(No Model.)

# G. F. GODLEY.

## CAR AXLE BOX.

No. 260,018. Patented June 27, 1882.

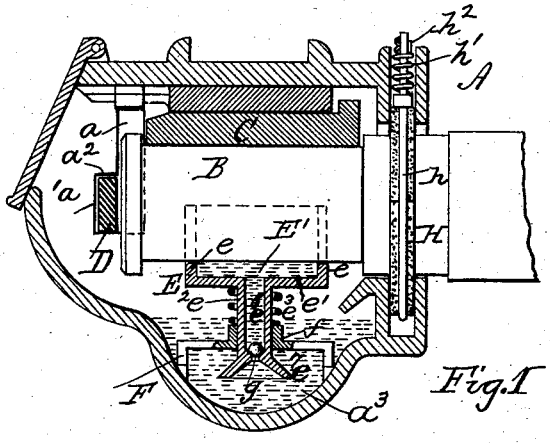


Fig. 1

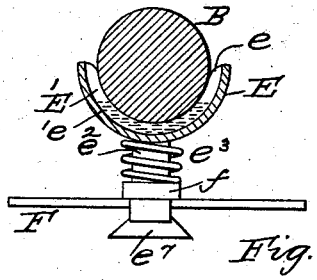


Fig. 3

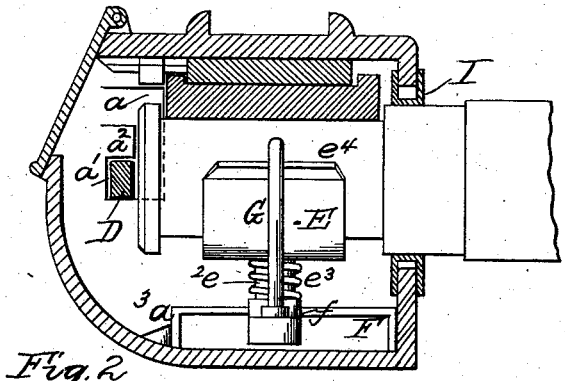


Fig. 2

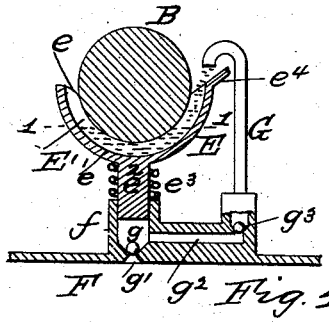


Fig. 4

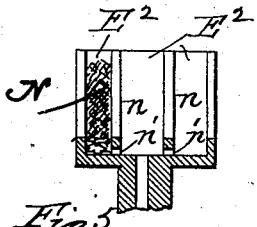


Fig. 5

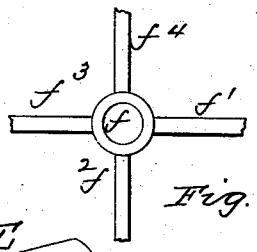


Fig. 7

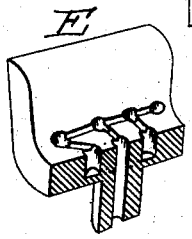
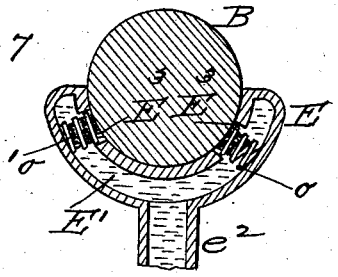


Fig. 6

Fig. 8



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE F. GODLEY, OF PHILADELPHIA, PENNSYLVANIA.

## CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 260,018, dated June 27, 1882.

Application filed November 29, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE F. GODLEY, a citizen of the United States, resident of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Car-Axle Boxes, of which the following is a specification, reference being had to the accompanying drawings, wherein—

Figures 1 and 2 are longitudinal vertical sections of an axle-body embodying my improvements. Figs. 3 and 4 are detail transverse vertical sections. Figs. 5, 6, and 7 are detail views, and Fig. 8 is a transverse section, of a slight modification in construction of a part of my invention.

My invention has relation to devices for lubricating car-axle journals and their bearings, and has for its object to provide a new and improved oiling device adapted and designed to raise oil to a chambered vessel or trough located below the axle-journal, but in contact therewith, so that as said journal revolves its periphery will pass through the oil in said vessel or trough and take up a portion of such oil and convey it to the bearing, whereby the latter and the axle-journal will be efficiently lubricated.

My invention accordingly consists of a chambered vessel or trough located below the axle-journal, and so shaped that it will contact with and embrace said journal. To said vessel or trough is attached a pump adapted and designed to lift oil from the axle-box oil-well to said trough, so that as the axle-journal revolves its periphery will dip into and pass through the oil pumped into said trough, and thereby effect complete lubrication of the axle-journal and its bearing.

My invention further consists of certain details of construction, as hereinafter more fully set forth.

Referring to the accompanying drawings, A represents a car-axle box, B the axle-journal, and C its bearing. Said box is formed with L-shaped grooves $a$ $a'$ near its forward end, into which is passed a bar, D, which, when in position, rests in the lower or horizontal portions, $a'$ $a'$, of said slots, as shown, whereby said bar is prevented from moving vertically by the walls or sides $a^2$ $a^2$ of slots $a'$ $a'$. Said bar being directly in front of the axle, the latter holds the former in the forward ends of slots $a'$ $a'$ to prevent any horizontal movement of said bar. The bar D is therefore firmly and securely held in position without the aid of special fastening devices, and serves to prevent any longitudinal movement of the axle.

E is a half-moon or semicircular recessed vessel or trough, located below the axle-journal, as shown, its ends $e$ $e$ resting against said journal, whereby a chamber, E′, is formed between the periphery of the axle-journal and the floor $e'$ of said vessel. Said trough is provided with a central depending lug, $e^2$, which enters a hollow boss or nipple, $f$, on a frame, F. Between said nipple and trough and surrounding lug $e^2$ is a spiral spring, $e^3$, which acts to keep trough E in close impingement with the axle-journal to prevent escape of its contained oil, said spring permitting said trough to be depressed when from any cause the axle-journal is jolted or caused to descend or ascend in its axle-boxes. The frame F is made in the form of a spider, or with arms $f'$, $f^2$, $f^3$, and $f^4$, which respectively contact with all four sides of the axle-box to provide for a secure lodgment of such spider. Its nipple $f$ is provided with a valve, $g$, below which is an opening or passage, $g'$, leading into the oil-well $a^3$, and $g^2$ is a passage leading to the exit-pipe G, which is provided with a check-valve, $g^3$. Said exit-pipe passes up and over a ledge, $e^4$, projecting from trough E, as shown in Figs. 2 and 4, said parts forming a pump, of which the nipple $f$ is the cylinder and the lug $e^2$ the piston thereof. As said trough E is depressed by the descent of the axle-journal in its box and raised by the reaction of spring $e^3$ the lug or piston $e^2$ is reciprocated and pumps oil from well $a^3$ into and through exit-pipe G, from which it passes into trough E. The chamber E′ gradually becomes filled until the oil rises therein to or about the height indicated by line 1 1, immersing the lower side of the axle-journal, as shown, so that when the latter revolves its periphery will pass through said oil and continuously convey the same to the axle-journal bearing to efficiently lubricate said parts during such revolution. When such movement ceases, or when the car is not traveling, the valves $g^3$ $g$ prevent the oil escaping

from trough E, so that when the car is again started there is an abundance of oil in chamber E′ for the lubrication of the axle and its bearing. In Figs. 1 and 2 the external exit-pipe G is dispensed with, as is also the lip or ledge $e^4$; in lieu of which an opening, $e^5$, is made through lug $e^2$, and the latter is provided with a valve, $g$, and flaring mouth or end $e^7$. In this case the oil passes through opening $e^5$ into chamber E′. When such form of lubricators are used the forward end of the box A may be formed as shown in Fig. 1, thereby decreasing the size of the box and lessening the amount of metal composing the same. Hence there will be less dead weight to transport over the road when the cars are provided with such shaped boxes.

Any form of dust-shield may be used, if desired. That shown in Fig. 1 may be employed, and which consists of a cork, leather, wood, or other suitable packing, H, held in place by a band, $h$, provided with springs $h'$ and split keys $h^2$, as illustrated; or the shield shown in Fig. 2 may be used, and such I deem the preferable form. It consists of a U or similarly shaped sheet-metal ring, I, such metal being either spring or ordinary sheet metal. Said ring I encircles the axle and embraces the sides and the periphery of the opening in the rear wall of the axle-box, as shown. When such shields are used the double wall, as illustrated in Fig. 1, is dispensed with. A saving of metal in the construction of such boxes is thereby effected.

If desired, the vessel or trough E may be provided with partitions or ridges $n$ $n$, which divide the chamber E′ into two or more spaces, $E^2$ $E^2$, which communicate with each other through openings $n'$ $n'$ formed in said ridges, as shown in Fig. 5; or said vessel may be formed without the sides or ends $e$ and holes or recesses bored therein, which intercommunicate by means of connecting channels. This construction is illustrated in Fig. 6. In some cases wick, wool, cotton, or other fibrous or elastic substance N may be placed in the chambers E′ $E^2$ in the vessel or trough E. In Fig. 8 said trough is made hollow or formed with an internal chamber, as shown, its bottom or side being provided with openings $E^3$ $E^3$, through which passes the packing of waste or other suitable material, $o'$, held in place by spiral springs $o$.

What I claim as my invention is—

1. A car-axle box provided with L-shaped slots or grooves $a$ $a'$ parallel with the axle-journal, in combination with bar D, substantially as and for the purpose set forth.

2. In a car-axle box, the spider F, having arms $f'$ $f^2$ $f^3$ $f^4$, and an attached pump or oiling device designed and adapted to lift oil from well $a^3$ to the axle-journal, substantially as shown and described.

3. In a car-axle box, the combination of trough or vessel E, provided with lug $e^2$ and spring $e^3$, the spider or support F, formed with hollow nipple or bearing $f$ and arms $f'$, $f^2$, $f^3$, and $f^4$, substantially as set forth.

4. In combination with a car-axle box, the oval or oblong dust-shield I, made U-shape in cross-section, and having a central circular aperture, through which the axle passes, said shield being arranged within the opening in the rear wall of said axle-box, so as to embrace the edge or edges of said opening, substantially as shown and described.

In testimony whereof I have hereunto set my hand this 25th day of November, 1881.

GEORGE F. GODLEY.

Witnesses:

C. B. ROBERTS,

ROBT. TURNBULL.