A. B. LATTA.

Car-Axle Box.

No. 17,972. Patented Aug. 11, 1857.

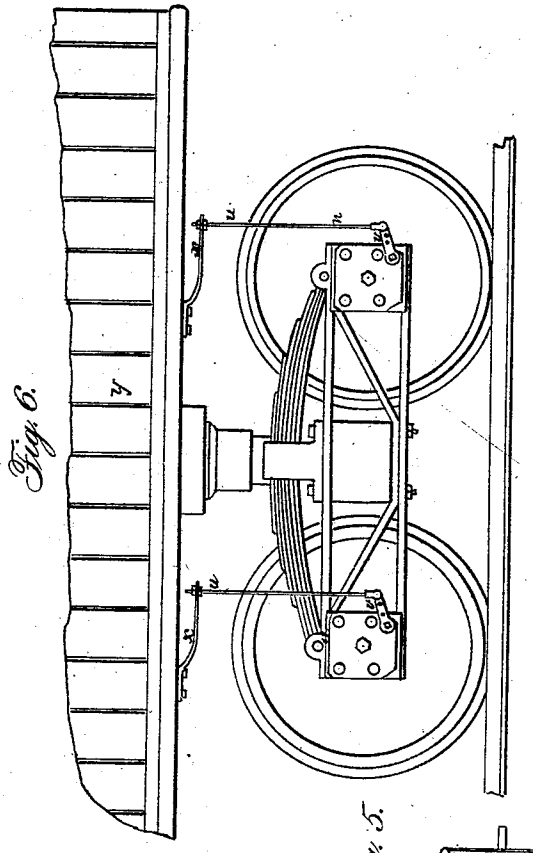

Fig. 6.

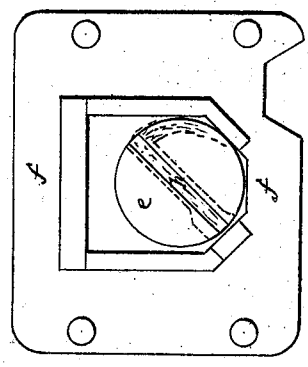

Fig. 4.

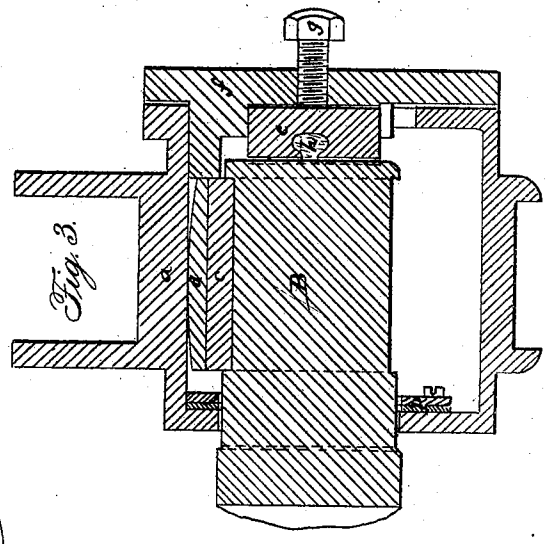

Fig. 3.

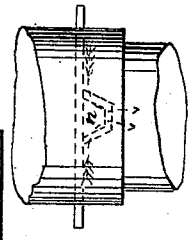

Fig. 5.

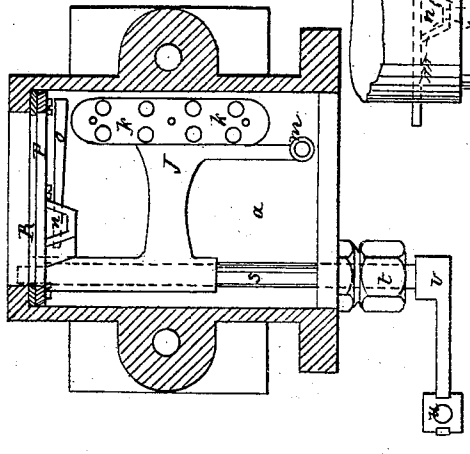

Fig. 2.

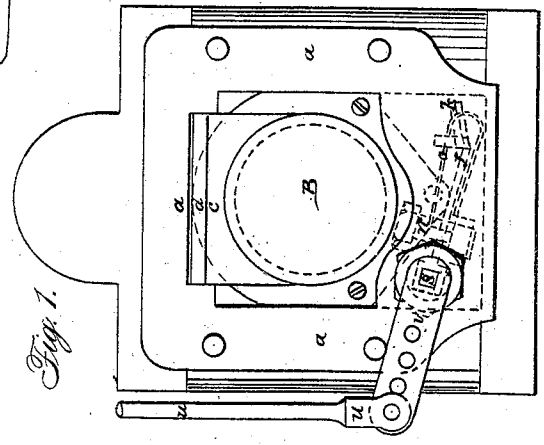

Fig. 1.

UNITED STATES PATENT OFFICE.

A. B. LATTA, OF CINCINNATI, OHIO.

AUTOMATIC LUBRICATOR FOR RAILROAD-CAR AXLES.

Specification of Letters Patent No. 17,972, dated August 11, 1857.

To all whom it may concern:

Be it known that I, ALEXANDER B. LATTA, of the city of Cincinnati, county of Hamilton, and State of Ohio, have invented a new and useful Improvement in Lubricators for Railroad-Car Axles; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, and made to form part of this specification.

Similar letters refer to corresponding parts of the improvement.

The object of my improvement consists in actuating the lubricating apparatus by the vibratory vertical motion to the cars, produced in their passing over the road, and is effected by arranging a rod with the bottom of the car, and to the lubricating apparatus contained in the box case, so that the motion of the car, will actuate the oiling portion of the lubricator in the case, without the use of gearing or taking the motion from the axle, as is required in lubricators for the same purpose before used, and at the same time give the lubricating portion of the apparatus sufficient action at all times to effectually oil the journal.

To enable others skilled in the art to make and use my improvement, I will proceed to describe its construction and operation by referring direct to the accompanying drawings, of which—

Figure 1, is a front view of a box case with the lubricating apparatus attached. Fig. 2, is a horizontal sectional view of the box case, fully showing the arm for carrying oil to the axle, or journal. Fig. 3, is a longitudinal sectional elevation of the box case. Fig. 4, is an inside view of the box cap showing the arrangement of the bearing, against which the end of the axle is made to work. Fig. 5, is a view of part of the axle, showing the manner of stripping the oil from it to prevent running out of the back end of the box case, and Fig. 6, represents a partial view of the end of a car furnished with a truck, and showing the manner of actuating the lubricator by the motion of the car with a rod arranged to the bottom of the car, and the lubricator in the box case.

(*a*, *a*) represents the box-case, (B,) the axle, or journal, (*c*) the bearing, and (*d*) the wedge between the bearing and top of the inside of the case.

S, is a shaft passing into one of the lower corners of the box case, with its end working in the inside, and after part of the case, and furnished with a stuffing box around the shaft in the front of the case, to prevent the oil from wasting out of the case that will be placed therein for lubricating the axle.

J, is an arm attached to the shaft on the inside of the case, with a cross piece on its end, and furnished with a piece of leather (*k k*) for absorbing and carrying the oil to the journal (B) by the action of the lubricator, and (*m*) is a rod forming part of the arm, J, and turned up with its end made cup shape for throwing oil in the groove, or opening (*p*) in the bearing piece (*e*) for oiling the end of the axle which works against the bearing piece (*e*) to prevent longitudinal motion of the axle; the groove (*p*) in the piece (*e*) will be made at a suitable angle so that the motion given to the arm (J,) and rod (*m*) will pass into it and in practice the groove will be furnished with cotton to retain the oil, a portion of which cotton will rub against the end of the axle, so at all times to make sure of an effectual lubricating of the end of it. The bearing piece (*e*) as it is worn away, is set up to the end of the axle by the set screw (*g*) that passes through the cap, *f*.

The shaft (*s*) is furnished with a lever (*v*) on the outside of the case to which the lower end of the connecting rod (*w*) is attached, while the upper end of it is connected to the spring (*x*), at the lower part of the car (*y*) and with the vertical vibrating motion the cars receive in passing over the rod, it operates the oiling arm (J) in the box case by flapping oil up against the axle, or journal (B) through the medium of the spring (*x*), rod (*w*) and lever (*v*), and this at all times keeps the journal effectually oiled.

The lever (*v*) is furnished with a number of holes as represented in Fig. 1, for attaching the rod (*w*) at various points between the shaft (*s*) and end of the lever to suit the motion of the cars, for when the train is moving over a smooth road the cars will have less motion, than when passing over a rough road, in which case the rod (*w*) will be attached nearer the end of the lever to

give the lubricating arm (J) in the case, the required motion, and when the motion of the cars is increased by passing over rough roads, or from other causes the rods are attached nearer the shaft (*s*) for regulating the motion of the oiling arm (J).

The springs (*x*) arranged to the bottom of the car, and to which the rods (*w*) are attached for actuating the lubricators serve as guards, to prevent breaking of parts when too much movement of the car takes place. The springs are made sufficiently strong to actuate the lubricator at all times, but if the car should receive an undue amount of motion, the springs will yield and thus prevent the bending, or breaking of the lever (*v*) and oiling arm (J). The upper parts of the rods (*w*) pass through holes in the end of the springs, and are held by two nuts, on the rods, one below and the other above the springs, and by the nuts the rods are adjusted to their proper length.

To prevent the oil from wasting out of the back part of the box case, I furnish the box with a stuffer (*n*) at the back and inside of the case which stuffer is made of an angling shape, so that one will serve to scrape the oil from the axle when it revolves either way, and the stuffer is arranged in the frame (P), and it is forced to the axle by the spring (*o*), as represented by the dotted lines in Fig. 1, in the box case.

An end view of the stuffer in its relative position with the axle can be seen in Fig. 5, and the spears marked in the figure will show how the oil is scraped from the axle when it is revolving either way.

R, is packing made of leather around the axle in the back part of the case, and held to the case and around the axle by the plate, P, and screws as represented.

What I claim as my improvement and desire to secure by Letters Patent is—

The arrangement of the lever (*v*) rod (*w*) and spring *x*, combined with the car (*y*) as represented, or their equivalents for actuating the lubricator by the vertical vibrating motion of the cars, all as and for purposes mentioned in the foregoing specification, and represented in the accompanying drawings.

A. B. LATTA.

Witnesses:
M. BENSON,
GEO. W. SOWARD.