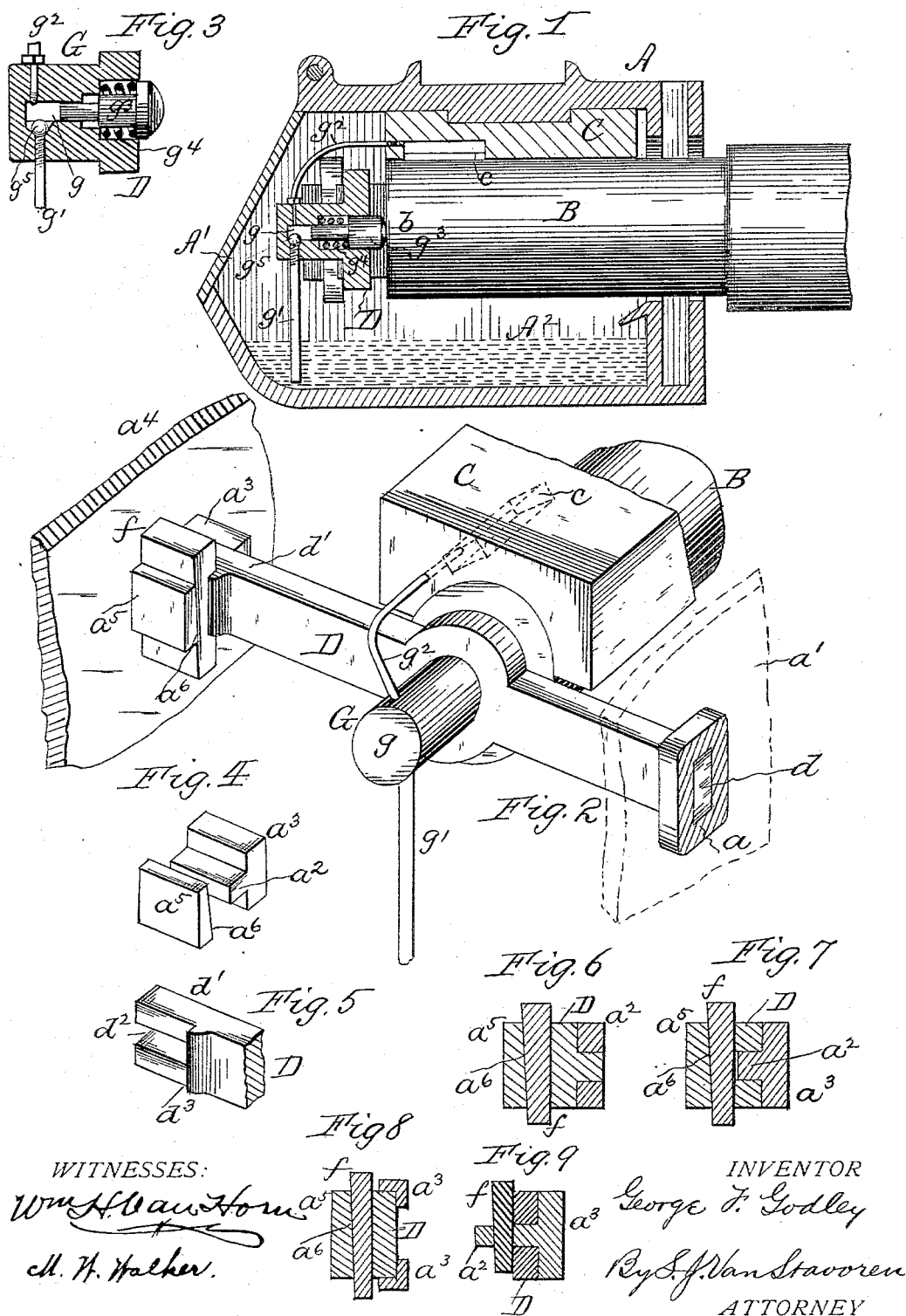


(No Model.)

G. F. GODLEY.
CAR AXLE LUBRICATOR.

No. 381,691.

Patented Apr. 24, 1888.



UNITED STATES PATENT OFFICE.

GEORGE F. GODLEY, OF PHILADELPHIA, PENNSYLVANIA.

CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 381,691, dated April 24, 1888.

Application filed December 27, 1887. Serial No. 259,133. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. GODLEY, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Lubricating Devices for Car-Axle Boxes, of which the following is a specification.

My invention has relation to pumping devices for raising oil from the well of car-axle boxes to the axle-journal and brass or bearing for lubricating the same; and it has for its object the provision of a pump having pipe-connection with the bottom of the axle brass or bearing and with the axle-box oil-well, and operated by the endwise movement or thrust of the axle.

My invention accordingly consists of the combinations, constructions, and arrangements of parts, as hereinafter more fully set forth in the specification and claims, having reference particularly to a stop bar or key placed transversely in the axle-box in front of the end of the axle to limit its end-thrust, which bar is removable from the box and preferably has upon it a pump, which is so mounted thereon that the outer end of its piston abuts against and is reciprocated by the endwise movement or thrust of the axle to effect raising of oil from the axle-box well to the journal-bearing for the axle.

Reference being had to the accompanying drawings, Figure 1 represents a longitudinal section, partly in elevation, of a car-axle box and part of the axle, showing my improvements; Fig. 2, a perspective of part of the same; Fig. 3, a detail section showing modified form of pump; Figs. 4 and 5, detail perspectives; and Figs. 6, 7, 8, and 9, detail sectional views.

A represents the car-axle box, which may be of the usual or other construction, as indicated; B, the axle-journal; C, the brass or bearing therefor, and D a form of stop bar or key in front of the end of the axle for limiting its end thrust or movement. This bar D is, as shown, preferably placed transversely in the axle-box, and one end, d , may fit into a socket, a , cast, formed, or secured to one side, a' , of the axle-box, (see Fig. 2,) and the other end, d' , of said bar may be provided with an elongated open-end slot, d^2 , (see more plainly Fig.

5,) for engagement with a horizontal rib or projection, a^2 , on a vertical lug, a^3 , cast or secured to the opposite side, a^4 , of the box, said lug and rib being more plainly indicated in Fig. 4.

Parallel with lug a^3 and at a sufficient distance from the outer surface of rib a^2 , corresponding to the width of bar D, another vertical lug, a^5 , having preferably an inclined side, a^6 , may be cast or secured to the side a^4 of the axle-box. The slotted end d' of bar D, when used, is preferably formed or provided on its outer side with a lug or recess, d^3 , so that when said end of the bar is slipped into engagement with the rib a^2 (see Figs. 2 and 7) and a wedge, f , is inserted or driven between bar D and lug a^5 , for firmly holding the bar in position in front of the axle end b , the wedge f is also retained in position against sidewise movement by the axle box side a^4 and the lug on bar D.

By loosening or displacing wedge f the bar D may be removed at any time through the axle-box lid opening A' .

The stop-bar D may be provided with a suitable pump, G, the cylinder or chamber g of which has a pipe-connection, g' , with the oil-well A^2 , another pipe-connection, g^2 , with the bearing C, and a piston, g^3 , one end of which extends beyond the rear face of said bar D and abuts against or contacts with the end b of axle B, and has a reacting spring, g^4 , to maintain such contact, as indicated in Fig. 1.

The pipe-connection g' leads into an oil reservoir or pocket, c , formed in the under side of the brass or bearing C at any suitable place therein, or as shown in either Figs. 1 or 2. The pipe-connection g' is provided, either in the chamber g or elsewhere, with a check-valve, g^5 , for preventing return of oil to well A^2 .

The operation is as follows: As the car travels along, the end thrust or movement of the axle, acting in conjunction with the spring g^4 , reciprocates the piston g^3 , for pumping oil from well A^2 to the brass or bearing pocket c , for lubricating the same and the axle-journal. The end-thrust of the axle is limited by its end striking the bar D, at which time the piston g^3 is wholly within chamber g , so that neither it nor its spring g^4 is subject to the hammering action of the end b of the axle against bar D, and they therefore do not rapidly wear or

otherwise deteriorate. The piston g^3 and spring may be constructed either as shown in Fig. 1 or 2 or otherwise, as desired. When repairs are needed for the pump or replacement of a worn-out pump by a new one is necessary, the axle-box lid is opened and the bar D and pump are removed for effecting said repairs or replacement, and this is accomplished without dismantling or disturbing the axle-box journal and bearing or other parts of the same.

It is obvious that the pump G on bar D may be dispensed with and the latter be used as a stop-bar for limiting the end-thrust of the axle, as heretofore.

Instead of slotting the end d' of bar D, it may be solid, in which case a slot is then provided in lug a^3 , as shown in Fig. 6, the rib a^2 on lug a^3 being then dispensed with. If desired, however, both the slot d^2 in bar D and the rib a^2 on lug a^3 may be dispensed with, as shown in Fig. 8; in which case the lug a^3 has top and bottom edge flanges for retaining the bar D in locking engagement therewith. Again, if desired, the lug a^3 need not be used, in which case the rib a^2 is extended out and provided with a slot for the key, wedge, or bolt f , as shown in Fig. 9. These many last described modifications are shown and described to indicate that different ways of maintaining or locking the stop key or bar D in position within the axle-box, so that it can readily be removed at any time, may be employed; and I therefore do not limit myself to any one form of fastening or locking devices for said bar or key D, nor to any particular construction of pump, nor to putting the pump upon a removable stop bar or key, as it is evident that the pump may be otherwise mounted to be operated by the end-thrust of the axle.

What I claim is—

1. In an axle-box, the transverse stop bar or key D, located in front of the end of the axle and

having supports on the sides of the box, and locking devices for maintaining the bar in position so as to be removable from the box, substantially as set forth.

2. In an axle-box, the combination of a socket, a , on one side of the box and lugs on the opposite side of the box, a bar, D, engaging with said socket and lugs, and a locking key or bolt engaging with said lugs and bar, substantially as set forth.

3. In combination with a car-axle box and axle, a stop key or bar provided with a pump operated by the end-thrust of the axle to elevate oil from the oil-well of the box to the axle brass or bearing, substantially as set forth.

4. In combination with a car-axle and box, a stop key or bar having a pump provided with a piston having a reacting spring operated by the end-thrust of the axle, as and for the purpose set forth.

5. The combination, in an axle-box, of an axle-journal, a brass or bearing, a stop key or bar having pump G, a pipe-connection between pump G and said brass, and a pipe-connection with the box oil-well, and said pump being located and arranged to be operated by the end-thrust of the axle, substantially as set forth.

6. As a new article of manufacture, a stop bar or key for car-axle boxes having a pumping attachment, substantially as set forth.

7. The bar D, having chamber g , pipe g^2 , pipe g' , with check-valve g^3 , and piston g^4 , projecting beyond one side of said bar and having a reacting spring, g^4 , substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE F. GODLEY.

Witnesses:

S. J. VAN STAVOREN,
CHAS. F. VAN HORN.