M. MURRAY.

PIPE FLANGE WRENCH.

APPLICATION FILED MAY 11, 1910.

983,562.

Patented Feb. 7, 1911.

Fig. 2.

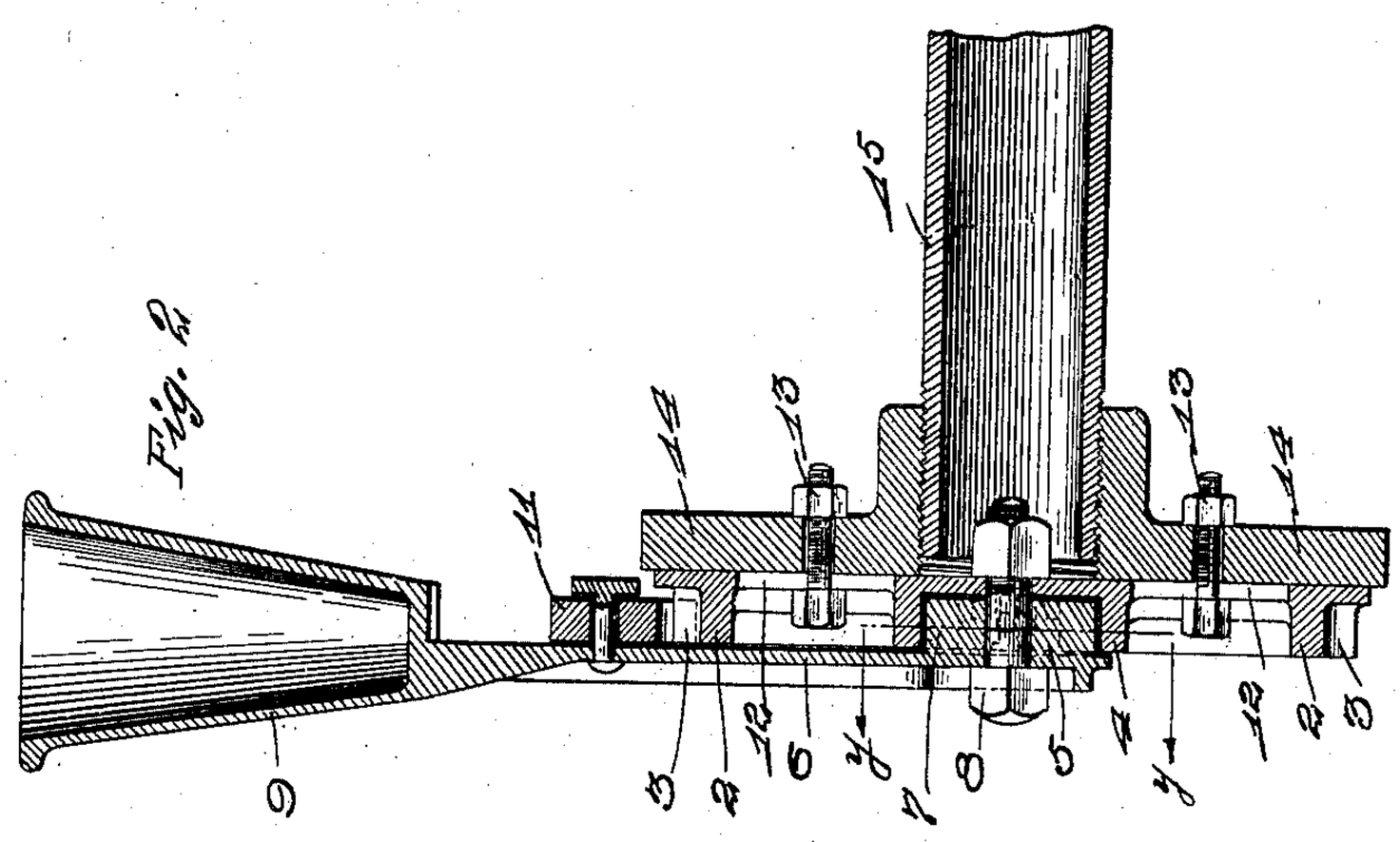

Fig. 1.

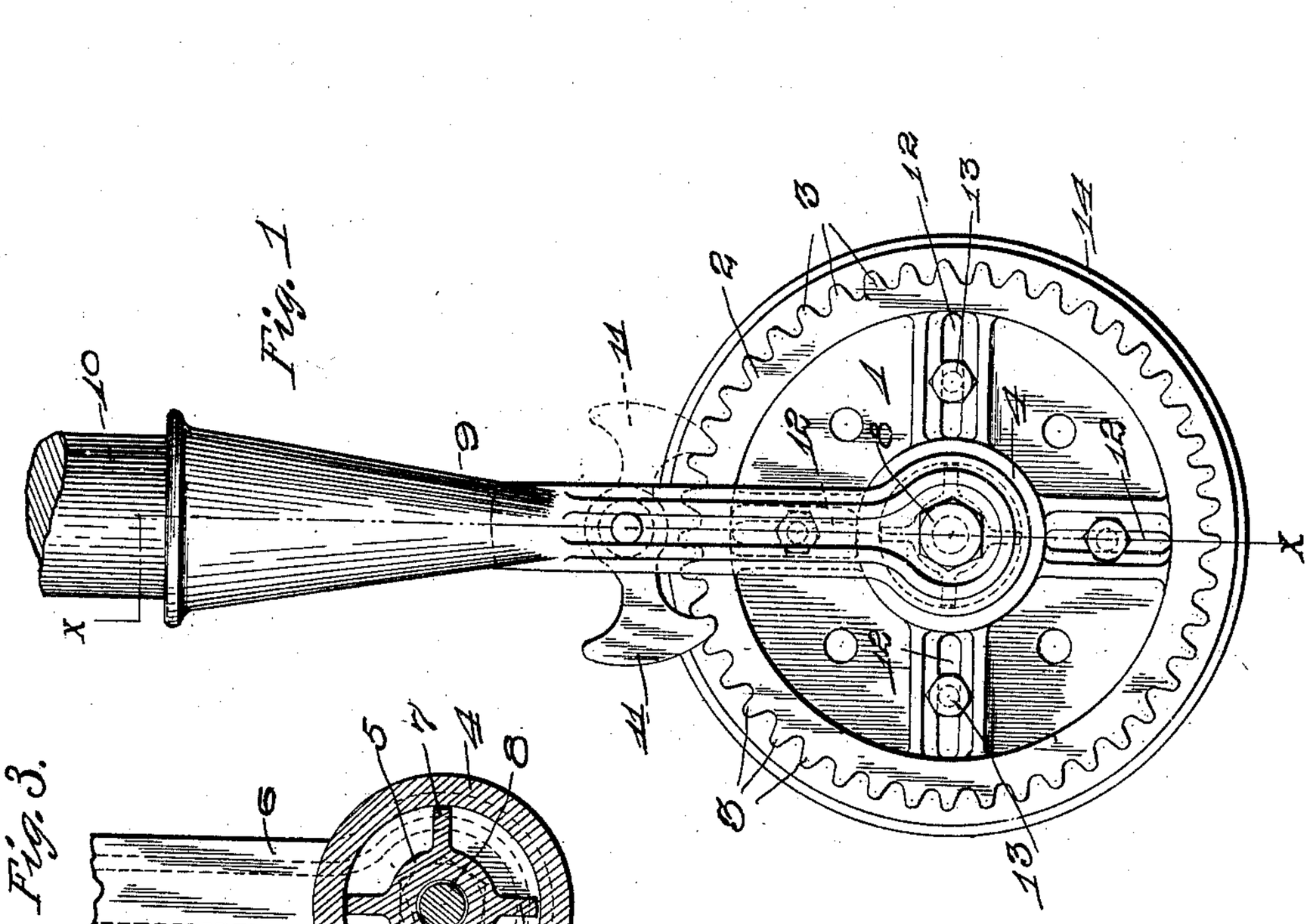

Fig. 3.

Witnesses;
M. L. Lessid
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Inventor:
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By Joshua R. H. Potts
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UNITED STATES PATENT OFFICE.

MICHAEL MURRAY, OF CHICAGO, ILLINOIS.

PIPE-FLANGE WRENCH.

983,562. Specification of Letters Patent. Patented Feb. 7, 1911.

Application filed May 11, 1910. Serial No. 560,633.

To all whom it may concern:

Be it known that I, MICHAEL MURRAY, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Pipe-Flange Wrenches, of which the following is a specification.

My invention relates to improvements in pipe flange wrenches and has for its object the production of a wrench of this nature which shall be of simple construction and efficient in operation.

The invention consists in the combination and arrangement of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which—

Figure 1 is a partial elevation of a wrench embodying my invention, Fig. 2, a section on line *x*—*x* of Fig. 1 with the lever bar removed, and Fig. 3, a section on line *y*—*y* of Fig. 2.

The preferred form of construction as illustrated in the drawings comprises a ratchet wheel 1 having a flange 2 near its periphery and double acting ratchet teeth 3 on the periphery of said flange. Near the center ratchet wheel 1 is provided with an annular flange 4 adapted to encompass the hub 5 of a lever member 6. Hub 5 is provided with reinforcing radial flanges 7 fitting within flange 4. Lever member 6 is pivoted to ratchet wheel 1 with hub 5 fitting within flange 4 by means of a bolt 8 and is provided at its outer end with a conical socket 9 adapted to receive the end of a lever bar 10. Pivoted to lever 6 is a double acting pawl 11 so shaped as to effect a pawl and ratchet connection with ratchet teeth 3 in either direction depending upon how said pawl is set as indicated by full and dotted lines in Fig. 1. Ratchet wheel 1 is provided with four radial slots 12 adapted to adjustably receive bolts 13 which are designed to pass through the usual bolt openings in a pipe flange 14, as shown in Fig. 2. By this construction it will be observed that ratchet wheel 1 may be readily secured to different sizes of pipe flanges and that by setting pawl 11 to one side or the other of lever 6, said lever may be manipulated to turn said flange in either direction relatively to its pipe 15, thus endowing the device with the capacity of being readily changed to tighten or loosen a flange. Owing to the fact that bolts 13 are adjustable in slots 12 different sizes of flanges may be readily engaged.

While I have illustrated and described the preferred form of construction for carrying my invention into effect this is capable of variation or modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the exact details set forth but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A pipe flange wrench comprising a ratchet wheel provided with double-acting ratchet teeth and means for attachment to a pipe flange; a lever pivoted to said ratchet wheel; and a double-headed pawl pivoted to said lever and adapted to coöperate with said ratchet teeth in either direction, substantially as described.

2. A pipe flange wrench comprising a ratchet wheel provided with double-acting ratchet teeth and radial slots; bolts in said radial slots; a lever pivoted to said ratchet wheel; and a double-headed pawl pivoted to said lever and adapted to coöperate with said ratchet teeth in either direction, substantially as described.

3. A pipe flange wrench comprising a securing member having annular flanges near its periphery and its center and means for attachment to a pipe flange; double-acting ratchet teeth on said peripheral flange; a lever having a hub fitting within said central flange and pivoted to said securing member; and a double-headed pawl pivoted to said lever and adapted to coöperate with said ratchet teeth in either direction, substantially as described.

4. A pipe flange wrench comprising a securing member having annular flanges near its periphery and its center and radial slots; bolts in said radial slots; double-acting

ratchet teeth on said peripheral flange; a lever having a hub fitting within said central flange and pivoted to said securing member; and a double-headed pawl pivoted to said lever adapted to coöperate with said ratchet teeth in either direction, substantially as described.

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

MICHAEL MURRAY.

Witnesses:

HELEN F. LILLIS,

JOSHUA R. H. POTTS.