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Patented June 26, 1900.

P. T. LANGDON.  
AUTOMATIC CAR AXLE LUBRICATOR.

(Application filed Oct. 21, 1899.)

(No Model.)

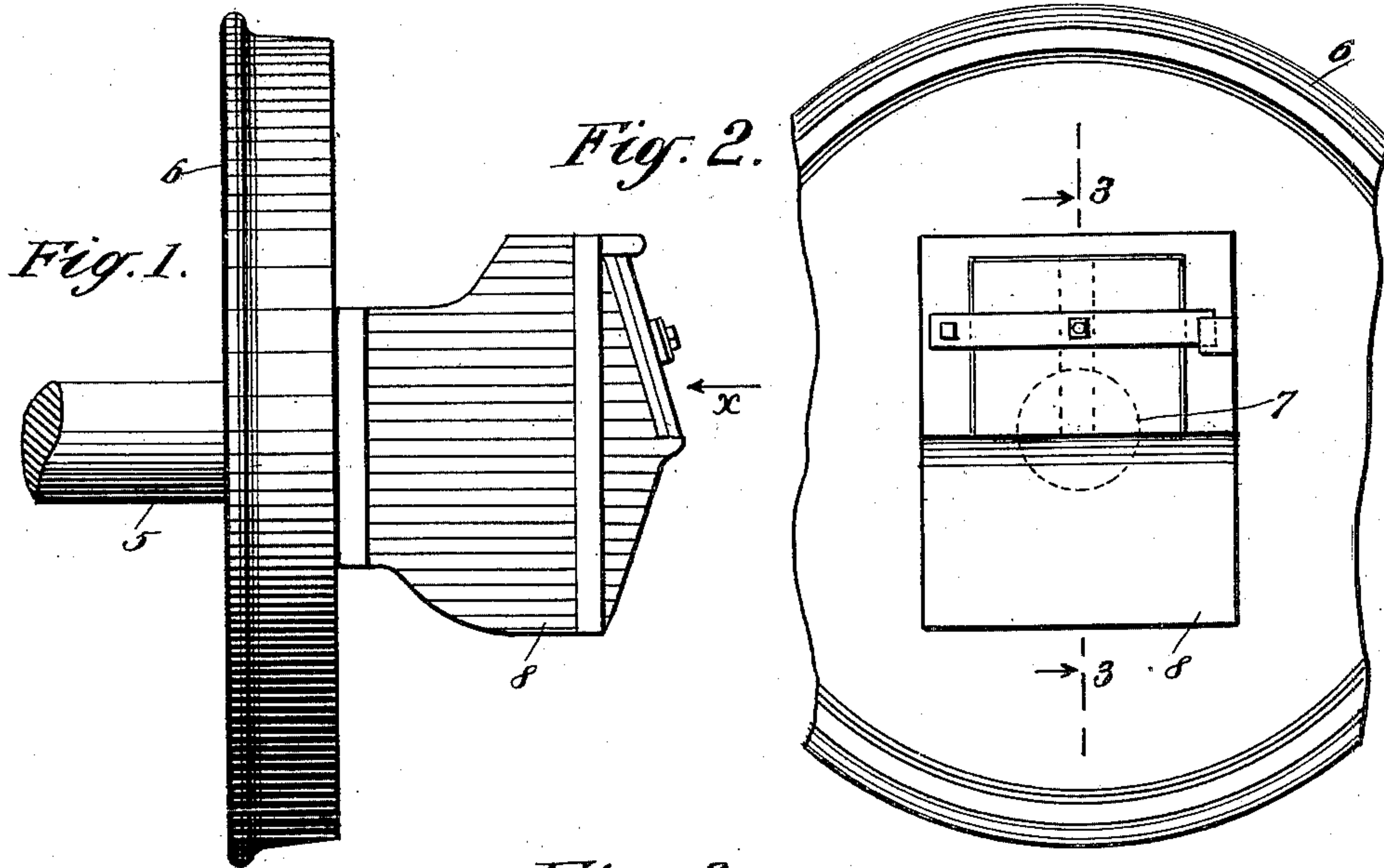


Fig. 3.

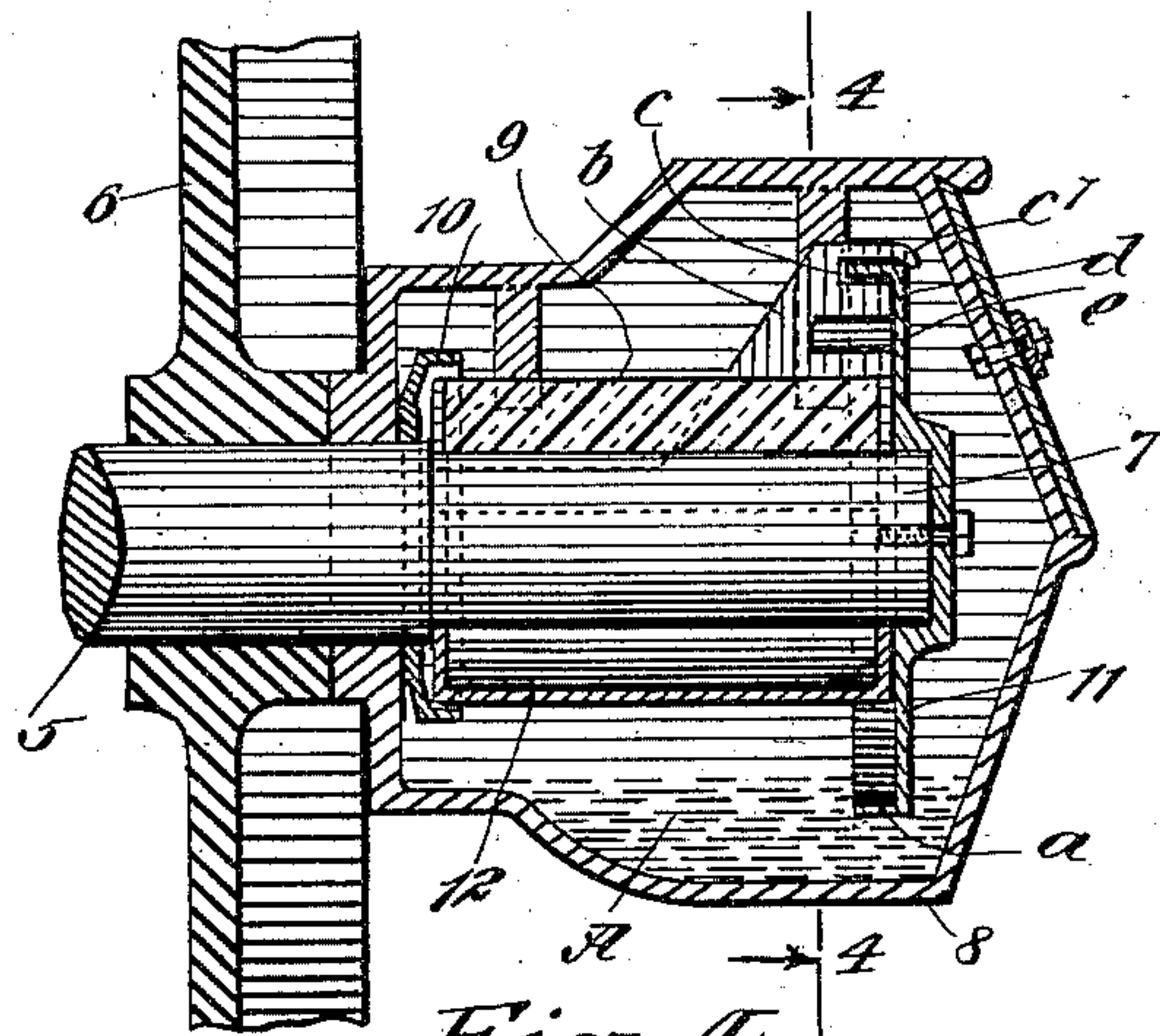
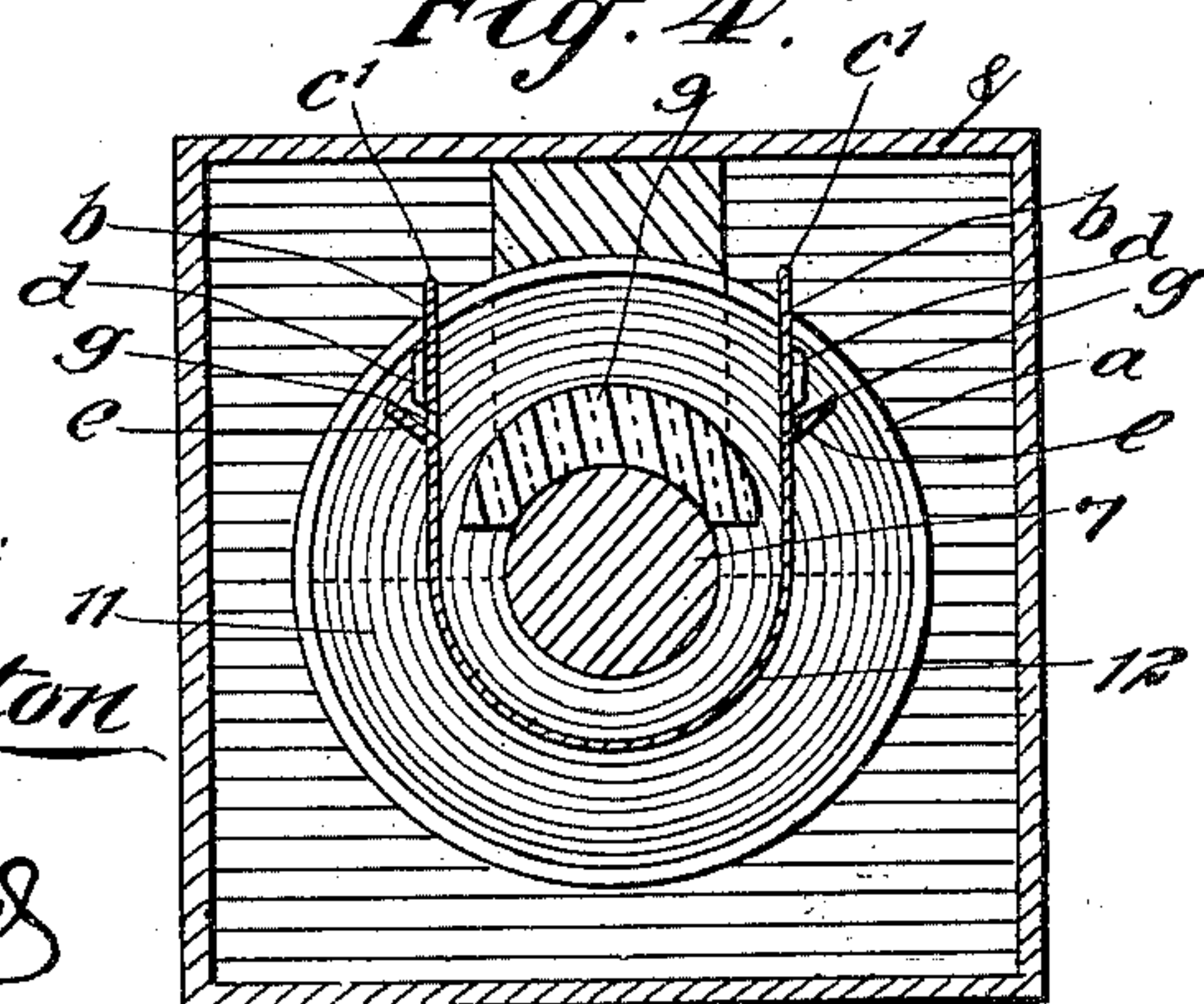


Fig. 4.



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## AUTOMATIC CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 652,277, dated June 26, 1900.

Application filed October 21, 1899. Serial No. 734,348. (No model.)

*To all whom it may concern:*

Be it known that I, PIERPONT T. LANGDON, of Audubon, in the county of Becker and State of Minnesota, have invented a new and Improved Automatic Car-Axle Lubricator, of which the following is a full, clear, and exact description.

This invention relates to means for automatically lubricating the journals of car-axles while in motion, and has for its object to provide a device of the indicated character which is of novel, simple, and practical construction, which is adapted for general use, as the improvement may be applied within ordinary axle-boxes to lubricate the axle-journals therein, and which is very reliable and effective in service.

This invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a car-axle in part, a car-wheel thereon, and an axle-box on the axle formed to adapt it to carry the improved lubricating device. Fig. 2 is a front side view of the axle-box and other details shown in Fig. 1, seen in the direction of the arrow *x* in said figure. Fig. 3 is a longitudinal sectional view of the axle-box, a car-axle, a wheel in part, and the improved lubricating device within the axle-box and engaging the journal of the axle; and Fig. 4 is a transverse sectional view of the improvement, taken substantially on the line 4-4 in Fig. 3.

In the drawings that illustrate the construction and application of the invention, 5 represents an end portion of an ordinary car-axle, 6 a car-wheel fixed thereon, and 7 one journal of the car-axle extending exteriorly of the car-wheel to receive the supporting-box 8, as shown clearly in Fig. 3.

In the shell 8 of the axle-box a bearing-brass 9, of usual form, is held in position, so as to engage with the upper side of the journal 7 and afford rotatable support thereto. A cupped carrier-disk 10 is secured upon the axle body or journal within the shell or box 8, and the forwardly-extended edge of said

disk may overhang the adjacent end of the bearing-brass 9, as shown in Fig. 3.

On the forward end of the axle-journal 7 a circular cap-plate 11 is mounted and secured, a peripheral flange *a* thereon projecting rearwardly. The cap-plate 11 is of such a relative diameter as will permit the flange *a* thereon to be suitably spaced from the bearing-brass 9 and revolve around the outer end thereof when the car-axle is rotating.

An oil-holding trough 12, formed of sheet metal or other suitable material, is an essential feature of the invention and consists of a preferably concave bottomed receptacle, from which extend upwardly the side walls *b*. (Shown clearly in Fig. 4.) The trough 12 is proportioned in length so as to permit it to loosely occupy the space intervening the carrier-disk 10 and flanged cap-plate 11, as shown in Fig. 3, and the diameter of the curved lower portion of said trough is sufficiently greater than that of the journal 7 to afford an annular space between said parts when the trough is in position for service, as indicated in Figs. 3 and 4. The side walls *b* project above the bearing-brass 9 in the form of parallel flanges and are notched laterally, as at *c*, to afford a hook member *c'* on each flange, which hooks may pass over the periphery of the cap-plate 11 if the flange *a* thereon is introduced within the notches *c*, as shown for one flange *b* in Fig. 3. Below the notches *c* in the flanges *b* a scraper-blade *d* is formed or secured upon each flange *b*, and said blades *d* are so positioned that they will bear with one edge thereof upon the inner surface of the cap-plate 11 directly below the flange *a* of said cap-plate when the hooks *c'* have engagement with the periphery of the latter. Directly below the scraper-blades *d* on each flange *b* of the trough 12 an outwardly-inclined guide-flange *e* is formed, a slit *g* being provided between each scraper-blade and guide-flange, as shown in Fig. 4.

In placing the trough 12 below the journal 7 the rear end of the trough is introduced within the concavity of the disk 10, so that the lower edge of the trough will seat upon the forwardly-extended rim edge of the disk, and then the flange *a* of the cap-plate 11 is entered within the notches *c* of the flanges *b* on the trough, and to effect the latter in a



convenient manner the cap-plate may be rendered removable and securable by a set-screw, as shown in Fig. 3.

5 A suitable lubricant A in liquid form is placed in the box 8 in sufficient quantity to immerse the flanged edge of the cap-plate 11 therein, as shown in Fig. 3, and in operation as the journal end 7 is rapidly rotated the  
10 trough 12 will swing slightly on the supporting devices at its ends. The inner surface of the cap-plate 11 becomes coated with the liquid lubricant, which is carried up by the flange *a* and continuously scraped from the  
15 cap-plate by the scraper-blades *d* and flows down over the guide-flanges *e* and through the slits *g* into the trough 12.

It will be seen that by the construction of the improved lubricating device herein described a reliable automatic lubrication of  
20 the axle-journals is continuously effected while the car-axles are rotated.

The device is extremely simple, easy to manufacture, and may be supplied to cars having axles and boxes therefor of ordinary  
25 construction at a moderate cost.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

30 1. A car-axle lubricator, comprising a trough in the axle-box, having two flanges ex-

tending up at the sides of the axle-journal, a hook on one end of each flange, a cap-plate on the free end of the axle-journal radially projected and circular-edged, the hooks on the side flanges of the trough engaging with  
35 said edge, and a scraper-blade on the end of each side flange below the hook thereon, said blades contacting with the cap-plate to scrape the lubricant therefrom into the trough.

2. A car-axle lubricator, comprising a  
40 trough having two upwardly-extended side flanges thereon, a cupped disk secured on the axle or journal thereof at the inner end of said journal, one end of the trough seating  
45 upon the laterally-bent edge of said disk, a cap-plate having a flanged edge and securable upon the outer end of the axle-journal, hooks on the flanges of the trough which loosely en-  
50 gage with the peripheral edge of the cap-plate, a scraper-blade on each upright flange of the trough adapted to contact with the inner face of the cap-flange, and a guide-flange on each trough-flange below a slit which intervenes between said guide and an adjacent scraper-blade.

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Witnesses:

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