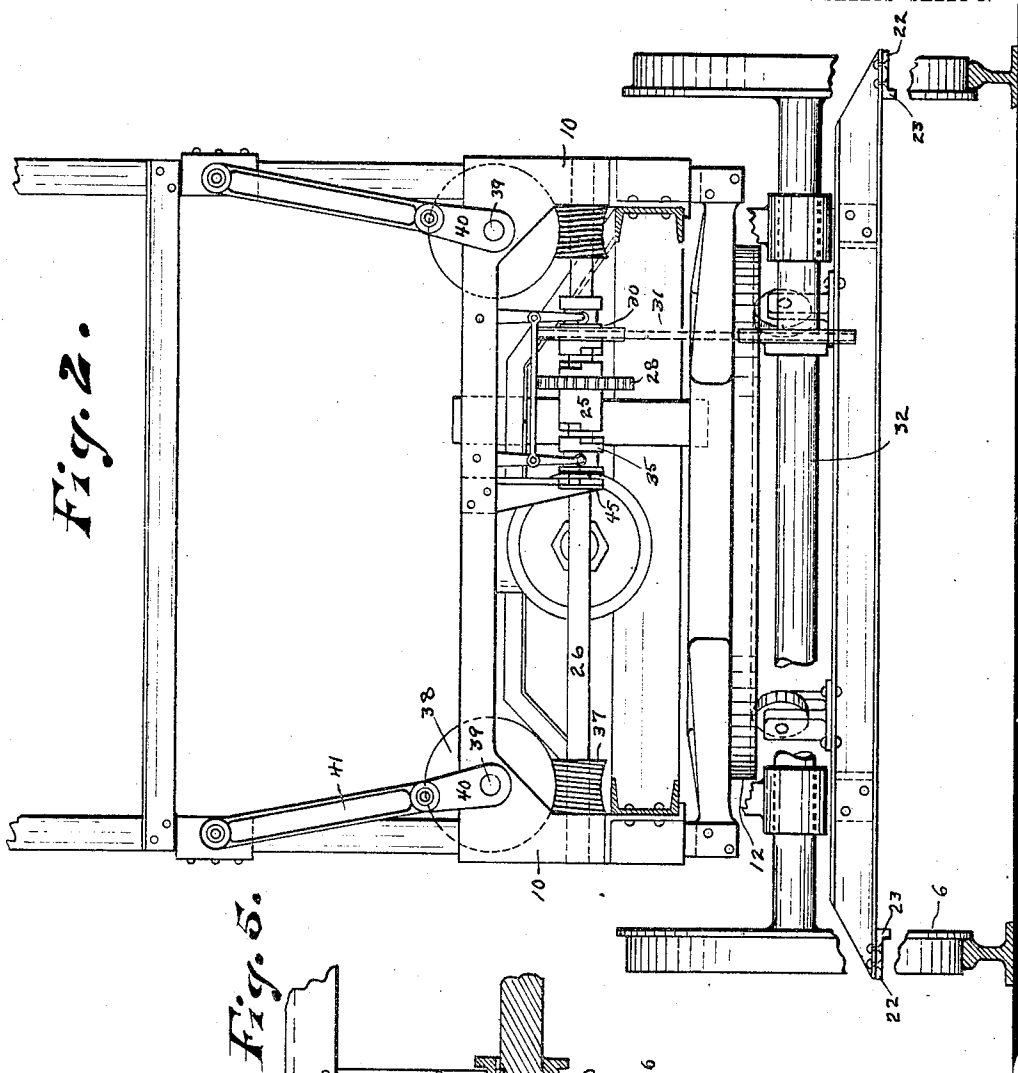
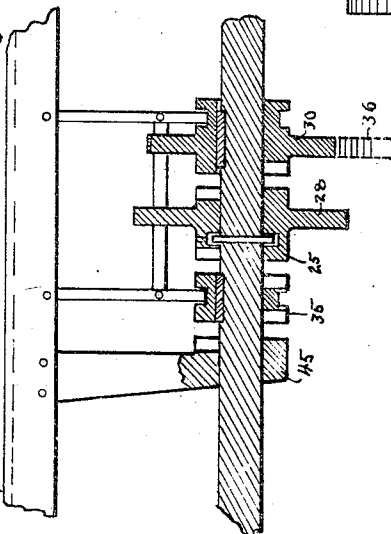


Fig. 5.



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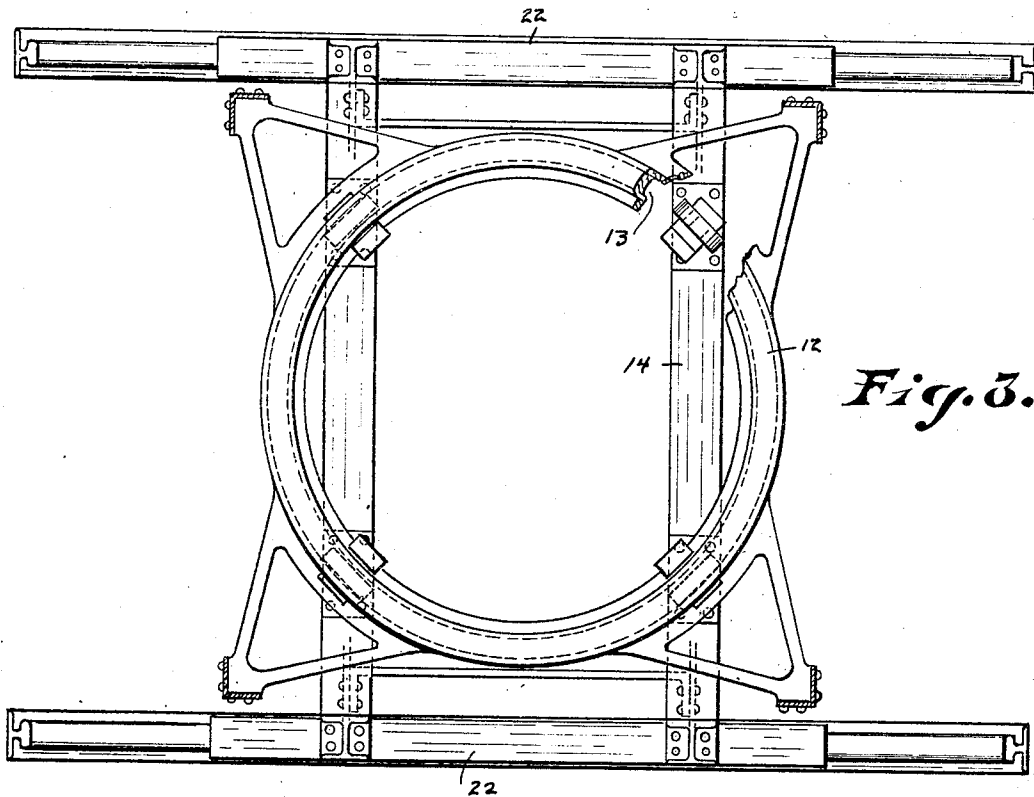


Fig. 3.

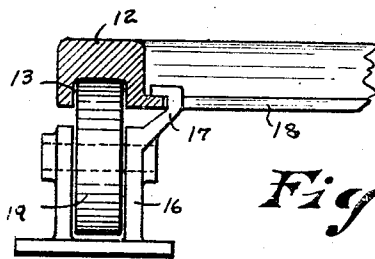


Fig. 4.

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UNITED STATES PATENT OFFICE.

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TO EDGAR E. WARNER, OF MILWAUKEE, WISCONSIN.

REMOVABLE CAR FOR RAILWAYS, &c.

No. 824,188.

Specification of Letters Patent.

Patented June 26, 1906.

Application filed September 25, 1905. Serial No. 279,932.

To all whom it may concern:

Be it known that I, PHILIP J. MITTEN, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Removable Cars for Railways, &c., of which the following is a specification.

My invention relates to improvements in removable cars for railways, tramways, &c., with especial reference to repair-cars.

The object of my invention is to provide means whereby the car may be lifted, turned, and removed from the track and subsequently replaced thereon whenever it is expedient to do so.

In the following description reference is had to the accompanying drawings, in which—

Figure 1 is a side view of a repair-car embodying my invention. Fig. 2 is an end elevation showing a portion of the frame in cross-section and with portions of the wheels broken away to show the track-frame, the upper portions of the standards being also broken away. Fig. 3 is a plan view of the turn-table and track-frame with the turn-table partially broken away and with the standards shown in cross-section. Fig. 4 is a detailed view showing one of the turn-table rollers and with a portion of the turn-table drawn in cross-section; and Fig. 5 is a detail sectional view of a portion of the worm-shaft and clutch members.

Like parts are identified by the same reference characters throughout the several views.

The car illustrated is designed to be used as a repair-car for tramways and is provided with standards 1, extending upwardly from the vehicle-frame 2, and provided with a platform 3 to facilitate repairing overhead trolley-wires. The car is driven by a motor 4, preferably consisting of a hydrocarbon-engine, from the driving-shaft 5 of which motion is transmitted to the wheels 6, as hereinafter explained. These parts may be of any ordinary construction.

In my improved construction, however, the standards 1 are mounted in suitable guides 10, in which the standards are adapted to slide vertically, and the lower ends of the standards below the main frame 2 of the vehicle are provided with a subframe 11, which carries a turn-table ring 12, provided

with a channel 13 in its under surface. A track-frame 14 is supported from the turn-table 12 by means of brackets 16, each of which is provided with a hook-shaped member 17, loosely engaging a flange 18 on the turn-table 12. Rollers 19 are journaled in the brackets 16, and their upper margins are entered in the channel 13, as best illustrated in Fig. 4. The side rails 22 of the track-frame 14 are provided with flanges 23 and are so located that when the subframe is depressed the side rails 22 of the track-frame will move downwardly and rest upon the heads of the rails, with the flanges 23 engaging the sides thereof. Continued downward pressure exerted upon the subframe 11 from the vehicle will cause the latter to be lifted and supported from the track-frame with the wheels above the tracks. The vehicle may then be manually rotated, the weight of the vehicle being supported upon the rollers 19. When the vehicle has been turned to the desired angle, the subframe and track-frame may be raised to normal position and the vehicle run laterally from the trackway.

Motion is communicated from the main driving-shaft 5 to a clutch member 25 on a worm-shaft 26 through the medium of a sprocket-chain 27, the clutch member 25 being provided with a sprocket-wheel 28. The clutch member 25 is loose on the shaft 26. Another clutch member 30, loose on the shaft 26, is adapted to be shifted into engagement with clutch member 25, whereupon the motion of the member 25 is communicated, through the member 30 and the sprocket-chain 31, to one of the axle-shafts 32 of the vehicle, whereby the latter is propelled. When it is desired to actuate the subframe, the clutch member 30 is disengaged from the member 25 and another clutch member 35 is engaged with the driving member. The member 35 is splined to the shaft 26, whereby motion may be communicated from the member 25, through the member 35 and shaft 26, to the worm-gears 37 and the worm-wheels 38 thereby rotated. The worm-wheels 38 are mounted on crank-shafts 39, having cranks 40 connected by links 41 with the standards 1. In Figs. 1 and 2 the standards are shown in raised position; but it is obvious that a rotation of the crank-shafts 39 will cause the depression of the standards as cranks swing to a downwardly-extended

position. This is done when it is desired to depress the track-frame and lift the vehicle from the track.

Reviewing the operation of the apparatus and assuming the vehicle to be in the position shown in Fig. 1, the clutch member 30 is disengaged from the driving member 25 and the clutch member 35 is shifted into engagement with the driving member, whereupon the worm-shaft 26 will be rotated and motion transmitted to the cranks 40, causing them to swing downwardly until the track-frame rests upon the rails and the vehicle is lifted sufficiently to permit it to turn. The vehicle having been swung upon the turn-table until it extends across the trackway or at any desired angle thereto, power is again applied to the worm-shaft 26 to swing the cranks 40 back to their normal raised position. Clutch member 35 is then disengaged and clutch member 30 reengaged with the driving member 25, whereupon the power is applied to the vehicle-wheels to propel the vehicle from the trackway. The worm-gears 37 are preferably arranged to actuate the worm-wheels 38 in opposite directions, whereby the pressure upon the standards is symmetrically balanced. The stationary member 45 serves as a stop when engaged by the member 35 to prevent the descent of the standards by gravity or momentum when disengaged from the driving member.

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

1. In a vehicle of the described class, the combination with the vehicle-frame, of standards mounted in suitable guides thereon and adapted to be raised and lowered in said guides; a turn-table carried by said standards below the vehicle-frame; a support connected with said turn-table and adapted to receive the weight of the vehicle; and means for actuating said standards to raise and lower the support and to lift the vehicle from said support when the latter is lowered.

2. The combination with a vehicle, of a support carried thereby, means for depressing said support and lifting the vehicle therefrom and means for rotating the vehicle, when lifted, upon said support.

3. The combination with a motor-driven vehicle, of a turn-table carried by the vehicle underneath the main frame thereof; a track-engaging frame normally supported by the turn-table; means for depressing the track-engaging frame into contact with the track-rails; said means being adapted to also lift said vehicle and support the same from the turn-table together with motion-transmitting connections adapted to actuate the lifting means from the vehicle-motor.

4. The combination with a motor-driven vehicle, of a driving clutch member; motion-transmitting connections adapted to engage and drive the vehicle from said clutch member; a turn-table carried by the vehicle; devices for raising and lowering said turn-table; and means for actuating said devices from said driving clutch member.

5. The combination with a motor-driven vehicle, of a vertically-movable turn-table carried thereby; a track-engaging frame normally supported by the turn-table; standards movably connecting the turn-table with the vehicle-frame; a crank-shaft provided with crank-arms having link connection with said standards; and means for actuating said crank-shaft from the vehicle-motor.

6. The combination with a vehicle, of a set of standards mounted in suitable guides on the vehicle-frame and adapted to be raised and lowered; a turn-table ring connected with the lower ends of said standards; a track-engaging frame means for supporting the same from the standards and rollers mounted upon the track-engaging frame and arranged to permit the rotation of the turn-table ring thereon; together with means for raising and lowering said standards.

7. In apparatus of the described class, the combination with a support, of a set of rollers mounted thereon; a turn-table ring adapted to rotate on said rollers; and brackets loosely connecting the support with turn-table, whereby both may be lifted together.

In witness whereof I affix my signature in the presence of two witnesses.

PHILIP J. MITTEN

Witnesses:

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JAS. B. ERWIN.