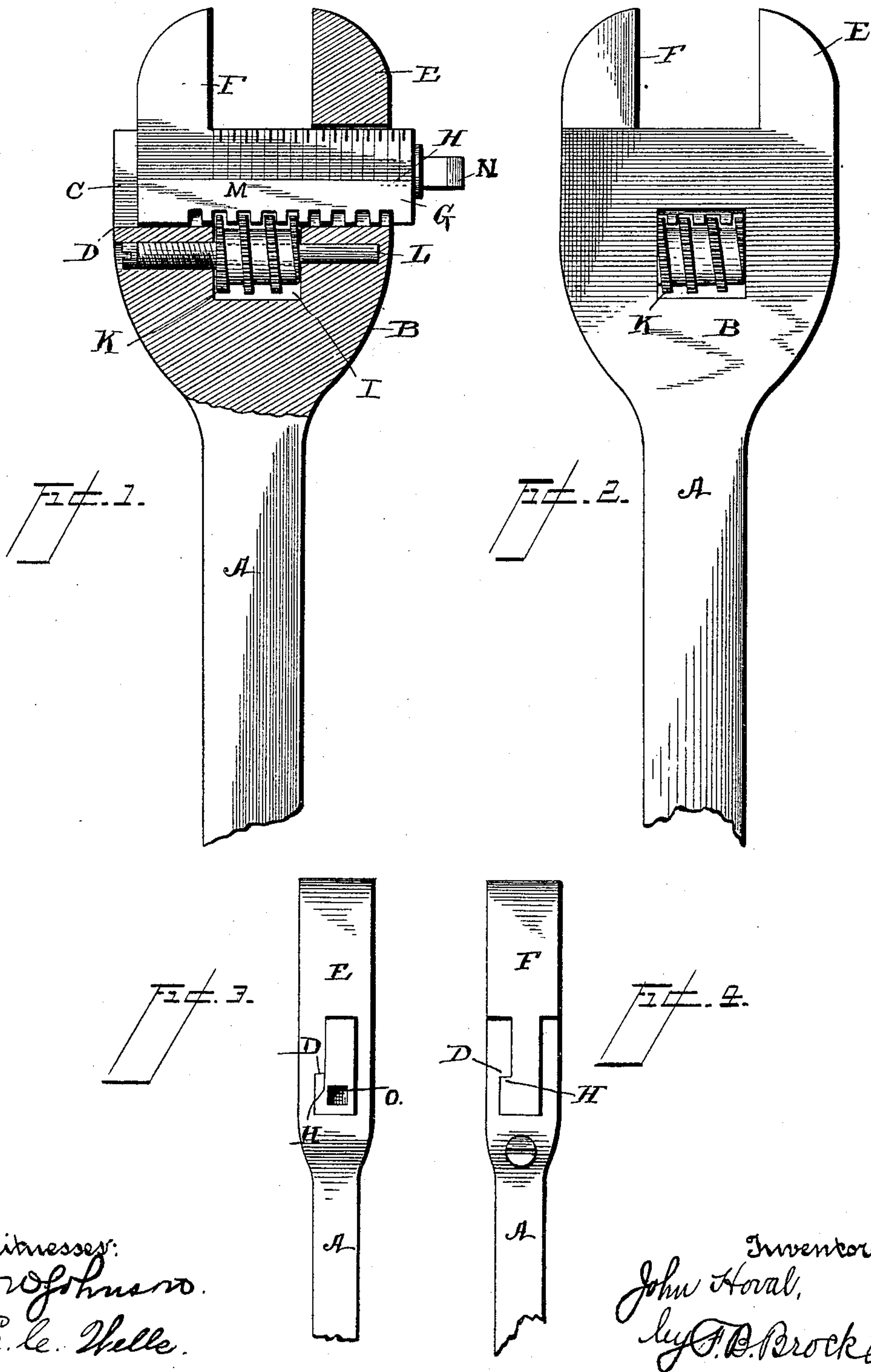


(No Model.)

J. HOVAL.
NUT AND BOLT WRENCH.

No. 481,230.

Patented Aug. 23, 1892.



Witnesses:
O. Johnson.
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UNITED STATES PATENT OFFICE.

JOHN HOVAL, OF STAFFORD, TEXAS.

NUT AND BOLT WRENCH.

SPECIFICATION forming part of Letters Patent No. 481,230, dated August 23, 1892.

Application filed February 9, 1892. Serial No. 420,870. (No model.)

To all whom it may concern:

Be it known that I, JOHN HOVAL, a citizen of the United States, residing at Stafford, in the county of Fort Bend and State of Texas, have invented certain new and useful Improvements in Nut and Bolt Wrenches; and I 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 letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of a wrench embodying my improvements. Fig. 2 is a side elevation showing the jaws in a different adjusted position from that of Fig. 1. Fig. 3 is a longitudinal section of the wrench-head, and Fig. 4 is a transverse section of the same.

My invention relates to nut or bolt wrenches, and more particularly to that type of wrench having a slidable jaw.

The improvements consist in the following construction and combination of the parts, which will first be fully set forth and described, and the points of novelty then indicated in the claim.

In the drawings, A represents the handle of my improved wrench. The head B of this handle is preferably made integral therewith. A slot C is cut longitudinally through the head B and is provided with a ledge or shoulder D.

E is the permanent jaw of the wrench.

The sliding jaw F and the sliding bolt or bar G are preferably made in one piece at right angles to each other, and the bar G has a shoulder or offset H, corresponding to the shoulder D in slot C, which prevent any lateral swerving of the bar in the slot.

I is a transverse slot made through the wrench-head at right angles to the slot C and communicating therewith. Within this slot I is a worm or screw-thread K, carried by a shaft L, which passes through the worm and has bearings in the wrench-head at each side of the slot, the said worm turning loosely thereon. One end of the shaft L is preferably threaded, and has a slot by means of

which it may be rotated by any suitable tool—such as a screw-driver—to seat the shaft in its bearings from the outside of the wrench.

On one side of the bar G next the worm K is formed a rack-bar M, consisting of a series of teeth which mesh with the worm K, the rotation of the latter carrying the slidable bar and its jaw to or from the permanent jaw in its adjusting movements. The outer edges of the worm-screw K are milled in order to form a good hold for the fingers, by means of which the wrench is adjusted. The rack-bar M does not extend the whole distance of the bar G, thereby preventing by an undue adjustment the accidental dropping out of the slidable jaw.

My improved wrench is simple in its operation, cheap to manufacture, and very strong and efficient in its workings.

N represents a screw-driver or other tool removably inserted in the socket O in the sliding bar G. This tool N being on said bar permits the latter, when desired, to recede into the head until the latter may bear upon the material in which the screw may be inserted, when a square firm rotary motion may be given the tool, coupled with great leverage. The recedence of the screw-driver, caused by the rotation of the worm-wheel, and the consequent sliding movement of the bar M, enables the screw-driver to be so adjusted to its work that it may be caused to project beyond the surface of the wrench-head B a distance equal to the depth of the screw-slot, in order that the wrench-head may be brought squarely down upon the surface that the screw is inserted in. Where the screw is inserted into material the adjacent surface of which is on a different plane from that in which the screw is driven, the slidable bar and its worm-wheel are again brought into play to compensate for the difference in order that the opposite surfaces of the wrench-head may be brought squarely down upon the material. One hand is employed to turn the handle A and the other presses down upon the wrench-head, holding the screw-driver firmly down upon its work.

A tool of this character is especially adapted for particular lines of work.

I claim—

A wrench-head having a handle and a longitudinal slot through the wrench-head, a slidable bar having a jaw moving in said slot, a rack upon said bar, a worm-wheel in the
5 wrench-head, meshing with the rack, and a jaw upon the wrench-head, jointly with a screw-driver inserted in the end of the slidable bar, said wrench-head having a plane outer surrounding surface in proximity to the

longitudinal slot, substantially as and for the purpose herein specified.

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

JOHN HOVAL.

Witnesses:

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