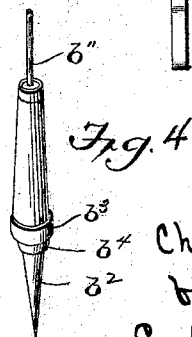
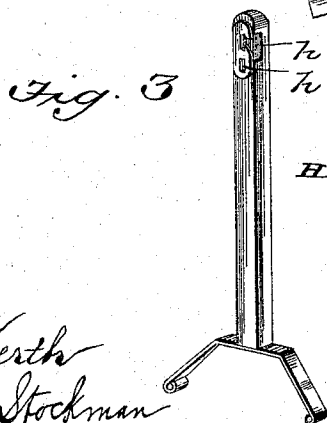
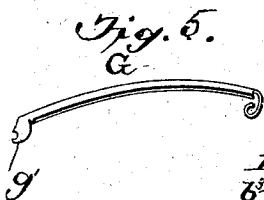
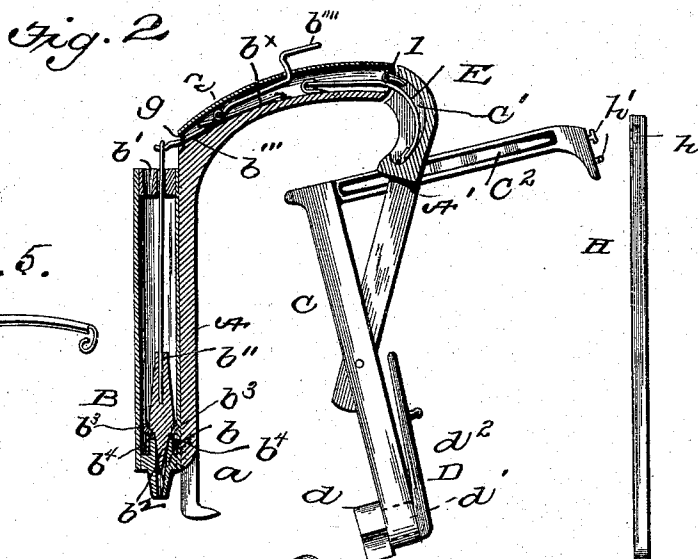
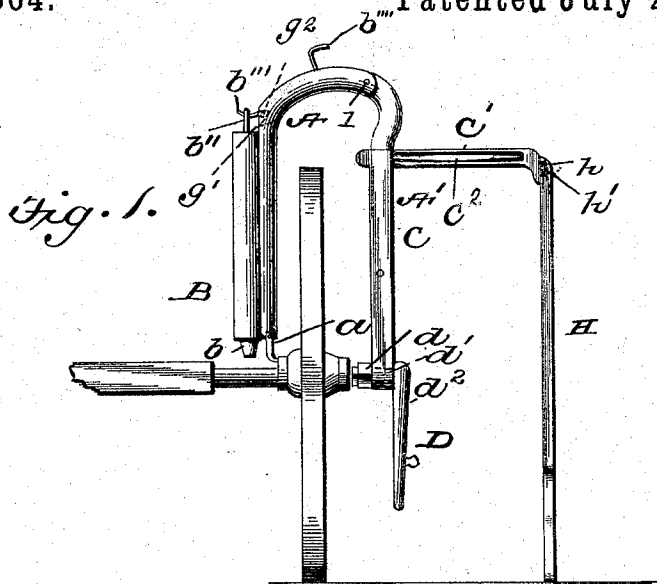


(No Model.)

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

No. 542,064.

Patented July 2, 1895.



Witnesses

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UNITED STATES PATENT OFFICE.

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TO CHARLES A. MOORMAN, OF SAME PLACE, AND ELI W. MOORMAN, OF
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DEVICE FOR OILING VEHICLE-AXLES.

SPECIFICATION forming part of Letters Patent No. 542,064, dated July 2, 1895.

Application filed August 24, 1894. Serial No. 521,181. (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 has relation to a device for oiling vehicle-axles; and it consists in certain peculiarities in the construction, arrangement, and combination of the several parts, substantially as hereinafter described, and particularly pointed out in the subjoined claims.

The object of my invention is to provide a simple, cheap, durable, and practical device by the use of which axle-spindles may be more quickly and easily lubricated than is now possible. This object is accomplished by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a device constructed in accordance with my invention, showing the same in the position it occupies while being operated. Fig. 2 is a view, partly in section, with the parts in the position they may occupy when the device is not in operation. Fig. 3 is a detail view of the device used when it is desired to support the wheel in upright position in order to cleanse the spindle or adjust the washers. Fig. 4 is a detail view of the valve for controlling the issue of the lubricant. Fig. 5 is a detail view of the cap for the frame.

The same letters of reference designate the same parts in the several figures.

The frame of my improved device consists of the two parts A and A', pivotally joined together by the bolt *l*, and made of any suitable shape. Said part A supports the lubricator B and is provided with foot-pieces *a*, which may be any suitable construction that will enable them to engage the hub of the wheel. To the part A' is pivoted an arm C, having at its upper end an operating handle or lever C', by means of which its lower end

is advanced toward or retracted from the wheel, and said lower end of the arm C carries a wrench D, which in the operation of the device is designed to engage the nut on the axle-spindle and to unscrew said nut from or to screw it upon said axle-spindle. For this purpose the head *d* of the wrench is mounted upon one end of a shaft *d*, to the other end of which is secured a handle *d*², by means of which it is operated.

E designates a spring which is intended to act automatically to hold the foot-pieces *a* into close engagement with the wheel-hub and also to move the wheel longitudinally upon the spindle during the operation of unscrewing the nut from the axle. Any construction or arrangement of spring or any other suitable means which will accomplish the object stated may be employed without departing from the spirit of the invention; but I prefer the construction shown, which consists of a bent spring located at the junction of the two parts A and A' of the frame and having one end seated in said part A and the other end seated in said part A' and its intermediate part engaged with the pivotal bolt *l*, as shown in Fig. 2, the spring thereby causing said part A of the frame to exert a constant pressure upon the wheel-hub in the direction of the burr, and as said part A is pivoted the pressure above described will cause the wheel to follow the burr as the latter is being unscrewed when the wheel is elevated off the ground. By the use of such a spring accidental disengagement of the device from the wheel is prevented and the necessity for handling the wheel in order to move it upon the spindle is avoided, as is obvious.

The lubricator B, above referred to, consists of a tubular or other suitably-shaped body having in its lower end a spout *b* for the escape of oil and in its upper end an opening *b*¹, through which it is supplied with oil. Said spout projects upward into the body of the lubricator and the channel through it is tapered, as shown in Fig. 2. This spout is normally closed by means of a valve or plug *b*², which fits within the upper end of said spout and is of somewhat greater taper than the opening through the same. Said plug has a

cup-shaped part b^3 and a packing ring b^4 , which fit the upper end of said spout and thereby serve effectually to prevent the escape of oil when the device is not in use.

5 The plug is secured to the lower end of a vertically-movable stem or rod b'' , the upper end of which is secured to a centrally-pivoted horizontal lever b''' , the free end of which is formed into or provided with a thumb-piece
10 b'''' , by means of which said end may be depressed to raise the plug b^3 from its seat when it is desired to allow the oil to escape. A spring b^x of any suitable construction is used to hold the plug normally to its seat and to return it to its seat when pressure upon the
15 thumb-piece b'''' is released.

The springs E and b^x and the lever b''' are preferably inclosed within hollowed-out parts of the frame, to which hollow parts access is
20 had by removing a cap G, which cap is removably secured to the part A of the frame by providing it with hooks or projections g g' and engaging the same under projections g^2 and the pivotal bolt l , respectively.

25 In order to enable the device to support the wheel in upright position when it is required to set it aside for the purpose of cleansing the spindle or adjusting washers, I have provided a detachable leg or support H, having
30 at its bottom diverging feet and at its upper end slots h h , which are designed to engage pins h' h' , projecting from the end of the arm C', said slots extending in different directions and one of them having an open end, as
35 shown in Fig. 3, for convenience in attaching said support to or removing it from said arm.

When the wheel is withdrawn from the spindle and it is desired to hold it upright, the foot-pieces a are engaged with its hub and
40 the leg is attached, as above described. The wheel rests with its tire in contact with the ground and is prevented from falling over by the balancing force provided by the substantially inverted-U-shaped frame of the lubricator and the leg with diverging feet.

45 The handle C' is provided with a recess within which is secured one end of a spring-catch C², the free end of which springs outward into engagement with the outer side of
50 the part A' of the frame when brought opposite thereto and thereby locks said handle and the arm C in the position shown in Fig. 1.

In the operation of the device hereinabove described the part A of the frame is engaged
55 with one end of the hub of the wheel and the arm C' is moved from the position shown in Fig. 2 to the position shown in Fig. 1 and the head d of the wrench is engaged with the axle-nut. The handle d^2 of the wrench is now
60 turned to loosen the nut by one hand of the operator, while with his other hand he may depress the free end of lever b''' , so as to allow the oil to escape and lubricate the spindle, upon which latter the wheel is moved
65 automatically by the pressure exerted upon it by the action of the spring E during the operation of unscrewing said nut, and obvi-

ously the part A of the frame and the lubricant-receptacle supported by the same follow
said wheel, thereby distributing the lubricant 70 throughout the length of the spindle.

It will of course be understood that the wheel is held elevated off the ground by a lifting-jack during the operation of oiling the spindle.

75 From the above it will be seen that a device constructed as above described will obviate the necessity of handling of the wheel by the operator and that it will effectually and economically lubricate the spindle and much 80 more quickly and with less labor than is possible with the devices heretofore proposed for the purpose.

Having now described my invention, what I believe to be new, and desire to secure by 85 Letters Patent, is—

1. In an axle lubricator, the combination with a frame adapted to be attached to a wheel, a lubricant receptacle supported by said frame and provided with a valve for closing 90 its discharge opening, and a lever, connected with said valve and serving to raise the same from its seat, when depressed, substantially as described.

2. In an axle lubricator, the combination 95 with the frame, having a pivoted part provided with devices for engaging it with the wheel and also provided with means for automatically moving it in a direction lengthwise of the axle spindle, of a lubricant receptacle supported by said pivoted part of the 100 frame, substantially as described.

3. In an axle lubricator, the combination with the frame, having a pivoted part designed to be engaged with a vehicle wheel, 105 and a spring acting upon said pivoted part for the purpose specified, of a lubricant receptacle supported by said pivoted part of the frame and movable therewith.

4. In an axle lubricator, the combination 110 with a frame, having a pivoted part provided with devices for attaching it to a wheel, and a spring acting upon said pivoted part of the frame, of a lubricant receptacle, supported by said pivoted part of the frame and provided 115 with a valve for closing its discharge opening, and a lever, connected with said valve and serving when its free end is depressed to raise said valve from its seat.

5. In an axle lubricator, the combination 120 with a frame, adapted to be attached to a wheel, of a lubricant receptacle, supported by said frame and provided with a discharge spout, a valve normally closing the opening through said spout, and a lever for raising 125 said valve from its seat, substantially as described.

6. The combination with the frame adapted to be attached to a wheel, of a rod, pivoted to said frame, a wrench carried by said rod, and 130 a handle for operating said wrench.

7. The combination with a frame, having a pivoted part adapted to be attached to a vehicle wheel, of a pivoted rod mounted upon

said frame, a wrench carried by said rod, and an operating handle for said rod.

8. The combination with a frame adapted to be attached to a wheel, of a rod, pivoted to said frame a wrench carried by said rod, and an operating handle for said rod, said handle having a spring catch, substantially as described.

9. A means for supporting a wheel in vertical position when removed from its axle spindle, said means embodying a substantially inverted U-shaped frame one side of which is designed to be attached to the wheel and having at its other side a supporting leg having a broadened base detachably secured to it, substantially as described.

10. The combination with the frame of an axle lubricator, said frame being of substantially inverted U-shape, one leg of which is

designed to be attached to the vehicle wheel, an arm pivoted to the other leg of said frame and provided with an operating handle, and a supporting leg having a broadened base detachably secured to said handle, substantially as described and for the purpose specified.

11. The herein-described lubricator for axle spindles, embodying a frame made in sections pivotally attached together, a lubricant receptacle supported by one of said sections, a rod pivoted to the other of said sections, and a wrench carried by said rod, substantially as described.

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

CHARLES T. MOORMAN.

Witnesses:

CHARLES WARFIELD,
HENRY A. RUSSELL.