

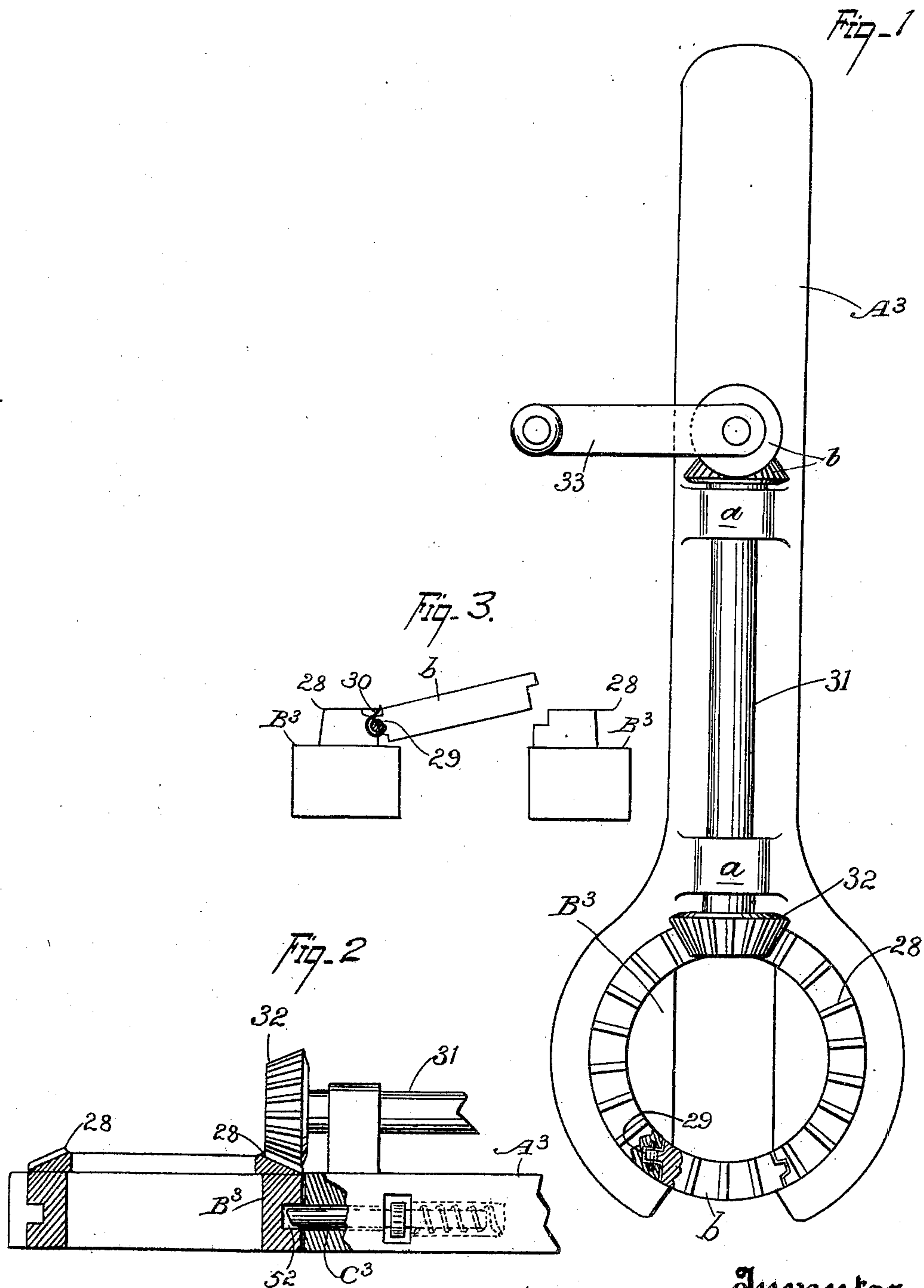
No. 682,384.

J. D. MCFARLAND, JR.
WRENCH.

Patented Sept. 10, 1901.

(Application filed Nov. 17, 1900.)

(No Model.)



Witnesses,
J. H. Byles

Inventor,
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UNITED STATES PATENT OFFICE.

JAMES D. MCFARLAND, JR., OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR OF
ONE-HALF TO JOHN BRUCKMAN, OF SAME PLACE.

WRENCH.

SPECIFICATION forming part of Letters Patent No. 682,384, dated September 10, 1901.

Application filed November 17, 1900. Serial No. 36,840. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. MCFARLAND, Jr., a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Wrenches; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in wrenches such as are applicable to spoke-nipples, pipes, and like tubular structures, and has for its object the furnishing of a device that can be operated in a very limited space and whereby it is not necessary to reengage the object to be turned with every actuation of the handle.

It consists of the parts and the constructions and combinations of parts hereinafter described and claimed.

Figure 1 is an elevation of a wrench embodying my invention and showing a portion broken away. Fig. 2 is a part elevation and part section of the head end of the same. Fig. 3 is an end view of Fig. 1, showing the hinged section *b* elevated.

In said drawings, *A*³ represents a suitable handle having a circular head at one end and having bearings *a* upon one side. In Fig. 2 the circular jaw *B*³ is retained as in an annular groove in the circular head end of the handle. It has peripheral recesses or ratchets *5*³, with which the pawl or spring-pin *C*³ engages. This circular jaw is provided with gear-teeth 28. The opening in the jaw may be closed, after a nut or pipe has been entered into the opening, by a segmental portion, hinged, as at 29, and kept in position by suitable means, as the spring 30. A shaft 31, supported in the bearings *a* upon the handle and carrying a pinion 32, engages the gear-teeth 28, and the jaw is made to rotate by means of the crank 33 and intermeshing bevel-gears *b*.

This form of wrench is of great utility in cases where a nut or pipe is in some hole or place difficult of access.

It is to be noted that the wrench is capable of being operated in a very small space, (as where it is impossible to give a full circumferential sweep to the handle,) while with each

actuation of the handle or other means for revolving the jaw it is not necessary to reengage the nut, pipe, or other object to be turned.

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

1. A wrench including a handle having an enlarged head with circular opening, a circular, revoluble jaw mounted in said opening, and means including a shaft parallel with the handle and having a gear engaging and adapted to continuously rotate the jaw independent of the movement of the handle.

2. A wrench including a handle having an enlarged head, a revoluble jaw let into said head so as to be substantially flush therewith, and provided with a gear-surface, and means including a shaft parallel with the handle and having a gear engaging the gear-surface of the jaw for continuously rotating the jaw without movement of the handle.

3. A wrench consisting in combination of a handle, a circular jaw, gear-teeth upon this jaw, a segmental toothed portion adapted to close the jaw-opening and means whereby this jaw may be actuated continuously without movement of the handle.

4. The combination in a wrench, of a handle, a revoluble jaw, a bevel-gear upon the jaw, a segmental geared portion hinged upon the jaw and turnable at right angles to the plane of the jaw, and means whereby said jaw may be revolved continuously.

5. A wrench including a handle having a head provided with a circular opening, a circular jaw mounted in said opening and provided with gear-teeth on one of its faces, a shaft parallel with the handle and provided with a bevel-gear for engaging the teeth of the jaw, and means for rotating the shaft and continuously operating the jaw without movement of the handle.

In witness whereof I have hereunto set my hand.

JAMES D. MCFARLAND, JR.

Witnesses:

S. H. NOURSE,

CHAS. E. TOWNSEND.