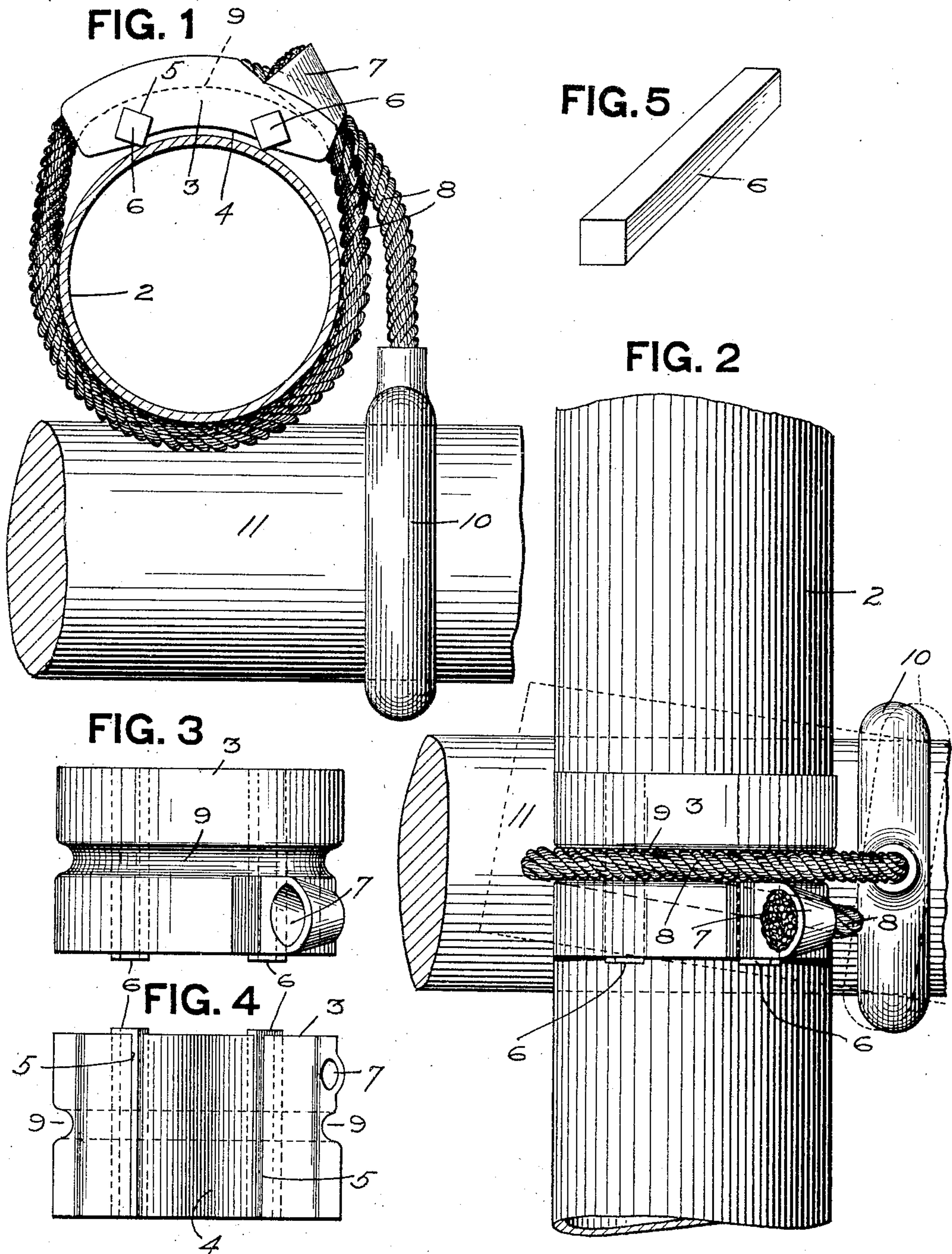


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PATENTED MAR. 28, 1905.

C. C. CHAMBERLIN.  
PIPE WRENCH.

APPLICATION FILED DEC. 31, 1904.



WITNESSES.

*J. R. Keller*  
*Robert C. Lott*

INVENTOR.

*Charles C. Chamberlin*  
*By Kay Lott & White*  
*attorneys*



# UNITED STATES PATENT OFFICE.

CHARLES C. CHAMBERLIN, OF WASHINGTON, PENNSYLVANIA.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 785,711, dated March 28, 1905.

Application filed December 31, 1904. Serial No. 239,203.

*To all whom it may concern:*

Be it known that I, CHARLES C. CHAMBERLIN, a resident of Washington, in the county of Washington and State of Pennsylvania, have invented a new and useful Improvement in Pipe-Wrenches; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a device for gripping oil-well casing or like cylindrical objects where it is desired to impart a rotary movement to the same, as in unscrewing such oil-well casing when it is desired to separate or remove one section from the other.

Accordingly the object of my invention is to provide a simple form of such device which will take a secure grip upon the surface of the casing or other cylindrical object, so that when the wrenching operation is performed the casing will not slip, but will be held rigidly, so that the friction of the threads to be overcome in unscrewing will not cause the device to slip or slide on the surface of the casing.

To these ends my invention comprises, generally stated, a shoe or block having a concave inner face with gripping means thereon, a rope or cable connected to said shoe adapted to completely encircle the casing or other cylindrical object to be turned, and a groove or seat formed in the outer face of said shoe to receive said rope or cable, together with means for applying a lever to the free end of said cable, all as fully hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a view of my improved device as applied in unscrewing oil-well casing. Fig. 2 is a side view of same. Fig. 3 is a face view of the shoe itself. Fig. 4 is an inner face view, and Fig. 5 is a perspective view of one of the gripping-jaws.

Like numerals indicate like parts in each view.

In the accompanying drawings the numeral 2 designates a section of oil-well casing, and while I will describe and have illustrated my

invention in connection with such casing it is to be understood that I do not limit myself to its use as applied strictly to such casing, but include within the scope of my invention any other cylindrical article to which it may be found applicable.

The numeral 3 designates a block or shoe which may be formed of steel, either forged or cast, or of any other suitable metal. The inner face 4 of the block is concave, and within seats 5 in the inner face of said block are secured the gripping-jaws 6. These gripping-jaws 6 may be formed integral with the block 3, if desired; but I prefer to have them removable, so that new edges may be presented when those in use become worn, and by making them in the form indicated there are four edges, which may be used from time to time.

At one side of the block or shoe 3 on the outer face is formed the socket 7, which is preferably tapering in form and is adapted to receive the end of the wire rope or cable 8. The cable is inserted within said socket 7, and suitable metal is then poured into the socket, so as to securely hold the cable therein.

On the outer face of the block or shoe 3 is the seat or groove 9, which is adapted to receive the cable 8 when the device is adjusted around the casing in the manner indicated in Fig. 1. To the free end of the cable 8 is secured the ring 10, which may be secured in any suitable manner to said cable, and this ring is adapted to receive the bar or lever 11.

When my improved device is in use at the well and it is desired to unscrew a section of casing, the shoe 3 is adjusted at the proper point above the connection on the casing, and the wire rope or cable 8 is then made to encircle the casing, the rope passing into the groove or recess 9 on the outer face of the shoe, as indicated in Fig. 1. The cable is then pulled taut, and the operating lever or bar 11 is inserted in the ring 10, and the device is then in position for operation in unscrewing the casing. With the bar 11 bearing against the casing, which forms the fulcrum for said bar, the operators or men about the well push the bar around in a circle, which causes the gripping-jaws of the shoe 3 to take a firm hold upon the casing and, in conjunc-



tion with the cable, so bind the casing that it is not permitted to slip when the lever 11 is operated. In this manner by operating the lever 11 the casing is unscrewed, and when it has been disengaged from the section below the lever 11 is withdrawn from the ring 10, and the device is readily released from the casing and ready to be applied to the next section of casing.

10 By my invention I have provided a very simple device which may be used with great effect around oil-wells and which does away with complicated forms of pipe-wrenches, while at the same time it has many advantages over the ordinary rope or chain wrench which is sometimes used for this purpose. By my invention I am enabled to employ a wire line or cable, as it is used simply to encircle the casing, and when once it engages the casing in the manner indicated there is no give to it, so that no power is lost when it comes to operating the lever. It has been customary in some cases to simply employ a hemp rope wound around the casing several times; but such a device does not grip the casing so as to prevent its slipping, while at the same time the hemp rope stretches and gives, so that there is nothing to insure the positive operation of the device.

30 My device is so simple and so easily handled that it dispenses with a great deal of labor and time in adjusting the device to the casing, as well as in operating it when adjusted.

35 What I claim is—

1. A device for wrenching casing, or other cylindrical objects, comprising a shoe having gripping means on its inner face, a cable connected to said shoe adapted to completely encircle the casing, said shoe having a seat on its outer face to receive said cable, and means for connecting a lever to the free end of said cable.

45 2. A device for wrenching casing, or other cylindrical objects, comprising a shoe having an inner concave face with gripping means thereon, a cable connected to said shoe adapted to completely encircle the casing, said shoe having a seat on its outer face to receive said cable, and means for connecting a lever to the free end of said cable.

50 3. A device for wrenching casing, or other cylindrical objects, comprising a shoe having an inner concave face with gripping means

thereon, a cable connected to said shoe adapted to completely encircle the casing, said shoe having a curvilinear groove formed therein to receive said cable, and means for connecting a lever to the free end of said cable.

4. A device for wrenching casing, or other cylindrical objects, comprising a shoe having an inner concave face, a removable gripping-jaw inserted in a seat in said shoe, a cable connected to said shoe adapted to completely encircle the casing, said shoe having a seat on its outer face to receive said cable, and means for connecting a lever to the free end of said cable.

5. A device for wrenching casing, or other cylindrical objects, comprising a shoe having an inner concave face, a polygonal gripping-die inserted in a seat in said shoe, a cable connected to said shoe adapted to completely encircle the casing, said shoe having a seat on its outer face to receive said cable, and means for connecting a lever to the free end of said cable.

6. A device for wrenching casing, or other cylindrical objects, comprising a shoe having an inner concave face provided with gripping means, a cable connected to one side of the axial line of said shoe adapted to completely encircle the casing, said shoe having a seat to receive said cable, and means for connecting a lever to the free end of said cable.

7. A device for wrenching casing, or other cylindrical objects, comprising a shoe having an inner concave face, a socket formed in said shoe to one side of the axial line of said shoe, a cable secured in said socket adapted to completely encircle the casing, said shoe having a groove formed on its outer face to receive said cable, and means for connecting a lever to the free end of said cable.

8. In a device for wrenching casing, or other cylindrical objects, comprising a shoe having gripping means on its inner face, a cable connected to said shoe adapted to completely encircle the casing, said shoe having a seat on its outer face to receive said cable, and a ring on the free end of said cable.

In testimony whereof I, the said CHARLES C. CHAMBERLIN, have hereunto set my hand.

CHARLES C. CHAMBERLIN.

Witnesses:

GEO. M. BURNS,  
D. M. DONEHOO.