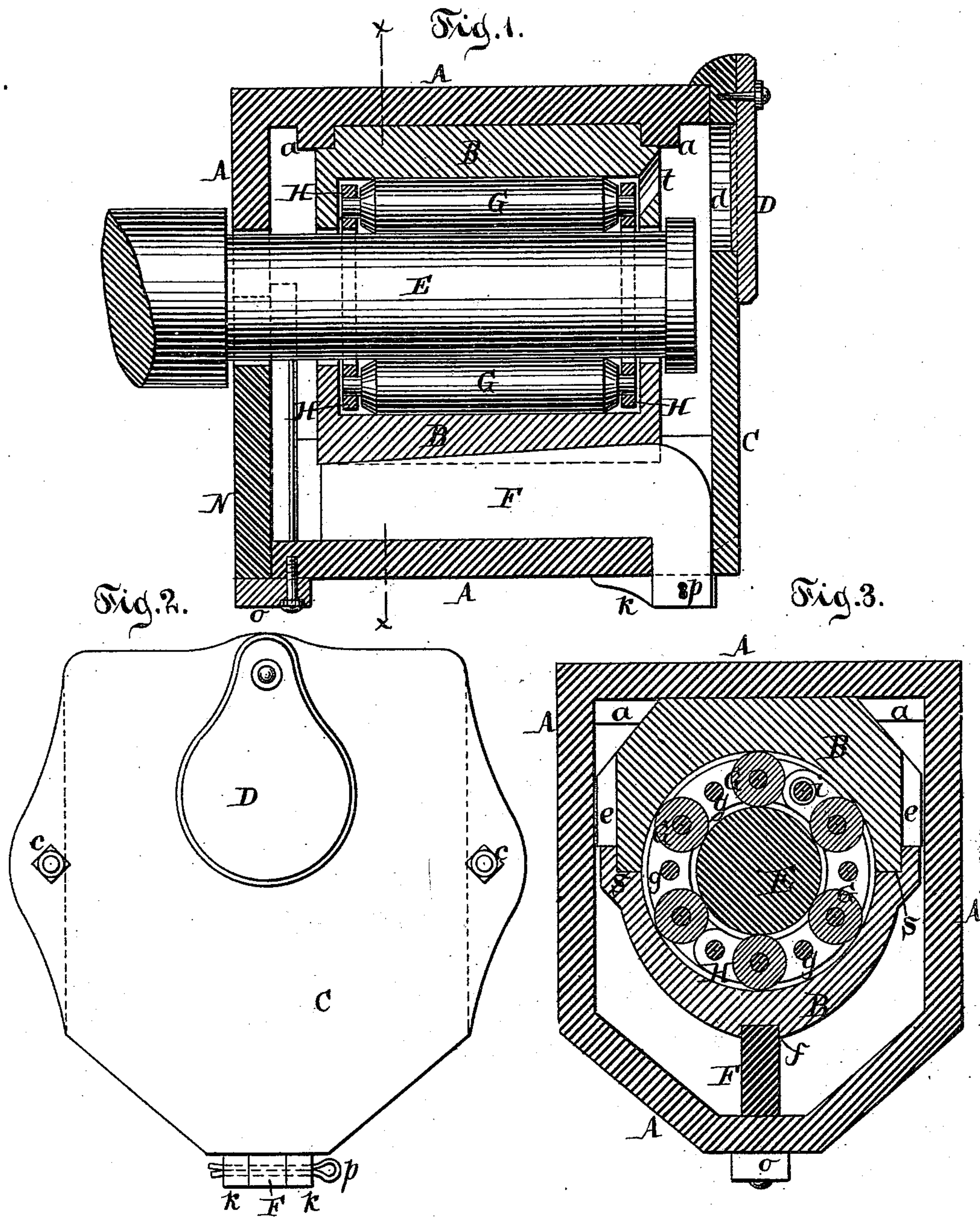


G. WILKES & A. PORT.
Car-Axle Box.

No. 212,179.

Patented Feb. 11, 1879.



Witnesses.
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UNITED STATES PATENT OFFICE

GEORGE WILKES AND ALEXANDER PORT, OF MONROE, IOWA.

IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **212,179**, dated February 11, 1879; application filed November 9, 1878.

To all whom it may concern:

Be it known that we, GEORGE WILKES and ALEXANDER PORT, of Monroe, in the county of Jasper and State of Iowa, have invented a new and useful Improvement in Anti-Friction Journal-Boxes, of which the following is a specification, reference being had to the accompanying drawings.

Letters Patent of the United States were granted us, bearing date December 26, 1876, for anti-friction journal-boxes, and numbered 185,711.

This application is for improvements thereon. We have found by experience that certain changes in the original invention are advisable, which changes form the subject of this specification.

Figure 1 is a central longitudinal section of our journal-box as improved. Fig. 2 is an end elevation of Fig. 1. Fig. 3 is a transverse section on line *x x* of Fig. 1.

Referring to the drawings, letter A is the external casing of the journal-box, which, as shown, is adapted to a car-journal. It is provided on its upper inner surface with two ribs, *a a*, Figs. 1 and 3, to receive and secure the inside lining. Its outer or more accessible end is closed with a cover, C, secured by two bolts and nuts, *c c*, Fig. 2. It is provided with an orifice, *d*, Fig. 1, for oiling purposes, closed with the hinged shutter D. Thus that end of the box is closed almost, if not quite, dust-tight.

The aperture at the other or inner end of said outer casing is closed with a slide, *u*, as in my former application. The inner casing, B, consists of two portions, divided as in the former application. The upper half, as viewed in Figs. 1 and 3, fits between and is held in position by the ribs *a a* on A, and by inserting its lower edge in a rabbet in the lower half of the casing, as shown at *s s*, Figs. 3. Ribs *e e* upon its sides bear on the interior of the outer case, and prevent any motion in that direction. An oil-hole at A, and opposite D, permits the lubrication of the moving parts.

The lower half of the inner casing, B, connects with the upper half aforesaid. It is provided with a channel, *f*, Fig. 3, to receive the wedge or key F. This channel is deeper

at the end nearer C, and gradually lessens in depth to nothing at the end opposite C, as will appear from the dotted line in Fig. 1.

The ends of the lower and upper halves of the inner casing are raised so as to form a receptacle to contain oil. Thus each roller is frequently immersed in the oil, of which there is no loss by leakage, and no cotton-waste is required.

When the halves of the inner casing are united, as shown in Fig. 3, they form the sides of a cylindrical orifice, to receive our anti-friction journal, just as in our former application, except that a rib within the interior is omitted.

A wedge, F, the form of which will clearly appear from the drawings, is inserted in the channel *f*. This, when driven home, bears against the lower part of outer casing, thus firmly locking the halves of the inner casing together, as well as forcing it into rigid connection with the outer casing. The wedge is kept in place by the door C, and a pin, *p*, thrust through the shorter extremity of F, and two lugs, *k k*, cast on the outer casing. When our invention is applied to shafting with enlargements or shoulders thereon, or at or near the middle of a shaft, the friction-bearing, consisting of the rollers G and its hinged frame H, differs in nothing from our former application, except that the rollers are now made with smooth and parallel surfaces, the groove formerly made in each of them to engage with a rib in the inner casing being omitted.

Our invention shown in Figs. 1, 2, and 3 is applied to and removed from the axle as follows: First, the door C is removed by loosening the nuts *c c*. The wedge F is then withdrawn, which allows the inner casing, B, to drop down. The inner casing is then removed half at a time. The friction-bearing, composed of the rollers and annular frames, is opened at the hinge by withdrawing the loose bolt *i*, Fig. 3, opposite the hinge. It is then removed from the inner casing. The slide *u* is also removed. The axle E is then inserted, the friction-bearing is introduced within the case and clasped around the axle, and the loose bolt *i* is replaced, as heretofore. The upper half of the inside lining is inserted so that it covers

the anti-friction bearing, and then the lower half. The slide *u* is then closed and secured by button *o*. The wedge *F* is inserted and pinned. Then the door *C* is bolted on, and the hinged shutter *D* is then opened and oil introduced at *t*, if it has not been done before.

The method of using the modification has already been sufficiently described.

What we claim as new, and desire to patent, is—

1. The outer casing, *A*, with the ribs *a a*, in combination with an inner casing, *B*, inclosing a hinged anti-friction journal, substantially as described.

2. The inner casing composed of an upper and lower portion, in which the lower portion is provided with an inclined slot, in combination with the wedge or key *F* and the exterior casing, *A*.

In testimony that we claim the foregoing improvement in anti-friction journal-boxes, as above described, we have hereunto set our hands this 2d day of November, 1878.

GEORGE WILKES.
ALEXANDER PORT.

Witnesses:

L. P. McCROSKEY,
J. KODER.