

No. 828,468.

PATENTED AUG. 14, 1906.

N. E. FINCH & C. D. BROWN.
CAR AXLE BRASS REPLACER.

APPLICATION FILED AUG. 3, 1905.

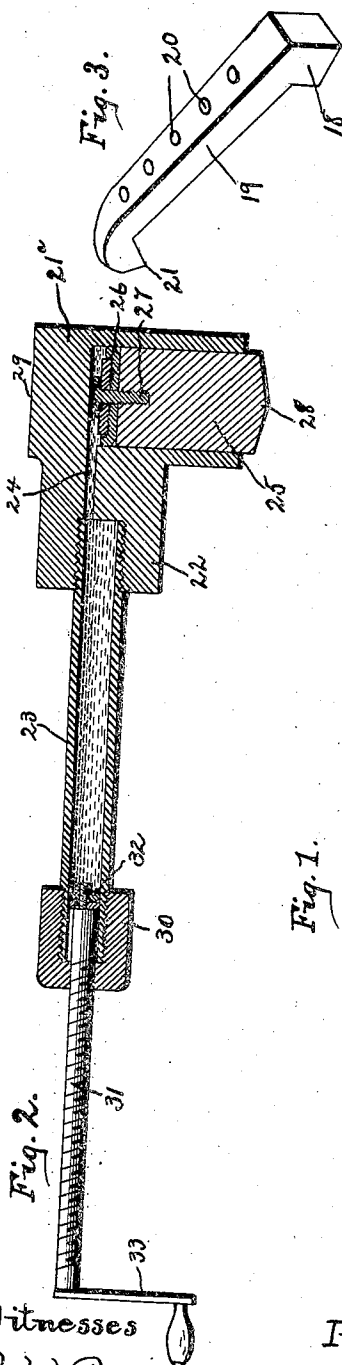


Fig. 1.

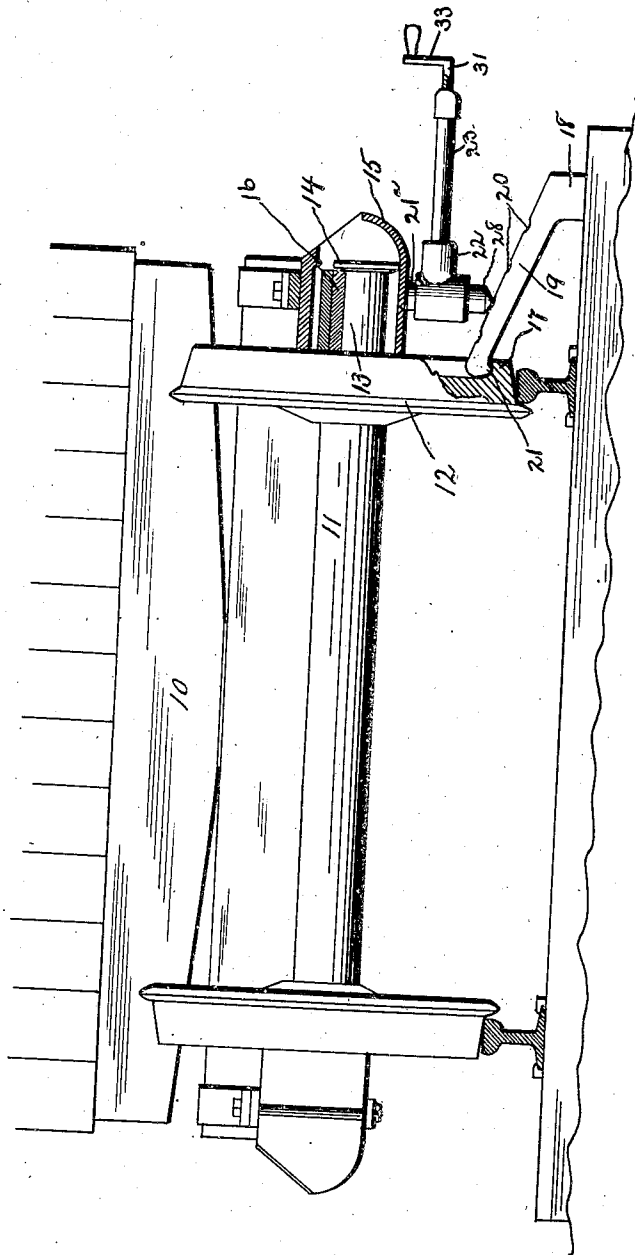


Fig. 3.

Fig. 2.

Witnesses

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CAR-AXLE-BRASS REPLACER.

No. 828,468.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed August 3, 1905. Serial No. 272,607.

To all whom it may concern:

Be it known that we, NORMAN E. FINCH and CHARLES D. BROWN, citizens of the United States, residing at Council Bluffs, in the county of Pottawattamie and State of Iowa, have invented a certain new and useful Car-Axle-Brass Replacer, of which the following is a specification.

The object of our invention is to provide a device of this kind of simple, durable, and inexpensive construction that may be quickly and easily applied to the projecting rim near the periphery on the outer face of a car-wheel and also to the oil-box surrounding the end of the axle, and when thus applied a rotation of a crank will elevate the oil-box and yet hold the wheel and axle from being elevated, so that access may be had to the brasses on top of the axle to remove and replace them.

Our invention consists in the construction, arrangement, and combination of the parts of a device by which the objects contemplated are attained, as hereinafter more fully set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows an end elevation of a part of a car resting upon rails, a portion of one of the car-wheels and one of the oil-boxes being shown in section. Said figure illustrates our improvement applied to one of the car-wheels and the oil-box as shown in its elevated position ready for the removal of the brasses. Fig. 2 shows a longitudinal sectional view of our improvement with the base omitted. Fig. 3 shows a detail perspective view of the base portion of our device alone.

Referring to the accompanying drawings, we have used the reference-numeral 10 to indicate that portion of the car shown in the drawings. 11 indicates the car-axle fixed to the wheels 12, and each end is provided with a projecting journal 13 near its end and with an annular collar 14 at its end.

Surrounding each journal is an oil-box 15, connected to the car proper and designed to rest upon the brasses 16, which in turn are mounted upon the journal 13. On the outer face of the car-wheel 12 is an annular rim 17, projecting outwardly near the periphery of the wheel.

Parts thus described are all of the ordinary construction now in common use and are illustrated and described herein for the purpose of illustrating the manner in which our improvements are used in connection with these portions of a car.

Our improvement comprises a base portion the lower end of which (indicated by numeral 18) is designed to rest flat on the outer end of a railway-tie. The central portion of the base is inclined at an angle of about twenty-five degrees relative to the bottom of the base and is indicated by the numeral 19. In its top surface are a number of notches 20. At its upper end it is rounded and provided with a sharpened downwardly-projecting portion 21. This base portion is of such size and shape that the part 21 may be placed against the rim 17 of a car-wheel adjacent to the point where the car-wheel engages the rail, and the other end of the base may rest upon the outer end of a railway-tie, as shown in Fig. 1, thus leaving the inclined portion of the base standing at an angle of about twenty-five degrees relative to a horizontal line.

The portion of our device that is designed to lift the oil-box is of the general type known as "hydraulic jack" and is adapted for use in connection with the base portion and for the work for which it is intended as follows: The body portion, which is preferably formed complete in one piece, comprises a vertically arranged cylindrical portion 21^a and a cylindrical portion 22 at right angles to it. Screwed into the part 22 is a tube 23, and a small passage-way 24 communicates with said tube and with a relatively large cylindrical chamber extending from the passage-way 24 downwardly to the bottom of the part 21. Slidingly mounted within this cylindrical chamber is a cylindrical block 25, having at its top a packing-washer 26, held in place by the screw 27. Its lower end normally projects below the part 21^a and is tapered to a point at 28.

The top of the part 21^a projects above the top of the part 22 and is preferably flat at 29. Screwed to the other end of the tube 23 is a cap 30, and seated in this cap is a screw-threaded shaft 31, with one end inserted within the tube 23 and provided with a packing-

washer 32. On the other end of the shaft 31 is a crank 33. The interior of the tube 23, passage-way 24, and the cylindrical chamber in the part is to be filled with oil. The interior diameter of the tube 23 is materially less than that of the cylindrical chamber in which the block 25 is mounted, and hence when the shaft 31 is screwed into the tube 23 the pressure applied to the oil therein will be greatly increased as applied to the block 25, according to the well-known principles of hydraulic jacks.

In practical use and assuming that for some reason it is desirable to remove and replace the brasses in one of the oil-boxes of a car the operator first places the base portion in engagement with the wheel and with the outer end of railway-tie or other support. He then places the points 28 of the block 25 in one of the notches 20 and places the top of the part 21 immediately under the oil-box. Oil-boxes of this kind vary in size and in distance from the bottom of the wheel. Hence the desirability of providing a base with notches, said base arranged on such an incline that one or the other of said notches will be in proper position to receive the point 28 and permit the part 29 to approximately engage the under surface of the oil-box.

When the device has been thus placed in position, it is only necessary for the operator to turn the crank 33 in order to elevate the oil-box, and with it the car-frame to which it is attached, while the wheel and the axle are firmly held down against the rail, and in this position the brasses may be easily removed and replaced.

If the oil-box at one side of the car should be elevated without providing means for holding down the wheel, the weight of the car-body would be thrown upon the other end of the axle and would cause the axle to tilt until it reached a position parallel with the car-body. Hence in order to provide free access to the brasses it is necessary that an apparatus of this kind, comprising both a means for elevating the oil-box and a means for holding down the axle, be provided.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States therefor, is—

1. In a device of the class described a base portion comprising an outer end designed to rest on a suitable support, a body portion inclined upwardly and inwardly, and an inner end portion formed with a projection to engage the flange on the outer surface of a car-wheel.

2. In a device of the class described, a base portion comprising an outer end designed to rest upon a support, a body portion inclined upwardly and inwardly and formed with jack-rests on its top surface, and an inner end por-

tion formed with a downward projection to engage a flange on the outer surface of a car-wheel.

3. In a device of the class described, a base portion comprising an outer end shaped to rest upon a support, a body portion inclined upwardly and inwardly and formed with jack-rests on its top surface, and an inner end portion formed with a downward projection to engage a flange on the outer surface of a car-wheel, and a jack shaped to engage one of said jack-rests and also to engage the under surface of a car-axle oil-box.

4. In a device of the class described a jack comprising a body portion formed with a relatively large chamber open at its lower end and also with a passage-way leading from said chamber outwardly, and a block slidably mounted in said chamber with its lower end projecting beyond the chamber, a packing device at its upper end, a tube extended laterally from said body portion and communicating with said passage-way, a shaft screwed to the other end of the tube a packing thereon within the tube and a liquid in said tube and passage-way.

5. In a device of the class described a jack comprising a body portion formed complete in one piece and comprising a vertically-arranged cylindrical portion with a cylindrical chamber therein opening at its lower end, a horizontally-arranged cylindrical portion between the ends of the vertically-arranged portion and near the top thereof, and formed with a small passage-way communicating with the cylindrical chamber and cylindrical block in said cylindrical chamber with its lower end projecting beyond the chamber and a packing device at its upper end, a tube communicating with the passage-way and screwed into the horizontally-arranged cylindrical portion, a screw-cap on its outer end, a shaft seated in the screw-cap, a packing on one end of the shaft, a crank on the other end thereof, and a liquid contained within the tube, passage-way and cylindrical chamber.

6. In a device of the class described a jack comprising a body portion formed complete in one piece and comprising a vertically-arranged cylindrical portion with a cylindrical chamber therein open at its lower end, a horizontally-arranged cylindrical portion between the ends of the vertically-arranged portion and near the top thereof, and formed with a small passage-way communicating with the cylindrical chamber a cylindrical block in said cylindrical chamber with its lower end projecting beyond the chamber and a packing device at its upper end, a tube communicating with the passage-way and screwed into the horizontally-arranged cylindrical portion, a screw-cap on its outer end a shaft seated in the screw-cap, a packing on

one end of the shaft, a crank on the other end thereof, a liquid contained within the tube, passage-way and cylindrical chamber, in combination with a base portion formed complete of a single piece of metal with its outer end designed to rest on a stationary support, and its central portion inclined upwardly and inwardly and formed with notches on its top designed to receive the pointed end of said

block, the inner end of said base portion is formed with a downward projection to engage the flange on the outer surface of a car-wheel.

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