(No Model.) 2 Sheets—Sheet 1.

J. BELL.

PIPE WRENCH.

No. 587,916. Patented Aug. 10, 1897.

Fig. 1.

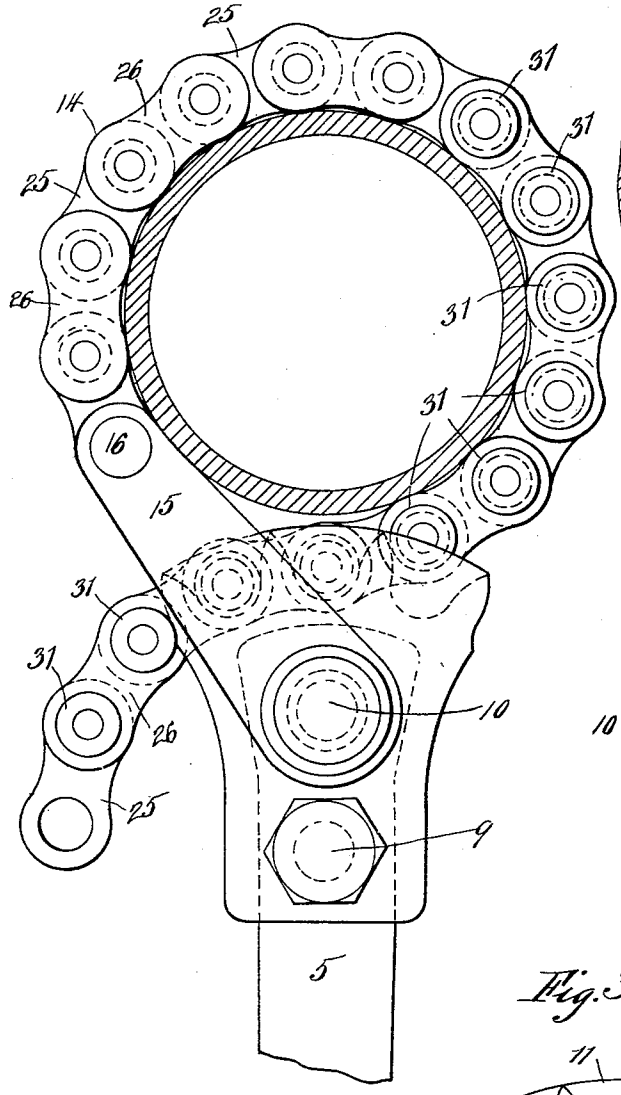


Fig. 2.

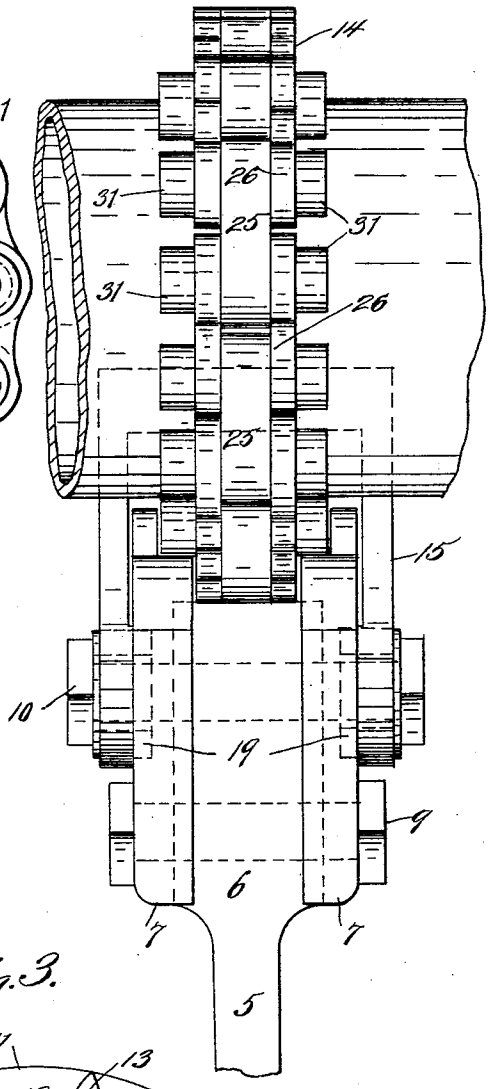
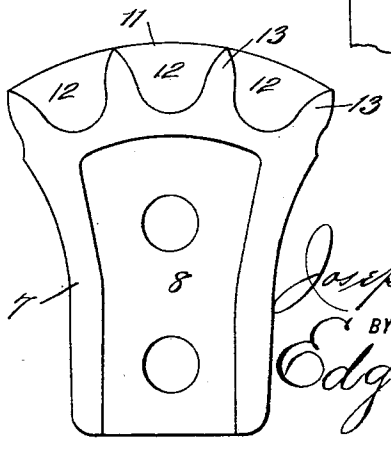


Fig. 3.



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

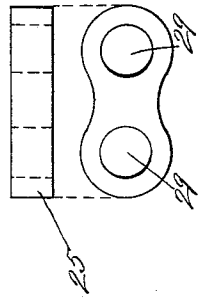

Fig. 6.

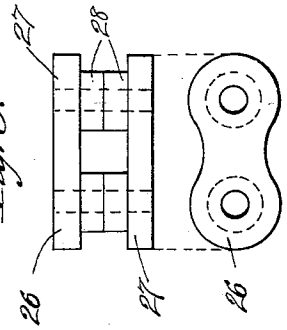

Fig. 4.

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UNITED STATES PATENT OFFICE.

JOSEPH BELL, OF TROUTDALE, OREGON.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 587,916, dated August 10, 1897.

Application filed September 28, 1896. Serial No. 607,128. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BELL, a subject of the Queen of Great Britain, and a resident of Troutdale, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Pipe-Wrenches, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar numerals of reference indicate corresponding parts wherever found throughout the several views.

This invention relates to wrenches, and particularly to what are known as "pipe-wrenches;" and the object thereof is to provide an improved device of this class whereby a pipe or other cylindrical body may be grasped and securely held and handled or manipulated in any desired manner without injury thereto.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a sectional end view of a pipe and a side view of my improved wrench connected therewith; Fig. 2, a view at right angles thereto; Fig. 3, an inside view of a jaw which forms a part of a head connected with the handle of the wrench; Fig. 4, a central longitudinal section of a chain which I employ and which constitutes a part of my improved wrench; Fig. 5, a plan and side view of one of the links of said chain, and Fig. 6 a plan and side view of the other link.

In the practice of my invention I provide a handle 5, one end of which is provided with a head 6, to which are secured side jaws 7, which form a part of said head, and these jaws are provided on their inner sides with longitudinal cavities or recesses 8, in which the sides of the head 6 of the handle fit, and said jaws 7 are bolted to the head of the handle, as shown at 9 and 10 in Figs. 1 and 2.

The outer ends of the jaws 7 of the head of the handle are preferably segmental or circular in form, as shown at 11, and formed on the inner side thereof are semicircular cavities or recesses 12, whereby sprocket-teeth or projections 13 are provided, and I also provide a chain 14, one end of which is connected with a yoke 15, as shown at 16, and the head of the handle is pivoted between the free ends of the sides of said yoke by means of the pivot pin or bolt 10, which constitutes one of the bolts by which the jaws 7 of the head 6 are secured thereto.

The details of the construction of the chains 14, the yoke 15, and the connection of the latter with the head of the handle are best shown in Fig. 4, and on reference to said figure it will be seen that said yoke consists of the side arms or plates 17, the outer ends of which are provided with inwardly-directed cylindrical heads 18, which fit into corresponding cavities formed in the outer sides of the jaws 7, as shown by dotted lines at 19 in Fig. 2, and these ends and heads of the side arms or plates are provided with transverse bores or passages 20, through which the bolt 10 passes.

The head of the yoke 15 consists of inwardly-directed tubular extensions 21, formed on the side arms or plates 17, through which the bolt 22 is passed, and mounted on said bolt 22 between said inwardly-directed tubular extensions 21 is a tubular sleeve which preferably consists of two sections 23, each of which is provided at its inner end with a projecting plate 24, and said plates project side by side and provide means for connecting the chain 14 with the yoke.

It will be apparent that the separate sections 23 of the sleeve which is mounted on the bolt 22 may be formed integrally, if desired, and in this event the plates 24 will consist simply of an angular projection formed on said sleeve.

The chain 14 consists of two forms of links, a plan and side view of one of which are given in Fig. 5 and a plan and side view of the other in Fig. 6. The link 25 (shown in Fig. 5) constitutes the center link and the link 26 (shown in Fig. 6) the side links of the chain, and these links are connected and held in the manner of an ordinary drive-chain.

The side links 26 are composed of two separate similar pieces 27, and each of these is provided on its inner surface with inwardly-directed cylindrical shoulders or projections 28, which pass through transverse holes or openings 29 in the central link 25, and the pivot-pins 30, by which the links are connected, pass through these cylindrical shoulders or projections 28.

The pivot-pins 30 may be headed or riveted

in any desired manner, and the side links of the chain for a predetermined distance from the free end thereof are provided with cylindrical lugs or projections 31 on their opposite sides, which are in line with the cylindrical lugs or projections 28 on their inner sides and which are larger than said lugs or projections 28, and the pivot-pins 30 are lengthened so as to extend through said cylindrical lugs or projections 31.

In Fig. 4 only one of the side links is shown as provided with these cylindrical lugs or projections 31, but only a part of the chain is shown in this figure, and it will be seen on reference to Figs. 1 and 2 that about two-thirds of the chain is thus provided, and the operation will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof.

In practice the chain is passed around the pipe, as shown in Figs. 1 and 2, and the free end thereof is passed between the side arms or plates 17 of the yoke 15, as is clearly shown in said figure, and then by moving the handle-bar back and forth the sprockets or projections 13 on the jaws 7 of the head 6 will engage with the cylindrical lugs or projections 31 on each side of the chain, and said chain may be thus drawn through the yoke and caused to firmly grasp and hold the pipe.

As hereinbefore stated, the pivot-pins 30 of the chain may be riveted or otherwise secured in place, but the ends of said pins which pass through the cylindrical lugs or projections 31 on the free end of the chain should be flush with said lugs or projections, as is shown in said Fig. 4, in order that they will not interfere with the passage of the chain between the jaws 7, as hereinbefore described.

It will thus be seen that I accomplish the object of my invention by means of a device which is simple in construction and operation and one which is well adapted to accomplish the result for which it is intended, and it is evident that changes in and modifications of the construction herein described may be made without departing from the spirit of my invention or sacrificing its advantages.

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

1. The herein-described wrench, comprising a handle, provided with a head having side jaws which project at the end thereof, and in line with the handle, said side jaws being circular or segmental in form at their outer ends and provided at their inner sides adjacent to said outer ends with sprockets or teeth, and a chain, provided at one end with a yoke, between the sides of which the head of the handle is pivoted, the free end of said chain being adapted to be passed through said yoke and between the jaws of the head, and the links of the chain being provided with lugs or projections which are also adapted to pass through said yoke, and with which said sprockets or teeth on the jaws of the head of the handle are adapted to engage, substantially as shown and described.

2. A wrench, comprising a handle, provided at one end with a head, having side jaws which project therefrom, and which are provided with sprockets or teeth on their inner sides which are arranged in the form of a segment, and a chain provided at one end with a yoke, to the cross-head of which said chain is connected, and between the sides of which the head of the handle is pivoted, the free end of the chain being adapted to be passed through said yoke, and between the jaws of the head of the handle, and the links of the chain being provided with lugs or projections in connection with which said sprockets or teeth are adapted to engage, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 8th day of September, 1896.

JOSEPH BELL.

Witnesses:
AARON FOX,
THOMAS W. CORDER.