No. 781,576. PATENTED JAN. 31, 1905.

W. W. WALLACE.

WHEEL.

APPLICATION FILED DEC. 6, 1904.

Fig. 2

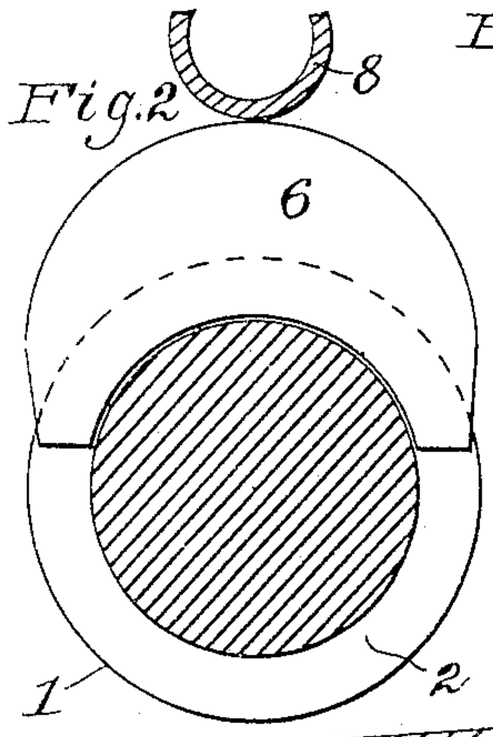

Fig. 1.

Fig. 3.

Fig. 4

Witnesses:

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Inventor:

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Atty.

No. 781,576. Patented January 31, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM W. WALLACE, OF KNOXVILLE, TENNESSEE.

WHEEL.

SPECIFICATION forming part of Letters Patent No. 781,576, dated January 31, 1905.

Application filed December 5, 1904. Serial No. 235,491.

To all whom it may concern:

Be it known that I, WILLIAM W. WALLACE, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Improvement in Wheels, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates particularly to car-wheels which are adapted to rotate upon the end of an axle, having an annular groove to receive a key or similar member, which also engages the hub of the wheel, whereby the wheel is held against longitudinal movement upon the axle.

The object of my invention is to provide improved means for controlling such key and for the introduction of lubricating-oil into the interior of the hub of the wheel.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation, showing my improved wheel applied to an axle. Fig. 2 is a transverse detail section at one side of the key. Fig. 3 is a detail elevation of the valved locking-plug. Fig. 4 is an end elevation of said valved locking-plug.

Referring to said drawings, 1 is the axle, 3 is the wheel, and 4 is the hub. The hub is closed across the end of the axle. The axle has an annular groove 2, and adjacent said groove the lateral wall of the hub is provided with a recess 5 of approximately the width of said groove and of sufficient depth to receive the entire crescent-shape key 6 when the wheel is to be removed from or placed upon the axle. Normally said key extends into the groove 2, as well as into the recess 5, and then said key prevents the wheel from moving longitudinally upon the axle. Parallel to the axle the hub is provided with a cylindric aperture 7, which cuts the recess 5 just outside of the outer peripheral face of the key when the latter extends its normal distance into the groove 2.

To hold the key 6 in its normal position in the recess 5 and the groove 2, a locking-plug 8 is threaded into the aperture 7, so as to prevent said key from falling when the wheel is so turned as to bring the key beneath the axle. Said locking-plug is tubular and provided with a valve for the introduction of lubricating-oil. In the form shown in the drawings the interior of the plug is contracted near the outer end of the plug to form an inward-directed concave valve-seat 9 for the reception of a ball 10. Said ball is held yieldingly to said seat by a coiled spring 11, one end of which bears against said ball and the other end of which bears against a diaphragm or plate 12, which abuts against a transverse shaft 13, the ends of which rest in the wall of said locking-plug. Said locking-plug may be provided with any suitable means for engagement with a screw-driver or other tool for turning said plug. For this purpose the drawings show radial notches 8^a extending into the outer end of said plug for the reception of a screw-driver blade. Said locking-plug is made tubular and provided with the automatic valve shown in order that said plug may serve for the ready insertion of oil into the interior of the wheel-hub without the removal of said plug or any other portion of the wheel. As will be readily understood from the foregoing description and the drawings, oil may be inserted by pressing the nozzle of the oil-can against the ball 10, and thereby displacing the latter. Said locking-plug may have radial apertures 14 to permit the passage of oil outward from the interior of said plug into the recess 5 and thence around the axle. The hub may also have the annular oil-chambers 15 in communication with the inner open end of said locking-plug in order that oil may pass from said locking-plug directly into said annular chamber. It will be observed that by thus combining the locking-plug and automatic oil-valve the construction is simplified and the manipulation is reduced to simple form and one aperture in the wall of the hub is made to serve for the two functions, whereby danger of leakage is minimized.

I claim as my invention—

1. The combination with a car-wheel having a recess for the reception of a locking-key, of a valved locking-plug, substantially as described.

2. The combination with a car-wheel having a recess for the reception of a locking-key, of a locking-plug comprising a ball-valve, substantially as described.

3. The combination with a car-wheel having a recess for the reception of a locking-key, of a cylindrical, tubular valved locking-plug, substantially as described.

4. The combination with a car-wheel having a recess for the reception of a locking-key, of a cylindrical, tubular locking-plug comprising a ball-valve, substantially as described.

5. The combination with a car-wheel having a recess for the reception of a locking-key, of a screw-threaded, valved locking-plug, substantially as described.

6. The combination with a car-wheel having a recess for the reception of a locking-key, of a valved locking-plug apertured at its side, substantially as described.

In testimony whereof I have signed my name, in presence of two witnesses, this 3d day of December, in the year 1904.

WILLIAM W. WALLACE.

Witnesses:
CYRUS KEHR,
B. R. STOUT.