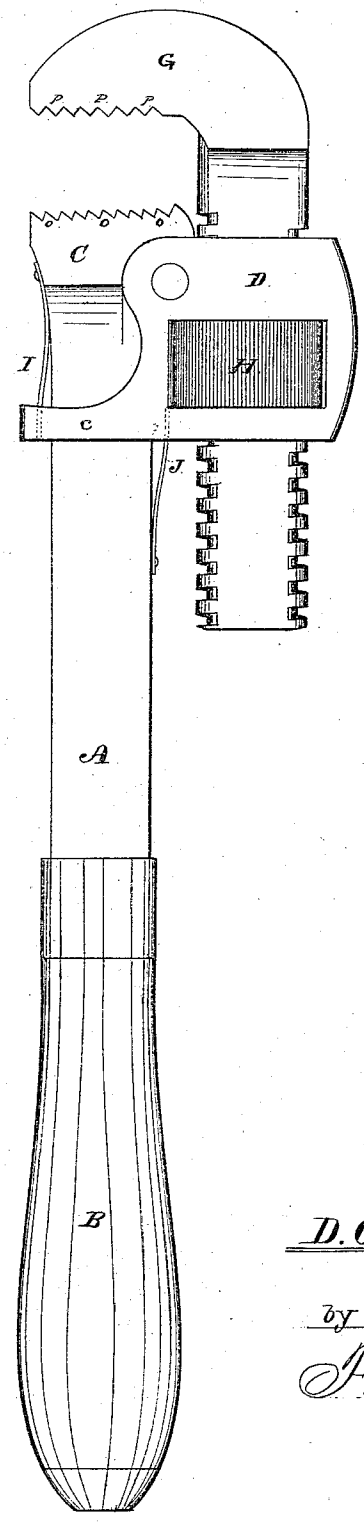
D. C. STILLSON.

Improvement in Pipe-Wrenches.

No. 126,161. Patented April 30, 1872.



Witnesses.

Saml Green

F. C. Hale

D. C. Stillson.

by his attorney.

F. P. Hale

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

DANIEL C. STILLSON, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN PIPE-WRENCHES.

Specification forming part of Letters Patent No. 126,161, dated April 30, 1872.

To all whom it may concern:

I, DANIEL C. STILLSON, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Pipe-Wrenches, of which the following is a specification:

My invention is fully represented in the accompanying drawing, which denotes a side elevation of a wrench embodying my improvement.

My invention is an improvement upon the pipe-wrench as patented by me on the 12th day of October, A. D. 1869; and has for its object the production of a wrench which shall be equally effective in its operation upon a pipe, whether such pipe be perfectly cylindrical or circular, or of a somewhat flattened or ellipsoidal shape in cross-section; and my invention consists in the employment of two springs affixed to opposite sides of the shank of the fixed jaw, and so arranged as to operate in conjunction with the pivoted frame in controlling the action of the movable jaw, as will be hereinafter described.

In the said drawing, A denotes a rectangular metallic bar having a handle, B, affixed to one end thereof. C is the fixed or stationary jaw, which is formed upon the opposite end of the bar or lever A, and has its working face disposed at a right angle thereto, the said jaw having a series of teeth, *o*, cut transversely across its face, and raking toward the front. Pivoted to the jaw C, upon its rear side, is a hollow frame or saddle, D, the lower part of which embraces the shank E of the fixed jaw, while its rear or upper portion surrounds the shank F of the movable jaw G. The shank of the jaw G has a male screw formed upon it, such shank extending through a corresponding nut, H, disposed within a slot or chamber made transversely through the frame D. By turning the nut to the right or left the movable jaw may be moved either toward or away from the fixed jaw, as may be desirable. The inner face of the movable jaw is formed at a right angle to its shank, and is also provided with a series of teeth, *p*, which pitch or rake to the rear, or in a direction opposite to those on its fellow jaw. The lower part *c* of the frame D is recessed out, so as to enable the said part to swing both to the front and rear, by which means the relative angles of the adjacent faces of the jaws are changed, the length of this recess being such as to permit the sliding or movable jaw to be projected outward so as to stand at an outward inclination with respect to the other jaw, in order to enable the jaws to be readily applied to a pipe or other article, the limit of motion being such that the adjacent faces of the jaws, when the wrench is in use, can only be brought into parallelism, whatever may be the amount of strain brought to bear upon them, and consequently no collapsing or crushing of the pipe can take place. To control the movements of the movable jaw I make use of two springs, I J, which are affixed at one of their extremities to opposite sides of the shank of the stationary jaw, while their opposite ends rest and press against the upper and lower edges of the recess *e*, as shown in the drawing. The object of the spring I is to so press against the frame D as to hold it and the movable jaw in the position as shown in the drawing, and thereby enable the jaws to be readily applied to a pipe or removed therefrom. The object of the spring J is not only to maintain the movable jaw in easy connection with the pipe while the wrench may be in use, but to cause the jaws to take a bearing upon the pipe without being opened to their utmost limit, so that, in case the pipe grasped should be of irregular diameter or flattened, provision is made whereby the jaw can move backward so as to pass the greatest diameter without sticking or setting of the jaws. Such differs from my said patented wrench, in which the jaws were maintained at their utmost limit by the spring, so that under each backward movement of the handle the grasp upon the pipe not only became so relaxed that unless care was exercised the jaws would slip off the pipe, but, the pipe having its bearing against the shank of the movable jaw, should it be of greater diameter in any portion than that grasped, the jaws were liable to become set or locked.

By the employment of the spring J, in combination with the spring I, the jaws cannot become "set," or prevented from being moved backward, should the pipe grasped be of unequal diameter or of irregular shape.

I do not herein claim the combination of a single spring with the shanks of the jaws and the pivoted frame, however such may be arranged.

What I claim is—

The improved wrench, as described, the same consisting of the fixed and movable jaws C G, the frame D with the springs I J, and the handle B, the whole being constructed, combined, and arranged together in manner and so as to operate as set forth.

DANIEL C. STILLSON.

Witnesses:
F. P. HALE,
F. C. HALE.