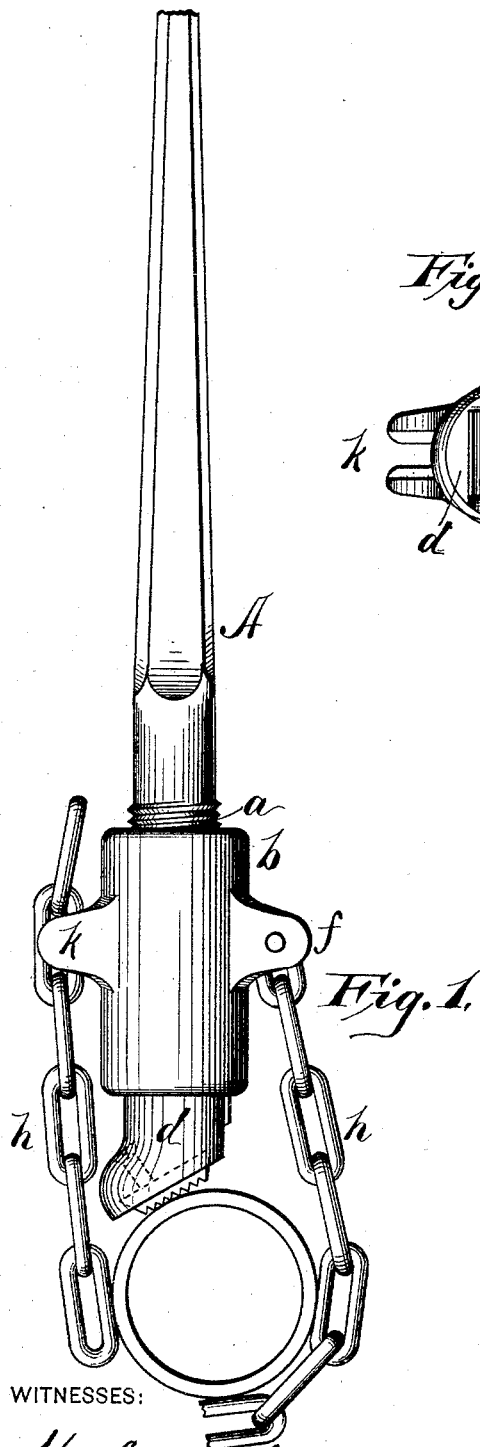


(No Model.)

F. L. TWISS & L. A. BARBER.
PIPE WRENCH.

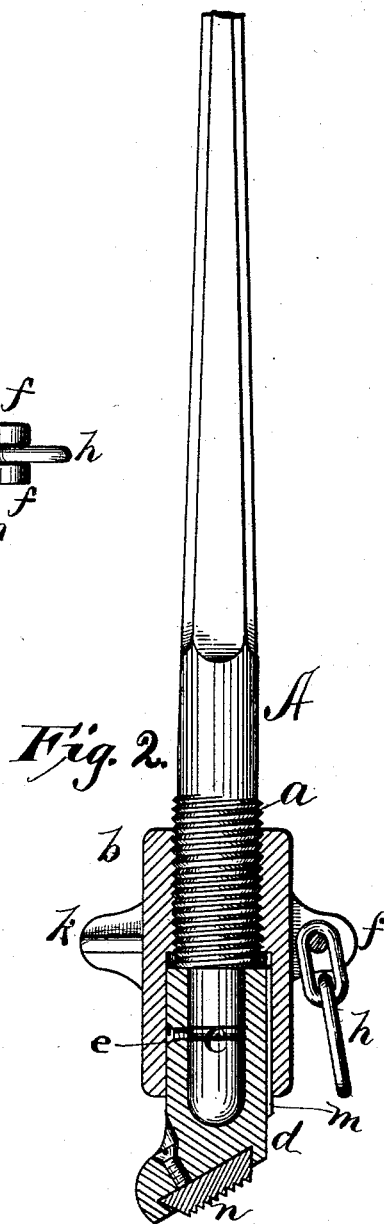
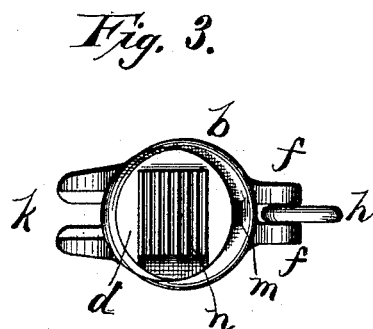
No. 489,048.

Patented Jan. 3, 1893.



WITNESSES:

H. A. Carhart
C. B. Kinnic



INVENTORS

Freeman L. Twiss &
Luther A. Barber
By Smith & Robinson ATTORNEYS.

UNITED STATES PATENT OFFICE.

FREEMAN L. TWISS AND LUTHER A. BARBER, OF GROTON, NEW YORK.

PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 489,048, dated January 3, 1893.

Application filed November 5, 1892. Serial No. 451,039. (No model.)

To all whom it may concern:

Be it known that we, FREEMAN L. TWISS and LUTHER A. BARBER, of Groton, in the county of Tompkins, in the State of New York, have invented new and useful Improvements in Pipe-Wrenches, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

Our invention relates to pipe wrenches and particularly to that class which embody or employ a chain partially surrounding the pipe, as a part of the gripping mechanism.

Our object is to produce a pipe wrench having a threaded handle, connected to and adapted to project and retract the toothed jaw, for adjustment, in conjunction with a chain adapted to partially surround the pipe, it being also adjustable.

Our invention consists in the several novel features of construction and operation hereinafter described and which are specifically set forth in the claims hereunto annexed.

It is constructed as follows, reference being had to the accompanying drawings,

Figure 1, is a side elevation of the wrench, applied to a pipe. Fig. 2, is a longitudinal sectional elevation of the wrench. Fig. 3, is a front elevation thereof.

(A), is the handle, threaded as at (a) to properly engage with the internally threaded sleeve (b) and provided with a point (c) which enters and is free to rotate in the cylindrical socket in the rear of the jaw (d) and retained therein by the frictional contact of the set screw (e). The sleeve (b) is provided on one side with a lug or lugs (f) to which one end of the chain (h) is secured, and on the opposite side with parallel lugs (k) adapted to re-

ceive a link of the chain between them, and thereby hold that end of the chain. The jaw (d) fits into the front end of the sleeve (b) and is connected thereto by a feather (m), fitting a like groove, or by any equivalent joint, to prevent the rotation of the jaw. In the front end of the jaw a dovetailed seat is prepared to receive the removable toothed segment (n), which is retained in place by a set screw as shown.

The adjustment of this wrench is partially made by varying the projection of the jaw by rotating the handle and partly by varying the connection of the chain to the lugs (k).

What we claim as our invention and desire to secure by Letters Patent, is

1. A pipe wrench comprising a threaded handle, a threaded sleeve receiving it, a rearwardly tubular jaw receiving the front end of the handle, lugs on opposite sides of the sleeve, and a chain permanently connected on one end, and detachably engaging with said lugs on the opposite side, in combination.

2. A pipe wrench comprising a threaded handle, a threaded sleeve receiving it, a rearwardly tubular jaw receiving the front end of the handle non-rotatable, and fitting into the front end of said sleeve, and lugs on opposite of the sleeve, to one set of which one end of the chain is connected, and the chain so connected and adapted to detachably engage with the other lugs, in combination.

In witness whereof we have hereunto set our hands this 1st day of November, 1892.

FREEMAN L. TWISS.
LUTHER A. BARBER.

In presence of—

T. F. FITZPATRICK,
E. A. MARSH.