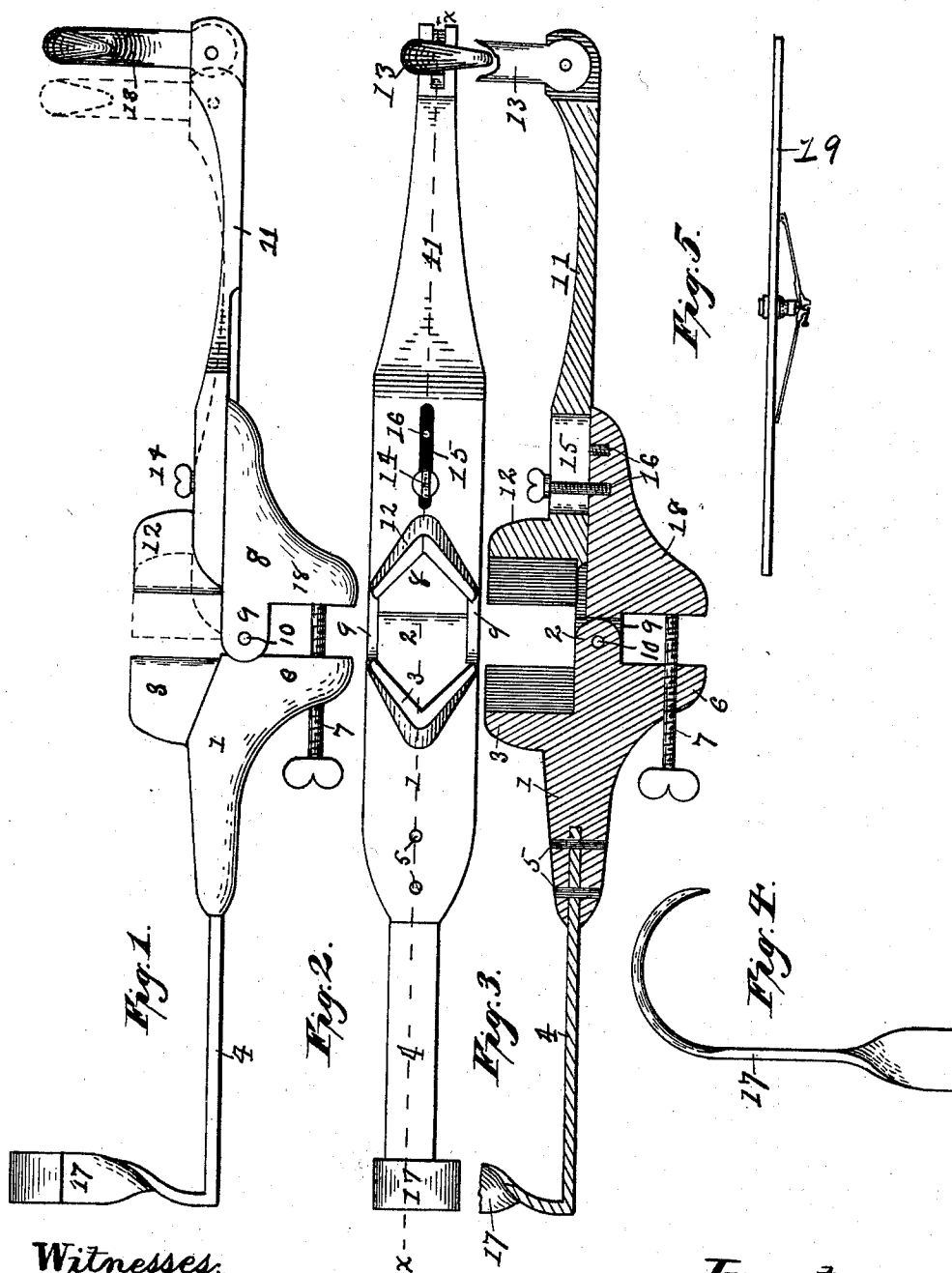


(No Model.)

G. & J. M. DAVIS.
VEHICLE WRENCH.

No. 603,838.

Patented May 10, 1898.



Witnesses:

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UNITED STATES PATENT OFFICE.

GRANVILLE DAVIS, OF NORTH SALEM, INDIANA, AND JAMES M. DAVIS, OF HENRY, ILLINOIS, ASSIGNORS OF ONE-THIRD TO DAVID D. THOMSON, OF NORTH SALEM, INDIANA.

VEHICLE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 603,838, dated May 10, 1898.

Application filed October 11, 1897. Serial No. 654,769. (No model.)

To all whom it may concern:

Be it known that we, GRANVILLE DAVIS, residing at North Salem, in the county of Hendricks and State of Indiana, and JAMES M. DAVIS, residing at Henry, in the county of Marshall and State of Illinois, citizens of the United States, have invented certain new and useful Improvements in Vehicle-Wrenches; and we do 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in vehicle-wrenches of the class that are adapted to simultaneously clamp the axle-nut and vehicle-wheel and take off or put on said axle-nut by rotating the wheel.

The objects of our invention are, first, to provide a wrench of that class that will be simple in construction; second, that can be quickly adjusted to fit nuts of different sizes; third, that has an elastic arm which holds the jaws in constant contact with the nut, and, fourth, that has a means for adjusting the jaws to clamp a nut without the necessity of clamping the wheel.

With these objects in view our invention consists in the construction and combination of parts shown in the accompanying drawings and described in the following specification.

In the drawings, Figure 1 is a side elevation, the dotted lines indicating the adjustment of the jaws. Fig. 2 is a top plan view. Fig. 3 is a sectional view taken on the line *xx* of Fig. 2, the securing-hooks being broken away. Fig. 4 is an end view of the spring-arm hook, and Fig. 5 shows the device as applied to a vehicle-wheel.

Referring to the drawings, 1 is a jaw-base having a hinge-lug 2, an extending angular jaw 3, and having a spring-arm 4 secured thereto by rivets 5. Opposite the jaw 3 is a projecting portion 6, having a threaded opening therein to receive the thumb-screw 7. A jaw-support 8, having hinge-lugs 9 and a pro-

jecting portion 18, is pivotally attached to the hinge-lug 2 by a pin or bolt 10. An adjustable arm 11, having an angular jaw 12 and carrying a pivotally-secured hook 13 at its outer end, is slidably secured upon the jaw-support 8 by means of a thumb-screw 14, passing through a slot 15 in the adjustable arm 11 and entering threaded openings 16 in the jaw-support 8. The spring-arm 4 is preferably formed of flat spring metal, with the integral hook 17 at its outer end and at right angles thereto.

In operation the jaws 3 and 12 are adjusted to fit the vehicle-nut by means of the thumb-screw 14 and slot 15. Said jaws are placed on the nut and the hook 13 hooked over a spoke of the wheel 19. The spring-arm 4 is then depressed until the hook 17 on the end thereof also engages a spoke, when the tension of the spring-arm serves to hold it securely in position on the wheel and nut. By rotating the wheel the nut will be loosened or tightened, as the case may be, inasmuch as it is forced to turn with the wheel. Should it be desired to clamp a nut without using the hooks 13 and 17, the jaws 3 and 12 are adjusted upon the nut and the screw 7 tightened until its end, pressing against the inner face of the projecting portion 18, will clamp the jaws upon the nut. The adjustment of the jaws is sufficient to fit the wrench to any vehicle-nut of the class of vehicles for which it is intended. As seen in Fig. 5, the arms 4 and 11 are on an angle when the wrench is in use with the hooks 13 and 17 secured upon the spokes of the wheel.

Having thus described our invention, what we claim, and desire to secure by Letters Patent of the United States, is—

1. A vehicle-wrench of the class described, consisting of the jaw-base 1, having the lug 2, the extended portion 6, carrying the thumb-screw 7, and the jaw 3, and having a spring-arm 4, fixedly secured thereto, said spring-arm terminating in a right-angled hook 17, a jaw-support 8, having lugs 9, and a projection 18, an adjustable arm 11, slidably secured to said support 8, by means of a thumb-nut 14, passing through a slot 15, said arm having the jaw 12, at one end and the pivotally-secured

hook 13 at the other end, all substantially as set forth.

2. A vehicle-wrench composed of two oppositely-disposed members, pivotally hinged together, each of said members provided with a nut-engaging jaw upon one side, one of said members provided with a spring-arm terminating in a right-angled hook adapted to engage a vehicle-spoke, and the other member composed of two portions, the jaw portion being slidably adjustable upon the hinged portion and adapted to be regulated by means of a thumb-screw working in a slot in said member, said member terminating in a pivotally-mounted hook-engaging spoke, all as shown and described.

3. In a vehicle-wrench of the class described, the combination with the member 1, having the jaw 3, and the extended portion 6, carrying the thumb-screw 7, and the spring-arm 4, pivotally secured to the member 1, and terminating in a flat hook 17, integral with and at right angles to said arm 4, of the jaw-support 8, pivotally connected with the base 1, and having an extended face 18, adapted to engage the thumb-screw 7, the sliding arm 11, adjustably secured upon the jaw-support 8, by means of the thumb-screw 14, said arm having the jaw 12, upon its inner end and the pivotally-secured hook 13, upon its outer end, all substantially as shown and described.

4. The combination in a vehicle-wrench of the class described, of an adjustable sliding arm 11, having a spoke-engaging hook 13,

pivotally secured at its outer end and a nut-engaging jaw integral with its inner end, and the jaw-support 8, having hinged lugs 9, and threaded openings 16, with the jaw-base 1, having the nut-engaging jaw 3, and an extended portion 6, carrying a thumb-screw 7, and having a spring-arm 4, terminating in a hook 17, fixedly secured thereto, as shown and described.

5. In combination in a vehicle-wrench of the class described, the jaw-base 1, having the lug 2, the extended portion 6, carrying the thumb-screw 7, and the jaw 3, the spring-arm 4, fixedly secured thereto, said spring-arm terminating in a hook 17, disposed at right angles to said arm, a jaw-support 8, having a screw-engaging depending portion 18, and provided with openings 16, to receive the said thumb-screw 14, the adjustable arm 11, having the slot 15, and the jaw 12, the pivotally-mounted hook secured to the end of the arm 11, the thumb-screw 14, securing said arm upon the support 8, the jaw-base 1, being pivotally connected by means of the bolt 10, passing through the lugs 2, and 9, all as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

GRANVILLE DAVIS.
JAMES M. DAVIS.

Witnesses:

LUCY NATHAN,
CAREY S. FRYE.