No. 651,872. Patented June 19, 1900.

D. LONG.

OIL BOX.

(Application filed Oct. 26, 1897.)

(No Model.)

Fig. 1.

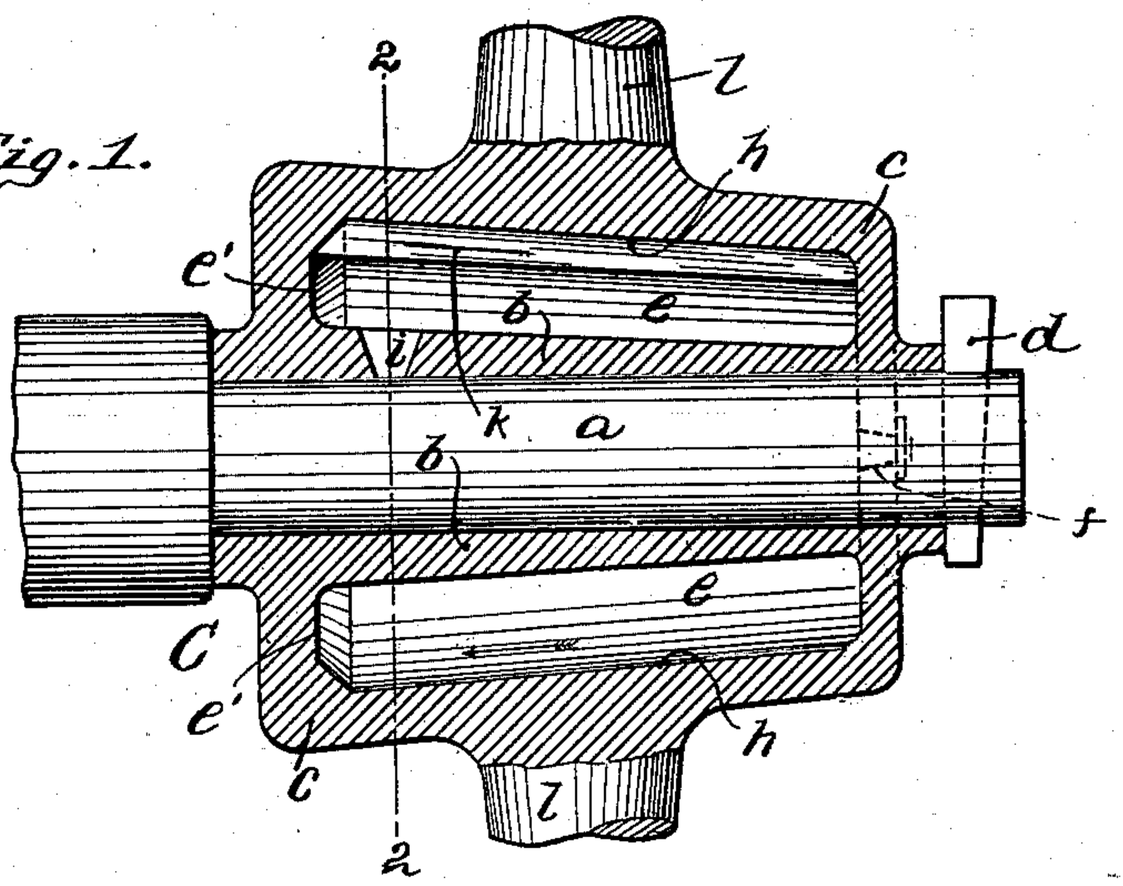


Fig. 2.

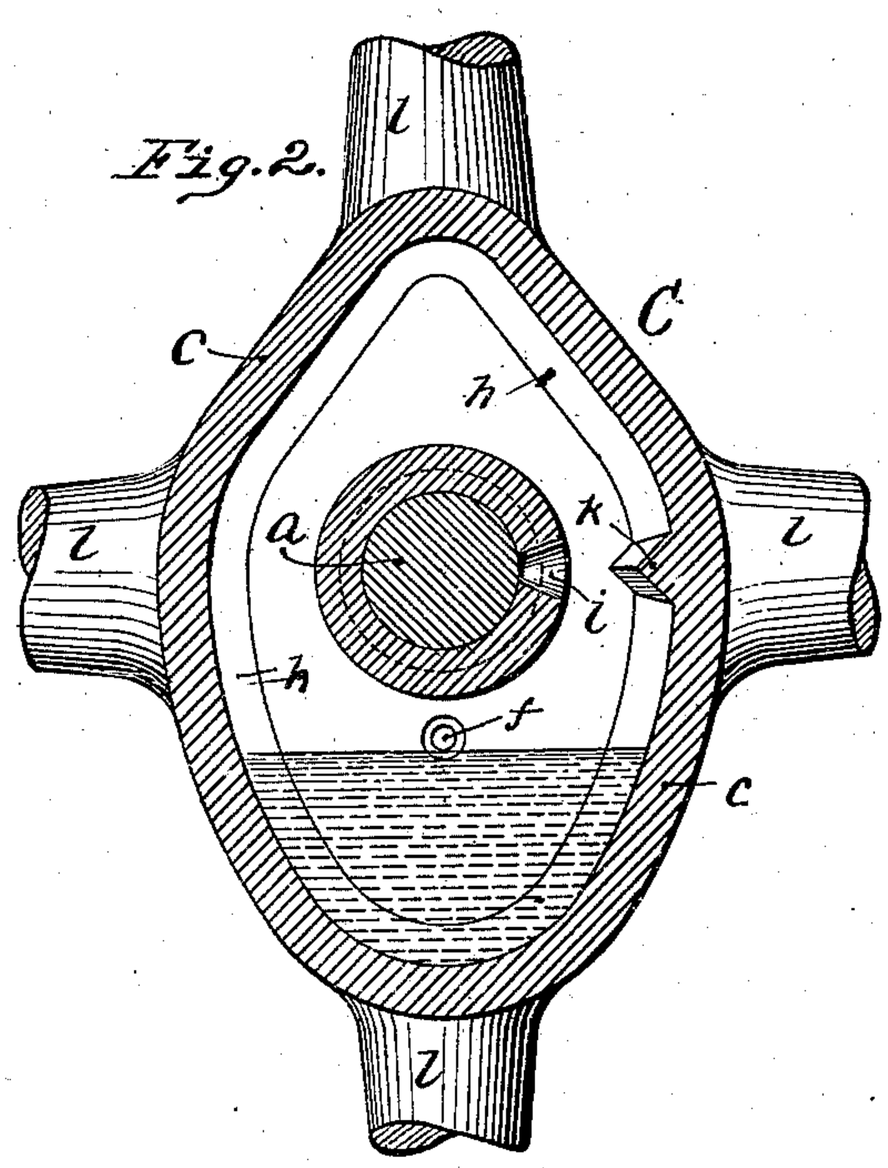
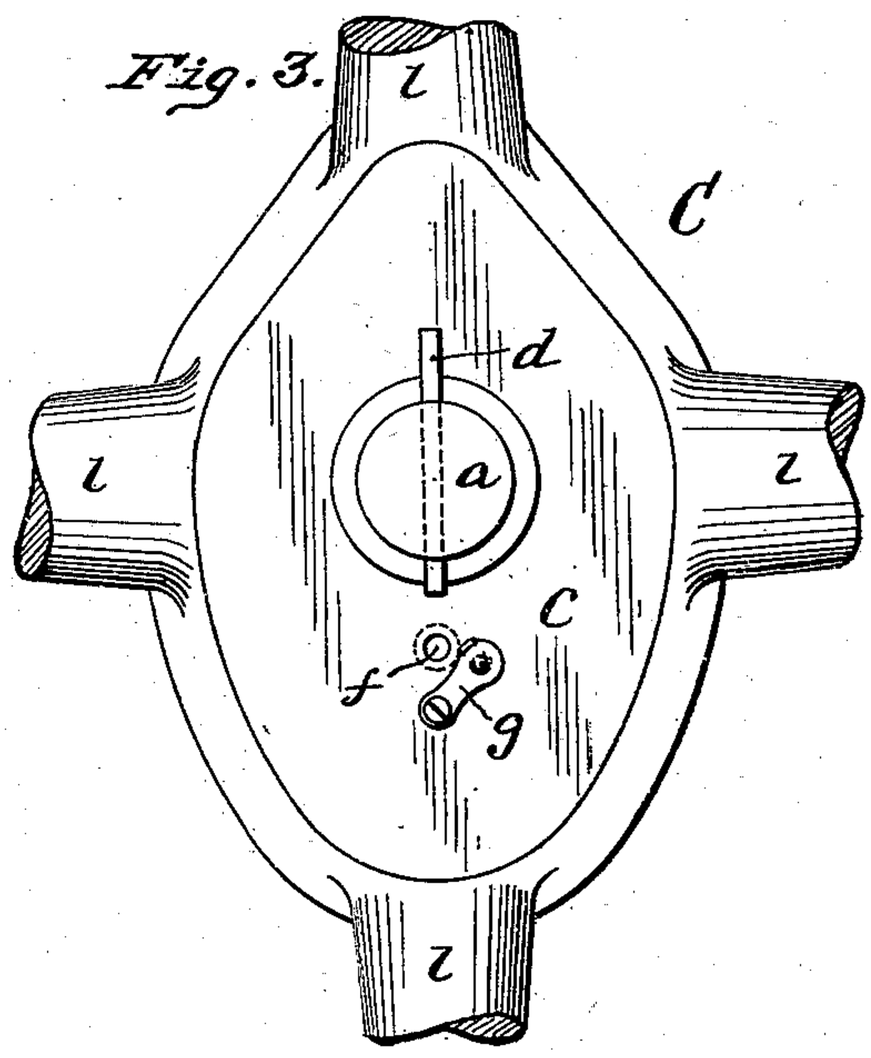


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

DAVID LONG, OF NEW HAVEN, PENNSYLVANIA.

OIL-BOX.

SPECIFICATION forming part of Letters Patent No. 651,872, dated June 19, 1900.

Application filed October 26, 1897. Serial No. 656,408. (No model.)

To all whom it may concern:

Be it known that I, DAVID LONG, a resident of New Haven, in the county of Fayette and State of Pennsylvania, have invented a new and useful Improvement in Oiling-Boxes; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to oiling-boxes for car-wheels and like purposes.

The object of my invention is to provide an oiling-box which will act effectually to lubricate the bearing-surfaces of the wheel and axle with the least quantity of oil and at the same time one which will operate as effectually when the oil gets low as when full.

My invention comprises, generally stated, a car or like wheel having a hub provided with an axle-shell having an oiling-orifice at the inner end thereof and having an oblong annular oil reservoir or cavity surrounding the shell and provided with closed ends, the inner face of the outer wall of the cavity being formed flaring from the outer to the inner end thereof, so that as the wheel rotates the oil will be forced up toward the end having the oiling-orifice, this being the only point of outlet from the annular chamber.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a cross-section of the hub of a wheel, illustrating my invention. Fig. 2 is a longitudinal section of same. Fig. 3 is an outside face view.

Like letters indicate like parts.

I will illustrate and describe my invention as applied to a car-wheel; but it is apparent that it may be applied to other purposes for which it may be found applicable.

In the drawings the letter *a* designates the outer portion of a suitable axle, such as may be employed on a mine-car, said axle passing through the axle-shell *b*, formed in the hub *c* of the wheel C. The axle is held within the shell *b* by means of the pin *d*. The hub *c* is preferably oblong in shape and has the oblong recess *e* formed therein for the reception of the lubricant. On the outer face of the hub is the orifice *f*, by means of which oil is introduced into the recess *e*. This orifice *f* is located at such a point that when the wheel is in the position shown in Fig. 2 the oil will just reach to said orifice—that is, when the recess holds its full quota of oil. A spring lid or cover *g* is provided for the orifice *f* to prevent the escape of the oil.

The walls *h* of the recess *e* are formed slanting or flaring from the outer to the inner end thereof, as shown more clearly in Fig. 1. By this construction the oil within the recess always flows in the direction of the arrow, Fig. 1, toward the inner end *e'* of the recess. The orifice *i*, formed in the axle-shell and by means of which the oil passes to the axle, is located adjacent to this end *e'* of the recess.

A wing or flange *k* may be formed on the inner walls of the recess, said wing or flange projecting from said walls at a point substantially in line with the orifice *i*.

The letter *l* designates the spokes of the wheel.

When my invention is applied to practice, the oil is introduced into the recess *e* through the orifice *f*, and when the cover *g* is adjusted over said orifice the oil is held securely therein. Owing to the slanting walls of the recess *e* the oil flows toward the end wall *e'* and is deepest adjacent thereto. As the wheel rotates the centrifugal force carries the oil or the greater portion thereof close to the end wall *e'*. As the orifice is also adjacent to said end wall *e'*, the oil passes through said orifice to the axle and thoroughly lubricates the same. The wing *k* acts as a baffle to the oil, and being in line with the orifice *i* the oil is deflected in its course toward the said orifice.

Fom the above it is apparent that the greater body of oil is always in position to do work, and consequently the thorough lubrication of the axle can always be depended upon. Again, as the oil gets low in the recess the slanting walls cause what is left to collect at the inner end of the recess instead of extending at an equal level along the entire length of the recess and at a less depth. The centrifugal action also forces the oil toward the inner end of the recess or reservoir, so assisting it in passing through the oiling-orifice. The result is that the recess does not have to be refilled so frequently, while a better lubrication is obtained.

What I claim is—

1. A car or like wheel, having a hub provided with an axle-shell extending therethrough and having an oiling-orifice at the inner end thereof, and an oil-reservoir surrounding said shell, the walls of said reservoir slanting upward from the outer to the inner end thereof.

2. A car or like wheel, having a hub provided with an axle-shell extending therethrough, and having an oiling-orifice at the inner end thereof, an oblong oil-reservoir surrounding said shell, the walls of said reservoir slanting upward from the outer to the inner end thereof, and a longitudinal wing projecting from the outer wall of the reservoir opposite the oiling-orifice.

In testimony whereof I, the said DAVID LONG, have hereunto set my hand.

DAVID LONG.

Witnesses:
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