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J. L. GALLION ET AL

DEVICE FOR HANDLING CAR WHEELS

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Fig. 1.

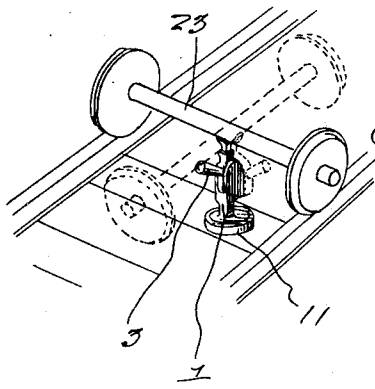


Fig. 2.

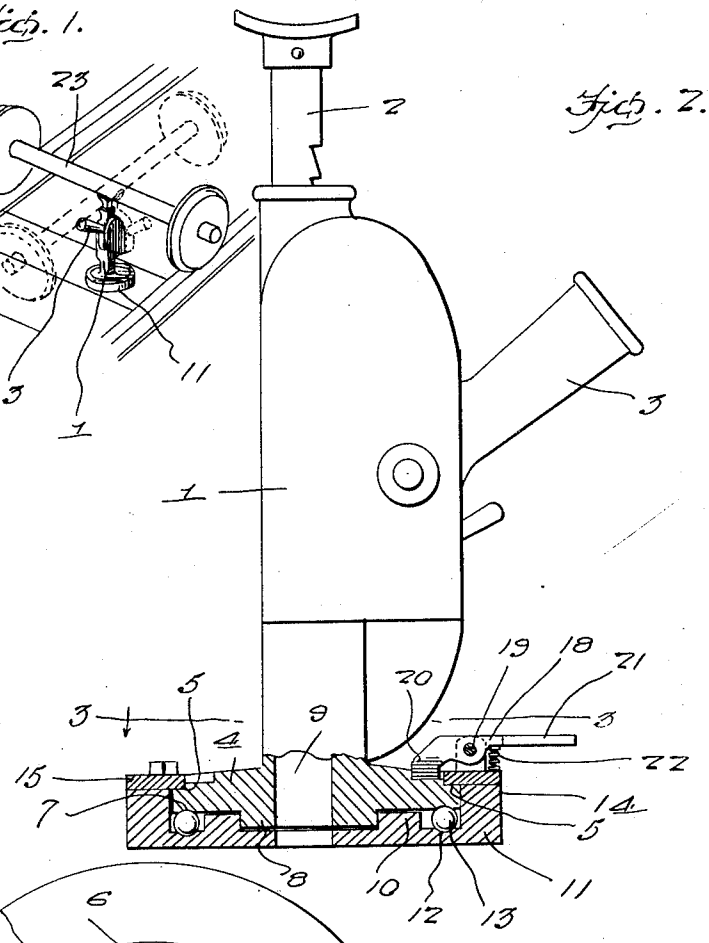
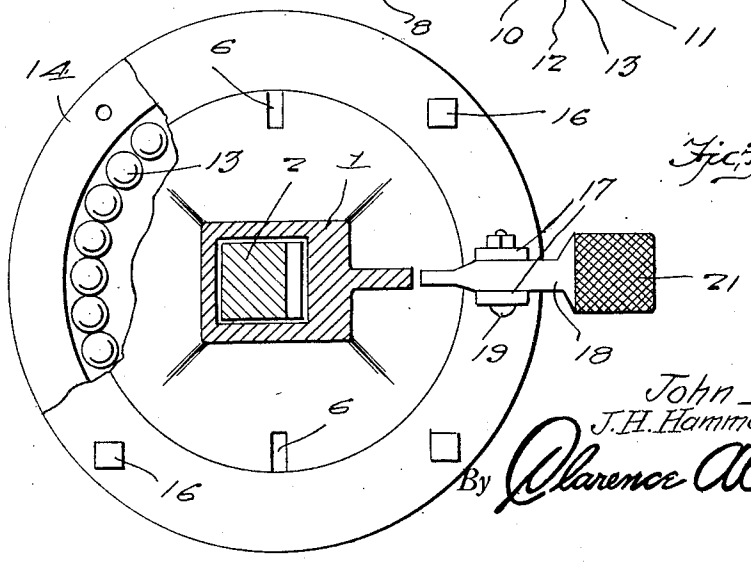


Fig. 3.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR HANDLING CAR WHEELS.

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This invention relates to a device for handling car wheels and particularly for handling the wheels used in connection with railroad equipment.

An object of this invention resides in providing a mechanism for handling car wheels used in railway rolling stock in order to remove or position the wheels in their proper relation under the rolling stock when the same is jacked up and for placing these wheels from positions adjacent the tracks onto the tracks so they may be placed in proper supporting relation under the piece of rolling stock to which the wheels are being applied.

A further object of the invention is to provide a device of the above mentioned character which will facilitate the handling of the wheel so that one or two men may handle a pair of wheels with the use of the present invention to substantially save the time and labor as compared with the old method of handling the wheels with six to eight men.

The invention comprehends numerous other objects residing in the construction of the device which are particularly set forth in the following description and claims directed to a preferred form of the invention, it being understood, however, that various changes in the size, shape and relation of parts may be made without departing from the spirit and scope of the invention as herein set forth.

In the drawings forming part of this application:—

Figure 1 is a perspective view showing the manner of using the invention in handling car wheels.

Fig. 2 is a side elevation of the device with portions of the base structure broken away as shown in section.

Fig. 3 is a horizontal sectional view taken on the line 3—3 of Fig. 2, portions below this section broken away to clearly illustrate the parts thereunder.

This invention is provided for use in repairing and replacing parts of railway rolling stock and particularly trucks and wheels, and is designed for use in connection with the repairing of trucks and the removal and replacement of wheels on the rolling stock in places where the usual tools as found in the repair shop particularly maintained for such work are not ordinarily available, but where it is necessary to make repairs for the further use of the rolling stock.

It is the present practice under such conditions to employ a large number of men to handle the apparatus which also consumes considerable time in view of numerous practical difficulties occasioned in the manual handling of trucks and wheels on account of their weight. With the present invention, there has been found that less than one-half the usual amount of labor is required and the amount of time required to make certain operations considerably reduced.

Referring particularly to Figs. 2 and 3, 1 indicates a suitable form of jack of any construction well known in the art which is provided with a lift 2 formed for sliding operation through the body of the jack 1 through the operation of the handle 3 suitably pivoted in the jack and operating any desired mechanism for raising and lowering the lift in the jack body. Any of the several forms of jacks designed for the purpose may be well used in connection with this invention, and for which purpose the body of the jack is provided with a special base 4 of annular form as shown in Fig. 3 which is formed on the upper edge with an annular recess 5 and at predetermined points adjacent the recess 5 with notches 6. The lower face of the base portion 4 is formed adjacent the periphery on the under face with an annular arcuate bearing groove 7 and in the central portion with a depending boss 8 also of annular form.

The central portion of the base 4 is formed with an opening 9 containing the guideway for the shank of the lift 2 so that it may move to its lowest position in the body of the jack 1. The boss 8 has bearing engagement in the annular upstanding flange 10 which projects upwardly from the space of the supporting plate 11, and immediately outwardly of this annular flange 10, the plate is formed an annular groove 12 opposed to the groove 7 in the base 4 and between which are positioned the balls 13 to provide an anti-friction bearing support for the jack in the supporting plate 11. The balls 13 provide an effective annular bearing around the periphery of the base 4 for rotatably supporting the jack 1 on the supporting plate 11 while the boss 8 provides an effective means of centering the base in the sup-

porting plate and distributing lateral stress applied to the jack directly to the supporting base.

The edge portion of the supporting plate 11 is provided with an annular upstanding wall 14 which receives and houses the base 4 therein providing a bearing surface for the peripheral portion of the base. The upper edge of the wall 14 terminates in the plane of the bottom portion of the recess 5 and receives the annular retaining ring 15 which is suitably secured thereto by the bolts 16 or other securing means with the inner edge seated in the annular recess 5 of the base for effectively retaining the same in assembled relation with the supporting plate 11.

At 17, the retaining ring 15 is provided with a pair of ears between which extends the latch member 18, and in which said latch member is pivotally supported thru the use of the pivot bolt 19 while the inner end is formed with a lateral depending extension 20 adapted to seat in the recesses 6 in the base portion for retaining the jack against rotation on the plate 11. The opposite end of this latch member 18 is formed to provide a pedal 21 to permit the convenient release of the base or rotation through depressing the pedal portion 21 with the foot. A coiled spring 22 normally retains the latch member 18 in position so that the ends 21 will engage within one of the recesses 6.

This construction provides an assembly in which the parts are in rigidly assembled relation so that all transverse stresses are equally distributed to the supporting plate 11 and at the same time permits the ready rotation of the jack on this supporting plate. This therefore, provides a construction in which the supporting plate may be made with a substantially larger area adapted to seat on a tie or the like, as illustrated in Fig. 1, in order that the lift 2 of the jack may be brought under a central portion of the axle 23 of a car wheel for suitably raising the car wheel above the plane of the track to permit rotation into the dotted line position of Fig. 1, when it is desired to remove a wheel from the track.

The operation is reversed when it is desired to place a pair of wheels on the track by placing the jack under the center of the wheel structure and elevating the same to the dotted line position of Fig. 1, and subsequently rotating the jack and the wheel supported thereon for placement on the rails. In carrying out this operation, it will be noted that the handle 3 is always available for ready operation due to the rotation of the jack on the supporting plate 11 which maintains the same relation between the operating parts of the jack and the wheel structure, in order that the rotation of the wheel will not overlie the operative parts of the jack structure, and thereby prevent sufficient operation thereof.

The latch member 18 serves to permit the rotation of the jack through an arc of 90° in view of the positioning of the recess 6 so that when properly placed it will stop the rotation of the jack with the wheels carried thereby in proper position for placement on the tracks when moving these wheels from the dotted line position shown in Fig. 1.

This only illustrates one application of the invention in connection with its use in repairing and replacing parts in railway rolling stock, while another ready use is embodied in reversing the positions of trucks under the cars, or in removing and replacing these trucks in the repair of the cars or of the rolling stock along a railroad.

Having thus described our invention, what we claim as new is:—

A device of the class described comprising a jack having an annular base formed thereon provided with a centrally disposed annular boss on its undersurface, an annular supporting plate having an annular upstanding wall at its outer edge within which the base is snugly fitted for rotation therein, said plate having a central recess adapted to snugly receive the boss of said base and cooperating with said upstanding wall whereby to provide a double bearing support for the base against relative transverse movement with respect to the plate and a latch member pivotally mounted intermediate its ends upon said plate with one end of said latch engageable with the base for retaining the same against rotation and spring means engaging the opposite end of the latch normally urging the same in base engaging position.

In testimony whereof we affix our signatures.

JOHN L. GALLION.
JAMES H. HAMMACK.