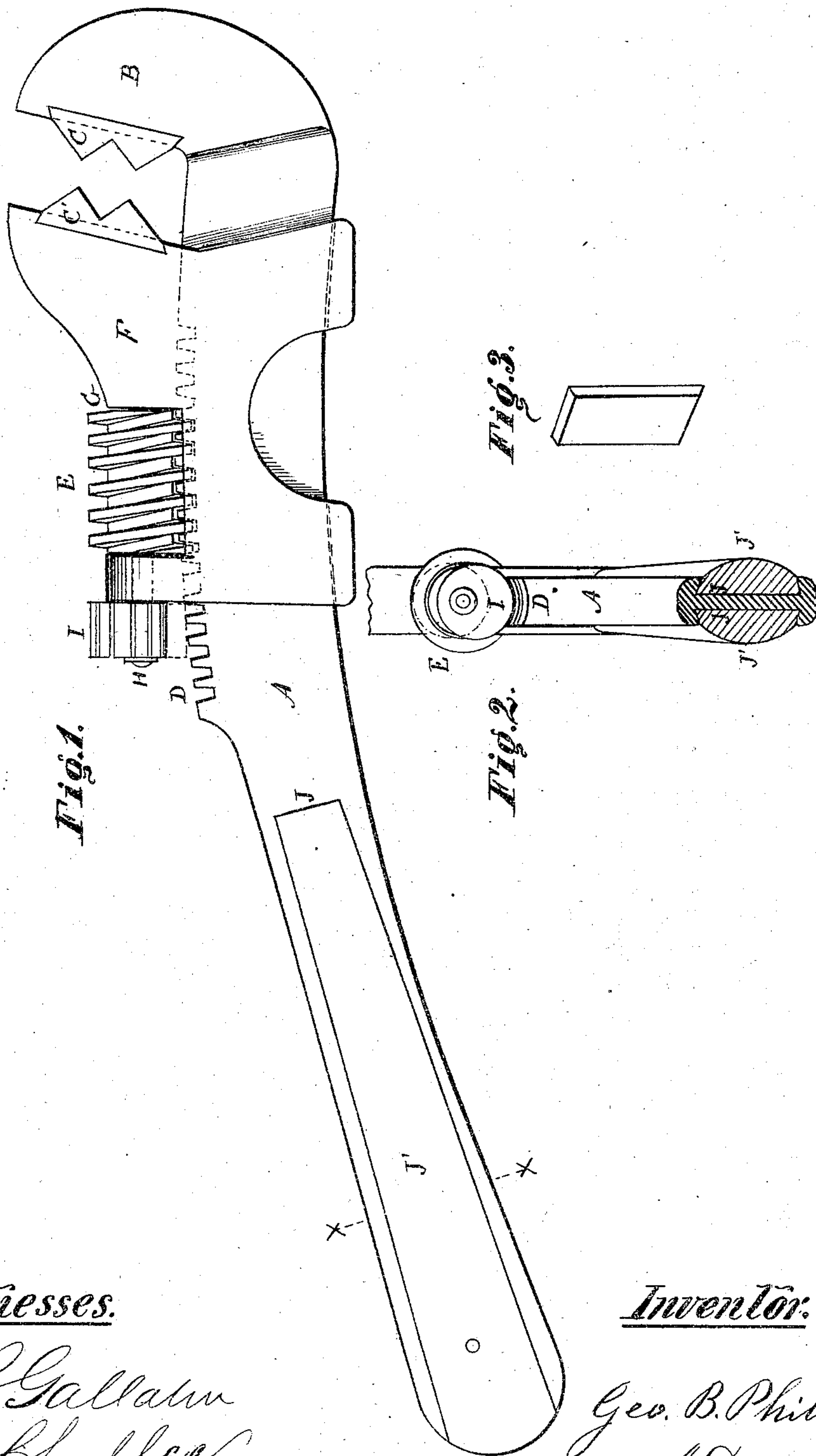


Geo. B. Phillips.
Impt. in Wrenches.

117679

PATENTED AUG 1 1871



Witnesses.

O. B. Gallam
W. E. Chaffee

Inventor.

Geo. B. Phillips
By his Atty. J. Dennis

UNITED STATES PATENT OFFICE.

GEORGE B. PHILLIPS, OF CLEVELAND, OHIO, ASSIGNOR TO JOSHUA E. HALL, GEORGE J. LEVAKE, WILLIAM NORVILLE, AND A. WARD FENTON, OF SAME PLACE.

IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. 117,679, dated August 1, 1871.

To all whom it may concern:

Be it known that I, GEORGE B. PHILLIPS, of Cleveland, Cuyahoga county, in the State of Ohio, have invented certain new and useful Improvements in Wrenches; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawing forming part of this specification.

The nature or essence of my invention consists in the particular construction and arrangement of devices forming the improvements in wrenches described in the following specification and represented in the drawing.

In the drawing, Figure 1 is an elevation of one side of a wrench with my improvements.

In the accompanying drawing, A is the main bar of the wrench, curved, as shown in the drawing, and with one end turned up to form the rigid jaw B, which has a dovetailing score across it, into which the notched block C is fitted, as shown in the drawing, which block C may be removed and a flat one, Fig. 3, put in its place, or a block with a different-shaped notch to fit some peculiarly-formed nut. This bar A has a rack of teeth, D, on one edge, for the screw E to work in to traverse the sliding jaw F, which is made in the form shown and fitted to traverse on the bar A. The jaw F has a dovetail score across it for the notched block C', which may be removed and a flat block or one with a different notch put in its place. There is a notch, G, in the jaw F, in which

the screw E is fitted and turns on the pin H, which passes through the screw and is fastened in the jaw. The teeth D on the bar are curved and made spiral to fit the thread of the screw E. The pin H projects beyond the end of the jaw F, and has the cam I fitted to turn on it to lock the jaw in any particular position when the cam is turned down against the teeth D, but will leave the jaw free to be moved by the screw when the cam is turned up into the position shown by dotted lines in Fig. 2. To make the handle end of the bar A light I make a groove, J, in each side, and the edges of the groove may be made dovetailing to hold the edges of the half-round pieces of wood which are fitted to each side, so as to make a lighter and more pleasant handle to hold than if it were all iron. And a rivet may be put through the wood and iron near the end of the bar, to hold the wood firmly on the bar.

What I claim as my invention and improvement in the above-described wrench is—

1. The grooves in the bar, made dovetailing or otherwise, to receive the pieces of wood J J to form the handle, substantially as described.

2. In combination with the traversing-jaw, the cam I on the end of the pin A, to lock the jaw in position when required, substantially as described.

Witnesses:

M. GALLAGHER,
D. L. WOOD.

G. B. PHILLIPS.