

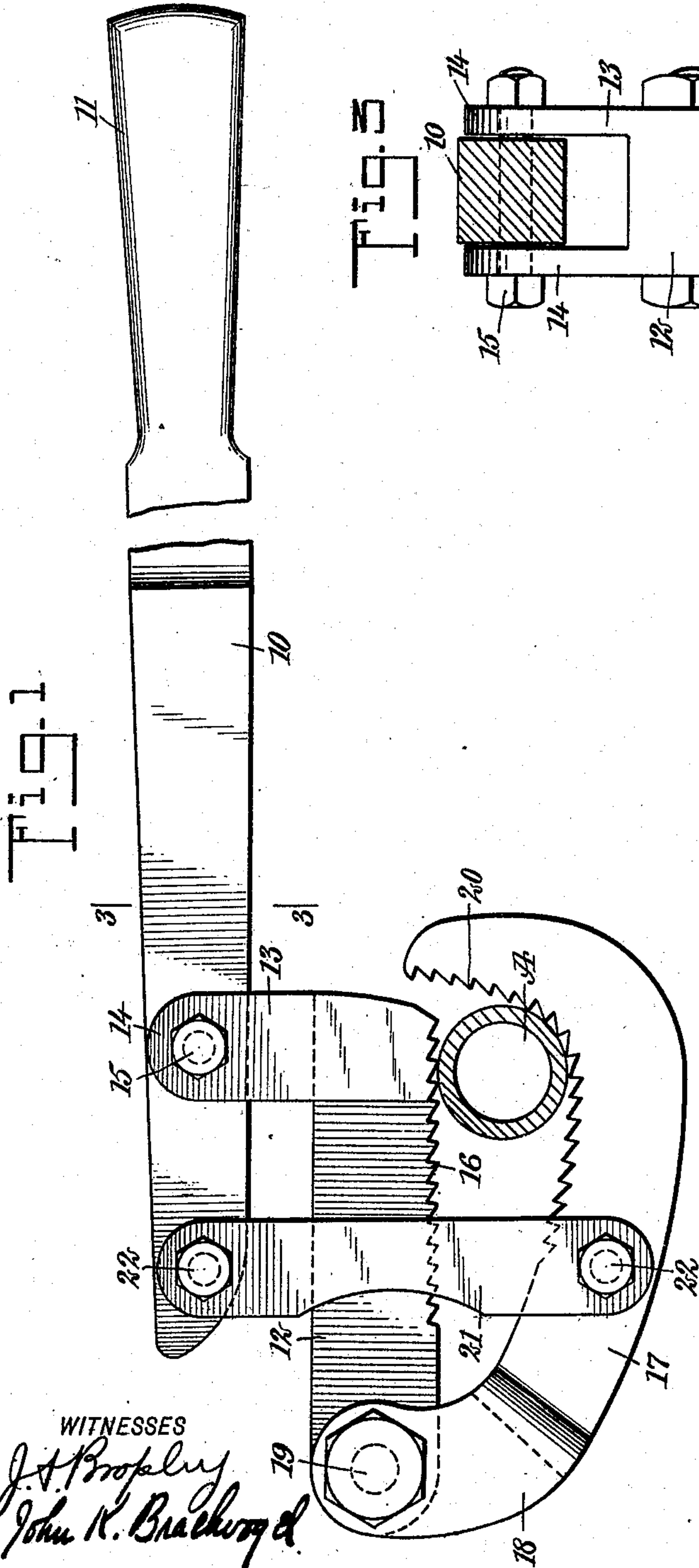
J. E. LA DOW.

WRENCH.

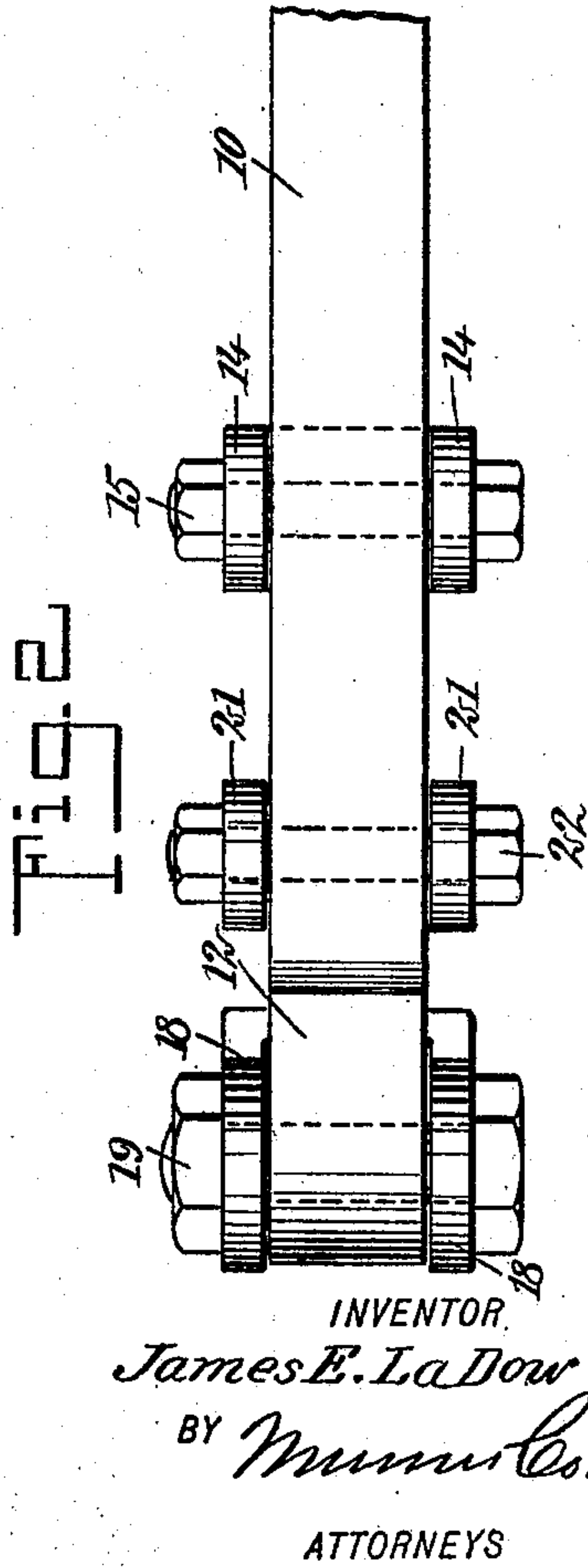
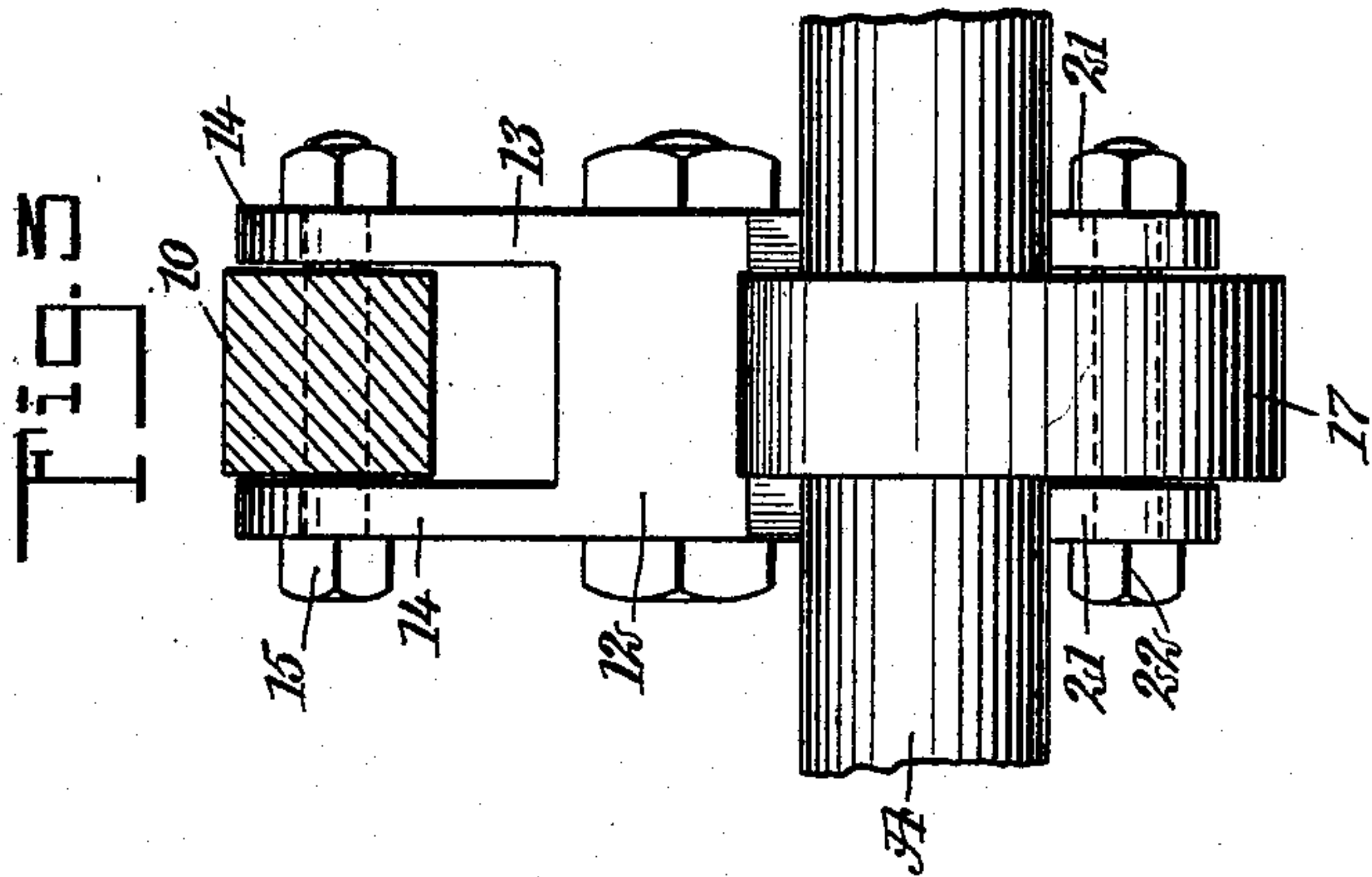
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923,665.

Patented June 1, 1909.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

JAMES E. LA DOW, OF KELLOGG, IOWA.

## WRENCH.

No. 923,665.

Specification of Letters Patent.

Patented June 1, 1909.

Application filed October 3, 1908. Serial No. 455,956.

*To all whom it may concern:*

Be it known that I, JAMES E. LA DOW, a citizen of the United States, and a resident of Kellogg, in the county of Jasper and State of Iowa, have invented a new and Improved Wrench, of which the following is a full, clear, and exact description.

This invention relates to wrenches, and more particularly to a reversible wrench for use with pipe or other similar material, and which comprises a main bar or lever, a jaw, and a compound lever connection between the jaw and the bar.

An object of the invention is to provide a simple, inexpensive and efficient wrench for use with pipe or other similar material, which within the limits of the wrench will fit any size of pipe, and which serves to grip the pipe so firmly that the same is not likely to slip between the jaws when being turned by means of the wrench.

A further object of the invention is to provide a device of the class described in which the main bar or lever can be reversed with respect to the other parts, to permit the wrench to be operated when turned from left to right or from right to left, and in which the jaw is connected with the main bar by means of a compound lever, one member of which also constitutes a jaw, the work being gripped between the jaw and the lever jaw.

A still further object of the invention is to provide a wrench having the jaws so constructed that it is unnecessary to place either of the same by hand in operative engagement with the work, a movement of the lever toward the work being sufficient to render the jaws instantly operative to grip the work.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a side elevation of an embodiment of my invention showing the same gripping a pipe; Fig. 2 is a plan view of the device showing part of the main bar or lever broken away; and Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

Referring more particularly to the drawings, I provide a main bar or lever 10 which

may be of any suitable length, and which at one end is formed into a handle 11 by means of which it can be easily manipulated manually. At the end remote from the handle 11 the main bar has pivoted thereon a jaw lever 12 by means of a laterally disposed and bifurcated end 13 of the jaw lever. The sides 14 of the bifurcated part 13 are arranged at the opposite sides respectively of the main bar and are pivotally connected with the same by means of a pivot bolt 15, positioned in suitable openings of the sides 14 and the main bar. On the face remote from the main bar the lever 12 is provided with teeth or serrations 16.

A curved and substantially U-shaped jaw 17, is positioned at the side of the lever 12 remote from the main bar, and at one end has a bifurcated portion 18. By means of the latter it is pivoted at the end of the lever 12 opposite the portion 13, a pivot bolt 19 being arranged in suitable openings of the sides of the part 18 and of the lever 12. At the side adjacent to the latter the jaw has teeth or serrations 20.

Links 21 arranged at the opposite sides of the jaw, the lever and the main bar, pivotally connect the jaw and the main bar and extend transversely across the lever 12, being secured to the jaw and the main bar by pivot bolts 22. The links are secured to the main bar at the end of the same and intermediate the ends of the jaw, as is shown most clearly in Fig. 1.

The work A is gripped between the lever 12 and the jaw 17, the serrations of these members serving to prevent the work from slipping between the jaws. When the main bar is swung toward the work the lever 12 is forced into engagement with the same, and at the same time the jaw is drawn securely against the work through the agency of the links 21, the main bar being pivoted upon the part 13 of the lever 12 which serves as a fulcrum. The connection between the jaw and the main bar is thus a double-lever or compound one and it permits the jaws to be forced very strongly into engagement with the work.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent:

1. A wrench comprising a main bar, a jaw lever having rigid therewith a laterally extended part pivoted upon said main bar, a jaw pivoted at one end to said jaw lever,



and a link pivoted to said jaw intermediate the ends thereof and to said main bar.

2. A wrench comprising a main bar, a jaw lever having a laterally disposed part pivoted upon said main bar, a jaw pivoted upon said jaw lever at a point remote from said laterally disposed part, and a link secured to said jaw intermediate the ends thereof, and secured to said main bar adjacent to the end thereof.

3. A wrench comprising a main bar, a jaw lever having at one end a laterally disposed part pivoted to said main bar at a point remote from the end of said main bar, a jaw having the ends laterally disposed, one of said laterally disposed ends of said jaw being pivoted to said jaw lever at the end remote from said laterally disposed part of said jaw lever, and links pivoted to said jaw intermediate the ends thereof and to said main bar at the end thereof, said links extending transversely of said jaw, said jaw lever and said main bar.

4. A wrench comprising a main bar, a jaw

lever having at one end a laterally disposed and bifurcated part, said bifurcated part having the sides arranged at opposite sides of said main bar and pivoted thereto at a point remote from the end of said main bar, a jaw having the ends laterally disposed, one of said laterally disposed ends of said jaw being bifurcated and having the sides arranged at opposite sides of said jaw lever at the end remote from said laterally disposed part of said jaw lever and pivoted thereto, and links pivoted to said jaw intermediate the ends thereof and to said main bar at the end thereof, said links extending transversely of said jaw, said jaw lever and said main bar, said jaw lever and said jaw at the adjacent sides having serrations.

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

JAMES E. LA DOW.

Witnesses:

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ANSON E. CLAY.