

1,089,306.

Patented Mar. 3, 1914.

4 SHEETS—SHEET 1.

Fig. 1.

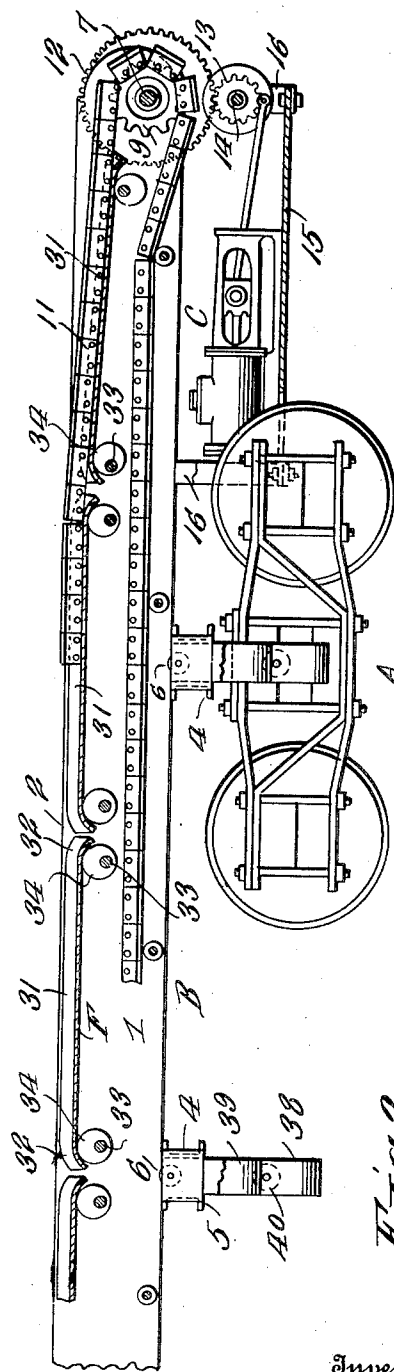
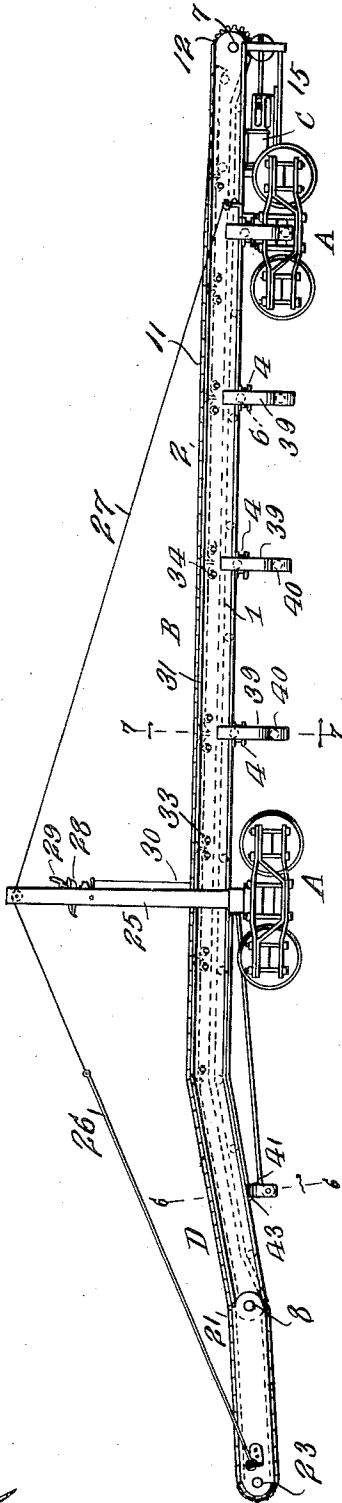


Fig. 3.

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RAILWAY CONSTRUCTION CAR.
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4 SHEETS—SHEET 2.

Fig. 2.

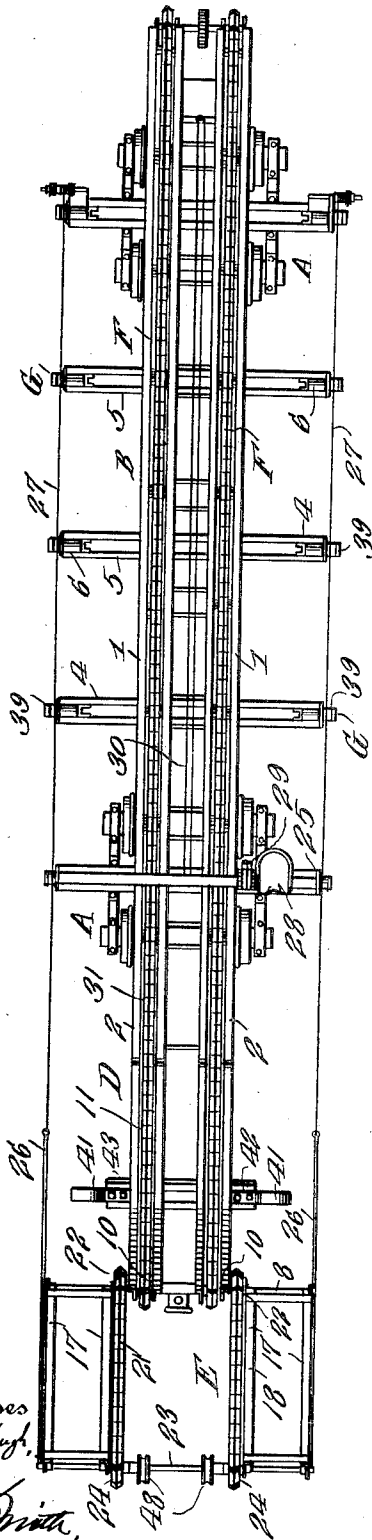


Fig. 9.

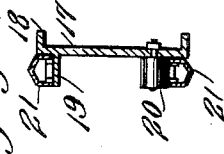


Fig. 5.

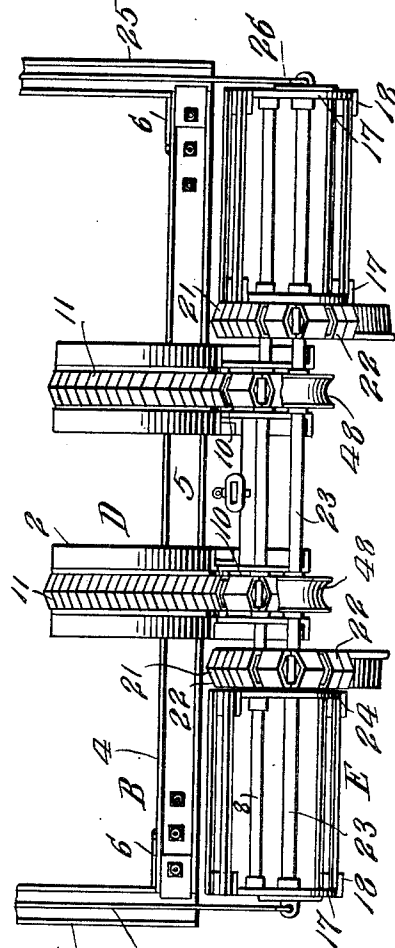
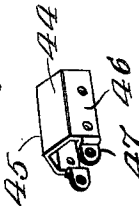


Fig. 10.



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4 SHEETS—SHEET 3.

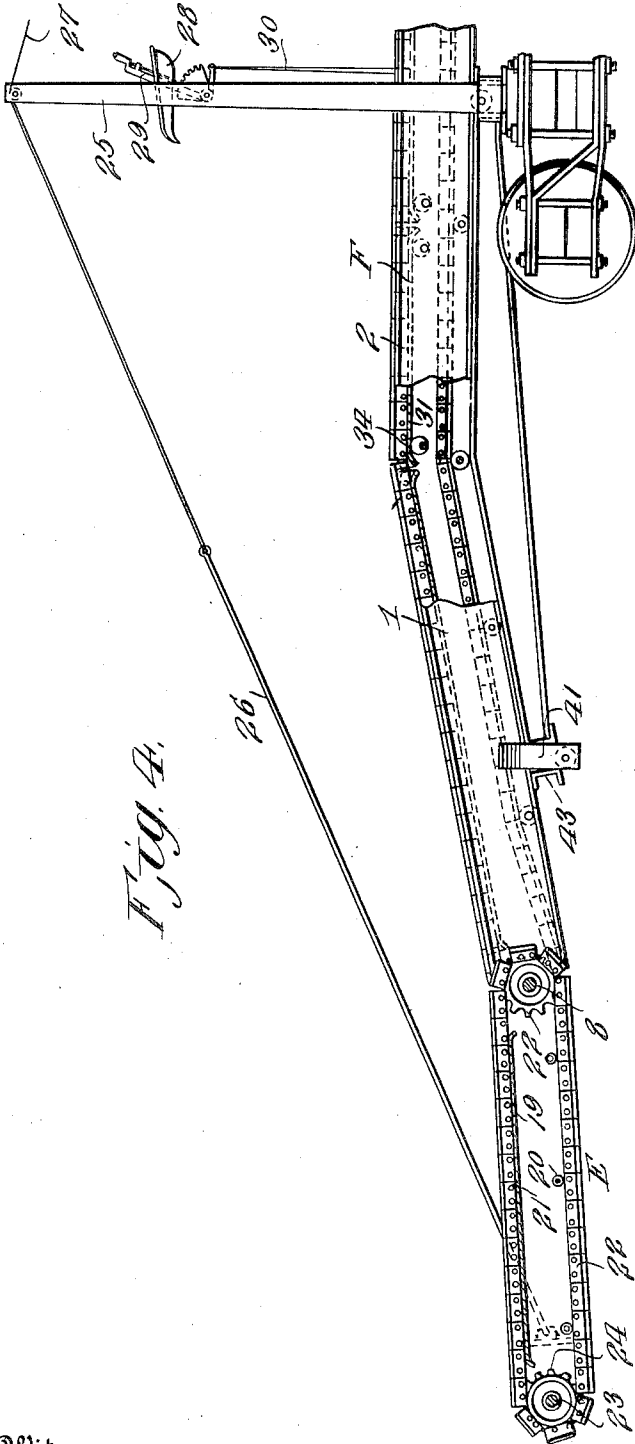


Fig. 4.

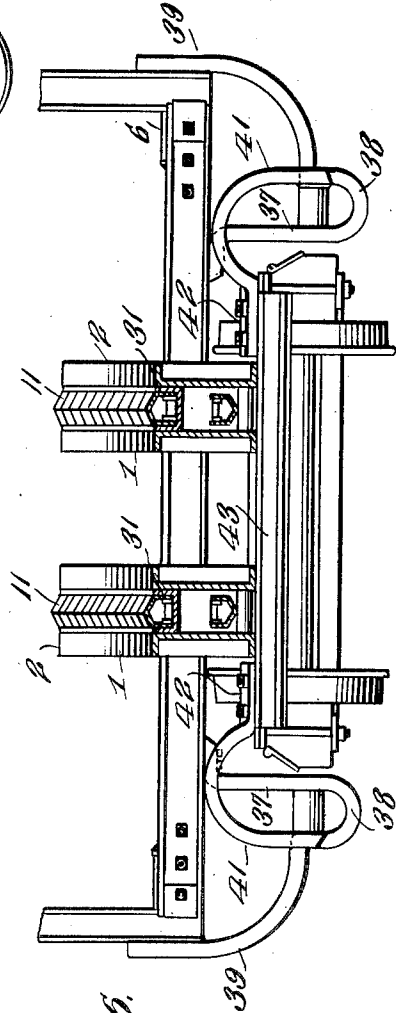


Fig. 6.

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4 SHEETS—SHEET 4.

Fig. 7.

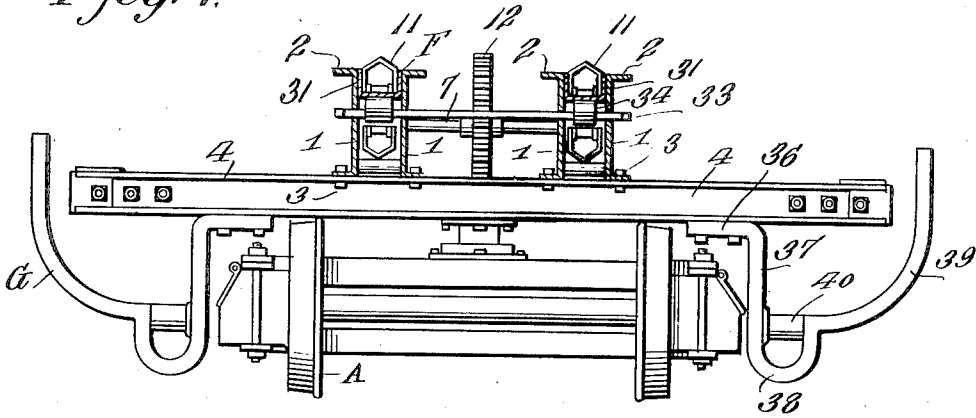
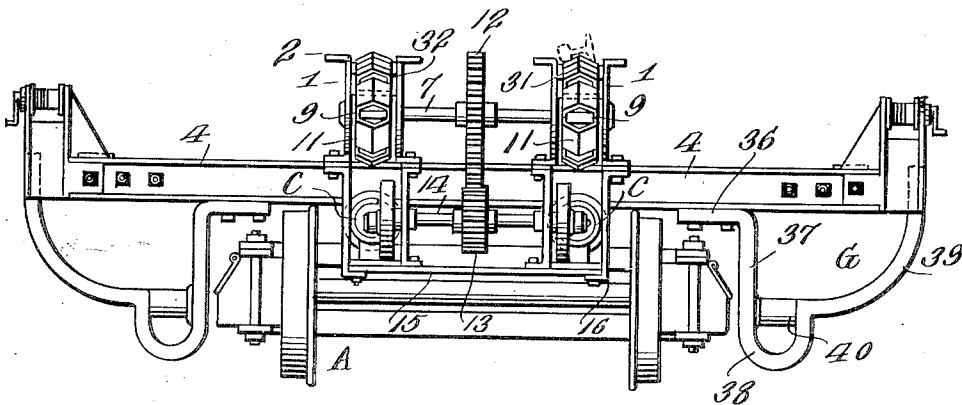


Fig. 8.



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UNITED STATES PATENT OFFICE.

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RAILWAY CONSTRUCTION-CAR.

1,089,306.

Specification of Letters Patent.

Patented Mar. 3, 1914.

Application filed November 22, 1913. Serial No. 802,427.

To all whom it may concern:

Be it known that I, WILLIAM R. BELL, a citizen of the United States, residing at Logtown, in the county of Hancock and State of Mississippi, have invented new and useful Improvements in Railway Construction-Cars, of which the following is a specification.

This invention relates to railway construction cars, the broad object of the invention being to provide a car of the class described especially designed for laying down the rails and ties of a railway, in the construction thereof, and again taking up said rails and ties when the railway is to be done away with, the invention being particularly useful in logging districts where spurs are repeatedly laid down and taken up.

A further object of the invention is to produce a car of the class described embodying convenient and reliable means for advantageously handling the rails and ties either in taking the same up or laying the same down, the said means embodying as one of its main features, a pair of endless carrier chains which serve as the actuating means for the rails and ties as will hereinafter appear.

A further object of the invention is to provide in connection with such carrier chains and tie supporting sills extending in parallel relation thereto, means for varying the relative heights or levels of said chains and tie supporting sills so that the ties will be automatically arrested and deposited upon the said sills, thereby preventing the accidental movement of the ties beyond the ends of the carrier chains.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts, as will hereinafter be more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation of a complete railway construction car embodying the present invention, showing the extension boom applied thereto. Fig. 2 is a plan view of the same. Fig. 3 is a vertical longitudinal section through a portion of the car taken approximately in line with one of the carrier chains, showing the means for raising and lowering the top runs of the chains in relation to the tie supporting sills, also showing the chain driving engine and mechanism. Fig. 4 is a side elevation partly in section of

the remaining portion of the car illustrated in Fig. 3. Fig. 5 is a front elevation of the car. Fig. 6 is a vertical cross section on the line 6—6 of Fig. 1. Fig. 7 is a vertical cross section on the line 7—7 of Fig. 1. Fig. 8 is a rear elevation of the car. Fig. 9 is a detail vertical cross section showing one of the side bars of the extension boom. Fig. 10 is a detail perspective view of one of the links of the carrier chains.

While the main parts of this invention are applicable to any ordinary form of flat car, I prefer to use the construction hereinafter particularly set forth, relating to the car itself. To that end, in the preferred embodiment of this invention, I provide in connection with a pair of car trucks designated generally at A, a car body or frame designated generally at B, said frame being composed, as illustrated, for example, in Figs. 6, 7 and 8 of two sets of parallel channel irons 1, the channel irons of each set being disposed so that the flanges 2 thereof extend outwardly in opposite directions away from each other. These channel irons are arranged at a suitable distance apart to admit of the introduction between them of the endless carrier chains as shown and said channel irons are bolted or otherwise fastened as shown at 3 to a series of bunks 4 extending transversely of the car frame of which they form a part, each of said bunks 4 being also preferably composed of parallel channel irons 5 as shown, for example, in Fig. 3. These bunks extend laterally beyond the chains as illustrated so as to form supports for the railway rails before they are laid upon the ties or after they are removed therefrom. Each of the bunks 4 is provided at its opposite ends with rail supporting rollers 6 journaled on axes extending longitudinally of the bunks so as to facilitate the sliding of the rails across said bunks in placing the same thereon.

At the rear end of the car is arranged a cross-shaft 7 and at the forward end is another cross-shaft 8, the said shafts having fast thereon sprocket wheels 9 and 10 around which travel the two endless carrier chains designated at 11. The shaft 7 is provided with a spur gear wheel 12 which is driven by a pinion 13 on a countershaft 14 which consists of the crank shaft of an engine designated generally by the reference character C. This engine is underslung as shown in Fig. 3; that is to say, said engine is

mounted under the body of the car and beneath the endless carrier chains, being shown as supported by an underslung platform 15 connected by suitable hangers 16 to the body of the car. This places the engine low down where it will not interfere with the movement of the rails and ties, the entire space above the chains being left unobstructed. The forward portion of the frame of the body B is bent to form a downwardly inclining boom designated generally by the reference character D to facilitate the depositing of ties on the road bed and removing the same therefrom.

E designates an extension boom which embodies two sets of parallel channel beams 17 as best illustrated in Fig. 5, said beams being set with their flanges 18 facing each other. One of said beams 17 is provided on its inner side with a chain supporting flange 19 and at a lower point with a series of chain guiding rollers 20 beneath which the lower run of one of a pair of endless carrier chains 21 travels. The shaft 8 above described, is provided in addition to the wheels 10 above referred to with other wheels 22 around which pass the endless carrier chains 21, the last named chains being set farther apart than the first mentioned chains 11 as illustrated in Fig. 5. The extension boom is journaled at its inner end on the shaft 8 thereby adapting the outer end thereof to be raised and lowered in the desired proximity to the road bed to facilitate the operation of discharging and taking up the ties. Within the outer end of the extension boom E is another shaft 23 provided with sprocket wheels 24 around which the chains 21 pass. The chains 21 are thus driven from the shaft 8 which is in turn driven by the chains 11 which derive their motion from the shaft 7 driven by the engine at the opposite end of the car.

In order to support the outer end of the extension boom E, the car is provided with a mast 25 which extends to any suitable height as illustrated in Figs. 1 and 4 and from the top of said mast a stay 26 extends to a point near the outer end of the boom. An extension, 27, of said stay reaches from the top of the mast in the opposite direction to the other end of the car where it is fixedly secured to the frame or body of the car.

A seat 28 for the operator or engineer is fastened to the mast 25 at one side thereof, and arranged in convenient relation to said seat is an engine controlling lever 29 which is provided with a suitable connection 30 leading to the engine C for driving the latter, thus enabling the carrier chains to be actuated or brought to rest whenever necessary.

The top flanges 2 of the channel irons 1

form tie supporting sills which extend in parallel relation to the top runs of the carrier chains 11, as best illustrated in Fig. 3. Underlying the top run of each of said carrier chains 11 is a sectional chain support designated generally at F, said support being made up of a series of sections 31 clearly illustrated in Fig. 1, each section being in the form of a channel iron as shown in cross section in Fig. 7, each support serving also as a guide for the top run of the chain, as indicated in Fig. 7. The opposite ends of each section 31 are preferably deflected downwardly, as indicated at 32, to enable the chain to readily pass on and off the same. The means for raising and lowering the sections 31 in opposing pairs embodies in connection with each oppositely located pair of sections a pair of cam shafts 33 having fast thereon cams 34 which bear against the undersides of the oppositely located sections 31. Each shaft 33 is extended at one or both ends, as shown at 35 and preferably squared so that a crank handle or wrench may be applied thereto. When the shaft 33 is thus turned in its bearings in the sills, or channel irons 1, the corresponding chain supports are raised and lowered at the point where said shaft occurs. The object of this arrangement is to depress portions of the carrier chains below the level of the tie supporting sills so that when the ties reach that point, they will be arrested and supported by said sills, thus preventing the ties from being carried beyond and off the ends of the chains. It will of course be understood that the rearmost chain supports will first be lowered so that the ties being picked up by the car may be deposited upon the rear end thereof and subsequently the other chain supports will be lowered successively until all of the ties have been deposited upon the supporting sills.

In laying down the rails upon the ties previously deposited on the road bed, I make use of series of stirrups designated generally at G, one of said stirrups being secured to each end of each bunk 4 as illustrated, for example, in Figs. 7 and 8. Each stirrup comprises an attaching portion 36 whereby the stirrup is secured to the bunk, a pendent portion 37, a U-shaped bend 38 and an upwardly curving terminal portion 39 which it will be noted extends beyond the extremity of the bunk 4 to enable the rail when pushed off the end of the bunk to be caught by the part 39 of the stirrup and directed downwardly and inwardly toward the line of the wheels. In the U-shaped bend 38 is arranged a rail supporting roller 40 which greatly reduces the friction when the rail is slid longitudinally to remove the same from the stirrup and deposit it on the previously laid ties. Adjacent to the discharge end of the car,

overhanging hooks 41 are provided, the same being provided with attaching portions 42 bolted or otherwise secured to a relatively short cross-bar 43 fastened to the under side of the channel irons 1 as shown in Fig. 6. These hooks 41 engage the rails and direct the same inwardly toward the line of the wheels as the rails are dropped upon the ties.

The endless carrier chains may be of any usual or preferred construction but I prefer to use the type of chain illustrated in the different figures, said chain being made up of links, one of which is shown in detail perspective view in Fig. 10, each link comprising a body 44 formed with a tie supporting ridge 45, side flanges 46 and lugs or ears 47 adapted to receive bolts or pins by means of which the links are connected to each other. The end cross-shaft 23 is provided with rail supporting and actuating rollers 48 as shown in Fig. 2, said rollers being fast on the driven shaft 23. In picking up the rails, the ends thereof are placed on the rollers 48 and as said rails move inwardly, they are also deposited upon the chains 11 in the manner indicated by dotted lines in Fig. 8. In this way the rails are propelled inwardly and upon reaching the desired point, they are removed from the chains and deposited upon the laterally projecting bunks until needed for further use.

Having thus described the invention, what is claimed as new, is:—

1. A railway construction car embodying a wheeled truck frame, parallel endless carrier chains running lengthwise thereof, and driving means for said chains, tie supporting sills extending parallel to said chains, and cam controlled means for elevating and lowering said chains in relation to the tie supporting faces of said sills.

2. A railway construction car embodying a wheeled truck frame, parallel endless carrier chains running lengthwise thereof, driving means for said chains, tie-supporting sills extending parallel to said chains, parallel sectional chain supports, and means for severally raising and lowering the sections of said chain supports in opposing pairs and correspondingly varying the relative levels of said chains and sills comprising cam shafts underlying and working against the bottoms of said chain supports.

3. A railway construction car embodying a wheeled truck frame, a set of parallel endless carrier chains running lengthwise thereof, driving means for said chains, an extension boom hinged to one end of the car, another set of parallel endless carrier chains

extending lengthwise of said boom and geared to and driven by the first named chains, and means on the car for supporting the free end of said extension boom.

4. A railway construction car embodying a wheeled truck frame, cross shafts journaled thereon, endless chains running lengthwise of the car and passing around said shafts, means for driving said chains, rail holding bunks projecting laterally beyond said chains, and rail supporting and actuating rollers fast on one of said shafts.

5. A railway construction car embodying a wheeled truck frame, cross shafts journaled thereon, endless chains running lengthwise of the car and passing around said shafts, means for driving said chains, rail holding bunks projecting laterally beyond said chains, and rail holding stirrups positioned to catch the rails when the latter are pushed off the bunks and support said rails below the plane of said bunks.

6. A railway construction car embodying a wheeled truck frame, cross shafts journaled thereon, endless chains running lengthwise of the car and passing around said shafts, means for driving said chains, rail holding bunks projecting laterally beyond said chains, and rail holding stirrups positioned to catch the rails when the latter are pushed off the bunks and direct said rails inwardly toward the wheel line of the car.

7. A railway construction car embodying a wheeled truck frame, cross shafts journaled thereon, endless chains running lengthwise of the car and passing around said shafts, means for driving said chains, rail holding bunks projecting laterally beyond said chains, and rail holding stirrups positioned to catch the rails when the latter are pushed off the bunks and support said rails below the plane of said bunks, and rail supporting rollers on said stirrups.

8. A railway construction car embodying a wheeled truck frame, cross shafts journaled thereon, endless chains running lengthwise of the car and passing around said shafts, means for driving said chains, rail holding bunks projecting laterally beyond said chains, rail holding stirrups positioned to catch the rails when the latter are pushed off the bunks, and support said rails below the plane of said bunks, and overhanging rail engaging hooks.

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

WILLIAM R. BELL.

Witnesses:

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E. EDMONDSTON, Jr.