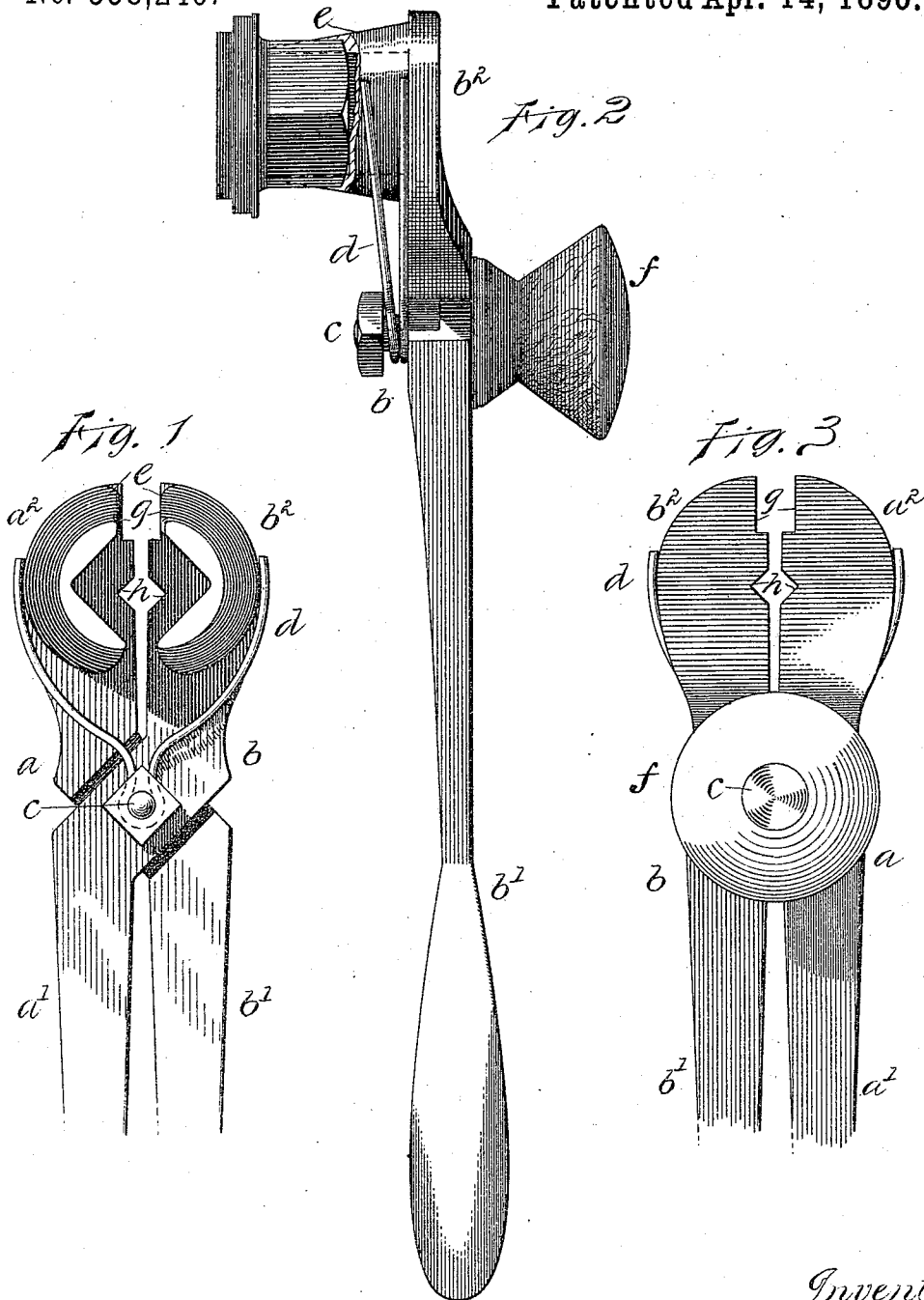


(No Model.)

G. E. WOOD,
WAGON WRENCH.

No. 558,246.

Patented Apr. 14, 1896.



Witnesses:

C. Buckland
Arthur B. Jenkins.

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UNITED STATES PATENT OFFICE.

GEORGE E. WOOD, OF SOUTHTON, CONNECTICUT.

WAGON-WRENCH.

SPECIFICATION forming part of Letters Patent No. 558,246, dated April 14, 1896.

Application filed October 31, 1895. Serial No. 567,507. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. WOOD, a citizen of the United States, and a resident of Southington, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Wagon-Wrenches, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide a simple, compact, and strong form of wrench, by means of which the nuts for holding a wheel on a wagon-axle may be easily put on or removed.

To this end my invention consists in the details of the several parts making up the wrench as a whole and in the combination of the parts, as more particularly hereinafter described, and pointed out in the claim.

Referring to the drawings, Figure 1 is a front view of the device, showing the jaws partly opened to grasp the nut. Fig. 2 is a side view of the tool shown as holding a nut, with part of one of the jaws broken away to show the nut. Fig. 3 is a detail back view of the wrench with the jaws partly opened.

The wrench as a whole is made up of a pair of lever-handles pivoted together and having lateral grasping-jaws, and in the accompanying drawings the letters *a b* denote the levers, each having a handle portion *b' a'* and a head *a² b²*, these two levers being preferably halved together and held by a pivot *c*. The halving together of the levers, as described, provides convenient shoulders, which limit the opening movement of the levers on each other.

A spring *d*, preferably of wire, mounted on the pivot or on a tubular lug projecting from one side of the lever near the pivot, has arms which project along and press against the outer surface of the jaws, tending to hold them closed as the normal position. The jaw-closing spring may be made in any other convenient form and attached to a different part of the tool; but the form of spring shown and its method of attachment are preferred as the simplest and most convenient.

Each lever at its head is provided with a lateral projecting jaw *e* of a length sufficient to grasp the squared portion of the wagon-nut, which is screwed upon the outer end of

the carriage-axle. These jaws form open sockets and of a V shape or equivalent angular shape in cross-section, so as to adapt the jaws to fit upon the nut and firmly hold it between them.

The levers may be of any desired length to afford the proper leverage to unscrew or turn up the nut; but for the purpose of providing means for a speedier motion of the levers when the nut turns easily a crank-handle *f* is provided. This crank-handle *f* is preferably mounted upon an extension of the pivot-bolt *c*; but it may be mounted upon a stud projecting from the back of the levers in any convenient position, but preferably at a point close to the head, so as to reduce the distance through which the crank must travel in a rotary movement about the axis of the axle on which the nut is fitted.

The shorter ends of the levers are provided with supplemental jaws *g h*, which consist of angular opposing recesses cut in the adjacent edges of the shorter ends of the levers, and these jaws are adapted to grasp and hold a small nut, and thus enable the tool to be used as a wrench for removing the nut from a shaft-coupling or any like part of a carriage or other structure.

The levers comprising the main portion of the tool are preferably cast or wrought to shape of metal, and when united, substantially as described, and having the crank-handle, which is preferably rotary, on its stem, provide a strong, durable, and effective wrench for use as a wagon-wrench or for a like use.

The manner of using this wrench is as follows: The jaws are opened to an extent sufficient to enable them to closely grasp the nut, and then while the levers are pressed together and the jaws closed firmly upon the nut a rotary movement of the levers turns the nut in the desired direction. If the nut is being removed, as soon as it is loosened by the lever action with the long handles a speedy rotary movement is imparted by grasping the crank-handle and turning the nut. As the jaws are normally closed together by the action of a spring the nut is firmly held in place between the jaws and can be replaced on the end of the axle and screwed up without requiring the nut to be handled by the operator

other than through the medium of the wrench, as described, thus providing a very cleanly device for the purpose.

I claim as my invention—

- 5 In combination in a wagon-wrench, a pair of pivoted levers, lateral projections on the shorter end of each of the levers containing nut-holding jaws, a spring projecting forward against the outside of the shorter end
10 of the levers and normally pressing them to-

gether, a handle located on the opposite side of the levers from the nut-holding jaws, and a pivot uniting the levers and supporting the spring and the handle, all substantially as described.

GEORGE E. WOOD.

Witnesses:

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