

(Model.)

B. F. CHAPPELL.  
PIPE WRENCH.

No. 385,595.

Patented July 3, 1888.

Fig-1-

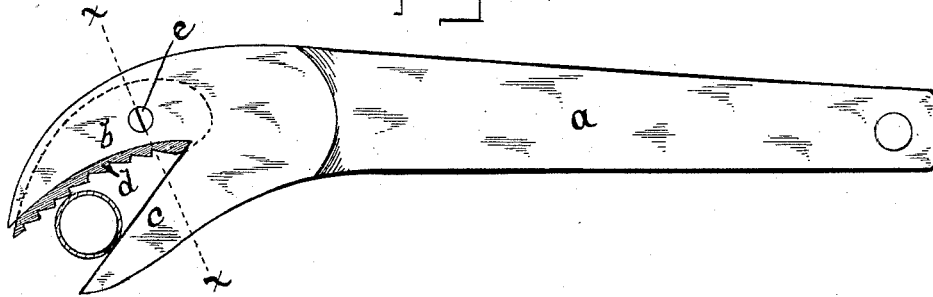


Fig-2-

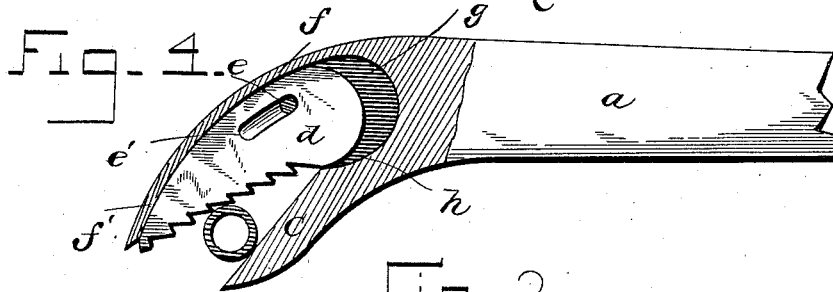
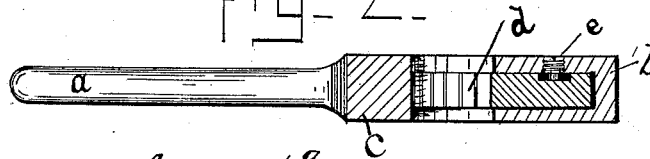


Fig-3-



Witnesses

*Tyler J. Howard*  
*Sebastian J. Keppeler*

Inventor

*Benjamin F. Chappell*  
By his Attorney  
*Frank N. Allen*

# UNITED STATES PATENT OFFICE.

BENJAMIN F. CHAPPELL, OF SOUTH WINDHAM, CONNECTICUT.

## PIPE-WRENCH.

SPECIFICATION forming part of Letters Patent No. 385,595, dated July 3, 1888.

Application filed October 14, 1886. Serial No. 216,213. (Model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. CHAPPELL, of South Windham, Windham county, Connecticut, have invented a certain new and useful Improvement in Pipe-Wrenches, which

improvement is fully described in the following specification, reference being had to the accompanying sheet of drawings, in which—  
Figure 1 is a side view of a wrench of my new construction. Fig. 2 represents a cross-section of the same on line *xx*, and Fig. 3 is a detached view of the movable jaw *d*. Fig. 4 is a sectional view more clearly illustrating my improvement.

My invention is in that class of pipe-wrenches which have a movable jaw-section adapted to jam against the pipe when in use, and my object is to produce in a cheap manner a wrench of great strength and gripping power.

Referring to the drawings, the letter *a* indicates a handle of suitable length having an integral head section formed as two jaws, *b c*, the former of which is channeled or recessed from its inner side to receive a serrated jaw, *d*. This recess presents interiorly a concave bearing, *f*, extending from a beak-point, *t*, backward and terminating in an enlarged throat, *g*, having a concave wall, *h*. The inner edge of the beak *c* is flat and forms an abutment for a pipe while being clenched and turned. The back *f'* of the jaw *d* has an arc conforming to the bearing *f*, on which the jaw is allowed to slide, whose serrated side confronts the inner wall of jaw *c*. This jaw *d* is not fixed in section *b*, but is free to move longitudinally a certain distance. The general shape of jaw *d*, when viewed sidewise, as in Fig. 3, is that of a wedge, and the bottom of the channel provided to receive it should be of the same shape as the engaging-edge of said jaw, so that when the said jaw is moved outward in its slot the serrated edge is moved toward the jaw *c* and wedged against the pipe with a tendency to hold it with a grip proportionate to the power exerted by the workman.

By forming the bottom wall of the channel in section *b* to fit the engaging-edge of the sliding jaw a long bearing is provided which holds the jaw up to its work with no possibil-

ity of its deflecting, springing, or slipping. The side walls of the channel give strength to section *b* and prevent jaw *d* from moving sidewise.

To prevent jaw *d* from dropping out of place, I have drilled and tapped the wrench-head and inserted a screw, *e*, having a spur which extends into a slot in said jaw, said slot being large enough so that no strain comes on the screw.

I am aware that a serrated jaw adapted to move at a right angle to the handle to hold a pipe in engagement with a rigid hook-shaped jaw has been used; also that a movable serrated jaw has been used in wrenches having a sliding head which carries said serrated jaw, and therefore do not seek to secure to myself the unrestricted use of a serrated jaw.

I am aware that it is not new to provide a wrench with a sliding serrated wedge shaped jaw at the base of a hook; but I am not aware that any one has ever provided a wrench with a curved slot in one jaw, opposite to which is a flat-faced jaw, and placed a curved serrated wedge in the slotted jaw.

What I do claim is—

1. The improved pipe-wrench herein described, consisting of a handle having two jaws formed on it, the upper jaw having a recess presenting a long curved bearing, *f*, and a throat, *g*, the serrated curved wedge *d*, grooved and fitted loosely in said recess, and the pin *e*, for the purpose described, in combination with the flat-faced jaw *c*, all constructed and adapted to operate substantially as described.

2. A pipe-wrench having a recessed upper jaw throated, as described, in combination with a curved wedge portion having teeth pitched toward the handle and loosely held in the recess of said upper jaw.

3. The combination, with a bill-mouth wrench, of a slip jaw having teeth backwardly pitched and grooved, as described, and a pin connecting this jaw to the upper integral bill of the wrench.

BENJAMIN F. CHAPPELL.

Witnesses:

FRANK H. ALLEN,  
TYLER J. HOWARD.