

Jan. 9, 1968

T. ROBERTSON

3,362,351

RE-RAILING APPARATUS FOR RAILWAY VEHICLES

Filed Sept. 3, 1965

3 Sheets-Sheet 1

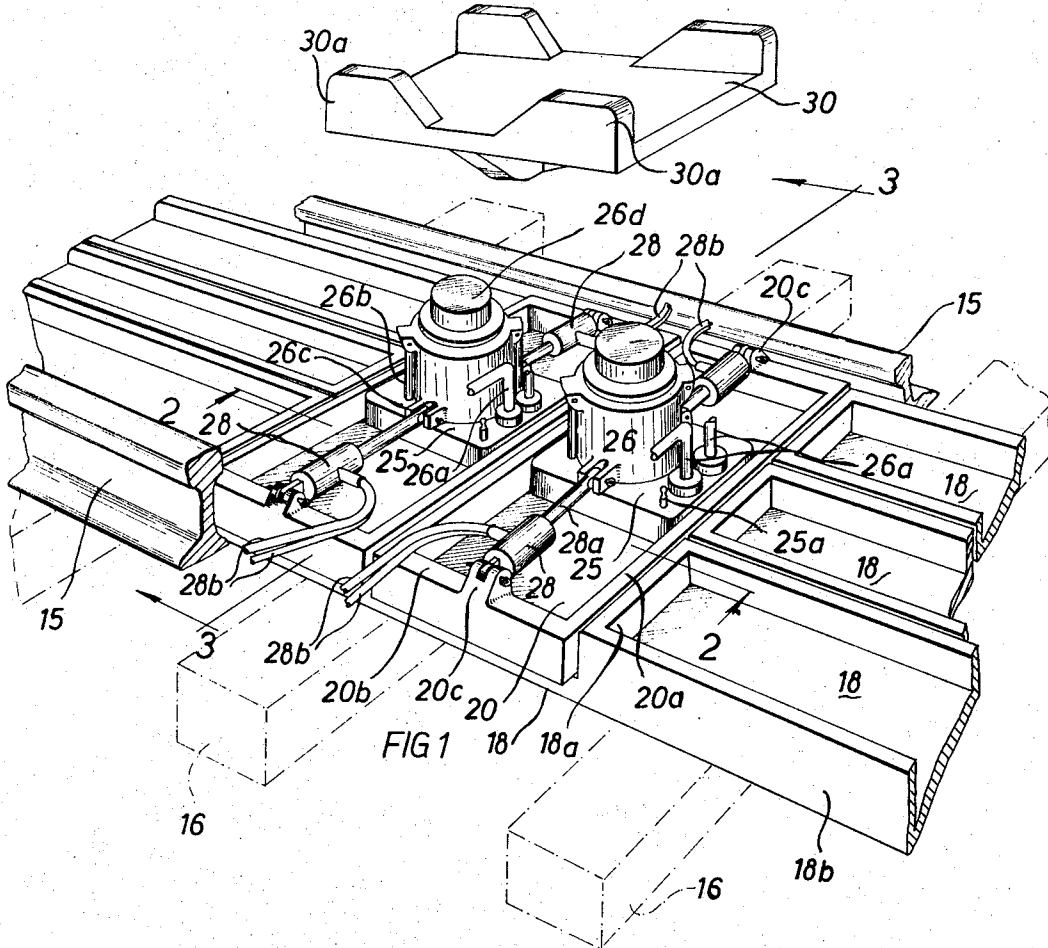


FIG 1

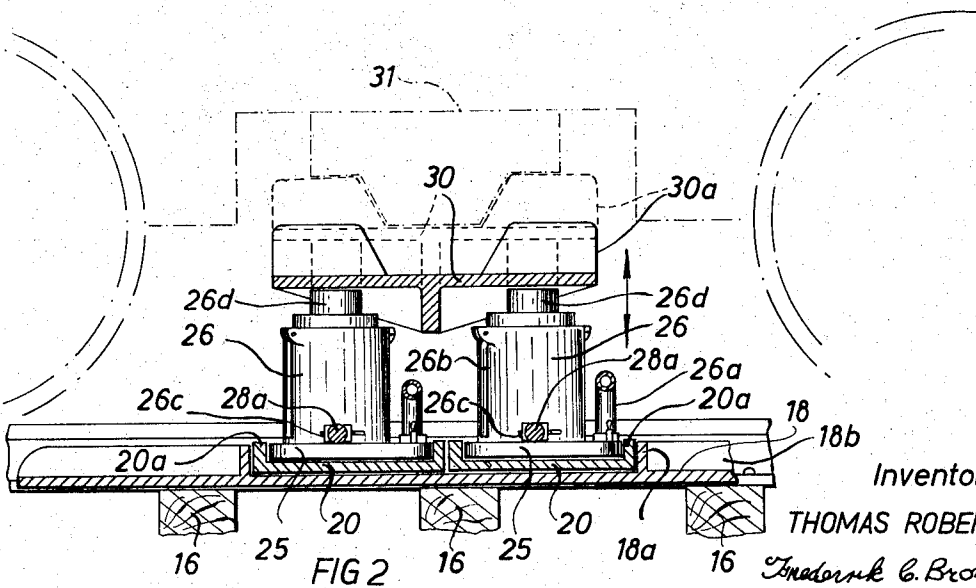


FIG 2

Inventor

THOMAS ROBERTSON

Frederick C. Bromley

Attorney

Jan. 9, 1968

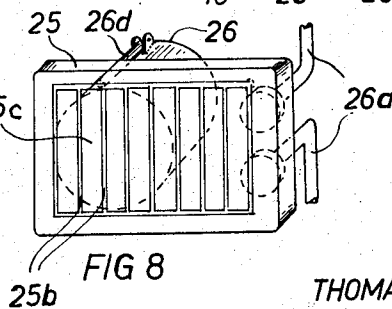
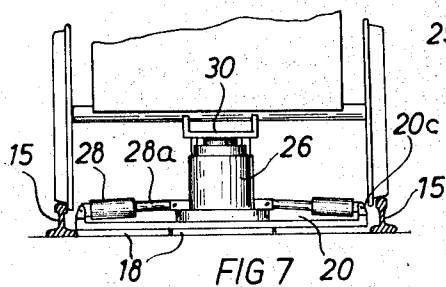
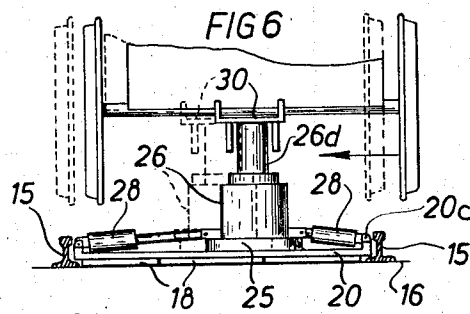
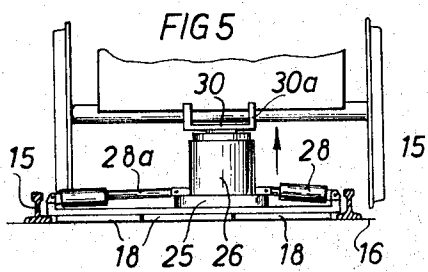
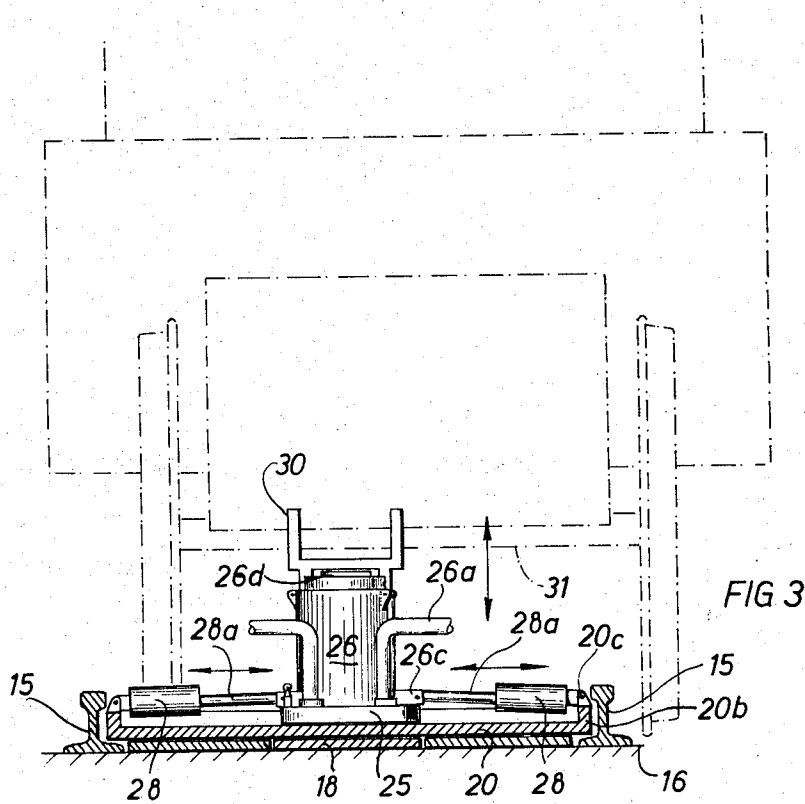
T. ROBERTSON

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RE-RAILING APPARATUS FOR RAILWAY VEHICLES

Filed Sept. 3, 1965

3 Sheets-Sheet 2



Inventor
THOMAS ROBERTSON
Frederick B. Bromberg
Attorney

Jan. 9, 1968

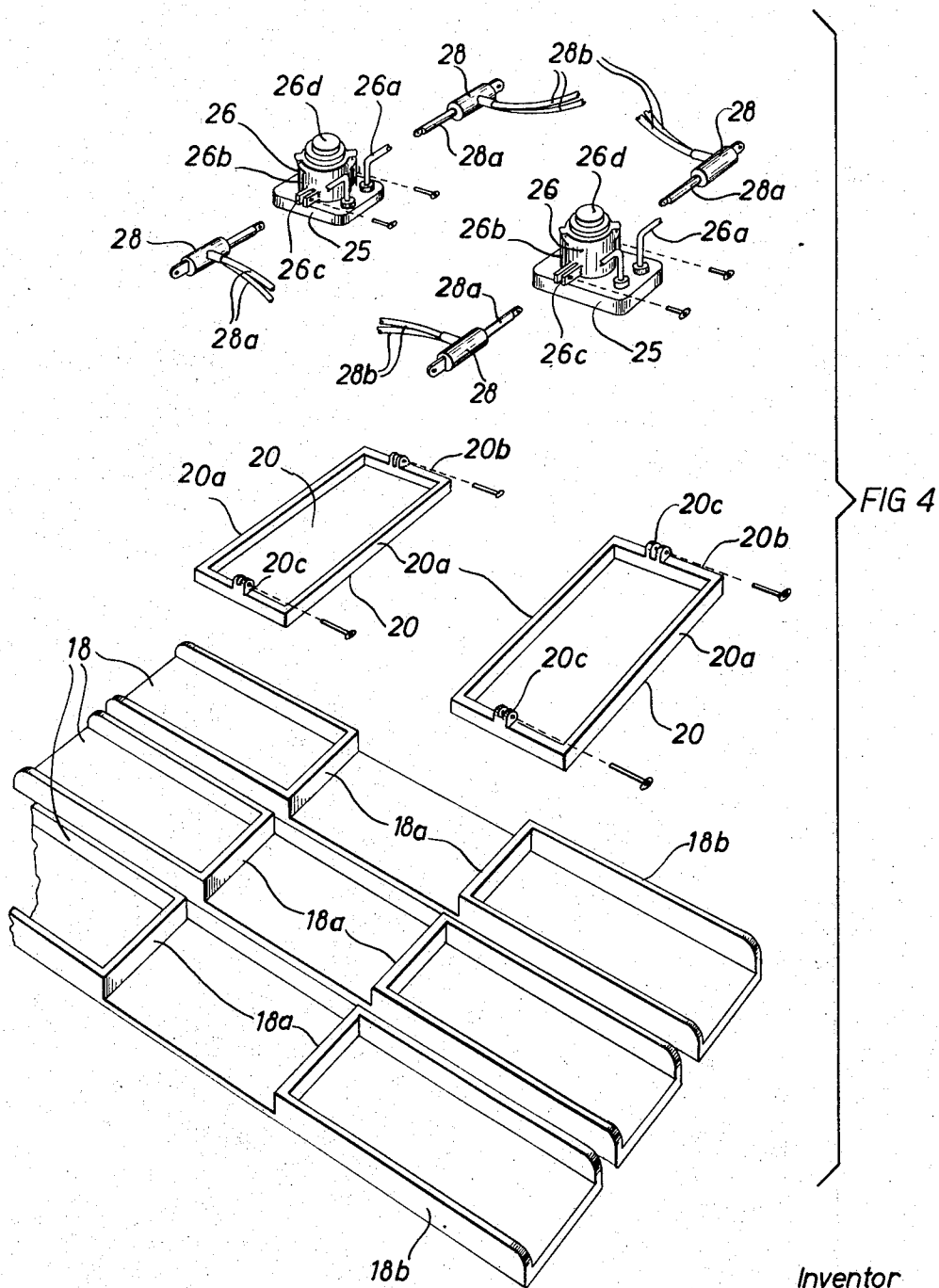
T. ROBERTSON

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RE-RAILING APPARATUS FOR RAILWAY VEHICLES

Filed Sept. 3, 1965

3 Sheets-Sheet 3



Inventor
THOMAS ROBERTSON
Fredrick G. Bromley
Attorney

3,362,351
**RE-RAILING APPARATUS FOR RAILWAY
 VEHICLES**

Thomas Robertson, 105 Lynedock,
 Don Mills, Toronto, Ontario, Canada
 Filed Sept. 3, 1965, Ser. No. 485,025
 4 Claims. (Cl. 104-273)

ABSTRACT OF THE DISCLOSURE

A re-railing apparatus for railway vehicles having a pair of independently movable lifting jacks which are seated in a pair of receptacles that are associated with a group of bed plates positioned between the rails of a railway track. A saddle member suitable for engaging a railway vehicle truck is positioned on the lifting jacks. When the jacks are adjusted in the same direction, the saddle member is moved parallel to the track to a position over the track and when the jacks are adjusted in opposite directions the saddle member is rotated from a position at a lateral angle to the track to one parallel with the track.

This invention relates to apparatus for re-setting derailed railway vehicles, such as locomotives, coaches, etc. on the tracks, and more particularly to devices for this purpose which employ hydraulic jacks. Usually, a derailment not caused by a collision or collapse of the road-bed is due to an open switch, a broken rail or a sudden stop, and places the affected vehicles a short distance off the track. Where such a vehicle comes to rest in a position substantially parallel to the track, it is one object of the present invention to provide an apparatus which lifts the vehicle vertically, and moves it crosswise of the track in the returning direction to a point where it may be lowered to re-set it on the track.

At times a derailment throws the vehicle off at a lateral angle, so that its position is not parallel to the track when the vehicle comes to a rest. Thus, another object of the invention is to provide an apparatus which rotates the vehicle from a point of vantage to bring it into parallelism with the track or in line over the same before lowering the vehicle back on the track.

A further object is to provide an apparatus of the above character which fits in the track, is low enough to clear the understructure of the vehicle, and has factors of strength and stability.

An important object is to design an apparatus of the above character whose components are easily separable for convenient handling and shipping.

A better understanding of the invention may be gained by reference to the accompanying drawings, in which:

FIG. 1 is a perspective view showing the apparatus assembled on a railway track for a re-railing operation, with a saddle member shown in separated relation and ties under the track indicated by dotted lines;

FIG. 2 is a section on the line 2-2 of FIG. 1 showing the saddle member positioned in readiness for a lifting operation, the lifted position of the saddle member and the vehicle being indicated by dotted lines;

FIG. 3 is a section on the line 3-3 of FIG. 1 and showing the initial position of the vehicle by means of dot-and-dash lines;

FIG. 4 is an exploded view of the components of the apparatus when they are dismantled, for handling and shipping convenience;

FIG. 5 is an end elevation depicting the initial position of the vehicle by means of full lines;

FIG. 6 is a similar view showing the vehicle raised from the derailed position, the arrow and dotted lines

indicating how the vehicle is moved to restore it to the proper position over the track;

FIG. 7 is a similar view showing the vehicle after it has been moved as stated and lowered into the proper position; and

FIG. 8 is a perspective view of a slide block turned on its side to reveal the construction of its bottom.

Referring specifically to the drawings, the rails of the track are shown at 15, and the ties supporting them at 16. The present apparatus is designed for placement between the rails to rest on the ties.

The base of the apparatus consists of three bed plates 18 arranged abreast as seen in FIGS. 1 and 4 to substantially fill the space between the rails. The bed plates are of heavy steel construction, having a medial flat section and terminal sections built up with inner and lateral walls 18a and 18b, respectively, to lend the plates rigidity and additional weight, and thus improve their stability.

A pair of oblong receptacles 20 are laid on the bed plates 18 in laterally-assembled relation to fill the space between the opposed inner walls 18a of the bed plates. These receptacles are also of massive construction and built up with side walls 20a and end walls 20b for purposes of reinforcement. Since the receptacles also fill the space between the track rails endwise, they are locked against motion either longitudinally or crosswise of the track.

The receptacles 20 contain the hydraulic jack equipment employed for imparting vertical and lateral movements to the railway vehicle conducive to restore it to normal position. Thus, each receptacle receives a rectangular slide block 25 with a jack 26 mounted thereon. The jack receives suitable leads 26a from a hydraulic pump (not shown); and the slide block 25 has a connection 25a for a lubricating feed line (not shown) for leading the lubricant into a series of grooves 25b made in the bottom 25c of the slide block—as shown in FIG. 8—so that each block may be slidable on the bed plate between the end walls of the related receptacle with a minimum of friction. The jacks 26 are fastened removably to the slide blocks to which they are fitted by suitable means (not shown) and carry handles 26b at the sides in folded position, as illustrated in FIGS. 1 and 2, when the apparatus is in the position of use. However, when it is dismantled and the jacks are unfastened from the slide blocks, the handles 26b may be raised to horizontal position for convenience to left the jacks off the blocks.

The jacks 26 are movable in transverse directions by the operation of hydraulic cylinders 28 whose piston rods 28a connect pivotally with ears 26c projecting from the jacks. The outer ends of the cylinders are pivoted in lugs 20c rising from the end walls of the receptacles 20, the cylinders receiving suitable inlet and outlet leads 28b to a hydraulic pump (not shown).

The rams of the jacks are shown at 26d; and they are designed to be spanned by a saddle member 30 formed with side wall sections 30a suitable for engaging a railway vehicle truck 31 in the manner illustrated in FIG. 5 when the vehicle has been derailed as shown. In case the course of the derailed vehicle is substantially parallel to the track, the simple lateral movement of the jacks according to the arrow in FIG. 6 will bring the vehicle to the dotted-line position in the same figure in vertical alignment with the track; and lowering the jacks will restore the vehicle to the normal position seen in FIG. 7. However, in case the derailed vehicle rests at an angle to the track, the lifting of the vehicle is followed by sliding one jack in relation to the other until the vehicle has been swung back to a position parallel to the track.

It will now be apparent that the novel re-railing apparatus has a number of advantageous features. First, its

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base is sectional for easy transportation and deposit between the rails of the track. Further, the operative units are confined to receptacles locked in the bed plate and between the rails by simple deposit and without the need of fastening accessories. Further, the design of the apparatus is low throughout for clearing the understructures of railway vehicles without difficulty. Further, the jacks—positioned fore and aft—are movable both jointly from side to side or independently in relation to one another for moving the truck or other supported part of the derailed vehicle accordingly. Finally, the separable nature of the apparatus components—as depicted in FIG. 4—facilitates their convenient handling and transportation.

I claim:

1. A re-railing apparatus for railway vehicles comprising a group of bed plates arranged abreast for deposit between the rails of a railway track, reinforcing transverse walls rising from the bed plates in a medial zone and continued along the sides, a pair of longitudinally-grouped receptacles seating across the middle portions of the bed plates and extending endwise to the rails, a lifting jack mounted in each receptacle and adjustable between the ends thereof, a saddle member for supporting a truck of the railway vehicle extending with end portions on the jacks, the adjustment of the jacks in the same direction serving to move the saddle member parallel to

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the track to a position over the track and the adjustment of the jacks in opposite directions serving to rotate the saddle member from a position at a lateral angle to the track to one parallel with the track.

2. The structure of claim 1, the jack being carried by a slide block seated in the receptacle and means between the receptacle and the jack for adjusting the jack between the ends of the receptacle.

3. The structure of claim 2, said means comprising a cylinder extending from each end of the receptacle, and a fluid-operated piston rod for each cylinder and connecting with the jack.

4. The structure of claim 2, said means comprising a cylinder pivoted to each end of the receptacle and extending inwardly, and a fluid-operated piston rod for each cylinder and connecting pivotally with the jack.

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ARTHUR L. LA POINT, *Primary Examiner.*

D. F. WORTH, *Assistant Examiner.*