(No Model.)

J. MULLIGAN.

CAR AXLE.

No. 442,817. Patented Dec. 16. 1890.

Fig. 1.

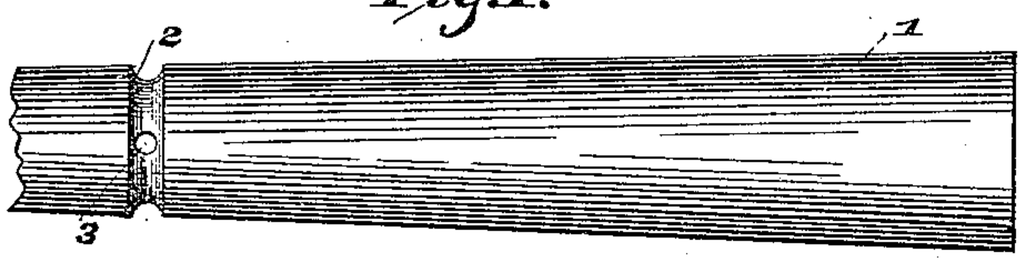


Fig. 2.

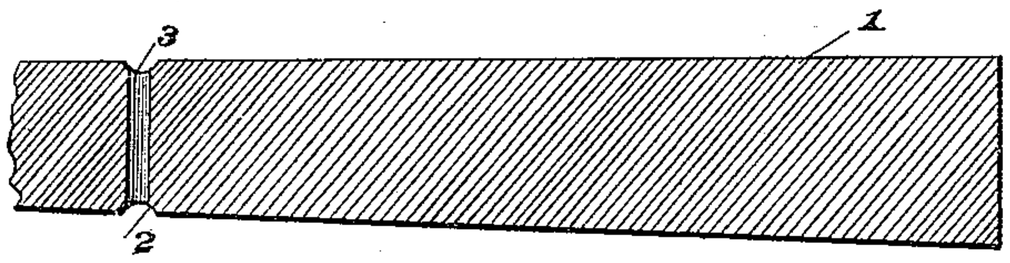


Fig. 3.

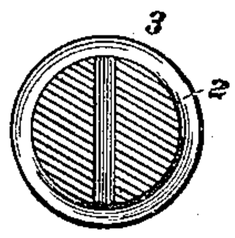
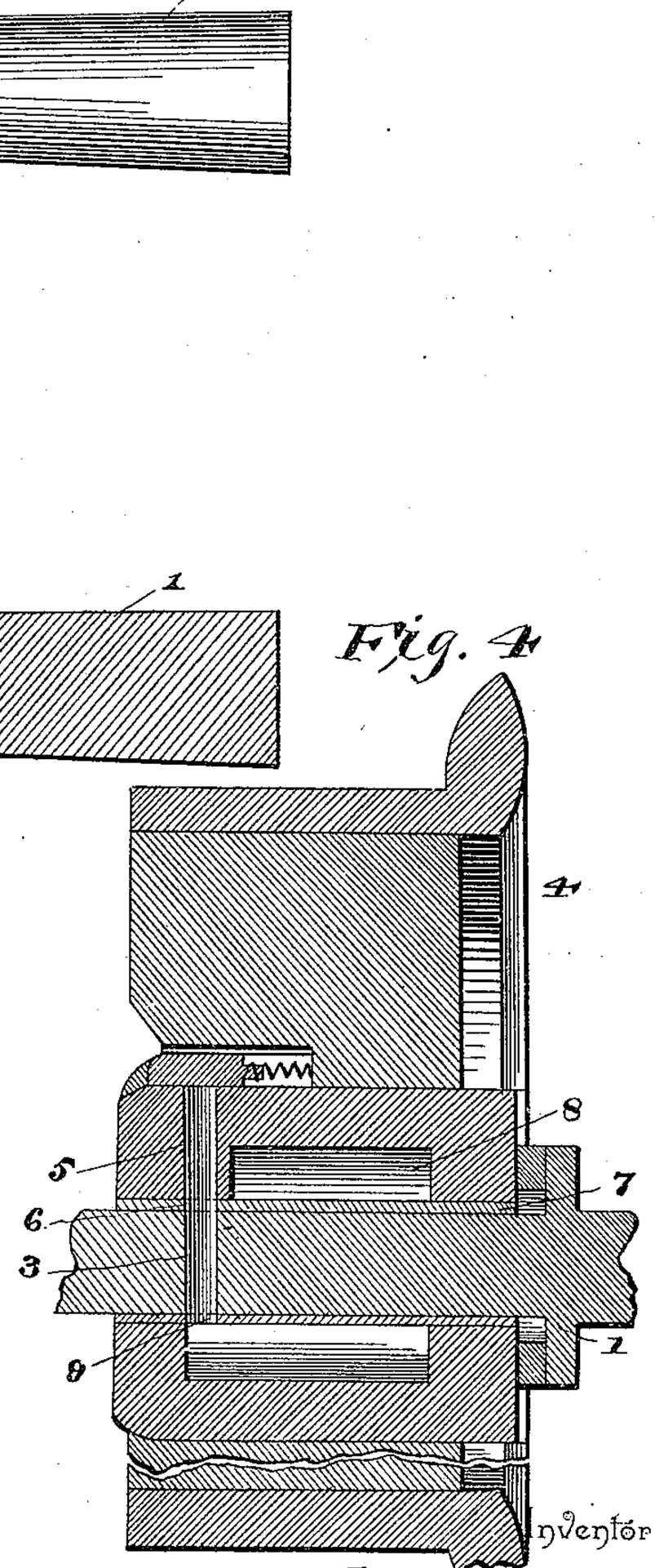


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN MULLIGAN, OF ROUSE, COLORADO.

CAR-AXLE.

SPECIFICATION forming part of Letters Patent No. 442,817, dated December 16, 1890.

Application filed June 2, 1890. Serial No. 353,921. (No model.)

To all whom it may concern:

Be it known that I, JOHN MULLIGAN, a citizen of the United States, residing at Rouse, in the county of Huerfano and State of Colorado, have invented a new and useful Car-Axle, of which the following is a specification.

The invention relates to improvements in car-axles.

The object of the present invention is to provide a car-axle which shall be especially adapted to be used in connection with the car-wheel shown and described in Patent No. 436,876, granted me September 23, 1890, and which is constructed to permit the passage of oil through or around the axle to the oil-chamber of the wheel.

The invention consists in the construction and novel combination and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of an axle-spindle constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view. Fig. 3 is a transverse sectional view. Fig. 4 is a sectional view illustrating the axle applied in operative position to a wheel.

Referring to the accompanying drawings, 1 designates the spindle of a car-axle, provided near its outer end with an annular groove 2 and having passing transversely or diametrically through it a hole 3, that is arranged in the same transverse plane as the annular groove 2, and has its ends opening into the groove, and the said groove and the hole are adapted to receive the lubricant and convey it through or around the axle into the chamber of the wheel.

The wheel 4, which forms the subject-matter of the above-entitled application, is provided with a bore or slot 5, the inner end of which registers with a perforation 6 in the axle-bearing plate 7, and oil is fed into the bore to the axle-spindle, and it enters the groove 2 and the transverse opening 3 and passes through and around the axle and enters the oil-chamber 8 through an opening 9 of bearing-plate.

It will be seen that the axle is simple and economical in construction and is adapted to receive the oil and permit it to pass to the chamber of the wheel.

What I claim is—

1. A car-axle provided with an annular groove and having a transverse slot or hole with its openings communicating with the annular groove, substantially as described.

2. A car-axle having the annular groove 2 and provided with the transverse slot or hole 3, passing diametrically through the spindle and having its ends or openings communicating with the annular groove, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN MULLIGAN.

Witnesses:
T. J. FORHAN,
D. P. JONES.