

No. 625,847.

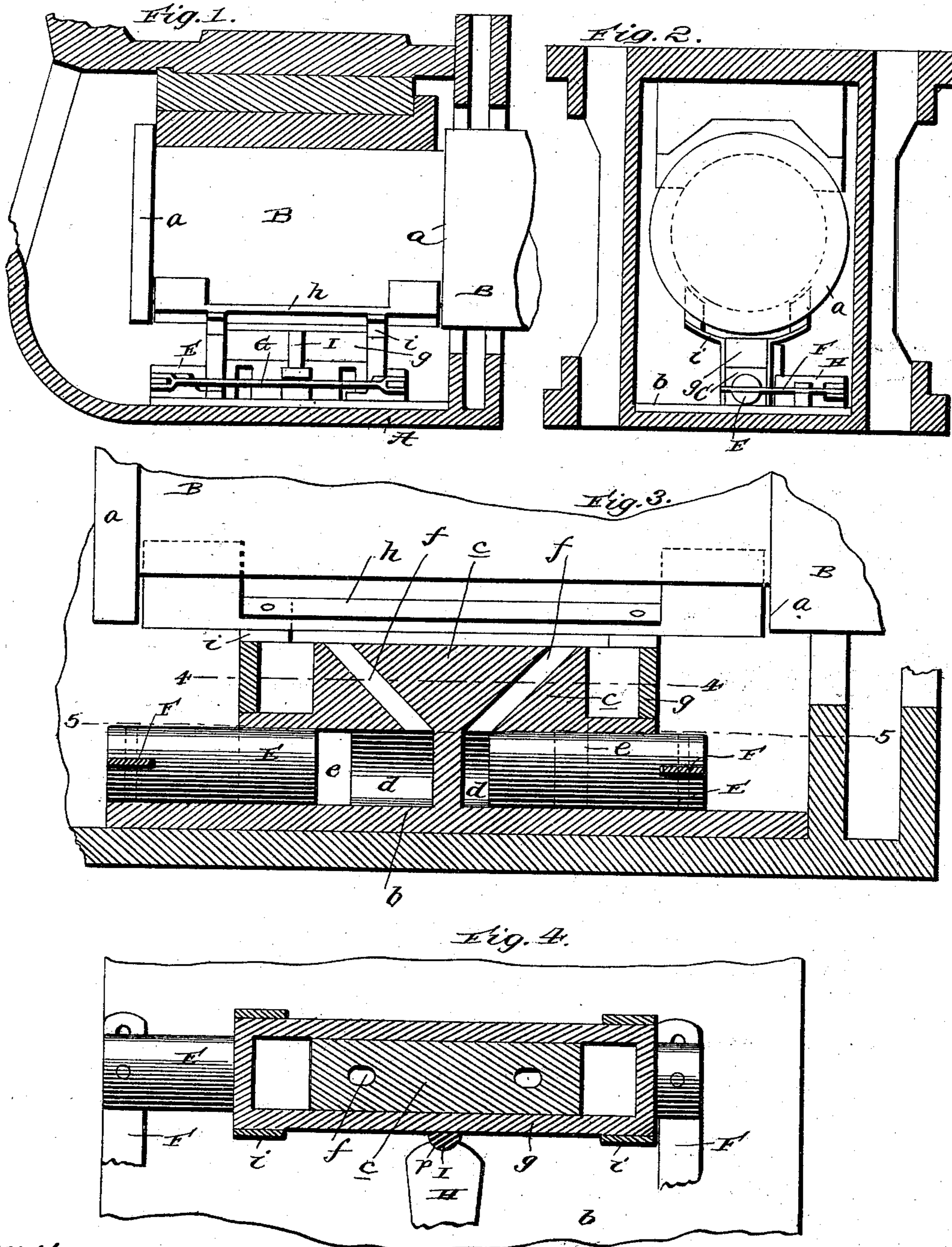
Patented May 30, 1899.

C. J. MILLER.
LUBRICATOR.

(Application filed Feb. 6, 1899.)

(No Model.)

2 Sheets—Sheet I.



witnesses:
C. J. Miller
J. B. Loney

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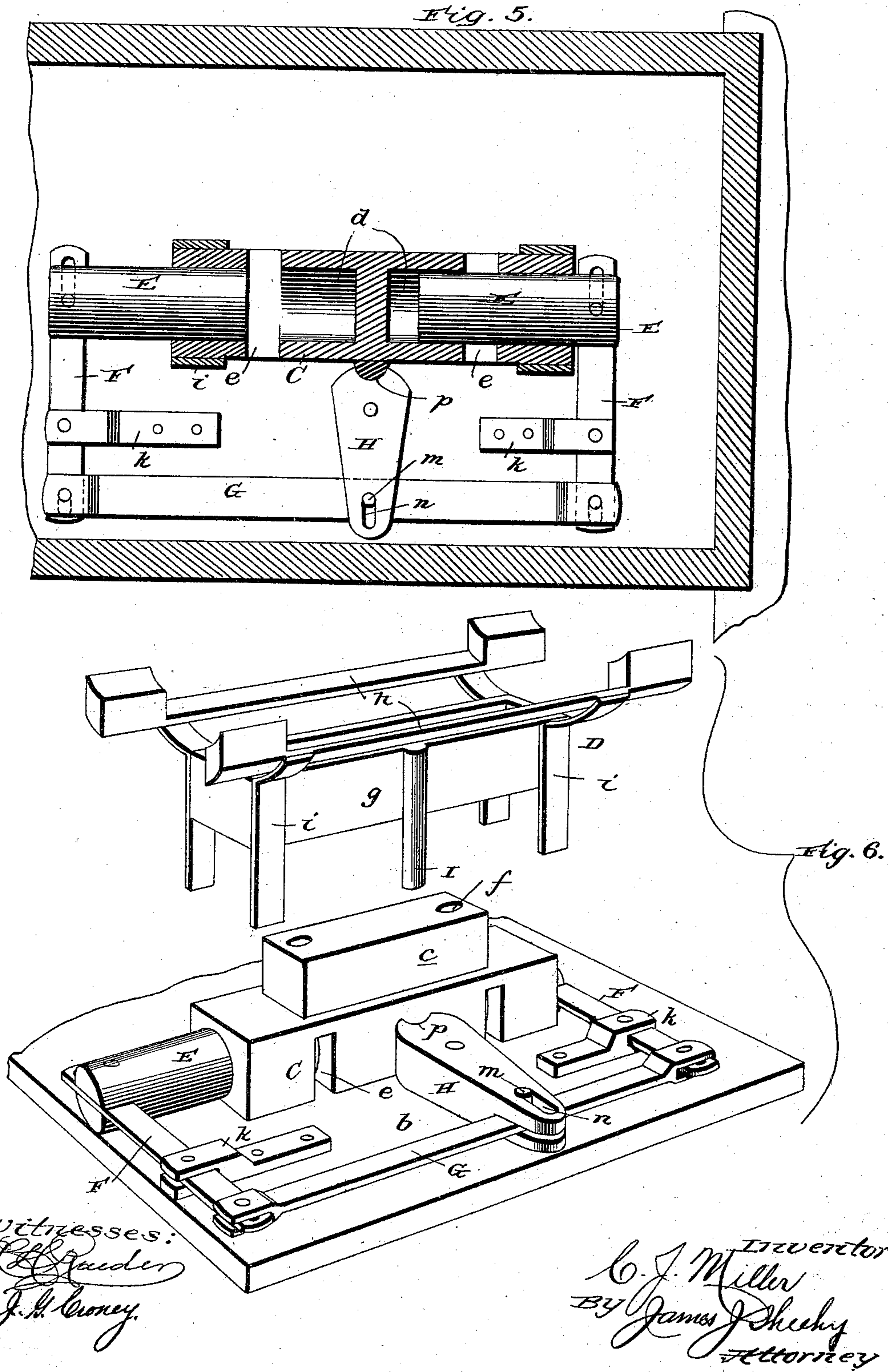
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UNITED STATES PATENT OFFICE.

CHARLES J. MILLER, OF MERIDIAN, MISSISSIPPI.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 625,847, dated May 30, 1899.

Application filed February 6, 1899. Serial No. 704,688. (No model.)

To all whom it may concern:

Be it known that I, CHARLES J. MILLER, a citizen of the United States, residing at Meridian, in the county of Lauderdale and State of Mississippi, have invented new and useful Improvements in Lubricators, of which the following is a specification.

My invention relates to the lubrication of cars, locomotives, and the like, and has for its principal object to provide a lubricator which utilizes the lateral motion or thrust of the car-body and axle-box and also the lateral thrust of the wheels and journal to positively supply lubricant to the latter.

A secondary object of the invention is to provide a lubricator designed to utilize the motion of the car elements mentioned and embodying such a construction that it is readily applicable to journal-boxes and journals such as at present in use without the necessity of remodeling the same.

With the foregoing in view the invention will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1 is a longitudinal section of a journal-box equipped with my improved lubricator. Fig. 2 is a transverse section of the same. Fig. 3 is an enlarged longitudinal vertical section of a portion of the lubricator. Fig. 4 is a detail section taken in the plane indicated by the line 4 4 of Fig. 3. Fig. 5 is a horizontal section taken in the plane indicated by the line 5 5 of Fig. 3 and illustrating the followers in plan. Fig. 6 comprises disconnected perspective views of parts of the lubricator.

In the said drawings similar letters designate corresponding parts in all of the several views, referring to which—

A is a journal-box, which may be of the ordinary or any other suitable construction, and B is a journal which by preference is provided with two shoulders *a* and is otherwise of the usual form.

My improved lubricator is arranged within the box A, below the portion of journal B between the shoulders *a*, and in the preferred embodiment of the invention it comprises a body C, designed to be fixed with respect to the journal-box A, a slide D, engaging and designed to move with the journal B and with

respect to journal-box A, and mechanism operative by the slide for forcing lubricant from one or more chambers of the body to the journal B. The body C has a base *b* and an upper reduced portion *c* and is provided with two longitudinally-disposed chambers *d*, ports *e* for the passage of lubricant from the interior of the box A to said chambers, and ports *f* for the passage of lubricant from the chambers *d* to the journal, which in practice is disposed immediately above the reduced portion *c* of the body, as best shown in Fig. 3. The slide D, as best shown in Fig. 6, is made up of a rectangular frame *g*, which receives and is guided in its movements by the reduced portion *c* of the body; upper longitudinal bars *h*, which are arranged at opposite sides of and in a plane above the frame *g* and are designed to be interposed between the shoulders *a* of the journal B, and arms *i*, which are connected to opposite sides of the frame *g* and have lower portions resting at the sides of the body C and bearing on the base thereof and upper lateral portions connected to the bars *h*. The arms *i* are preferably resilient in order to enable them to give to vertical movements of the journal B and yieldingly hold the bars *h* against said journal B and between the shoulders *a* thereof.

E are followers which are movable in the chambers *d* of body C and have for their purpose to force lubricant through the ports *f* and against the journal B. At their outer ends these followers are loosely connected to levers F, which are fulcrumed in suitable supports *k* on the base *b* and are connected together by a bar G. This bar G has a lug *m* at an intermediate point of its length, which is arranged in a slot *n* of a lever H. The said lever H is fulcrumed on the base *b* and has a depression *p* in its end contiguous to body C, which depression receives a stem I, depending from the frame *g* of the slide D. By reason of this construction when the slide D is reciprocated the followers E will also be reciprocated, for a purpose presently described.

In the practice of the invention the axle-box A is charged with a suitable quantity of a lubricant of a kind suited to the purpose of my invention. This lubricant finds its way into the chambers *d* of the lubricator, and

when the followers E are reciprocated is positively supplied to the journal B. The followers E gain their movement from lateral thrust of the car-body and axle-box and from lateral thrust of the wheels and journal B through the medium of the slide D and connecting devices described, and from this it follows that lubricant will be supplied to the journals only when the car is in motion. It also follows that the greater the speed of a car the greater the supply of lubricant to the journal, since high speed of a car is always attended by considerable lateral thrust of the car-body and axle-box and also of the wheels and journals.

It will be appreciated from the foregoing that my improved lubricator is very simple and practical and that the embodiment of the invention shown and described is readily applicable to axle-boxes and journals such as at present in general use without the necessity of remodeling the same. It will also be appreciated that my improved lubricator will serve to positively supply lubricant to the journal B so long as enough lubricant is in the axle-box to charge the chambers d.

When desired, but one lubricant-chamber and appurtenances might be employed. I prefer, however, to employ two lubricant-chambers with their appurtenances, since by reason of the same thrust of the car elements mentioned in either direction is attended by a positive supply of lubricant to the journal B.

I have entered into a specific description of the construction and relative arrangement of the parts making up the present embodiment of my invention in order to impart a full, clear, and exact understanding of the same. I do not desire, however, to be understood as confining myself to such specific construction and relative arrangement of parts, as such changes may be made in practice as fairly fall within the scope of my invention.

Having thus described my invention, what I claim is—

1. In a lubricator, the combination of a journal-bearing, a journal, lubricant-chambers fixed with respect to the bearing, a slide

resting in permanent engagement and movable endwise in opposite directions with the journal, followers movable in the lubricant-chambers, and a connection between the slide and followers whereby said followers are simultaneously moved in opposite directions, substantially as specified.

2. In a lubricator, the combination of a journal-bearing, a journal having the shoulders a, a lubricant-chamber fixed with respect to the journal-bearing, a slide having a portion yieldingly pressed against the journal and interposed between the shoulders a thereof whereby said slide is caused to move longitudinally in opposite directions with the journal, a follower movable in the lubricant-chamber, and a connection between the slide and follower, substantially as specified.

3. In a lubricator, the combination of a journal-box adapted to contain lubricant, a journal, a lubricant-chamber having an induction-port at an intermediate point of its length, and also having an eduction-port, a follower movable in said chamber and arranged to intersect the induction-port thereof, and a device permanently engaging and movable longitudinally with the journal in opposite directions and connected with the follower, substantially as specified.

4. In a lubricator, the combination of a journal-box, a journal, lubricant-chambers arranged in the box and having induction and eduction ports, followers movable in the chambers, a slide engaging and movable endwise with the journal, levers connected at their inner ends to the followers, a bar connecting the outer ends of said levers, and a lever engaging the said bar and arranged to be engaged by the slide, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES J. MILLER.

Witnesses:

S. LOWI,
S. F. NEVILLE.