J. WHITAKER & S. S. COOK.

Car Axle-Boxes.

No. 146,116. Patented Dec. 30, 1873.

Fig. 1.

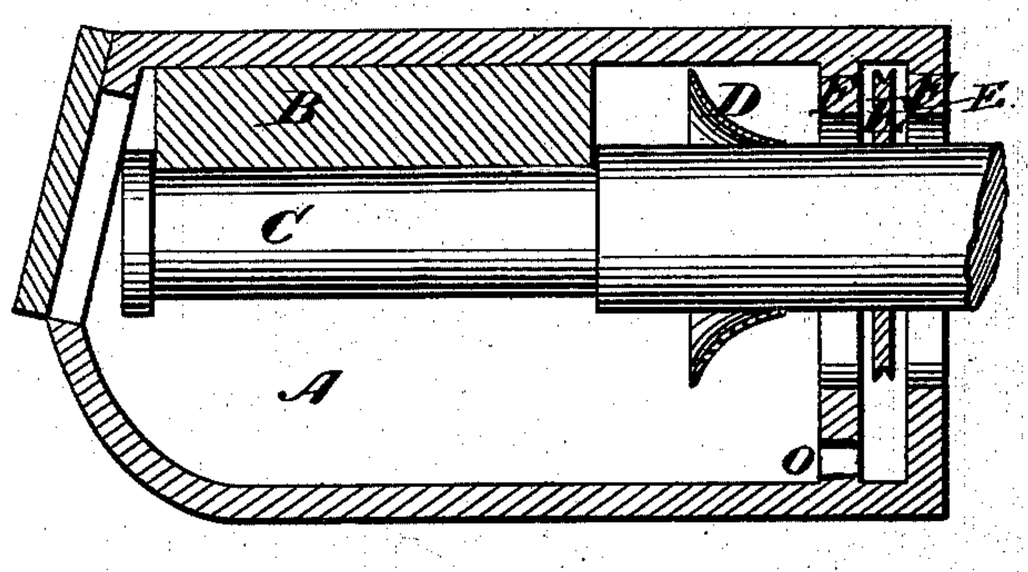
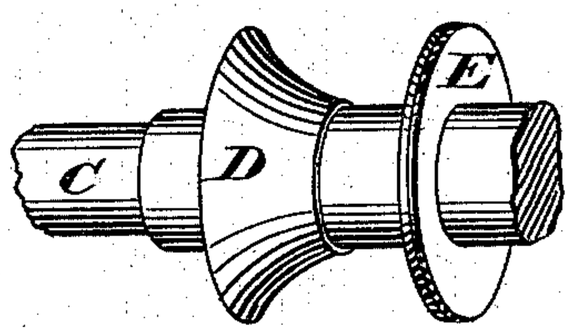


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOSEPH WHITAKER AND SIMEON S. COOK, OF WOONSOCKET, RHODE ISLAND; SAID WHITAKER ASSIGNOR TO SAID COOK.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **146,116**, dated December 30, 1873; application filed November 21, 1873.

To all whom it may concern:

Be it known that we, JOSEPH WHITAKER and SIMEON S. COOK, both of Woonsocket, in the county of Providence and State of Rhode Island, have invented a new and Improved Device for Preventing the Escape of Oil from Car-Axle Boxes; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a sectional view of a car-axle and box, to which our invention is applied; and Fig. 2, a perspective view of a portion of the axle, showing the washers.

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

This invention has for its object to prevent the oil in a car-axle box from following the axle longitudinally, and thus escaping through the elongated orifice at the inner end of the box, through which the axle passes. To this end the invention consists in providing the axle with a bell-shaped or conical collar, located within the box between the bearing-block and the inner end, with its mouth toward the block, and a grooved disk or collar in the space between the flanges at the inner end of the box, both acting to intercept the oil as it works inwardly along the axle, and return it to the reservoir, as we will now proceed to describe.

In the drawing, A represents the box; B, the bearing-block, and C the axle, all being of the usual form. On the axle C, between the bearing-block and the inner end of the box, is a bell-shaped or flaring collar, D, closely fitting the axle and inclining toward the bearing-block, as shown in Fig. 1. E represents a collar, having a grooved periphery located on the axle between the flanges F F at the inner end of the box.

There is always a tendency on the part of the oil in a car-axle box to work inward from the bearing-block along the axle and escape, this tendency resulting in a considerable waste of oil. The collar D inclining from the inner end of the box toward the bearing-block, intercepts the oil as it flows along the axle and throws it outward centrifugally to the perimeter of the collar, from which it naturally falls back into the oil-reservoir. Any oil that is thrown against the inner or concave surface of the collar by the jolting of the car, or from other causes, is similarly guided and returned to the reservoir.

It will be seen, therefore, that the collar D guides all the oil that strikes it directly from the axle to the reservoir. The grooved collar E performs a similar function for the oil that may be thrown against the axle inside the collar D, and throws it into the space between the flanges F, which space communicates with the oil-reservoir through suitable orifices O. The grooved periphery of the collar C prevents the oil from adhering, allows it to drop off readily, and at the same time prevents the oil from passing to the inner side of the collar.

By this cheap and simple arrangement any escape of oil, from the cause above stated, is prevented.

The collars may be readily applied to any axle, and used in connection with any lubricating device or axle-box.

The collar D may be conical or bell-shaped, as shown, and both collars should be so attached to the axle as to be adjustable longitudinally, or so that either may be removed, at will.

We have shown the arrangement applied to a car-axle, but it may obviously be used in connection with shafting of any kind.

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

1. The combination of a grooved disk or collar, E, with the journal C and car-box A, provided with the rear chamber between the flanges F F, said chamber having suitable openings, at or near its lowest point, communicating with the main body of the box, all substantially as described.

2. The combination of a journal, a bell-shaped or conical collar, and a grooved disk or collar with an oil-reservoir beneath, substantially as described.

JOSEPH WHITAKER.
SIMEON S. COOK.

Witnesses to both signatures:
MELVILLE CHURCH,
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