

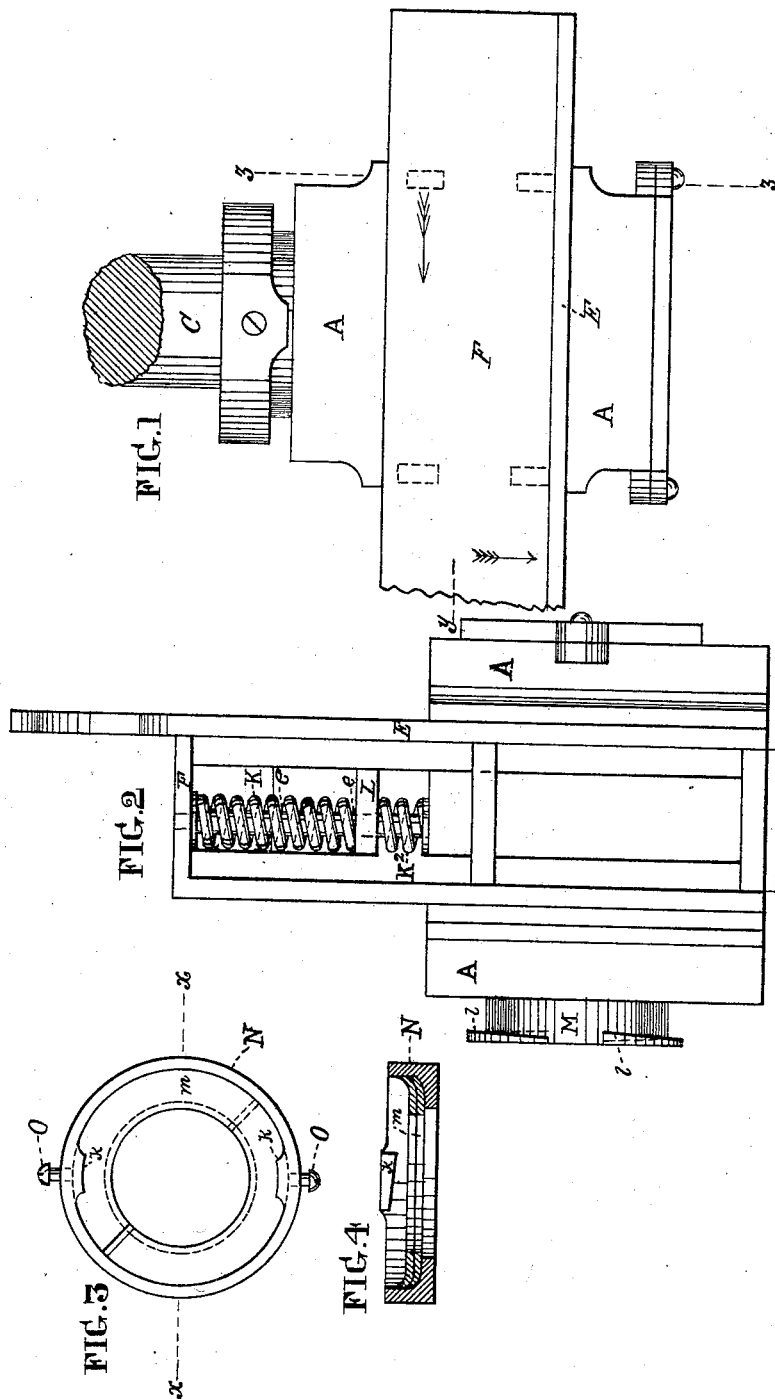
I. P. WENDELL.

2 Sheets—Sheet 1.

Car-Axle Box.

No. 221,259.

Patented Nov. 4, 1879.



Witnesses.  
 Thomas J. Dewley.  
 James Hayden

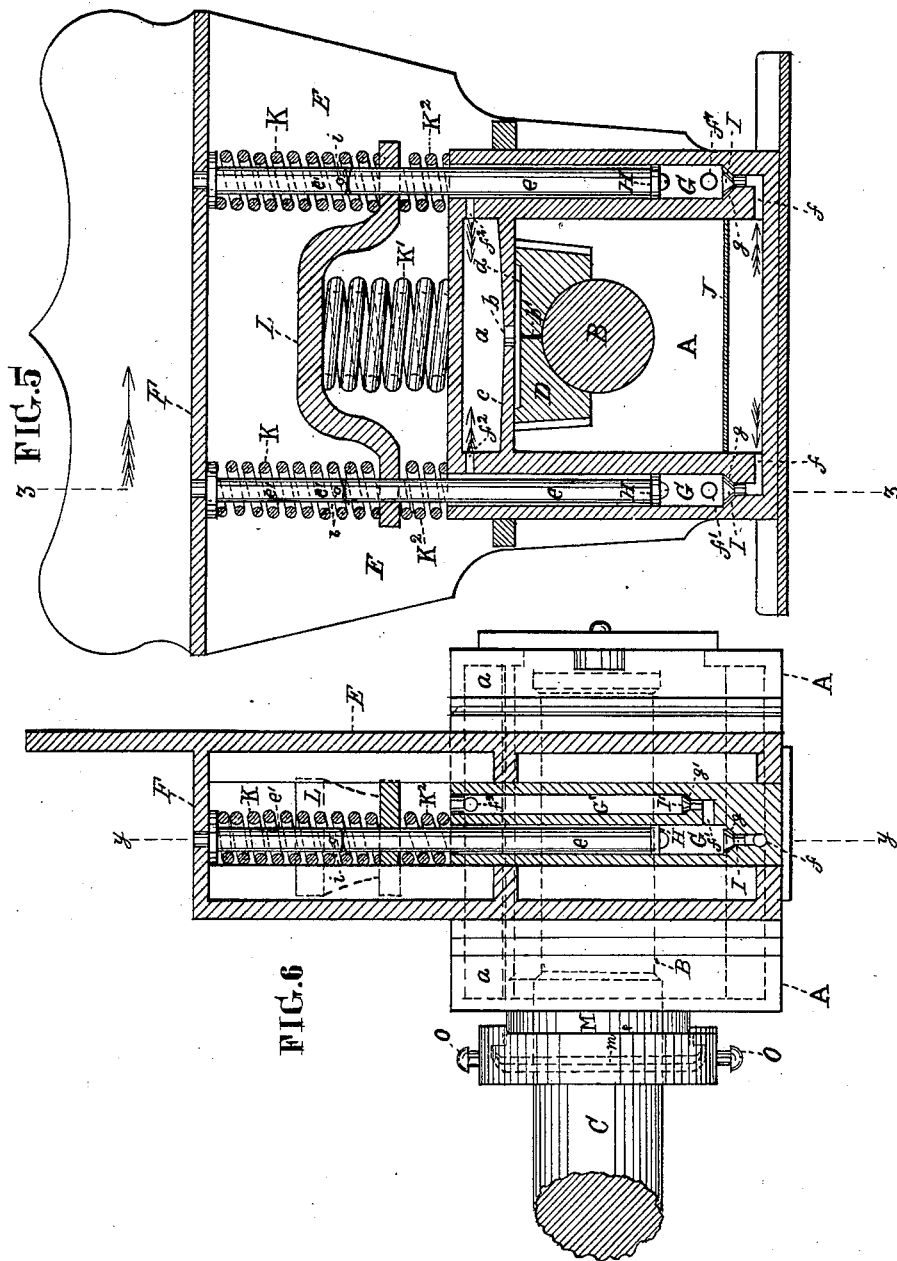
Inventor.  
 Isaac P. Wendell.  
 per Stephen Ustick attorney

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# UNITED STATES PATENT OFFICE.

ISAAC P. WENDELL, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **221,259**, dated November 4, 1879; application filed February 6, 1879.

*To all whom it may concern:*

Be it known that I, ISAAC P. WENDELL, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in Journal-Boxes for Railroad-Cars, of which the following is a specification.

My invention, in the first place, consists in the combination of a pumping apparatus with the journal-box and the pedestal of a railroad-car for supplying oil to the journal, the piston of the pump receiving its upward and downward motion by the vertical movements of the pedestal and the action of springs, in combination with it and the pedestal and journal-box, as hereinafter fully described.

The invention further consists of a packing device at the rear side of the journal-box, consisting of a permanent projection of the box surrounding the journal-shaft, and a cap provided with packing-rings, the cap having duplicate inclines at its periphery, which fit corresponding inclines of said projection for setting the packing up to the shaft to prevent dust passing through the shaft-opening into the box.

In the accompanying drawings, Figure 1 is a plan view of my improved journal-box. Fig. 2 is an edge elevation of the same with the cap N of the projection M left off. Fig. 3 is a face view of the cap N, provided with packing-rings *m m*. Fig. 4 is a cross-section at the line *x x* of Fig. 3. Fig. 5, Sheet No. 2, is a vertical section at the line *y y* of Figs. 1 and 6. Fig. 6 is a vertical section at the line *z z* of Figs. 1 and 5.

Like letters of reference in all the figures indicate the same parts.

A is my improved journal-box; B, the journal; C, a portion of the journal-shaft; and D, the journal-bearing. E is the pedestal, with which the box is connected in the usual manner.

The box A has a chamber, *a*, above the journal-bearing, into which the oil is pumped from the bottom of the box to lubricate the journal, there being any desirable number of perforations, *b*, through bottom *c*, for the passage of the oil into the recess or recesses *d*, in the upper side of the bearing D, whence it passes through perforations *b'* to the journal B, for lubricating it.

At opposite sides of the box A are vertical cylinders G G, provided with pistons H H, which have rods *e e*, having jointed rods *e' e'* at their upper ends, that are supported by the horizontal plate F of the pedestal E, whereby the pistons are operated by means of the vertical vibratory movements of the car.

The oil passes from the bottom of the box A, through the passages *f f*, into the cylinders G G, above which passages are drop-valves I I, which have seats *g g*. As the oil is pumped into the cylinders G G it flows through the passages *f' f'* into the vertical oil-passages G' G', and, ascending to their upper end, passes through the opening *f<sup>2</sup> f<sup>2</sup>* into the chamber *a*, whence it passes to the journal, as above described. These oil-passages are provided with drop-valves I' I', which have seats *g' g'*. If desired, the oil may be conveyed from each passage, by means of a suitable tube, directly to the bearing D.

The pedestal E is provided with wire springs K K and K', the two former being between the plate F of the pedestal and the yoke L, and the spring K' between the yoke and the top of the box A. There may be springs K<sup>2</sup> K<sup>2</sup> beneath the springs K K, under the yoke and resting upon the top of the box A, as shown in the drawings.

The object of making the piston-rods in two pieces, *e* and *e'*, as above described, is to accommodate them to any irregularity in the vertical movements of the pedestal, the jointed pieces *e'*, by means of the connecting-pin *i*, being permitted to pass out of line with the rods *e*. When the piston-rods are so jointed the springs K<sup>2</sup> K<sup>2</sup> may be left off, if desired; but the jointed pieces *e'* may be omitted, in which case the springs K<sup>2</sup> K<sup>2</sup> must be used, and the rod *e* provided with a fast collar beneath the yoke L.

One or more springs extending from the top of the journal-box to the plate F of the pedestal may be used, thus dispensing with the use of the yoke L, and having the upper ends of the piston-rods to rest against the under side of the horizontal plate F, or, otherwise supported by the plate. When the yoke L is omitted the springs K K extend clear to the head of the piston-rod, and the spring K' to the pedestal-plate.

The oil is screened before entering the pumps by a piece of wire-cloth, J, or its equivalent, connected to the sides of box A. To protect the interior of the box A from dust, it is provided with a permanent projection, M, which surrounds the shaft C, with which is combined the cap N, (shown in detail in Figs. 3 and 4,) the cap being provided with packing-rings *m'*, cut open in the usual manner to admit of being sprung evenly to the shaft C.

The cap is connected with the projection by means of the inclines *k k*, which, by a partial turn of the cap, interlock with the inclines *l l* on the periphery of the projection, so as to press the packing *m* against the end thereof, and thus incline it to the shaft, hugging it sufficiently tight to prevent the passage of dust to the box.

To increase the tendency of the packing to hug the shaft, the recess of the cap N has a circular surface in its annular corner, and the packing-rings are rounded to correspond therewith, whereby the packing-rings are in a wedging manner inclined to the shaft. The cap is also provided with screws O O for con-

fining it in its adjusted position to the projection M.

In order to adapt the packing to boxes already in use the projection M may be cast separate and fastened thereto in any convenient manner.

I claim as my invention—

1. The combination of the cylinder G, piston H, and oil-passage G', provided with a valve, I', with the journal-box A, and pedestal E, the piston-rod being provided with one or more springs, substantially in the manner and for the purpose set forth.

2. The combination of the yoke L with the piston-rods, journal-box, pedestal, and springs, substantially as and for the purpose set forth.

3. The cap N, having inclines *k k*, screws O O, and packing-rings *m' m'*, in combination with the annular projection M, having inclines *l l*, and the shaft C, substantially in the manner and for the purpose set forth.

ISAAC P. WENDELL.

Witnesses:

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