

No. 614,254.

Patented Nov. 15, 1898.

C. T. MOORMAN.
DEVICE FOR OILING VEHICLE AXLES.

(Application filed Mar. 11, 1897.)

(No Model.)

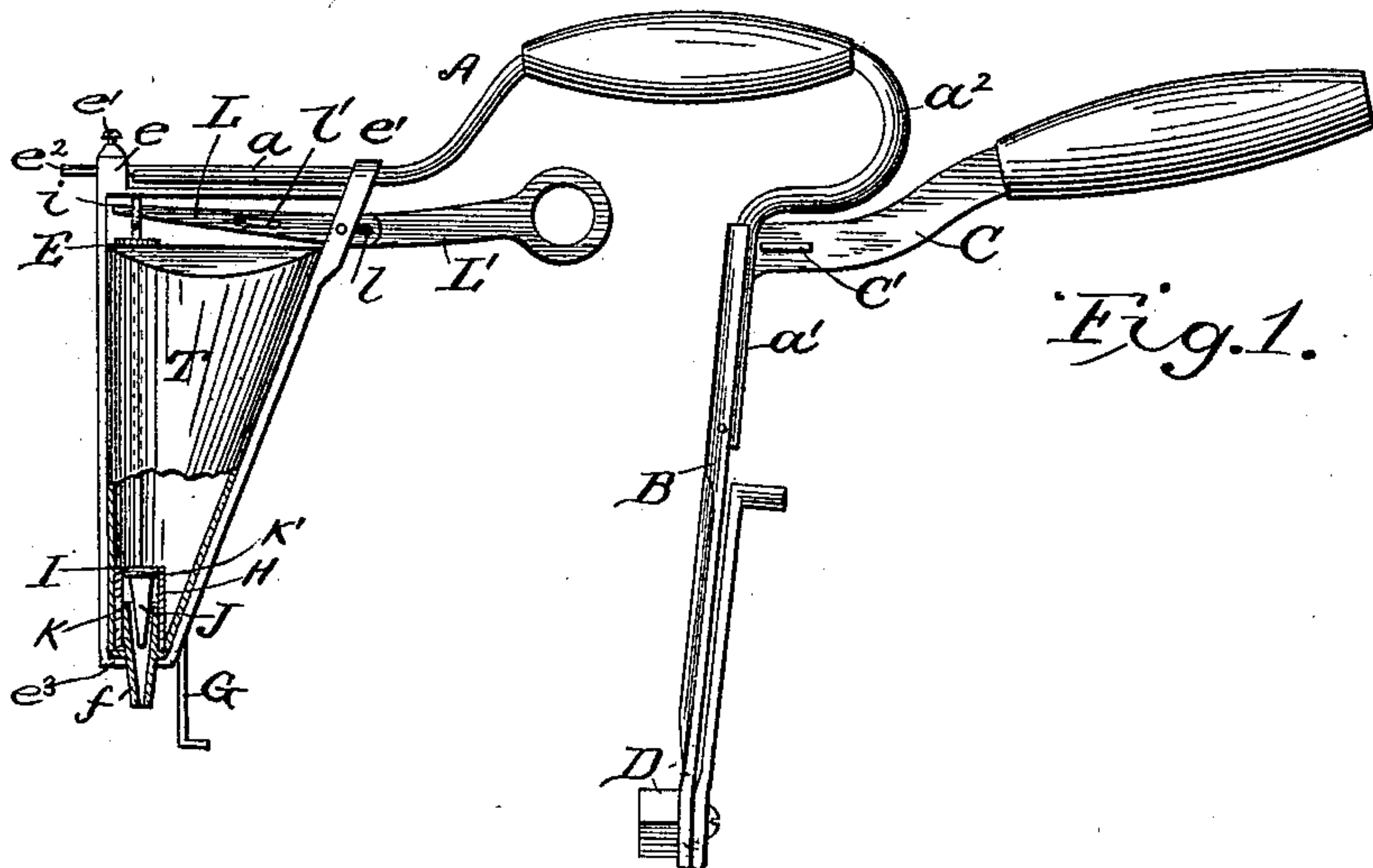


Fig. 1.

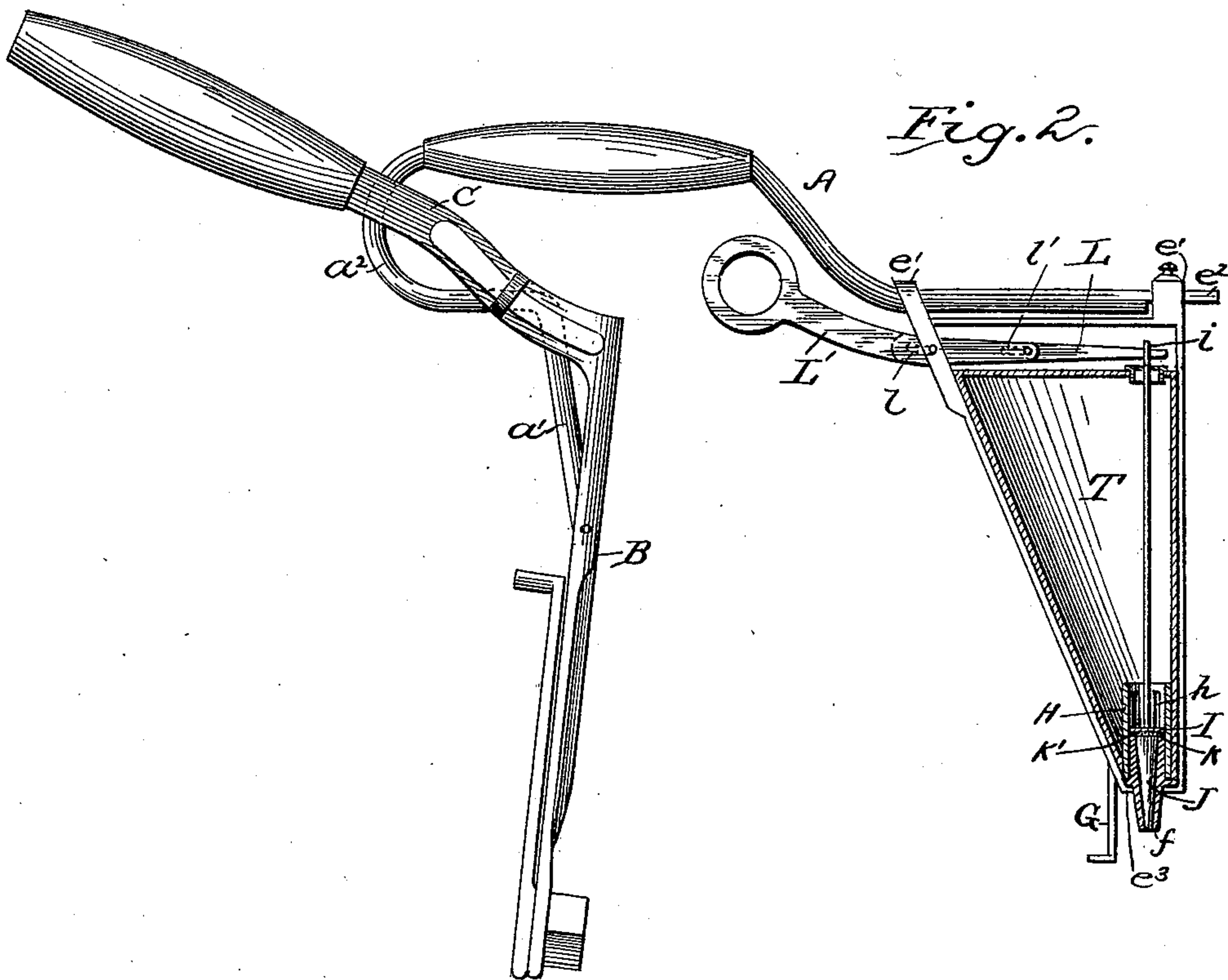


Fig. 2.

WITNESSES

A. B. Degees
L. Boian

INVENTOR

Charles T. Moorman,
by M. Horian
his Attorney

UNITED STATES PATENT OFFICE.

CHARLES T. MOORMAN, OF PACKWOOD, IOWA, ASSIGNOR OF TWO-THIRDS
TO CHARLES A. MOORMAN, OF SAME PLACE, AND ELI W. MOORMAN, OF
IOKA, IOWA.

DEVICE FOR OILING VEHICLE-AXLES.

SPECIFICATION forming part of Letters Patent No. 614,254, dated November 15, 1898.

Application filed March 11, 1897. Serial No. 626,929. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. MOORMAN, a citizen of the United States, residing at Packwood, in the county of Jefferson and State of Iowa, have invented certain new and useful Improvements in Devices for Oiling Vehicle-Axles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement upon the device for oiling vehicle-axles patented to me July 2, 1895, No. 542,064.

The objects of the present invention are as follows: First, to provide a frame which will be simpler, cheaper, and more durable than that of the previous device and at the same time will have the feature of elasticity thereof, which holds the foot-pieces automatically into close engagement with the wheel-hub and moves the wheel longitudinally upon the axle-spindle as the nut is unscrewed and causes the lubricant to be distributed throughout the length of the spindle; second, to provide means whereby the lubricant-receptacle may be adjusted to adapt the device for use upon hubs of different lengths; third, to improve the construction of the lubricator proper so as to cause the lubricant to be fed by mechanical force instead of by gravity alone, which feeding mechanism will be of novel and simple construction; fourth, to provide for the easy removal of the lubricant-receptacle from the rest of the device, and, fifth, to operate the plunger by a horizontal lever without causing the plunger to reciprocate in other than a true vertical line. These several objects are accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying my improvements, showing the same in operation, a part of the lubricant-receptacle being broken away to show the interior. Fig. 2 is a view, with the lubricator proper in section, showing the position of the parts when the device is about to be applied to a wheel to lubricate the axle-spindle.

The same letters of reference indicate corresponding parts in both views.

In the drawings, A designates a rod preferably comprising the horizontal arm or part *a* at one end, the approximately vertical part *a'* at the other end, and the intermediate bent part *a''*. To one end of the part *a'* is pivoted an arm B, which carries the wrench D, and mounted upon the horizontal part *a* is the frame E, carrying the lubricant-receptacle F. G designates a foot-piece which projects from said frame and is intended to engage one side of the wheel-hub.

Rod A is formed of spring-steel, and the relative position of the parts is such that the space between the foot-pieces G and wrench-arm B will normally be less than the length of the wheel-hubs.

In applying the device arm D is turned upon its pivot to admit the wheel-hub, and the foot-piece is engaged with one side of the latter, after which the arm is returned to its normal approximately vertical position, bringing the wrench-head into engagement with the axle-nut, and is locked in the latter position by a catch, hereinafter referred to. It will be understood that the inherent elasticity of the rod will hold the foot-piece and nut-detaching device into close engagement with the hub and automatically causes the wheel to be pressed off the spindle as the nut is unscrewed, and the lubricant is to be distributed throughout the length of said spindle. Thus it will be seen that I gain the important advantages possessed by the corresponding part of my previous construction by a means much more simple and durable than the one employed in that.

The pivoted arm B is provided with a lever C for turning it upon its pivot, and said lever has a spring-catch C', of any suitable construction, to lock part *a'* and arm B together. Preferably said arm is formed with a recess to receive said part *a'*. Lever C is provided with a handle for convenience in operation, as is also the bent intermediate part of rod A, as shown. In said previous device no means was provided for adjusting the parts to operate efficiently in connection with dif-

ferent lengths of wheel-hubs. This important desideratum is answered in this device by providing the frame E of the lubricating-receptacle with lugs *e*, formed with openings, 5 through which the horizontal part *a* extends loosely. Said frame is adjustable upon said part *a* to reduce or increase the space between the foot-pieces G and arm B and is held in adjusted position by means of the set-screw *e'*. To prevent the frame from turning 10 upon the rod, the latter and the opening through the lugs are flattened, as indicated at *e*². There was also in my said previous device no provision for the removal of the lubricant-receptacle from the device. This desirable end is accomplished herein, as will hereinafter more fully appear. 15

In the previous device gravity alone was depended upon to feed the oil. This was objectionable, as many lubricants are so thick 20 that they will not flow freely and when thin the flow is so rapid as to result in a waste of oil. To abolish these disadvantages by simple and practicable means, I provide the lower 25 end of the receptacle with a tube H, which extends a proper distance upward into the receptacle and communicates with the spout *f*. The upper end of this tube is formed with lateral openings *h*. Fitted tightly within the 30 tube is a plunger I, which when seated is below said lateral openings, so as to prevent the escape of oil, and when raised permits the lubricant to flow into the tube through said lateral openings, from which it is forced by 35 moving the plunger downward. It will be seen that I have provided a simple and practical lubricant-feeding means which will at each reciprocation of the plunger force a certain definite amount of the lubricant onto 40 the spindle, which amount will be determined by the capacity of the tube, which will be of such size as to prevent wastage. To prevent liability of wasting of the lubricant when the device is not in use, I prefer to provide the 45 plunger with a depending conical valve J, which will fit tightly within the conical bore of the spout *f*, and also to seat the plunger upon a flange K at the bottom of the tube and provide the under surface with a packing-ring K'. 50

The plunger and valve operating means is preferably pivoted and arranged horizontally, and in order that the plunger may with this form of operating mechanism reciprocate 55 in a true vertical line, so as to operate properly and accomplish their functions efficiently, it is necessary that a sliding connection be made. To this end I prefer to employ two levers L L', one of which, as L, is 60 pivotally attached to the upper end of the plunger-rod and has two longitudinal slots *ll'*, while the other is pivoted to the frame of the lubricant-receptacle by a pin which extends through said slot *l* and has at one end a laterally-projecting pin which traverses slot *l'* 65 and its other end formed into a handle.

To provide for removal of the lubricant-re-

ceptacle from the frame after the latter has been removed from the rod, the pivot-pin attaching the levers to said frame is detachable, 70 which allows the levers to be removed. The lever L is detachably secured to the upper end of the plunger-rod, and said frame has a bottom plate *e*³, upon which the bottom of the receptacle rests, which plate is formed with 75 an opening through which the spout projects.

Preferably the upper end of the plunger-rod is formed with an opening *i*, through which the adjacent end of the lever L extends loosely, whereby the two will have a pivotal sliding 80 engagement and may be instantaneously detached from each other.

I am aware that many minor changes in the arrangement and construction of the several parts may be made without departing from 85 the spirit of my invention.

Having thus described my improvements, what I claim is—

1. In a device for oiling vehicle-axles, the combination of a substantially vertical arm, 90 a nut-detaching device carried thereby, a second arm, a spring connection between said arms, and a lubricating means horizontally adjustably secured to said second arm.

2. In a device for oiling vehicle-axles, the 95 combination of a spring-rod having a substantially horizontal arm, a substantially vertical arm and an intermediate bent portion, a frame detachably secured to the horizontal arm, a lubricant-receptacle detachably held by said 100 frame, a discharge-valve for said receptacle, a stem connected to the same, an operating-lever for the valve pivoted to said frame and loosely engaging said stem, and a nut-detaching device carried by said vertical arm, substantially as described. 105

3. In a device for oiling vehicle-axles, the combination of a rod having a substantially horizontally-extending arm, a substantially 110 vertical arm, and an intermediate spring connecting portion, a nut-detaching device carried by said vertical arm, and a lubricating means horizontally adjustably secured to said horizontal arm.

4. In a device for oiling vehicle-axles, the 115 combination of the lubricant-receptacle, a frame for supporting the same, said frame having lugs formed with openings, an arm extending through said lugs and upon which the frame is adjustably mounted, a nut-detach- 120 ing device, and a spring member between said nut-detaching device and receptacle-support to press the same yieldingly toward each other.

5. In a device for oiling vehicle-axles, the combination of a spring-rod having a horizon- 125 tally-extending end, a vertically-extending end and a bent intermediate part, a frame mounted adjustably upon said horizontal end, a lubricant-receptacle carried by said frame, and a nut-detaching device carried by the 130 other end of said rod, said rod operating by its own inherent elasticity to press said receptacle and nut-detaching device yieldingly toward each other.

6. In a device for oiling vehicle-axles, the combination of the lubricant-receptacle, a frame supporting the same, a spring member on one end of which said frame is adjustably supported, a nut-detaching device mounted on the other end of said spring member, said spring member acting to hold said receptacle and nut-detaching device yieldingly toward each other.

10 7. In a device for oiling axle-spindles, the combination with the rod, of the frame removably mounted thereon and having its lower end formed with an opening, a removable lu-

bricant-receptacle seated upon said lower end and formed with an exit-spout projecting 15 through said opening, a device for controlling the flow of lubricant through said spout, having a stem projecting upward through said receptacle, and a horizontal lever removably attached to the upper end of said stem. 20

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

CHARLES T. MOORMAN.

Witnesses:

S. M. MCHOSE,
SARAH MCHOSE.