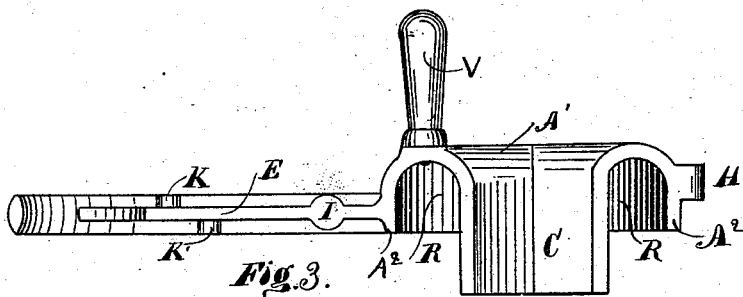
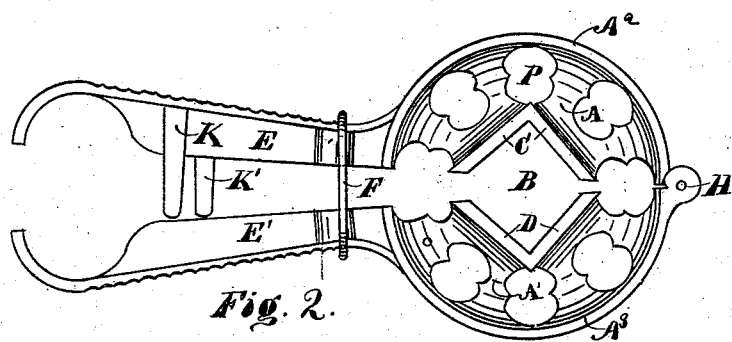
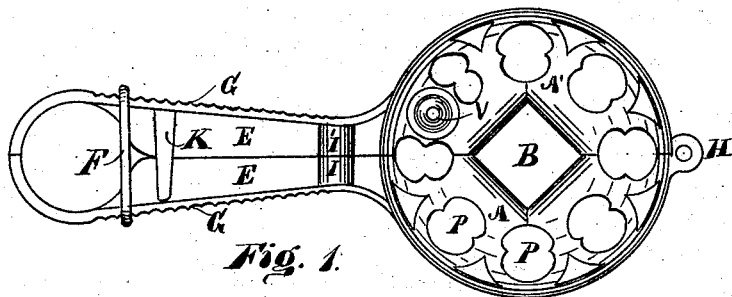


A. VAN WIE.
Axle-Nut Wrench.

No. 207,087.

Patented Aug. 13, 1878



WITNESSES;
A. C. Trunk
H. A. Morris

INVENTOR.
Avery Van Wie
Per O. K. Smith
his Attorney

UNITED STATES PATENT OFFICE.

AVERY VAN WIE, OF INDIANAPOLIS, INDIANA.

IMPROVEMENT IN AXLE-NUT WRENCHES.

Specification forming part of Letters Patent No. **207,087**, dated August 13, 1878; application filed January 28, 1878.

To all whom it may concern:

Be it known that I, AVERY VAN WIE, of Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Vehicle-Wrench, which is fully set forth and described in the following specification, and illustrated in the accompanying drawing.

The object of my invention is to furnish a cleanly device that can be applied to and secured on a nut of a vehicle-axle, whereby the nut can be operated with facility and removed from or secured on the spindle without daubing the hands with grease, and at the same time provide a means of support for the nut in the wrench that will not only prevent the nut from falling into the dirt when removed from the spindle, but also prevent it from coming in contact with and besmearing any article with grease upon which the wrench may be laid.

The invention consists of the new construction and arrangement of parts and the new combination of elements which are deemed essential in a vehicle-wrench, whereby certain beneficial results are produced, all of which will be hereinafter fully described and set forth.

In the accompanying drawing, in which like letters of reference indicate like parts, Figure 1 is a top-plan view of the wrench closed. Fig. 2 is a bottom-plan view of the same open. Fig. 3 is a side elevation of one-half of the wrench.

A A¹ represent the two semicircular crown-sections of the wrench, which are hinged together at H, and are provided with handles E E and a binding ring or clamp, F, as shown. The crowning parts A A¹ are each provided with a half-section of the jaws C and D of the wrench, and may be ornamented with various designs, and perforated, as at P, to lessen the weight of the wrench.

The outer rim or flange, A² A³, (shown in Fig. 2,) is designed to be on the outside of the point-band of the hub when the wrench-jaws C D are on the nut, thus leaving the point-band in the annular space R. The wrench-jaws C D are of sufficient length to readily grasp the nut. The handles E E are provided with strengthening-ribs, on one of which may be cast the guide-lugs K K' for the purpose of preventing the two sections or

halves of the wrench from twisting on the hinge H; or a guide-bar may be inserted in the lug I, and operated in the other lug, I'.

The outsides of each of the handles E E are provided with notches G, which are designed to hold the band or clamp F and prevent it from slipping when the wrench is secured on a nut. On one of the sections, as A¹, is secured the crank-handle V, which is loose on its stud, and by which the wrench is quickly revolved after the nut has been started either on or off of the spindle.

The operation of the device is as follows: When the wrench is applied to a nut that is to be removed from the spindle, the clamp-band F is slipped toward the crown part. The wrench is then opened, so that the jaws C D can readily pass onto the nut. The handles E E are then closed, and the clamp-band F is drawn toward the large end of the handle and held there by the notches G. The jaws C D thus grasp the nut in the space B and hold it firm. The handles E E are then used as a lever to start the nut, after which the crank-handle V is used to quickly revolve the nut and remove it from the spindle. The wrench can then be laid on anything that is handy. One side of the handle E and of the crown part A and the end of the crank-handle V, form a tripod support to hold the wrench in position and prevent the nut from coming in contact with anything that it would besmear with grease. In returning the nut to the spindle the wrench is taken up, the nut first started on the screw, then it is quickly run up to its proper place by the crank-handle V. The handles E E are again used as a lever to set the nut tightly, after which the band F is loosened and the wrench removed from the nut.

What I claim as new, and desire to secure by Letters Patent, is—

1. A wrench composed of two sections, A A¹, hinge-joint H, handles E E, clamp-band F, and crank-handle V, in the manner and for the purpose substantially as shown and described.
2. The handles E E, notched on the edges G, in combination with the clamp-band F and a wrench composed of two sections hinged at H, in the manner and for the purpose substantially as shown and described.
3. In combination with a wrench consisting

of two parts hinged at H, the handles E E and guide-supporting lugs K K', or their equivalents, in the manner substantially as shown and described.

4. A wrench composed of two semicircular crowning sections hinged at H, and each section or half provided with jaws C D, in the manner and for the purpose substantially as shown and described.

5. A wrench composed of two sections hinged at H, having handles E E, and pro-

vided with a crank-handle, V, in the manner and for the purpose substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AVERY VAN WIE.

Witnesses:

E. O. FRINK,
S. C. FRINK.