

J. FERN & V. ERBACH.
Car-Axle Boxes.

No. 153,554.

Patented July 28, 1874.

Fig. 1.

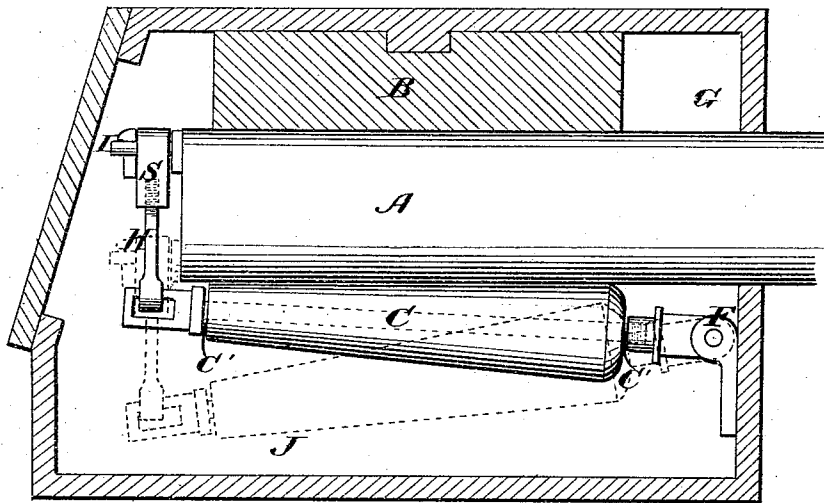
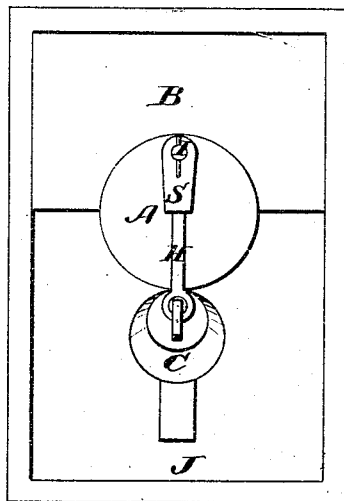


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN FERN AND VALENTIN ERBACH, OF HYDE PARK, PENNSYLVANIA.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **153,554**, dated July 28, 1874; application filed June 3, 1874.

To all whom it may concern:

Be it known that we, JOHN FERN and VALENTIN ERBACH, both of Hyde Park, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Self-Lubricating Axle; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a longitudinal section, and Fig. 2 is an end view.

Similar letters of reference in the accompanying drawings denote the same parts.

This invention relates particularly to car-axles and others in which the wheel and axle are rigidly connected and revolve together, as well as to top bearing-journals of all kinds; and it consists of a roller, preferably porous or elastic, and hinged at one end immediately under the inner portion of the journal, and connected at the other end, by a pitman, with a wrist-pin eccentrically located on the outer end of the journal, vertically-oscillating motion being thus given said roller, which causes its smaller end to be alternately immersed in the oil of a suitable reservoir, and raised, so that its whole periphery comes into rolling contact with the under side of the journal, thereby lubricating the latter, the conical form of the roller serving to distribute the oil along its entire periphery.

Our invention further consists in the employment of a screw-threaded socket fitting over the wrist-pin, which receives the screw-threaded lower end of the pitman, by which construction the movement of the conical roller may be varied at pleasure to regulate the dip into the oil.

In the drawings, A represents the journal of the axle; B, the axle-seat or top bearing; and C, the conical porous or elastic roller, mounted on a shaft, C'. The latter is hinged to suitable ears or projections F on the back side of the casing G, immediately under the journal A, and extends along the under side of said journal to its outer end, where it is connected by a pitman, H, screw-threaded at its upper end, and secured to a screw-threaded socket, s, on a wrist-pin, I, eccentrically located on the end of the journal, as shown.

When the journal revolves, it will be seen that the outer end of the roller C is alter-

nately depressed and elevated. When depressed, it is dipped into an oil-chamber, J, below; and, when elevated, it is pressed against the lower side of the journal, the shaft C', pitman H, and pin I being so arranged that when raised to its utmost extent the upper side of the roller is parallel with the journal, and its entire length is pressed against the latter, causing it to revolve as long as the contact lasts.

The length of the pitman may be regulated by its screw-connection with the socket, thus varying the amount of oil raised.

The roller C is composed of rubber, sponge, or other elastic or fibrous material. When raised so that its upper side is horizontal its lower side inclines downward from the outer end, by reason of its conical shape. Hence the oil flows from the outer to the inner end, and lubricates that portion which does not come in contact with the oil. The journal is thus lubricated along its lower side at every contact with the roller, which occurs once during every revolution of the journal, and is amply sufficient to keep the latter well oiled.

We are aware that a rod bent at right angles, and having one of its ends swiveled to the axle-support, and its opposite end attached, by a jointed connection, with a pin eccentrically situated on the end of the axle, the horizontal portion of the rod being provided with fibrous material, which is made alternately to dip into a reservoir containing oil, and then convey the latter to the under surface of the axle, has heretofore been employed, and we therefore lay no claim to such invention.

We claim as our invention—

1. The hinged conical roller C, in combination with the pitman H, wrist-pin I, attached eccentrically to the axle, and oil-chamber J, substantially as described, and for the purpose set forth.

2. The hinged conical roller C, in combination with the adjustable pitman and socket S, axle, and oil-chamber J, substantially as described.

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Witnesses:

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