

Nov. 18, 1924

1,516,229

G. W. CAMERON

TOOL

Filed July 14, 1922

2 Sheets-Sheet 1

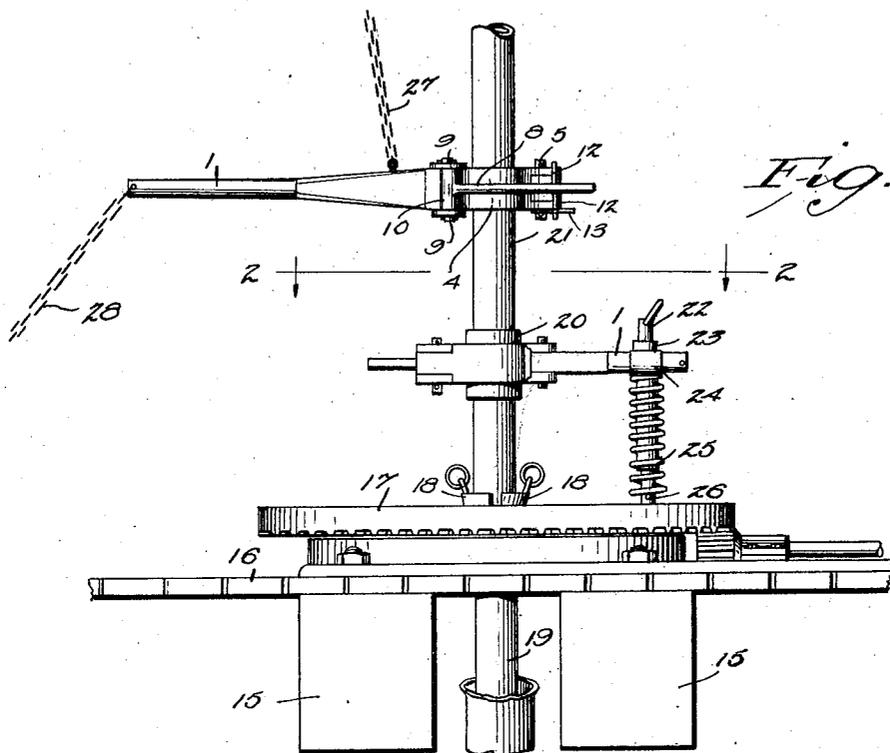


Fig. 1.

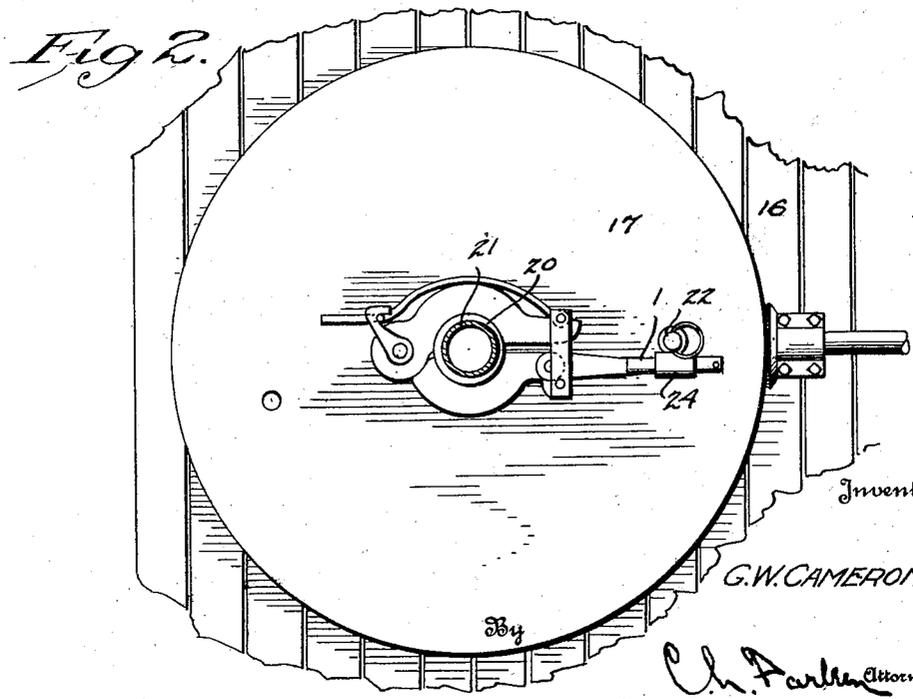


Fig. 2.

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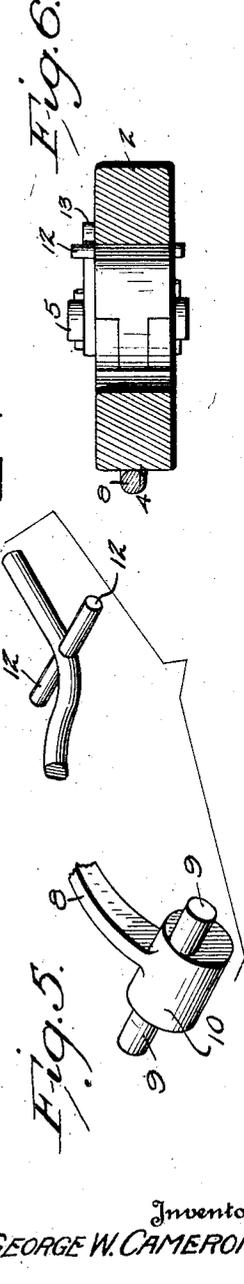
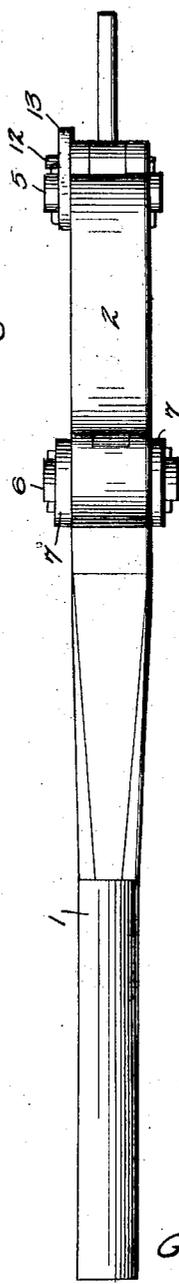
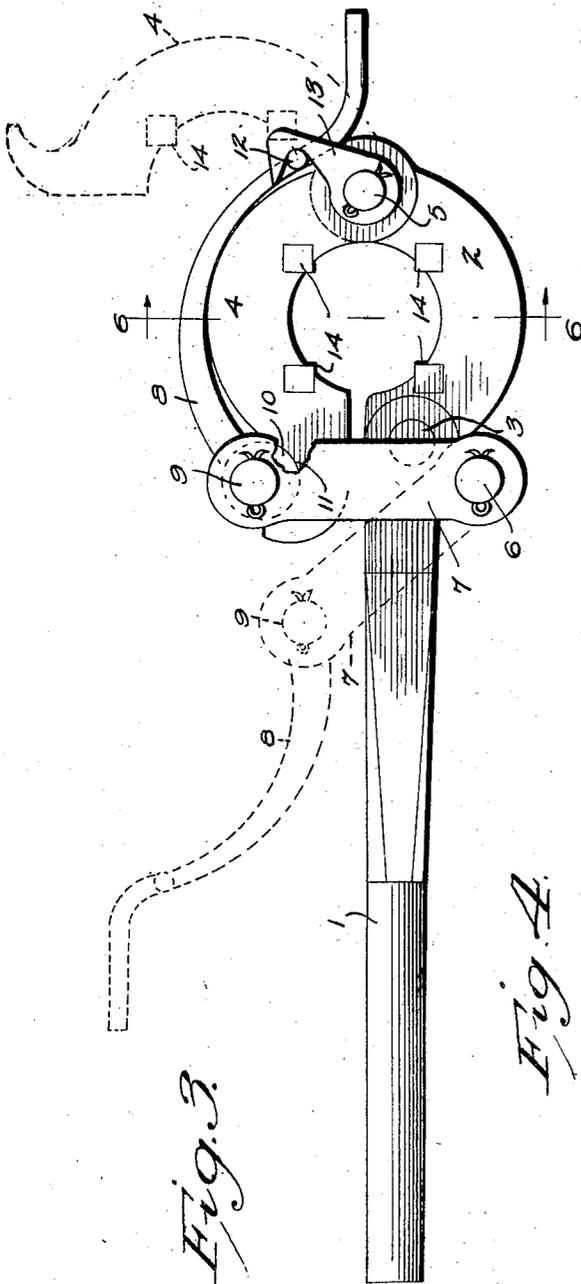
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

GEORGE W. CAMERON, OF HONDO, TEXAS; MRS. MOLLIE E. CAMERON EXECUTRIX OF SAID GEORGE W. CAMERON, DECEASED.

TOOL.

Application filed July 14, 1922. Serial No. 575,098.

To all whom it may concern:

Be it known that I, GEORGE W. CAMERON, a citizen of the United States, residing at Hondo, in the county of Medina and State of Texas, have invented certain new and useful Improvements in Tools, of which the following is a specification.

This invention relates to tools, and more particularly to pipe wrenches.

An object of the invention is the provision of a pipe wrench that is durable in operation and simple in construction.

A further object is the provision of a pipe wrench having a powerful and effective gripping action.

A further object is the provision of a pipe wrench having removable gripping teeth.

A further object is the provision of a wrench which may be detached when under great pressure without the use of hammers or similar tools.

In the accompanying drawings, I have shown one embodiment of the invention. In this showing:

Figure 1 is a side elevation of a rotary rig showing a pair of wrenches attached to a drill pipe to uncouple the same,

Figure 2 is a horizontal sectional view on line 2—2 of Figure 1,

Figure 3 is a plan view of one of the wrenches in closed position,

Figure 4 is a side elevation,

Figure 5 is a detail view of a cam lever, and,

Figure 6 is a transverse sectional view on line 6—6 of Figure 3.

Referring to Figures 3 to 6 of the drawings, the reference numeral 1 designates the handle of the wrench or tongs. A substantially semi-circular jaw 2 is provided to the end of the handle by means of a pin 3. A second jaw 4 is pivoted to the outer end of the first jaw by means of a pin 5. When the wrench is in closed position, the two jaws substantially complete a circle and embrace the pipe to which the wrench is applied. The end of the handle is provided with an offset or extension adapted to receive a pivot pin 6. Links 7 are attached to this pin and a cam lever 8 is secured to the other end of the links by means of a pin 9. As shown, the lever is provided with a cam member 10 on its inner end which is adapted to be received in a recess 11 on the outer

end of the jaw 4. The pins 9 project from the cam and are adapted to receive the links 7. The lever is shaped to conform to the curvature of the jaw 4 and is provided with pins 12 adjacent its outer end. When the wrench is in closed position, these pins are adapted to be engaged by latches 13, pivotally mounted on the pin 5. The engaging faces of the jaws are provided with recesses for the reception of teeth 14. These teeth project slightly beyond the face of the wrench and are adapted to engage the pipe.

In Figures 1 and 2 of the drawings, I have shown the wrench applied for the purpose of uncoupling a pipe or drill stem in a well. As shown, a rotary drilling rig is mounted on a foundation 15. The rig consists of a base 16 and a revolving table 17 driven in any suitable manner. A pair of driving wedges 18 are arranged on the table, adapted to engage a section 19 of the drill stem. The upper end of this section is provided with a coupling 20, adapted to receive a second section 21. A pair of tongs are gripped around the coupling 20, as shown. A stake 22 is secured in the revolving table and this stake is adapted to receive a tubular member 23. The tubular member is provided with a sleeve 24, arranged at right angles thereto adapted to receive the handle 1 of the wrench. A coil spring 25 is arranged around the stake bearing against a pin 26 at the lower end and the sleeve 24 at the upper end. It will be apparent that the wrench will be revolved with the table. A second wrench is secured to the section 21 of the drill stem and is held against rotation by chains 27 and 28, the ends of which are secured to any suitable stationary object.

The operation of the wrench will be apparent from the foregoing description. When the wrench is to be applied to a pipe, the jaws 2 and 4 are closed around the pipe and the cam 10 brought into engagement with the recess 11. As the cam lever is turned to closed position, the free end of jaw 4 is forced inwardly by the cam, securely gripping the pipe. The wrench is then locked in position by the latches 13. The gripping teeth 14 are substantially rectangular in cross section and are made of hardened metal. As shown, the corners of the teeth serve as the gripping elements and when one corner becomes worn, the teeth

may be taken out of the recesses and turned to expose a new corner. When all four of the corners become worn, the teeth may be replaced.

5 In using the wrench to disassemble drill stems, the stake 22 revolves with the table 17, causing the lower wrench engaging the coupling 20 to revolve and the upper wrench is held in stationary position by the chains 10 27 and 28.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size, and arrangement of parts may be re- 15 stored to without departing from the spirit of the invention or the scope of the sub-joined claims.

20 Having thus described my invention, I claim:

1. A pipe wrench comprising a handle, a substantially semi-circular jaw pivoted there- 25 to, a second substantially semi-circular jaw pivoted to the outer end of the first jaw, a link pivoted to said handle, a cam lever pivoted to the free end of said link, said cam lever being adapted to engage the free end of said second jaw, and being shaped to conform to the exterior of said second jaw,

and a locking member mounted on the pivot 30 between said jaws and engaging said cam lever adjacent its free end.

2. A pipe wrench comprising a handle, a substantially semi-circular jaw pivoted thereto, a second substantially semi-circular 35 jaw pivoted to the outer end of the first jaw, a link pivoted to said handle, a cam lever pivoted to the free end of said link, said cam lever being adapted to engage the free end of said second jaw, and being shaped 40 to conform to the exterior of said second jaw, a transverse pin carried by said lever adjacent its free end, and a latch mounted on the pivot between said jaws and adapted to engage said pin. 45

3. A device constructed in accordance with claim 1 wherein said cam lever com- 50 prises a curved body portion having a cam on its inner end and a pin carried by said cam and adapted to be received in said link to pivotally connect said lever to said link.

In testimony whereof, I affix my signature in presence of two witnesses.

GEORGE W. CAMERON.

Witnesses:

GEO. NEUERMINK,
J. F. SMITH.