M. BUBSER.

Wrenches.

No. 141,259. Patented July 29, 1873.

Fig. 2

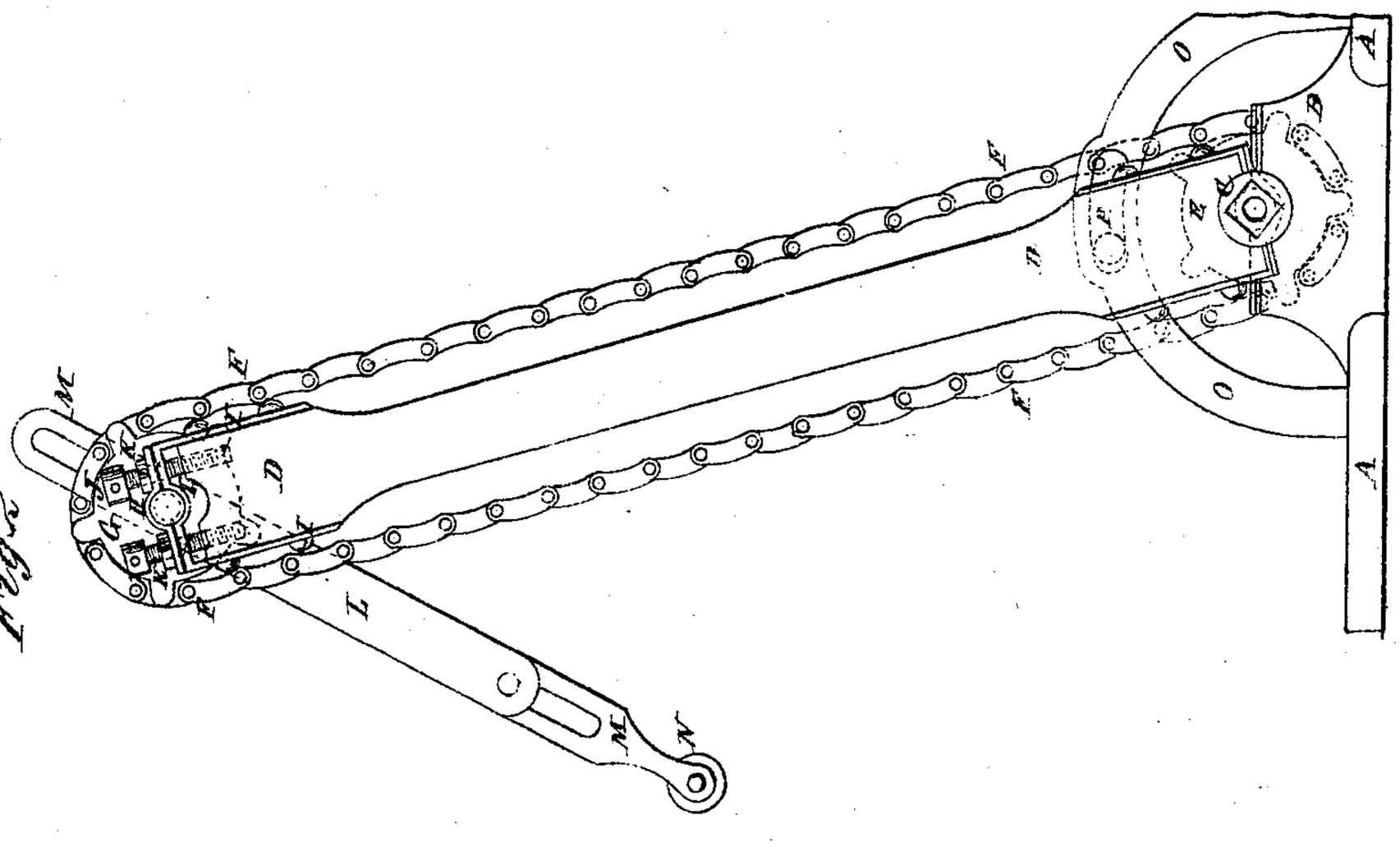
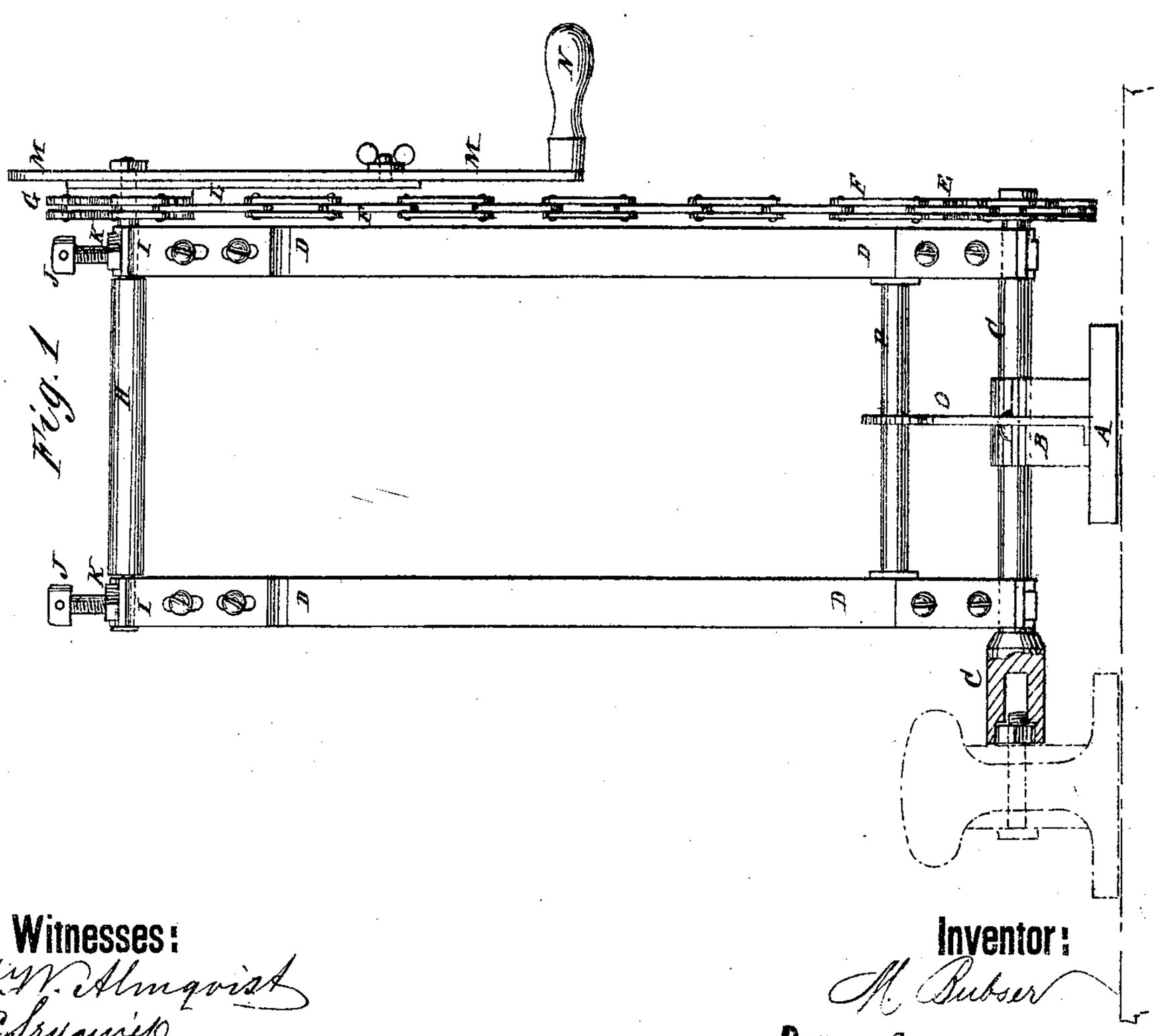


Fig. 1



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN WRENCHES.

Specification forming part of Letters Patent No. **141,259**, dated July 29, 1873; application filed April 19, 1873.

To all whom it may concern:

Be it known that I, MICHAEL BUBSER, of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Wrench for Fish-Plate Bolts, &c., of which the following is a specification:

Figure 1 is a front view of my improved wrench. Fig. 2 is a side view of the same.

My invention has for its object to furnish an improved wrench for turning the nuts of fish-plate bolts, and other nuts and bolts that require great power to turn them, and which shall be simple in construction and convenient in use. The invention consists in the combination of the base, the lower bearing, the wrench-shaft, the side bars, the endless chain, the chain-wheels, the upper bearings, and the extendible crank with each other; in the combination of the upper bearings, constructed as hereinafter described, the set-screws and the locking-nuts with the side bars and the upper shaft, to enable the endless chain to be conveniently tightened; and in the combination of the curved and slotted bar and the rod with the base and the side bars of the machine, as hereinafter fully described.

A represents the base of my improved wrench, which should be made of such a length as to rest upon three ties at the same time, and to the middle part of which is attached a wide bearing, B, in which the shaft C revolves and slides. The end parts of the shaft C revolve in bearings attached to the lower ends of side bars D. One of the projecting ends of the shaft C is enlarged, and in its outer end is formed a square hole of sufficient size to receive the nut to be operated upon, while the end of the bolt projects into a cavity or hole formed in the said projecting end of the shaft C. To the other projecting end of the shaft C is attached a chain-wheel, E, which must be so small that its rim will not come in contact with the tie or ground. F is an endless chain, which passes around the chain-wheel E, and also around the chain-wheel G attached to the shaft H, which revolves in bearings I attached to the upper ends of the bars D. The lower half of the bearings I is made with long ends, which bend downward to overlap the edges of the bars D, and have slots formed in them to receive the screws or bolts by which they are secured to said edges. J are set-screws which pass through holes in the upper half of bearings I and through screw-holes in the lower half of said bearings I. The ends of the screws J rest against the ends of the bars D, or in sockets formed in said ends, so that by turning said screws J the bearings I may be raised to tighten the endless chain F. K are locking-nuts placed upon the screws J above the upper half of the bearings I, so that by turning the said nuts K down, the two halves of the bearings I will be held close together. To the chain-wheel G is attached an arm, L, to the outer end of which is attached a bolt, which passes through a longitudinal slot in the bar M, and is provided with a hand-nut. The other end of the bar M passes over the projecting end of the shaft H, and is secured in place by a nut. Upon the end of the bar M is formed a handle, N, for convenience in operating it. The arm L and slotted bar M N thus form an extendible crank, which may be conveniently extended and contracted to give a greater or less leverage as more or less power may be required. O is a curved bar, the ends of which are attached to the base A upon the opposite sides of the bearings B. In the upper part of the curved bar O is formed a short slot, curved upon the arc of a circle, having its center in the axis of the shaft C. Through the slot of the bar O passes a bar, rod, or round, P, the ends of which are attached to the side bars D, so that the machine may be inclined in one or the other direction, as may be convenient in operating it.

By this construction, as the machine is operated to turn the nut in one or the other direction, the movement of the nut upon its bolt will move the machine out or in, the shaft C sliding longitudinally in its bearings B and the rod P sliding in the slot of the curved bar O.

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

1. The combination of the base A, bearings

B, wrench-shaft C, side bars D, endless chain F, chain-wheels E G, bearings I, and extendible crank L M N with each other, substantially as herein shown and described.

2. The bearings I, formed of two parts, one of which is slotted and secured to the bars D, the jam-nuts K, and the screws J, in combination with the shaft C rotating in fixed bearings, the endless chain F, and shaft H, all as shown and described.

3. The combination of the curved and slotted bar O and rod P with the base A and side bars D of the machine, substantially as herein shown and described.

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