(No Model.)

L. C. KINSEY.

LUBRICATOR.

No. 574,542. Patented Jan. 5, 1897.

Fig. 1.

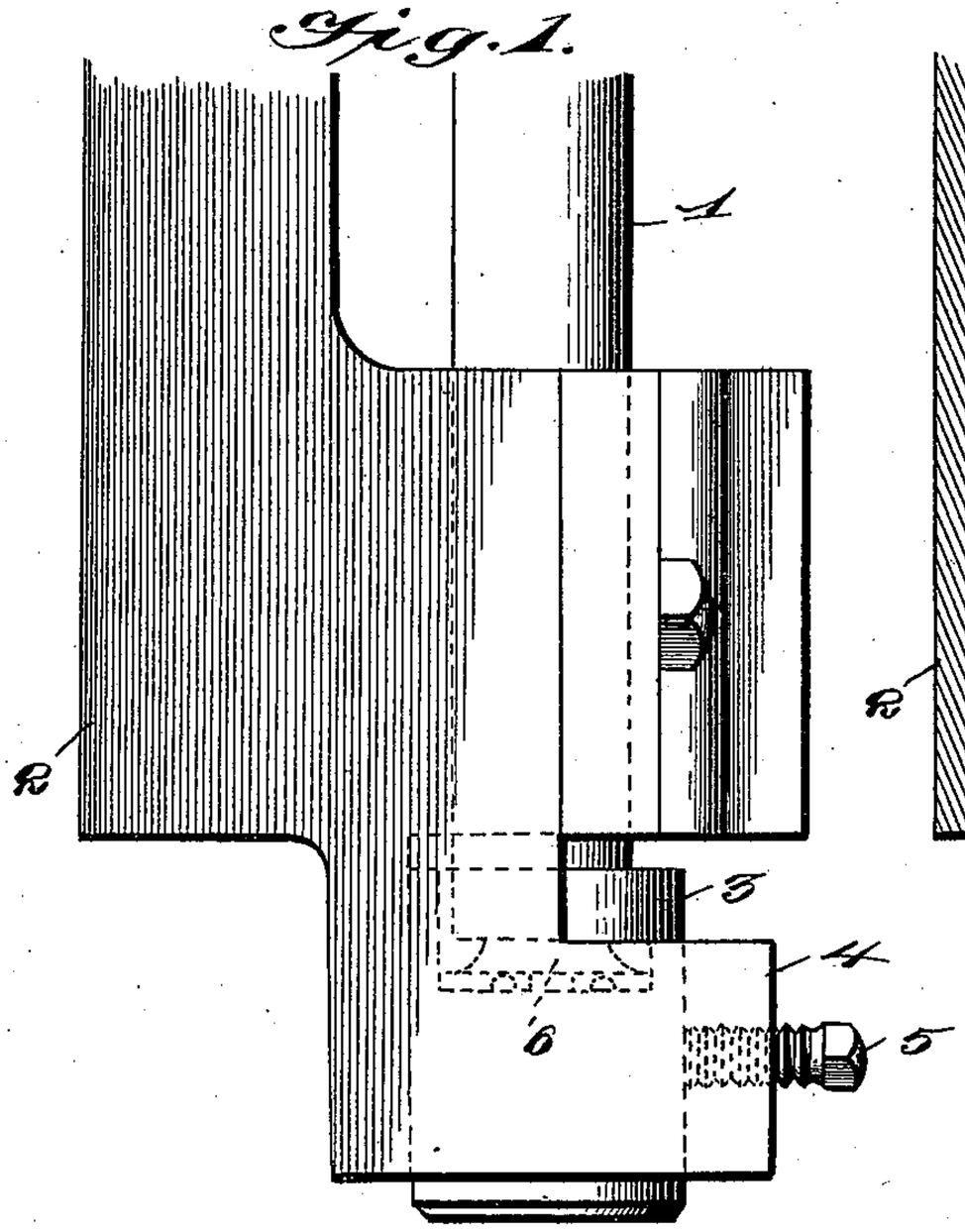

Fig. 2.

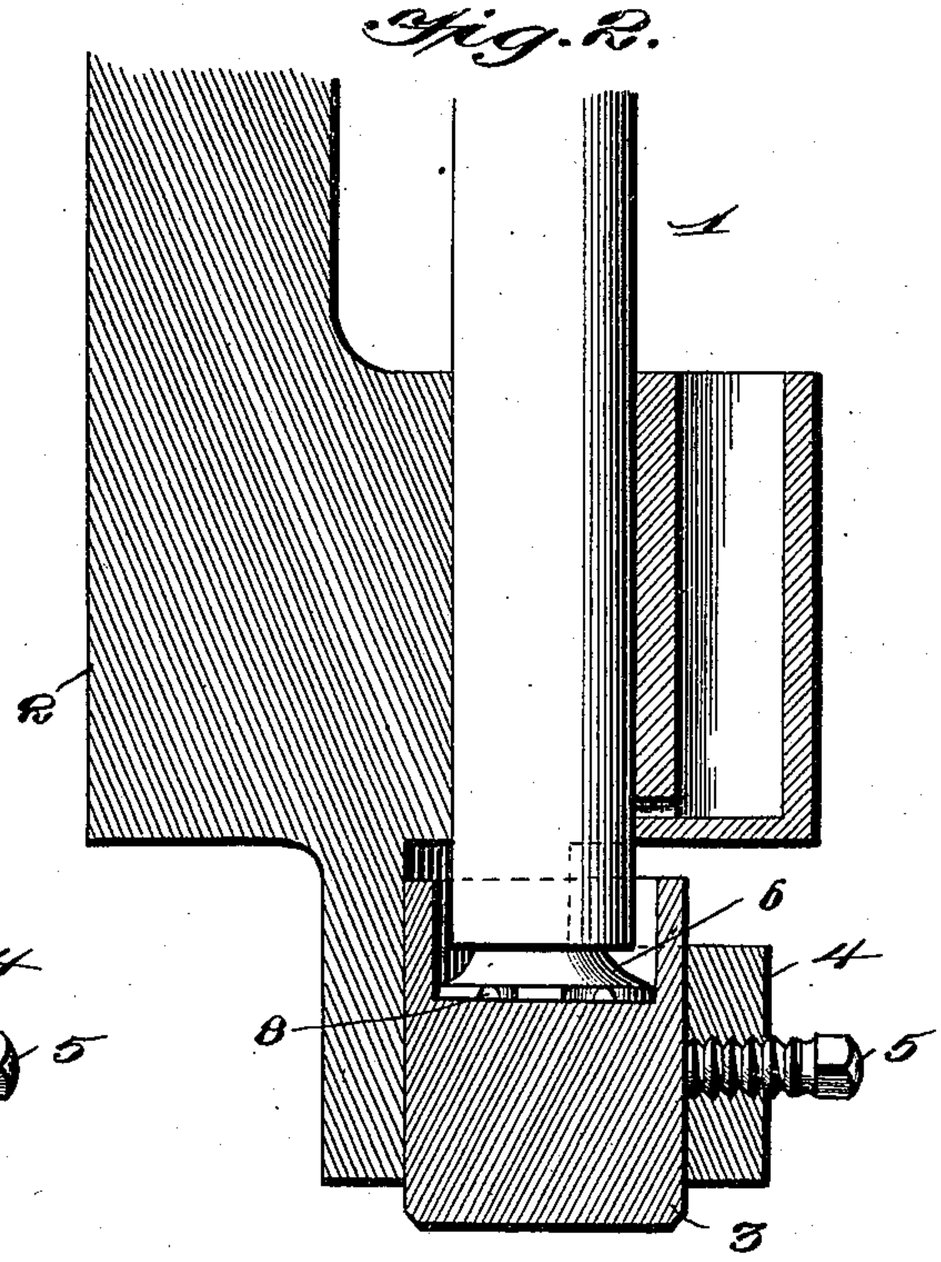

Fig. 3.

Fig. 4.

Fig. 5.

Witnesses
H. J. Koerth.
T. J. Riley

Inventor
Leonidas C. Kinsey,
By his Attorneys,
Cadwalader & Co.

UNITED STATES PATENT OFFICE.

LEONIDAS C. KINSEY, OF MONTGOMERY, PENNSYLVANIA.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 574,542, dated January 5, 1897.

Application filed July 31, 1896. Serial No. 601,246. (No model.)

To all whom it may concern:

Be it known that I, LEONIDAS C. KINSEY, a citizen of the United States, residing at Montgomery, in the county of Lycoming and State of Pennsylvania, have invented a new and useful Lubricator, of which the following is a specification.

The invention relates to improvements in lubricators.

The object of the present invention is to improve the construction of lubricators and to provide for shafts a bearing adapted to receive the end thrust of a shaft and capable of causing a continual flow of oil over the end of a shaft, whereby the latter will be thoroughly lubricated.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a side elevation of a lubricator constructed in accordance with this invention and shown applied to a vertical shaft. Fig. 2 is a vertical sectional view of the same. Figs. 3 and 4 are detail views of the bearing-plate which receives the end of the shaft. Fig. 5 is a vertical sectional view showing the lubricator applied to a horizontal shaft.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a vertical shaft journaled in a bearing 2 of the ordinary construction, and having its lower end arranged within a cup or step 3, which is supported in a vertical opening of a substantially L-shaped arm 4, depending from the bearing 2 and provided with a set-screw 5 for engaging the cup or step and securing the same at the proper adjustment.

The cup or step 3 is provided at its top with a cylindrical socket receiving the lower end of the vertical shaft, and a stationary bearing-plate 6 is interposed between the bottom of the socket and the lower end of the shaft. The bearing-plate is provided with a circular upper face and has outwardly-extending projections or feet at its bottom, and its lower face is provided, between the feet, with diametrical grooves 8, forming oil passages or ways communicating with vertical openings or perforations 9 for conveying oil from the base of the bearing-plate to the upper face thereof. The socket of the cup or step is supplied with a sufficient quantity of oil to immerse the lower end of the shaft, and the vertical openings or perforations 9 are arranged at points between the axis of the shaft and its circumference, whereby when the shaft rotates the oil is distributed over the lower end of the shaft and the upper surface of the bearing-plate and will be thrown outward by centrifugal force and will cause a constant circulation. The vertical openings or perforations 9 are located at different distances from the axis of the shaft 1, and this continual circulation of oil thoroughly lubricates the shaft, and any number of these perforations may be provided, according to the size of the shaft.

In Fig. 5 of the accompanying drawings the bearing-plate is shown applied to the end of a horizontal shaft. A cup or step 11, similar to the one heretofore described, is mounted horizontally on an arm 12 of the bearing or frame 13, and it receives the adjacent end of a horizontal shaft 14. The horizontally-arranged cup or step fits within an annular flange 15 of the bearing 13, and a packing-ring 16 is interposed between the cup or step and the bearing. The bearing-plate 17 is arranged vertically and is interposed between the bottom of the socket of the step or cup and the end of the shaft. The lubricant is supplied by an oil-cup 19 of any suitable construction communicating with the socket of the step or cup, and the operation of lubricating the end of the shaft is substantially the same as that before described.

It will be seen that by arranging the perforations 9 at points between the axis of the shaft and its circumference the lubricant will be spread over the bearing-plate and the end of the shaft by centrifugal force when the said shaft rotates, thereby causing a continuous flow or circulation of the lubricant and thoroughly lubricating the shaft.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

What I claim is—

1. In a device of the class described, the combination with a shaft, of a step or cup having a socket receiving an end of the shaft, and a bearing-plate interposed between the shaft and the bottom of the socket and provided with a perforation extending through the plate from the end of the shaft and communicating at its outer end with the supply of oil within the step or cup, said perforation being arranged at a point between the axis of the shaft and its circumference, whereby when the shaft rotates, the lubricant will be spread over the bearing-plate and the end of the shaft by centrifugal force, substantially as and for the purpose described.

2. In a device of the class described, the combination with a shaft, of a step or cup having a socket, and a bearing-plate interposed between the bottom of the socket and the end of the shaft, provided at its outer face with a groove or way and having a perforation communicating with the groove or way and extending therefrom to the end of the shaft, said perforation being located at a point between the center of the shaft and the periphery thereof, whereby oil will be spread over the ends of the shaft by centrifugal force, substantially as described.

3. In a device of the class described, the combination of a bearing provided with a depending substantially L-shaped arm having a vertical opening, a vertical shaft mounted in the bearing, a cup or step provided with a socket adjustably secured in the opening of said arm and receiving the lower end of the shaft, and a bearing-plate interposed between the bottom of the socket and the lower end of the shaft, having a groove or passage at its lower face and provided with a perforation extending from the groove to the end of the shaft, and arranged to deliver oil to the end of the shaft at a point between the center and the periphery thereof, whereby the oil will be spread by centrifugal force, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LEONIDAS C. KINSEY.

Witnesses:
HUGH GILMORE,
SAMUEL WILSON.