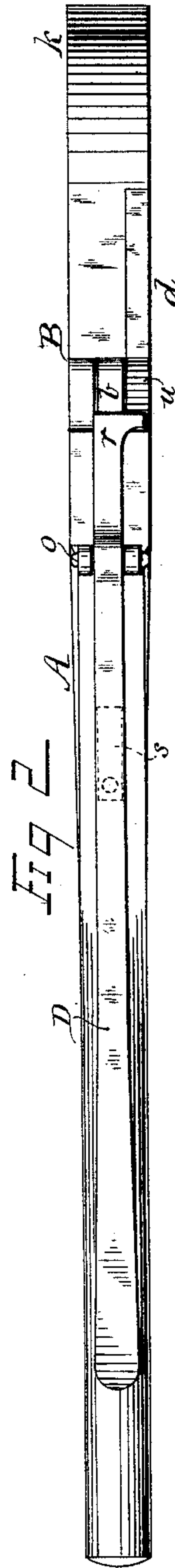
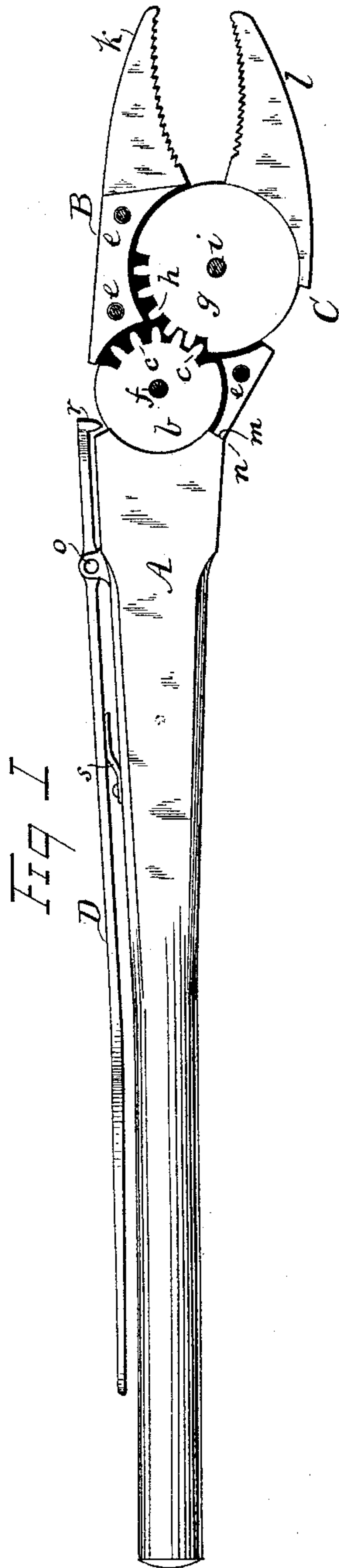


(No Model.)

C. A. SWANSON.  
WRENCH.

No. 410,384.

Patented Sept. 3, 1889.



WITNESSES:

*H. Walker.*  
*C. Sedgwick*

INVENTOR:

*C. A. Swanson*  
BY *Munn & Co.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

CHARLES A. SWANSON, OF MARSHALL, MINNESOTA, ASSIGNOR TO HIMSELF  
AND CHARLES LAUDENSLAGER, OF SAME PLACE.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 410,384, dated September 3, 1889.

Application filed April 20, 1889. Serial No. 307,972. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. SWANSON, of Marshall, in the county of Lyon and State of Minnesota, have invented a new and useful Improvement in Wrenches, of which the following is a full, clear, and exact description.

This invention relates to self-adjusting wrenches; and it consists in a novel construction and combination of parts, substantially as hereinafter described, and pointed out in the claim.

The wrench is not restricted to any particular class of work, but may be used either as a pipe-wrench or as a monkey-wrench.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 represents a side view of a wrench embodying my invention, an outer plate, forming a part of what may be termed the "stationary jaw," being removed; and Fig. 2 is a longitudinal edge view of the same—that is, a longitudinal view in a plane at right angles to Fig. 1.

The wrench is mainly composed of three leading parts—that is to say, a handle A, a stationary jaw B, and a movable jaw C. The handle A is constructed with a flat circular portion *b* at its inner end formed by recessing the handle on its opposite sides, and such flat portion is provided on its forward part with any number of teeth *c*, and virtually constitutes a circular rack on the front end of the handle. What is termed the "stationary jaw" B is constructed with two side cheeks, the one of which is in the form of a removable plate *d*, secured, as by screws or pins *e*, to the other side cheek or part. It is also connected with the circular rack portion *b* of the handle by a central pivot-pin *f*, and is recessed to receive within it a mutilated pinion portion *g* of the movable jaw C, having any number of teeth *h*, that engage with the teeth *c* of the circular rack portion *b* of the handle, said movable jaw being fitted to turn by its mutilated pinion portion *g* about a pivot-pin *i*, passing through said portion *g* and the side cheeks of the jaw B. The claw or gripping

ends *k l* of the jaws B C may either be concave or straight on their gripping-surfaces, or of any other desired shape, but are here shown concave to adapt them to pipe and other like work, and said surfaces, which are here shown serrated, may either be plain or serrated, the one or both of them. The jaw B is provided with a shoulder *m*, which, when the jaws are fully open, bears against a shoulder *n* on the handle, as shown in Fig. 1. When the parts are in the position represented in Fig. 1, then by suitably swinging the handle A about the pivot-pin *f* as a center the rack portion *b* of the handle will by its engagement with the pinion portion *g* of the movable jaw C operate said jaw to close it, and so grip the work in between it and the jaw B, and by continuing to bear upon the handle in a like direction the article or work being gripped may be turned by it in common with the wrench, which, as it will be seen, is self-adjusting or requires no setting of it to its work. This forms a strong, handy, and convenient form of self-adjusting wrench that may not only be worked with ease, but gives a very powerful grip by reason of the purchase or leverage which it exerts upon the movable jaw.

To provide for holding the wrench at any particular adjustment, and so that when adjusted to nut or other work it can be turned either to the right or to the left without taking it off the work and can be moved bodily round in either direction, I provide the handle A with a longitudinally-arranged lever D along its back or one side, said lever being fulcrumed intermediately of its length, as at *o*, to the handle, and being provided at its forward end, with a tooth *r*, which, by means of a spring *s* of any suitable description applied to said lever, is made to engage with a rack-like or serrated portion *u* upon the jaw B, thus, and by the connection of the handle and the two jaws with one another, as described, locking or holding the wrench to its self-adjustment. The rear or longer arm of this lever D, however, is pressed inward against the pressure of the spring *s* when it is required to release the catch or tooth *r* from the serrated portion *u* when the wrench is first



applied to the work to adjust itself by manipulating the handle, and when it is required to release the wrench from its work.

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

In a self-adjusting wrench, the combination, with the pivoted handle A and its attached circular rack *b*, of the stationary jaw B, connected with said handle by its pivot *f* and provided with a rack-like or serrated portion *u*, the movable jaw C, having a mutilated pinion *g* arranged to engage with said circular

rack, the pivot *i*, connecting the pinion portion of the movable jaw with the jaw B, and the lever D, fulcrumed on the handle provided with a tooth *r*, arranged to engage with the rack-like or serrated portion *u* of the jaw B, and the spring *s*, controlling said lever, essentially as and for the purposes herein set forth.

CHARLES A. SWANSON.

Witnesses:

JOHN J. LAUDENSLAGER,  
VIRGIL B. SEWARD.