

(No Model.)

W. WELLS.
WRENCH.

No. 429,075.

Patented May 27, 1890.

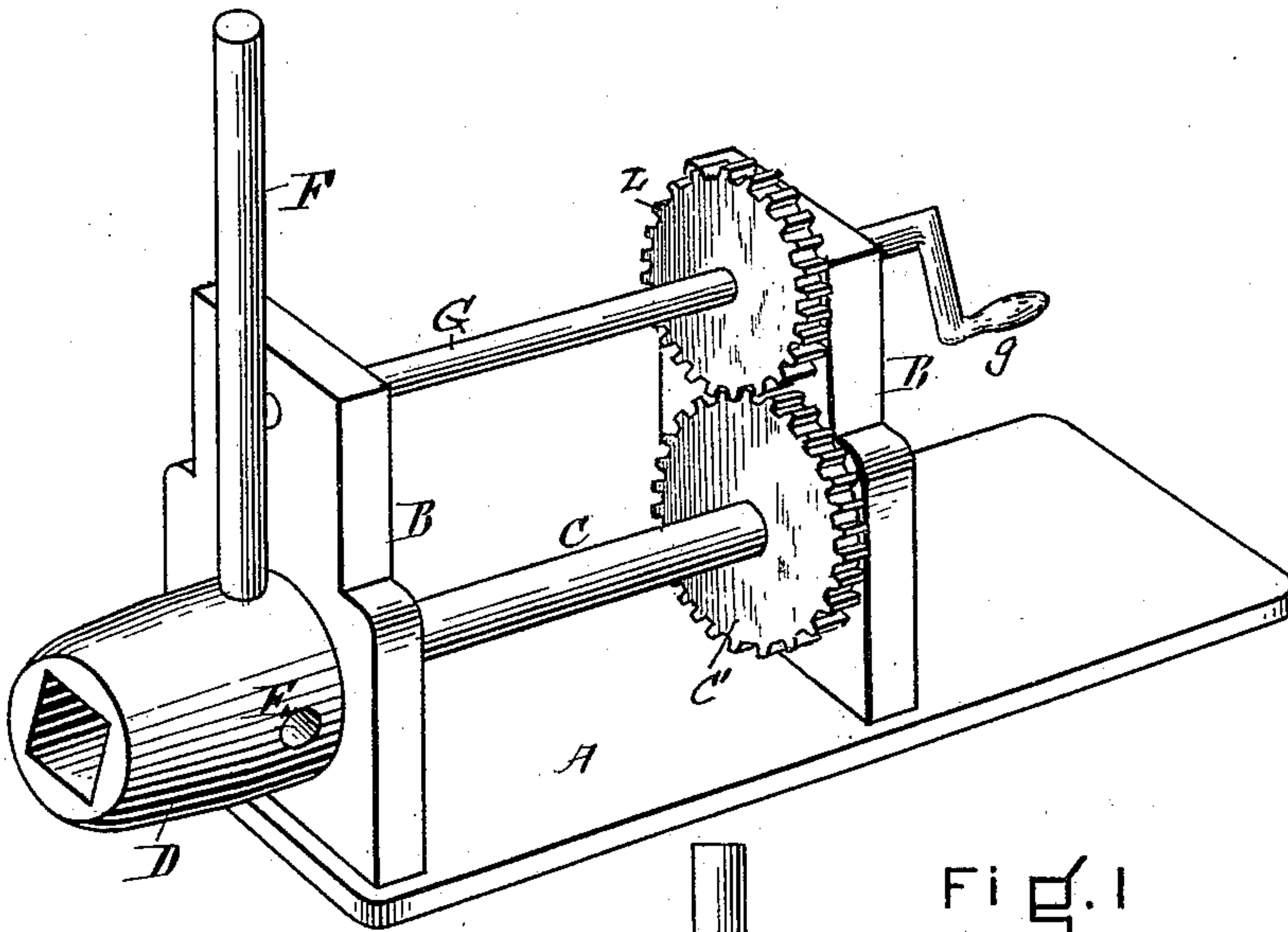


Fig. 1.

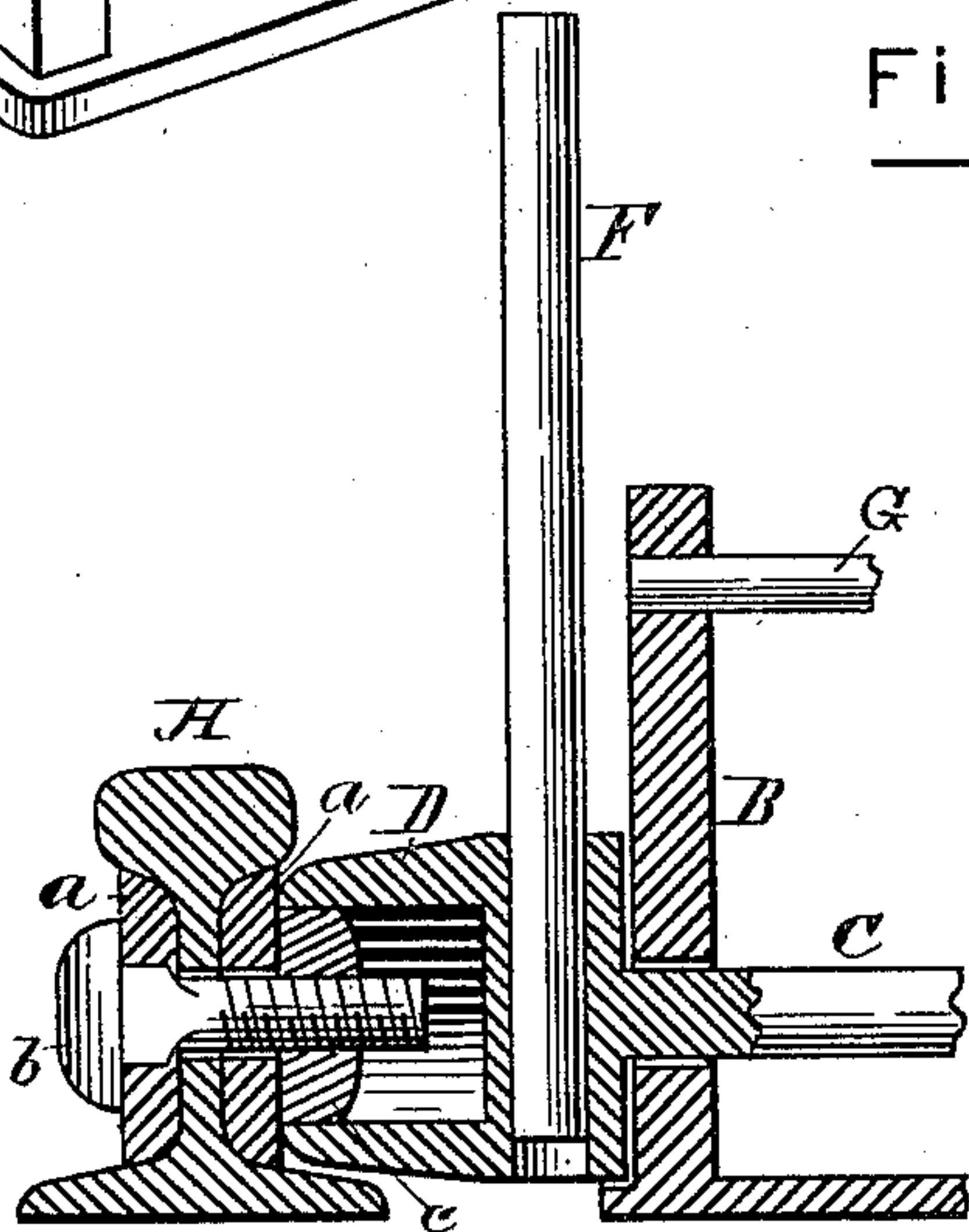


Fig. 2.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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WRENCH.

SPECIFICATION forming part of Letters Patent No. 429,075, dated May 27, 1890.

Application filed February 4, 1889. Serial No. 298,568. (No model.)

To all whom it may concern:

Be it known that I, WEBSTER WELLS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Wrenches for Fish-Plate Nuts, of which the following, taken in connection with the accompanying drawings, is a specification.

This invention pertains to certain new and useful improvements in wrenches; and it comprises the detail construction, combination, and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claim.

In the accompanying drawings, Figure 1 is a perspective view of my improved wrench. Fig. 2 is a vertical sectional view showing the wrench applied to the nut of a fish-plate bolt.

Referring to the drawings, A designates the base-plate of the wrench-frame, and B B the supporting-standards secured at their lower ends to said base-plate, as shown. These standards support a shaft C, which has a gear-wheel C' rigidly secured thereon. To one end of this shaft is rigidly secured or formed integral therewith a wrench-head D, wherein is a socket which is a little larger in cross-section than the ordinary nut upon which it is designed to operate, said socket being extended in uniform area to a depth equal to the projection of the bolt beyond the fish-plate. In this wrench-head D are formed two intersecting recesses or perforations E, the same being near the inner end of said head in rear of the socket thereof. A bar or rod F is designed to be inserted in either one of these perforations to effect the turning thereof. A crank-shaft G is also supported by standards B above the wrench-shaft C, and at one end said shaft is provided with a crank g. A gear-wheel L on this crank-shaft is designed to engage with the gear-wheel C' on shaft G, whereby by turning said crank-shaft motion is communicated to the wrench-head.

In practice the nut is first placed on the projecting end of the threaded bolt or is inserted in the socket of the wrench-head and then caused to engage the bolt, the end of which is opposite to the aperture of said nut. The operator first turns the crank-shaft G, effecting the rapid screwing of the nut on the

bolt, and when said nut is screwed as far as possible by the turning of said crank-shaft the operator then places bar F in one of the apertures E of the wrench-head, and by obtaining a greater leverage than is otherwise possible screws the nut firmly "home" against the side of the fish-plate.

When a nut is to be removed, the above operation is to be reversed—that is, the nut is first loosened by applying bar F to wrench-head D, and then the rapid removal of the nut is effected by turning crank-shaft G.

I am aware that it is not new to provide a nut-wrench having intermeshing gear-wheels and operating-shafts for turning a nut, and also that an apertured wrench-head has heretofore been used; but my invention combines in one device the advantages of both such forms, and at the same time avoids the objections to each. In the first place, by means of the crank-shaft the nut can be rapidly screwed on the threaded bolt as far as the limited power thereby will permit, and then the bar or rod is applied to the wrench-head to secure greater leverage, and the nut is screwed firmly home. Likewise in removing a nut the bar or rod is first employed, and then the crank-shaft is operated to entirely remove the nut.

I claim as my invention—

In a wrench for fish-plate nuts, the combination of the frame having the supporting-standards, the shaft having a gear-wheel secured thereon, the wrench-head secured to or formed with said shaft and provided with a series of recesses or perforations, and a socket extended in uniform area to a depth equal to the projection of the bolt beyond the fish-plate plus a portion of the thickness of the fish-plate nut, a bar or rod insertible in said recesses or perforations, and the upper crank-shaft also supported by said standards and provided with a gear-wheel engaging said former gear-wheel, substantially as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 2d day of February, A. D. 1889.

WEBSTER WELLS.

Witnesses:

FRANK G. PARKER,
ALEX. L. HAYES.