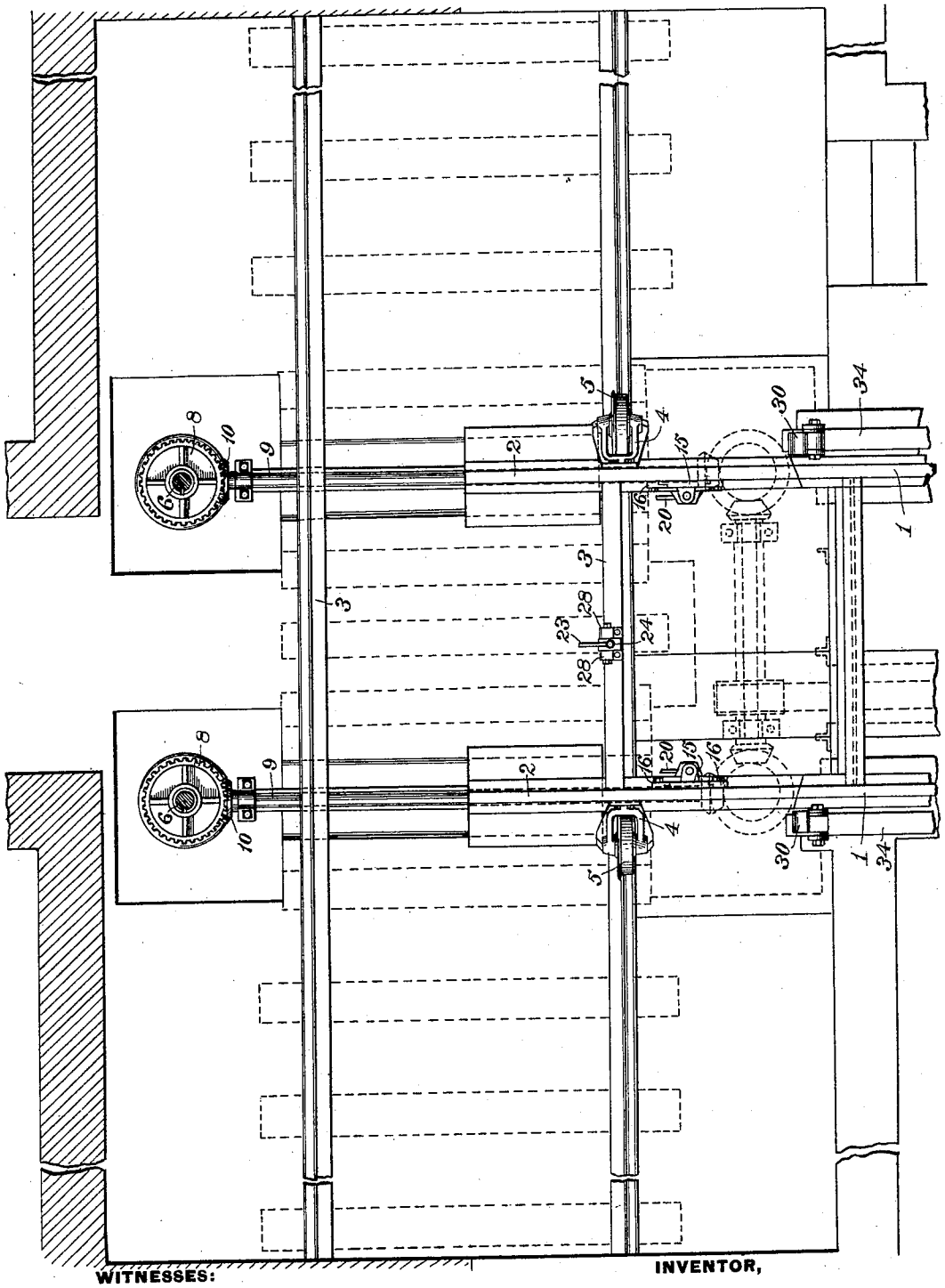
No. 613,851. Patented Nov. 8, 1898.

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APPARATUS FOR REMOVING CAR WHEELS, &c.

(Application filed Sept. 19, 1898.)

(No Model.) 4 Sheets—Sheet 1.



Chas. F. Miller.
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FIG. 1.

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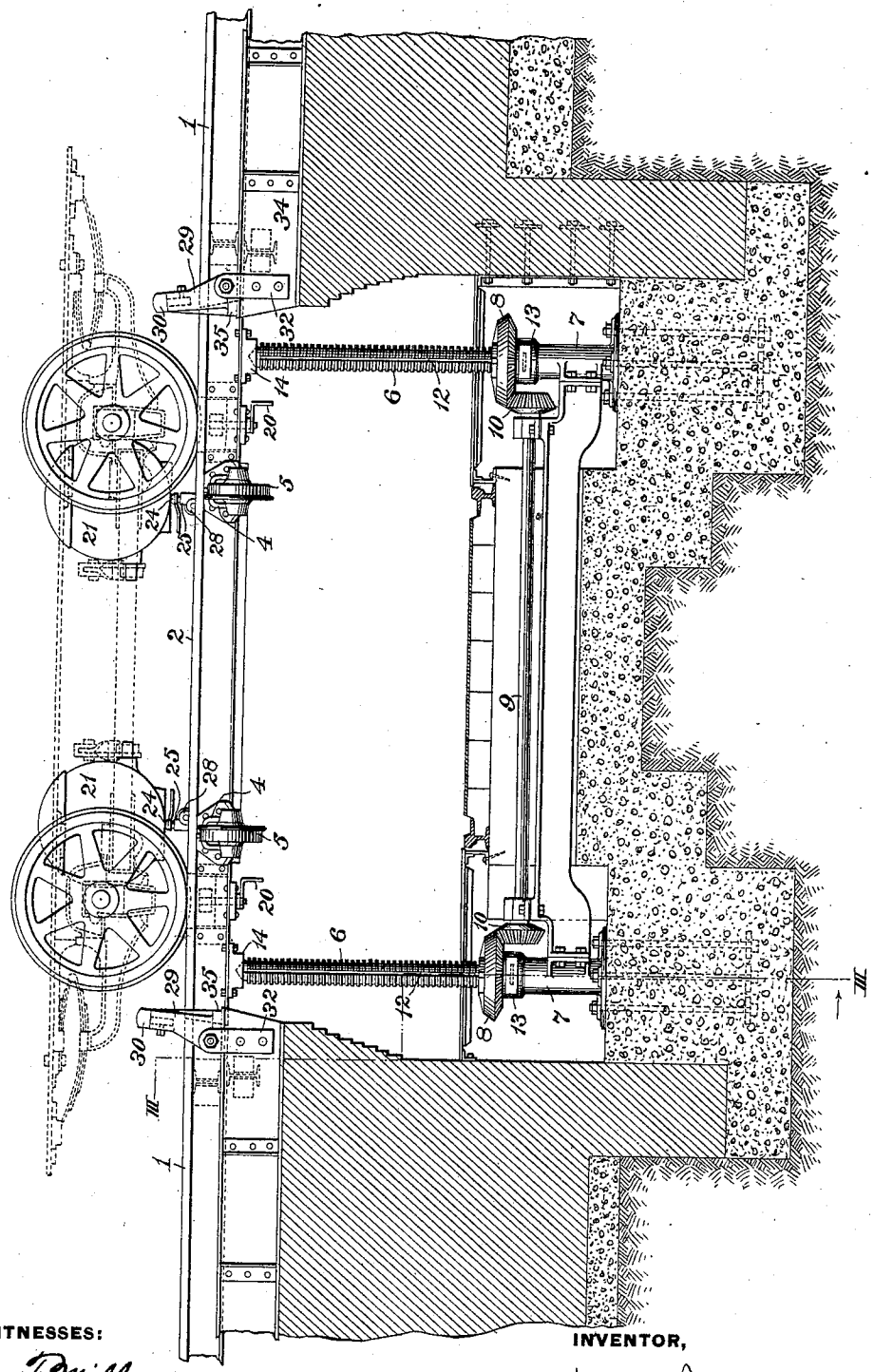
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FIG. 2.



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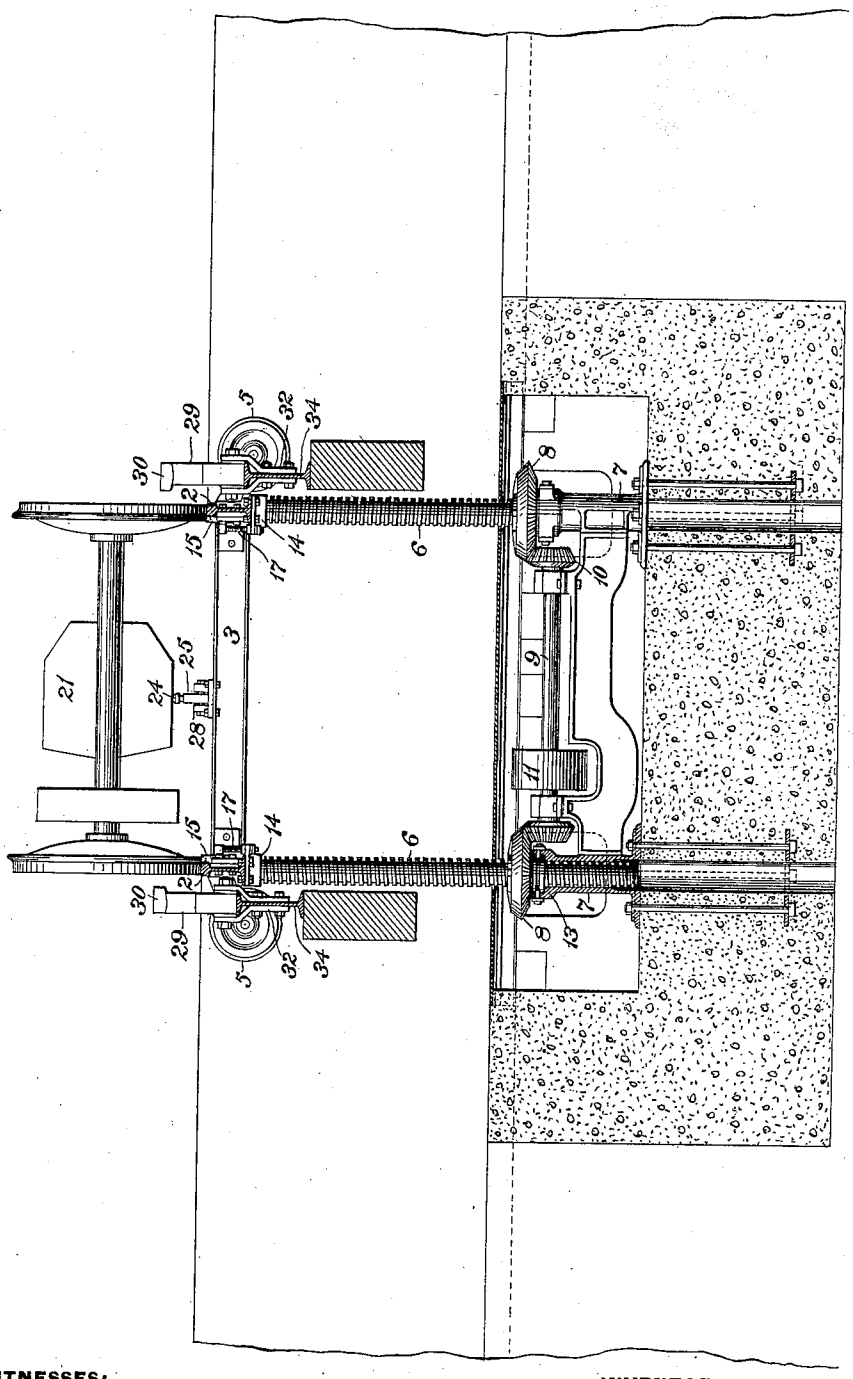
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FIG. 3.



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FIG. 4.

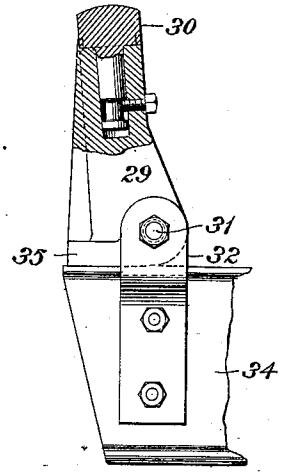


FIG. 5.

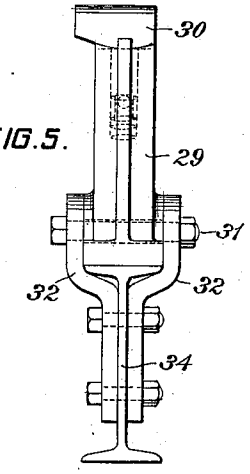


FIG. 6.

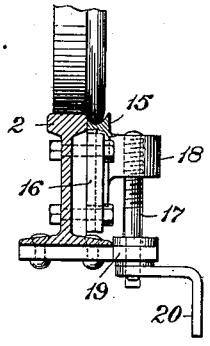


FIG. 7.

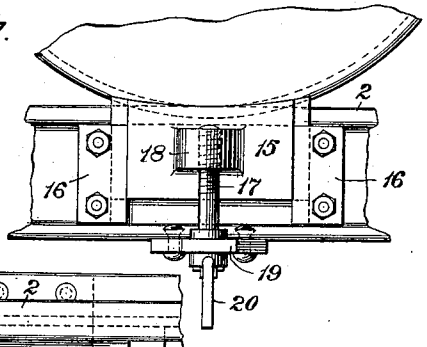


FIG. 8.

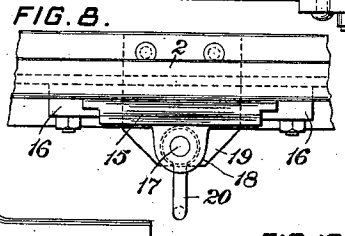


FIG. 9.

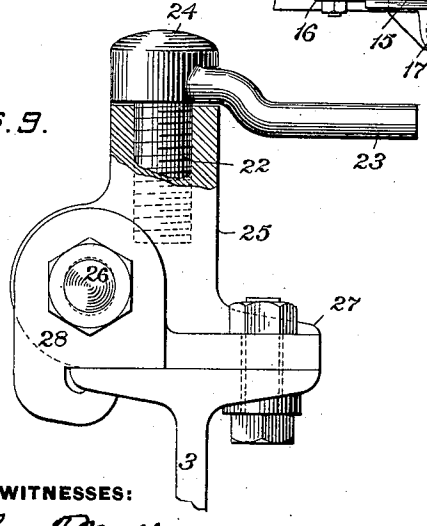
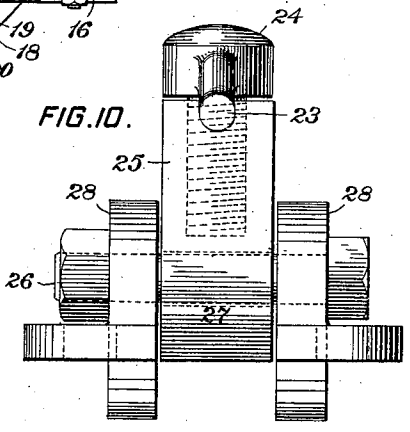


FIG. 10.



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UNITED STATES PATENT OFFICE.

JAMES BRYAN, OF PITTSBURG, PENNSYLVANIA.

APPARATUS FOR REMOVING CAR-WHEELS, &c.

SPECIFICATION forming part of Letters Patent No. 613,851, dated November 8, 1898.

Application filed September 19, 1898. Serial No. 691,293. (No model.)

To all whom it may concern:

Be it known that I, JAMES BRYAN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Apparatus for Removing Car-Wheels, &c., of which improvements the following is a specification.

The object of the invention described herein is to provide means whereby the wheels and motors of cars may be quickly removed from the truck-frame or car-body and repaired or new wheels and motor substituted.

In general terms the invention consists in means for supporting the body of the car and in mechanism for lowering and shifting the wheels or wheels and motor laterally; and the invention further consists in means for properly centering the wheels on the hoisting and transferring apparatus as to insure the quick and easy attachment of the wheels to the car truck or body.

In the accompanying drawings, forming a part of this specification, Figure 1 is a top plan view of my improved apparatus, a portion of the main rails and carriage being removed for purposes of illustration. Fig. 2 is a side elevation of the apparatus. Fig. 3 is a sectional elevation, the plane of section being indicated by the line III III, Fig. 2. Figs. 4 and 5 are side and front elevations of the supports for the car-body. Figs. 6 and 7 are end and side elevations of the wheel centering or locking mechanism. Fig. 8 is a sectional plan view of the same, and Figs. 9 and 10 are side and front elevations of the motor-supports.

In the practice of my invention a pit is formed below and preferably transversely of a switch or siding. Said pit when arranged transversely of the siding preferably extends on both sides of the siding-rails a distance somewhat greater than the gage of the siding. This pit is bridged by rail-sections 2, which when raised aline with the rails 1, so as to permit of the passage of a car onto and off of said sections. These rail-sections 2 are connected together by transverse beams 3 and have brackets 4 secured to their outer faces, said brackets being provided with suitable bearings for the wheels 5, thereby forming a carriage for shifting the wheels of a car, as will be hereinafter described. This carriage may be held in its raised position and shifted vertically by any suitable form or construction of hoisting mechanism—such, for example, as that shown, consisting of the screws 6. These screws extend into and through the internally-threaded cylinders 7, which are secured on suitable foundations in the pit. The screws are rotated by means of beveled pinions 8, which are simultaneously driven by a system of shafts 9 and beveled pinions 10, one of said shafts being connected to a suitable motor (preferably of an electric type) by a belt passing around a pulley 11 on said shaft or any other suitable means. The screws are locked to the pinions 8 so as to rotate therewith, but with a freedom of longitudinal movement through them, by a groove 12 along the screws and a spline on the pinions. The upper ends of the threaded cylinders 7 are provided with sockets 13 for the reception of hubs on the under sides of the pinions, which are preferably locked to the cylinders with a freedom of rotation by means of keys engaging circumferential grooves in the hubs of the pinions, as shown in Fig. 3. Bearing-plates 14 for the upper ends of the screws are secured to the under sides of the rail-sections 2.

In order to lock the wheels of the car in proper position on the rail-sections 2, thereby insuring their easy attachment to the truck-frames or car-bodies, sliding blocks 15 are arranged in suitable guides 16, secured to the inner side of the rail-sections 2, as shown in Figs. 1, 3, 6, 7, and 8. The blocks are shifted vertically by means of screws 17, engaging internally-threaded lugs 18 on the sliding blocks. The screws are rotatably supported by plates 19, secured to the flanges of the rail-sections, and are rotated by means of crank-handles 20, secured to their lower ends, the sliding blocks 15 having grooves or seats formed in their upper ends for the reception of the flanges of the wheels, as clearly shown in Figs. 6 and 7.

The motor-case 21 is supported on one side by the axles of the wheels and on the opposite side by some portion of the truck, and when the wheels and motor are to be removed this connection between the motor-case and truck is released. In order to prevent the freed end

of the casing from dropping down when released, movable supports therefor are arranged on the transverse beams 3 of the carriage, as shown in Figs. 1, 2, and 3. A convenient form for such supports consists of screws 22, provided at their upper ends with operating-handles 23 and with heads 24 and mounted in internally-threaded blocks 25, as shown in Figs. 9 and 10. These blocks are provided on one side of their axes with trunnions or axles 26 and on the opposite side of the axes with laterally-projecting feet 27. The trunnions or axles are mounted in bearings 28, secured on the beams 3, that when the blocks are turned to a vertical position the feet 27 will bear firmly on the beams 3.

In order to support the car-body, posts 29, preferably provided with adjustable and removable heads 30, are arranged on opposite sides of the pit and preferably outside of the siding-rails 1, as shown in Figs. 1, 2, and 3. It is desirable that these posts should be capable of being turned down out of the way when not in use, and to this end they are loosely mounted on pins 31, which pass through holes formed in the blocks near their lower ends and preferably at one side of the axes of the blocks. The pins are supported by straps 32, bolted to beams 34, secured to suitable foundations outside of but adjacent to the siding-rails 1. The posts are so supported with reference to the beams that when turned to a vertical position laterally-projecting feet 35 on the posts will bear firmly on the beams, thereby relieving the pivotal supports of the posts from all strains.

When a motor is in need of repair, the car is run onto the rail-sections 2 so that the wheels will be in position above the sliding blocks 15, which are then raised to engage the flanges of the wheels. The motor-supports are then turned to a vertical position and the screws 22 rotated to bear against and slightly raise the motor-casing. The car-supporting posts 29 are next turned to a vertical position and all connections between the wheels and block-frame and the motor-casing and truck-frame are released. The screws 6 are then turned to lower the carriage until its wheels 5 rest upon rails 36, arranged on suitable foundations longitudinal of the pit. The movement of the screws 6 is continued until their upper ends are clear of the bearing-plates 14. The carriage is moved along the rails to give convenient access to the motor. If desired, the wheels and motors can be removed from the carriage and others substituted therefor and the carriage run back and hoisted and the wheels and motor attached to the car; or two similar carriages can be used, so that as soon as one is lowered and shifted to one end of the pit the other carriage, with wheels and motor, can be moved to position over the screws 6 and raised, so as to permit of the attachment of the wheels and motor thereon to the truck-frame.

I claim herein as my invention—

1. In an apparatus for removing car-wheels, &c., the combination of a hoisting mechanism arranged in a pit formed below a railway-track, rail-sections adapted to be shifted vertically into and out of the pit by the hoisting mechanism, and when raised to form a bridge between the ends of the track interrupted by the pit, pivotally-mounted supports for the car-body on opposite sides of the pit, and centering-locks for holding the wheels in position on the rail-sections, substantially as set forth.

2. In an apparatus for removing car-wheels, &c., the combination of hoisting mechanism arranged in a pit formed below a railway-track, rail-sections adapted to be shifted vertically into and out of the pit by the hoisting mechanism and when raised to form a bridge between the ends of the track interrupted by the pit, supports for the car-body on opposite sides of the pit, and an adjustable motor-support, substantially as set forth.

3. In an apparatus for removing car-wheels, the combination of hoisting mechanism arranged in a pit formed below a railway-track, a carriage adapted to support the wheels of a car and to be shifted vertically into and out of the pit, pivotally-mounted supports for the car-body on opposite sides of the pit and sliding blocks adapted to engage the flanges of the wheels and lock the latter in position on the carriage.

In testimony whereof I have hereunto set my hand.

JAMES BRYAN.

Witnesses:
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F. E. GAITHER.