

(No Model.)

L. S. LEWIS.

VEHICLE TOOL.

No. 395,658.

Patented Jan. 1, 1889.

Fig. 1

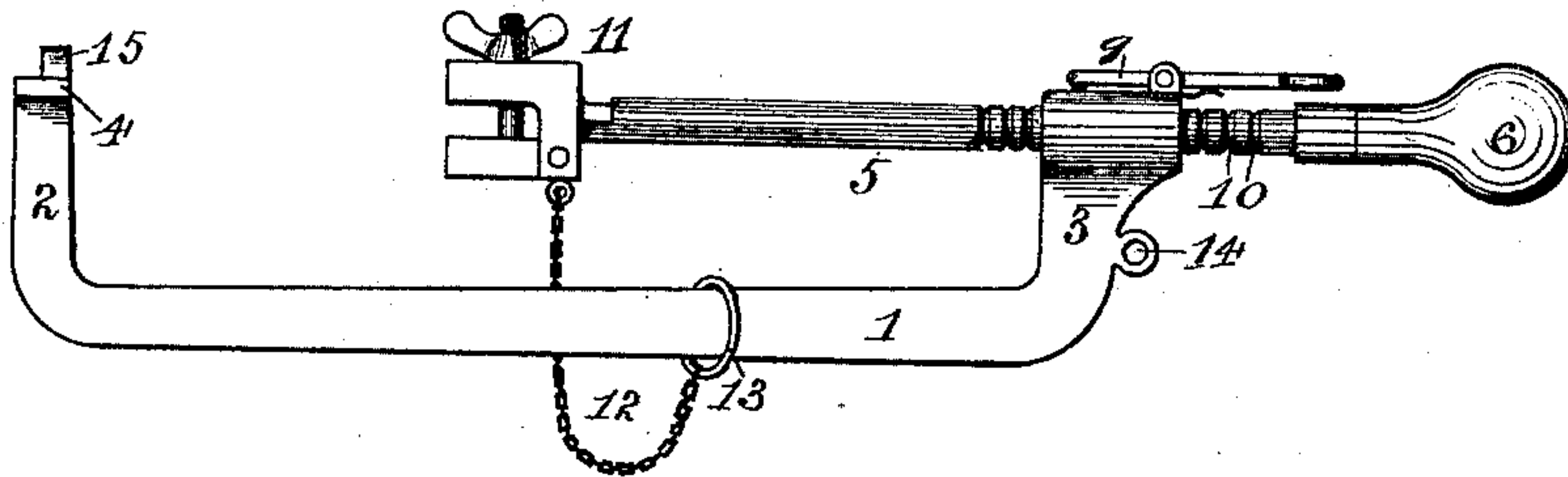


Fig. 2

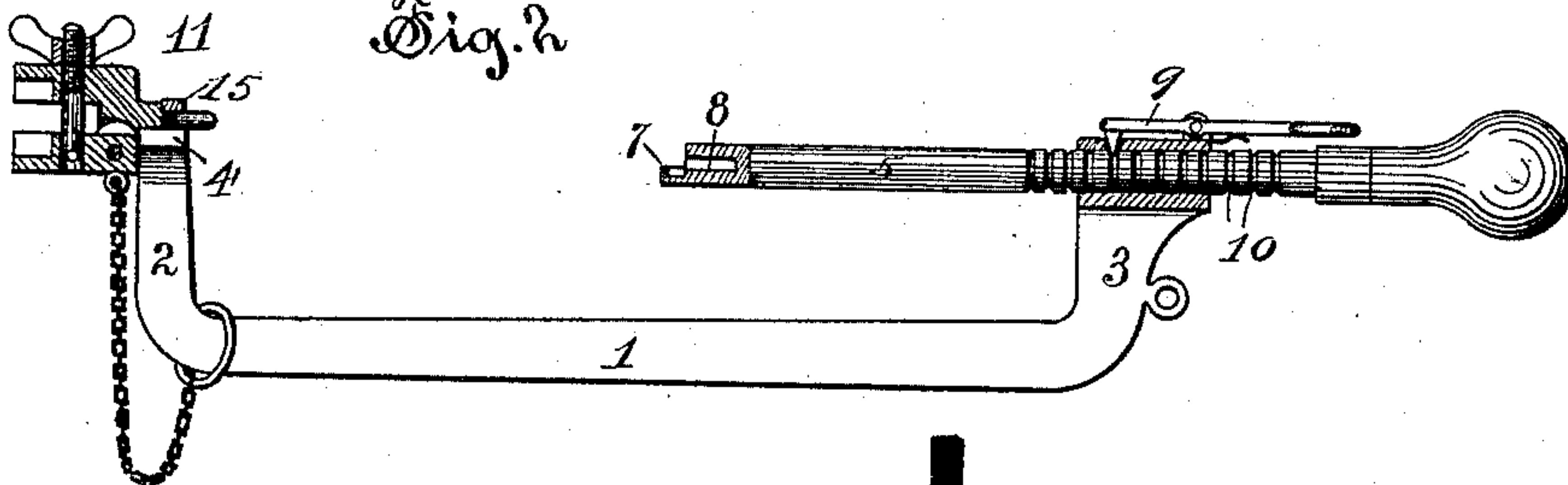


Fig. 3

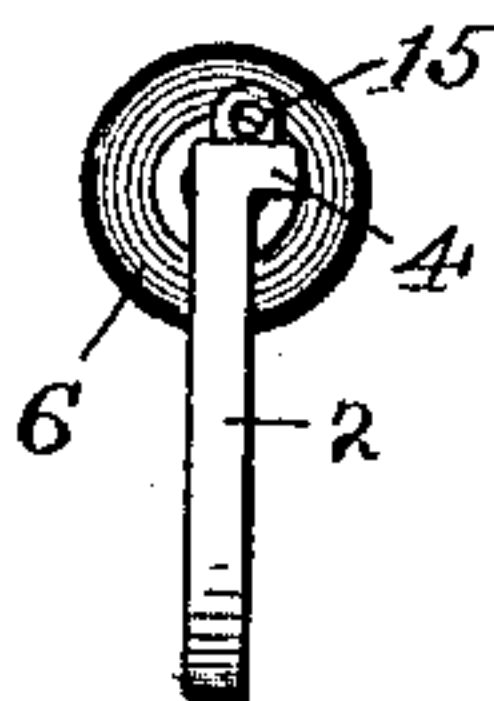


Fig. 4

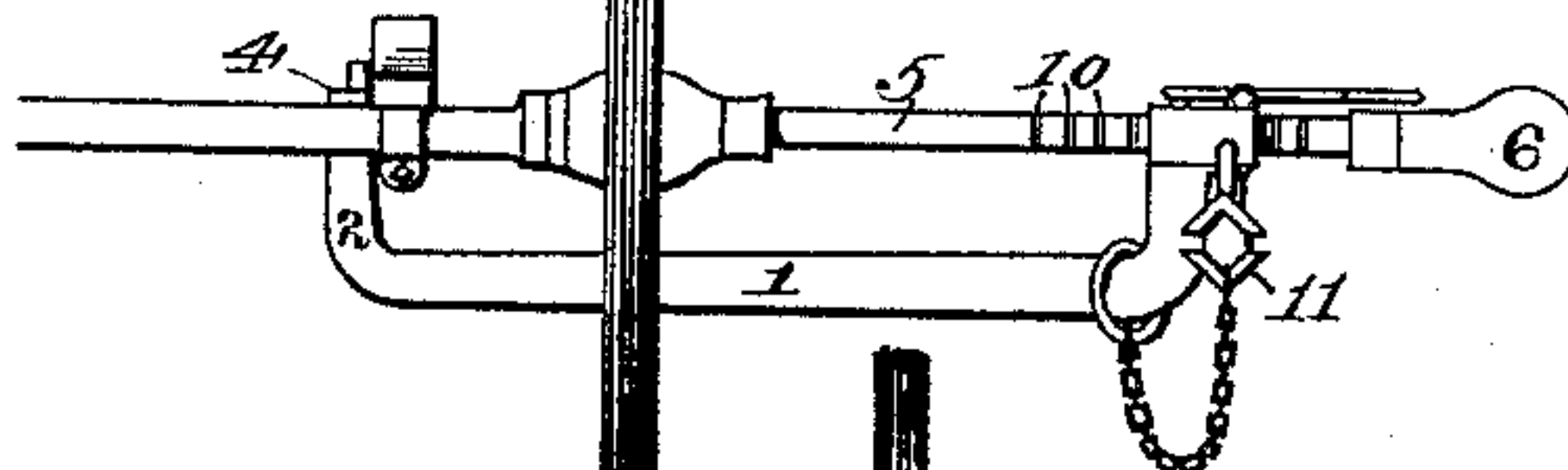
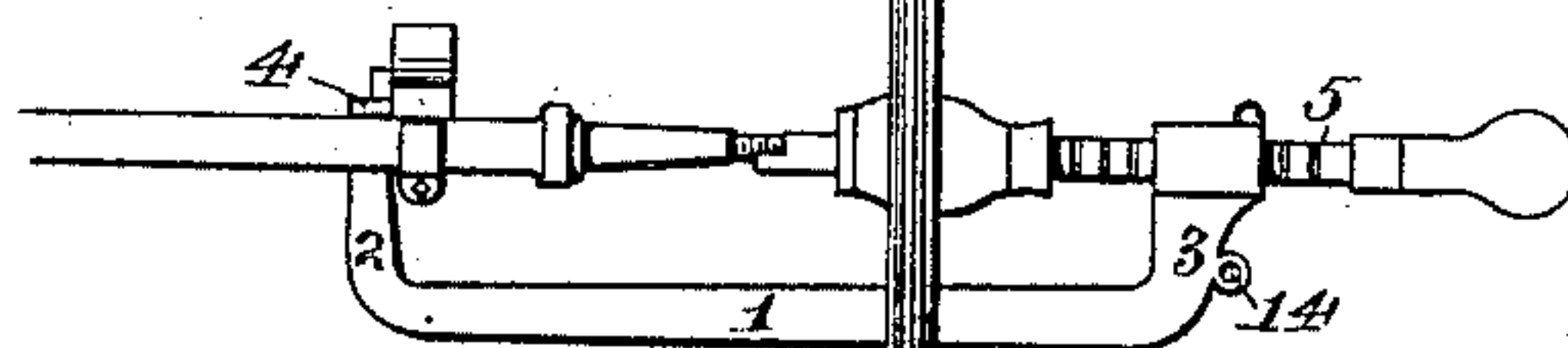


Fig. 5



Witnesses:

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UNITED STATES PATENT OFFICE.

LEROY S. LEWIS, OF HARTFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF TO
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VEHICLE-TOOL.

SPECIFICATION forming part of Letters Patent No. 395,658, dated January 1, 1889.

Application filed September 11, 1888. Serial No. 235,138. (No model.)

To all whom it may concern:

Be it known that I, LEROY S. LEWIS, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new
5 and useful Improvements in Vehicle-Tools, of which the following is a full, clear, and exact specification.

My invention relates to a combination-tool used in connection with the operation of lubricating the axles of wagons, carriages, and the like vehicles; and the object is to provide
10 a tool for removing and holding the axle-nut and also the wheel of a vehicle in convenient position to be easily and quickly replaced without danger of soiling the hands with the lubricant, which tool is so adjustable that it will
15 fit and can be used on any class of vehicle without regard to the position of its running-gear.

Referring to the accompanying drawings, Figure 1 is a side view of the tool with the axle-nut clamp attached to the end of the rotary spindle. Fig. 2 is a side view, part being in section, with the clamp attached to the
20 end of the body. Fig. 3 is an end view of the body. Fig. 4 is a side view illustrating the position of the tool in removing a wheel. Fig. 5 is a side view with the wheel removed.

In the drawings, 1 denotes the body of the tool, which is preferably formed of malleable iron, having the upturned ends 2 and 3, the end 2 being bent out at right angles to the plane of the body to form the hook 4, while the end 3 is perforated to form a socket for
30 the spindle 5. This spindle is a little smaller in diameter than a vehicle-axle, is free to rotate in the end 3 of the body, and is held in lengthwise adjustment by the locking device 9, which consists of a lever pivoted between
40 ears on the top of the end 3, bearing a wedge held normally by a spring in one of the annular notches 10 in the surface of the spindle, the lever having a thumb-piece in convenient position to be depressed to draw the wedge
45 from the notches. The spindle terminates on one end in a handle, 6, while the other end is cut away to form a mortise, into which the end of the axle is set when the tool is to be
50 used to remove and support a wheel, the extreme end being provided with a rib, 7, that

will hook into the thread on the end of the axle, so that the spindle will not pull away from the axle when a vehicle is being lifted to slide off a wheel. This end of the spindle is also perforated to form a socket, 8, into
55 which the end of the shank of the clamp 11 is inserted.

The clamp 11 consists of a pair of jaws pivoted to each other and adapted to be forced together by a thumb-nut which fits a threaded
60 bolt that is fast to one jaw and passes loosely through the other. The shank of the clamp is rectangular for a short distance, while the end is rounded to fit into the socket 8 in the end of the spindle, the rectangular portion
65 setting into the mortise to insure the rotation of the clamp with the spindle.

12 is a chain which joins the nut-clamp to the ring 13, that is movable along the body.

14 is a socket of a size that will receive the
70 shank of the clamp.

15 is a lug on the end 2 of the body. This lug also has a socket that will receive the shank of the clamp.

In using the device to lubricate an axle the
75 end 2 is passed between the spokes of the wheel and the hook 4 caught over the axle. The spindle bearing the clamp, as shown in Fig. 1, is then pushed forward, the lock being released by pressure upon the handle of the
80 lever, and the clamp-jaws secured to the nut, which may then be unscrewed by rotating the handle of the spindle. When the nut is free from the axle, the shank of the clamp is placed in the socket 14, as shown in Fig. 4,
85 where the nut is held until again required. The spindle is then pushed forward until the end of the axle rests in the mortise and the rib 7 engages the thread on the axle, when, by lifting on the handle, the wheel is lifted
90 from the ground and slipped from the axle onto the spindle, as shown in Fig. 5, in which position the wheel is allowed to rest on the ground and support the vehicle, as usual. The axle may now be lubricated, after which
95 the wheel is slipped back upon it, the spindle withdrawn from contact with the axle, and the clamp attached to its end, and then the nut screwed home, without its being handled with the fingers, by the rotation of the spindle. 100

Should the nut stick to the axle, the clamp is attached to the end of the body by inserting its shank in the socket in the lug 15, as shown in Fig. 2. Then a crank-wrench is
5 formed which will turn the most obstinate nut. This may also be used when it is necessary to screw up the nut tightly.

The chain-and-ring connection between the clamp and body is required in order that the
10 nut will not get gritty should the clamp drop from its socket.

The object of having the spindle rotary is to permit a nut to be screwed by the spindle, while its lengthwise adjustment is necessary
15 to enable the tool to be used on all classes of vehicles without regard to the location of the axle-blocks and springs, while the utility of having the body drop below the axle is that it can be used on vehicles when the body or
20 spring-bars hang low. All vehicles have more or less gear above the axle, but none below.

I claim as my invention—

1. In a vehicle-tool, in combination with the body having upturned ends, one of which is
25 bent at right angles to the plane of the tool, while the other is perforated, a movable spindle borne in said perforation, one end of the spindle being mortised to fit the end of the axle, while the other end bears a handle, sub-
30 stantially as described, and for the purpose specified.

2. In a vehicle-tool, in combination with the body having upturned ends, one of which is
35 bent at right angles to the plane of the tool, while the other bears a movable spindle, the

movable spindle and a locking device to prevent the slipping of the spindle when it is desired, substantially as described, and for the purpose set forth.

3. In a vehicle-tool, in combination with the
40 body having upturned ends, one of which bears the hook 4 and the socketed lug 15 and the other is perforated and bears a sliding spindle, a locking device for the spindle and the clamp, substantially as described. 45

4. In a vehicle-tool, in combination with the body having upturned ends, one of which bears a hook, 4, and the other is perforated and bears in said perforation a rotary and
50 sliding spindle, one end of which terminates in a handle, while the other is mortised to receive the end of the axle and is perforated to receive the shank of a clamp, the clamp 11, with a shank adapted to fit into the end of the spindle, substantially as described. 55

5. In a vehicle-tool, in combination with the body having upturned ends, one of which bears the hook 4 and the socketed lug 15 and the other is perforated and bears the locking
60 device 9, a rotary and sliding spindle borne in said perforation, said spindle having a mortise to receive the end of the axle and a socket to receive the end of the shank of the clamp, a clamp, 11, chain 12, ring 13, encir-
65 cling the body, and the socket 14, substantially as described.

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Witnesses:

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