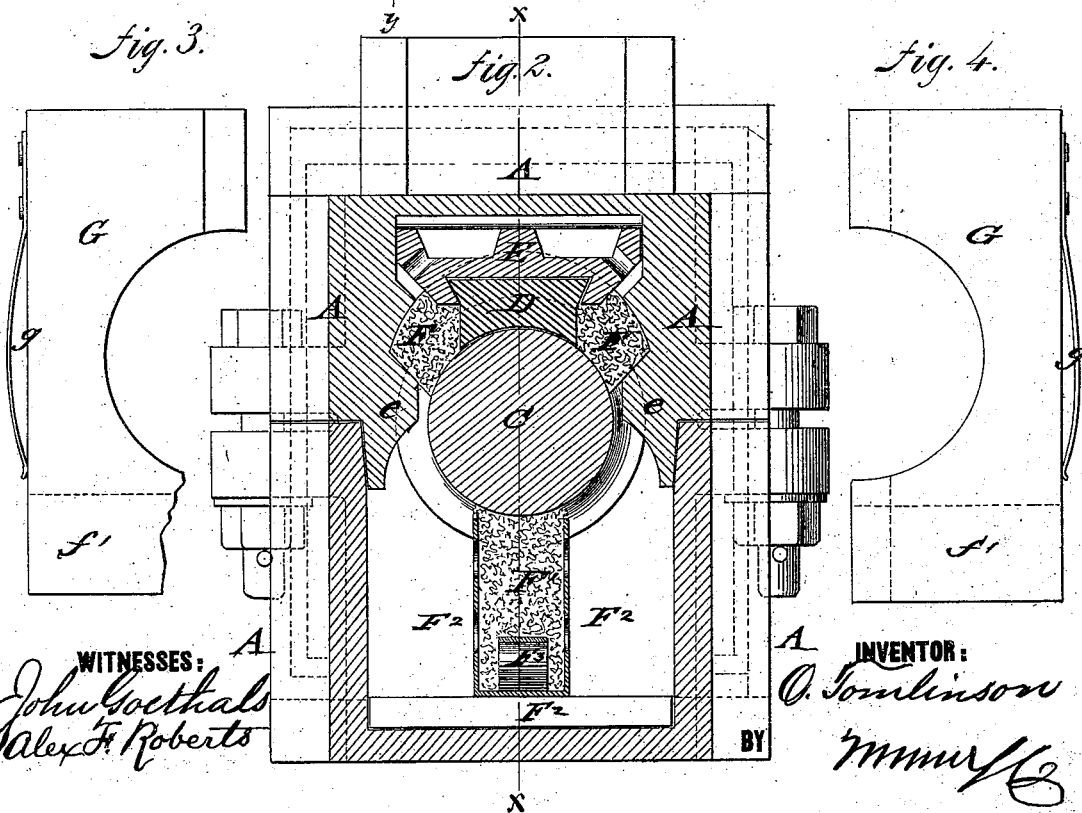
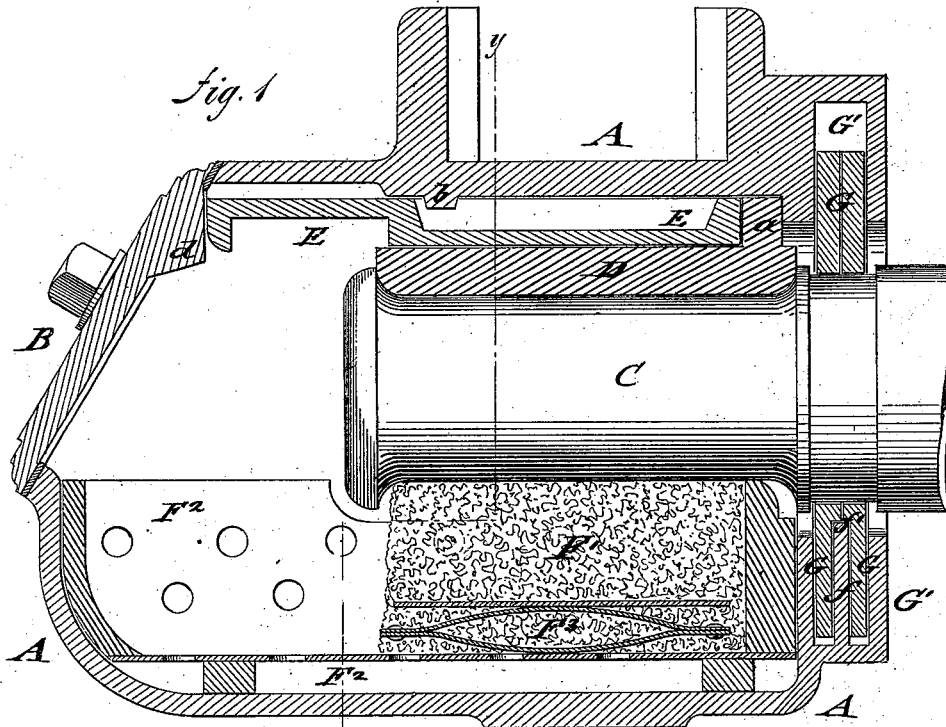


O. TOMLINSON.

CAR AXLE-BOX.

No. 184,808.

Patented Nov. 28, 1876.



WITNESSES:  
*John Goethals*  
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# UNITED STATES PATENT OFFICE

OWEN TOMLINSON, OF BOMBAY, INDIA.

## IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. 184,808, dated November 28, 1876; application filed September 9, 1876.

*To all whom it may concern:*

Be it known that I, OWEN TOMLINSON, of Bombay, East Indies, have invented a new and Improved Car-Axle Box, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section of my improved car-axle box, taken on line *x x*, Fig. 2. Fig. 2 is a vertical transverse section of the same on line *y y*, Fig. 1; and Figs. 3 and 4 are detail side views of the washers, with side springs, arranged to fit the axle to keep out the dust.

Similar letters of reference indicate corresponding parts.

The invention relates to certain improvements in car-axle boxes designed to effect a thorough lubrication thereof; and it consists in the construction and arrangement of parts, hereinafter more fully described, and then pointed out in the claim.

In the drawing, A represents an axle-box, which may be cast in two parts, that are horizontally connected by outer side flanges and bolts, or cast in one piece, with a detachable rear section, as described. The axle-box is supplied with oil through a movable front cap or face plate, B, that is attached by a suitable packing-ring and fastening-screws. The car-axle C has suitable collars at both ends of its journal, between which a journal-bearing, D, of corresponding shape is placed, and retained by an iron keep, E, that is fitted into the top part of the axle-box in such a manner as to perfectly secure the brass or other bearing D in its proper place, and also admit the withdrawing of the bearing and ready replacing of it at a saving of time and labor. The keep or retaining-plate E holds the journal-bearing D by a dovetail or other connection against a change of position in lateral direction, and by pressing against a projecting rear shoulder, *a*, of the bearing in longitudinal direction. The keep or retaining-plate E is steadily held in position by means of a stop-shoulder, *b*, of the top part of the axle-box entering a recess of the keep, and by an angular cheek or bearing, *d*, of the face-plate pressing against the forward-extending handle end of the keep. Lubricating-pads F, of suitable material, are arranged at both sides

of the journal-bearing D, and supplied with oil by capillary attraction from the oil-receptacle and base-pad at the lower part of the box. The required amount of oil to moisten the side pads for action may be supplied by top recesses and side holes of the keep, as shown in Fig. 2. The side packings and sustaining-cheeks are mainly designed to take up the surplus lubricating material by capillary attraction, and retain it for the economical feeding to the journal and journal-box. As the oil fills up the lower oil-space, it is supplied in considerable quantity to the axle, and the side packing serves to regulate the supply and make the same uniform. The required amount of oil, and not more, is thereby supplied, which makes the box very economical.

The lubricating-pads F are securely held in position on the journal of the axle at both sides of the bearing D by the iron-keep and projections or cheeks *e* at both sides of the axle-box. The pads insure thorough lubrication of the journal without necessitating a too frequent refilling of the axle-box. The bottom pad F<sup>1</sup> is retained by perforated longitudinal side and bottom plates F<sup>2</sup>, and pressed up by suitable springs F<sup>3</sup>, placed into the pad on the axle. The oil is fed from the oil-receptacle through the perforated plates to the bottom pad, and, by capillary attraction along the revolving axle, to the side pads and to the journal-bearing. The rear part of the axle-box A is closed by means of wooden or other washers G, that are placed into a rear chamber or receptacle, G', of the axle-box. A central tongue, *f*, at the lower part of the chamber G' fits into a slot or groove, *f'*, of the washer, which is made in two pieces, fitted together with single lap-joint. The sections of the washer are made to maintain a thorough fit on the axle by means of a small steel spring, *g*, that is affixed to the outer edge of each half of the washer, and intended to keep the washer-sections pressed gently, but continually, against the axle, the springs being compressed by the side walls of the axle-box. The wooden washer is provided at the lap-joint with a certain clearance or allowance, for admitting, with the wearing of the washer, the gradual closing up of the sections by the action of the springs, while preserving

at all times a close seating on the axle, so as to keep out impurities that tend to cut and wear out the journal. The brass bearing is readily changed by taking off the movable cap or face plate, slackening the side bolts that hold the top and bottom castings together, inserting them into the joint suitable packing-pieces of steel or iron, and lifting, by a screw-jack, the axle-box. The iron keep or top plate is thereby liberated, and may be raised clear of the collar of the axle by the handle end and drawn out, after which the defective brass bearing may be removed and another substituted, the iron keep replaced, and the axle-box tightened up again. When the shell of the axle-box is cast in one piece, the face-plate is first removed, the rear fitting-pieces

and washers are taken off, and the axle-box is then raised by a screw-jack, and the bearing changed, as before described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination of the box A, having the internal side cheeks *e*, and the lubricating-pads F, with the detachable keep E and bearing D, as and for the purpose set forth.

OWEN TOMLINSON.

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