

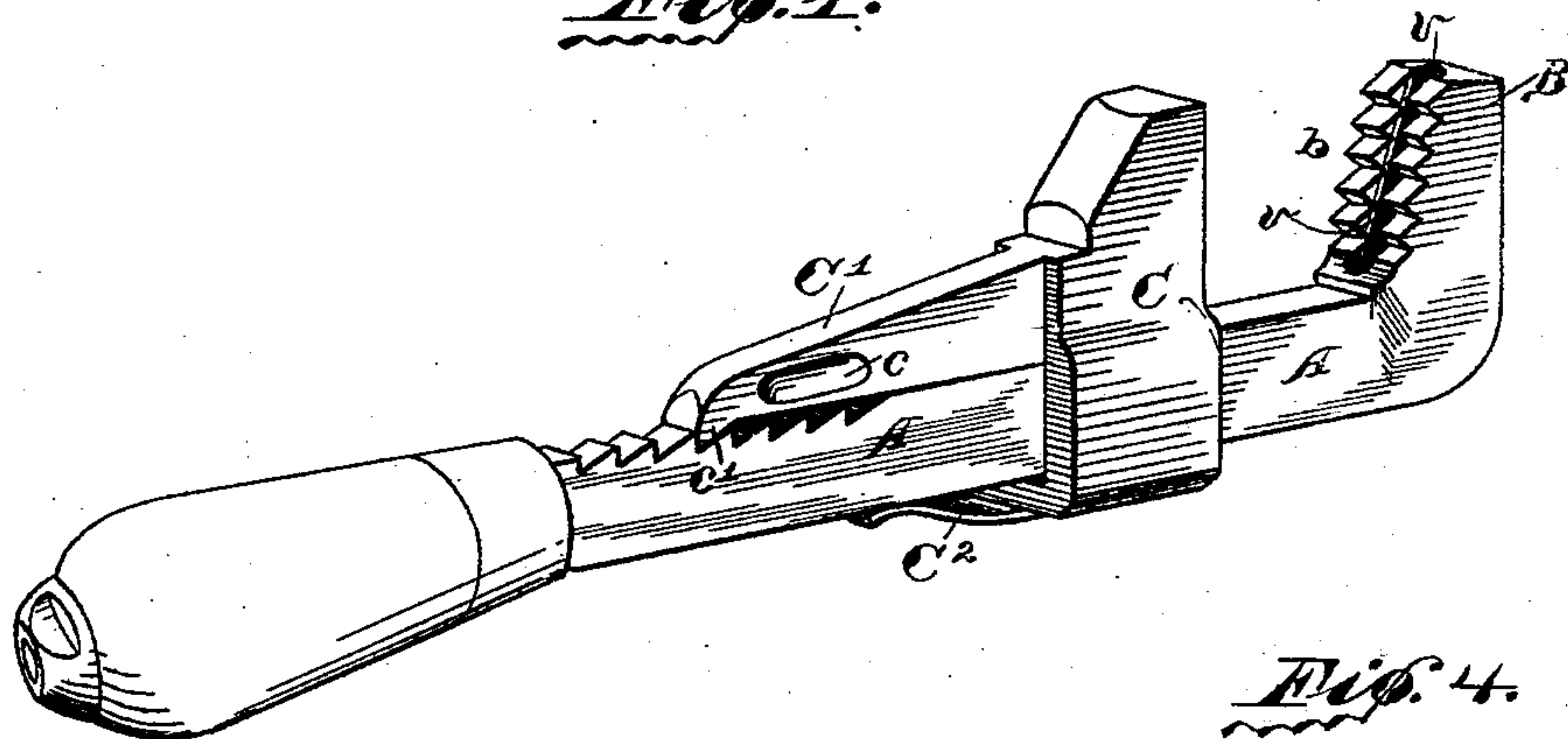
(No Model.)

T. F. VANDEGRIFT.  
WRENCH.

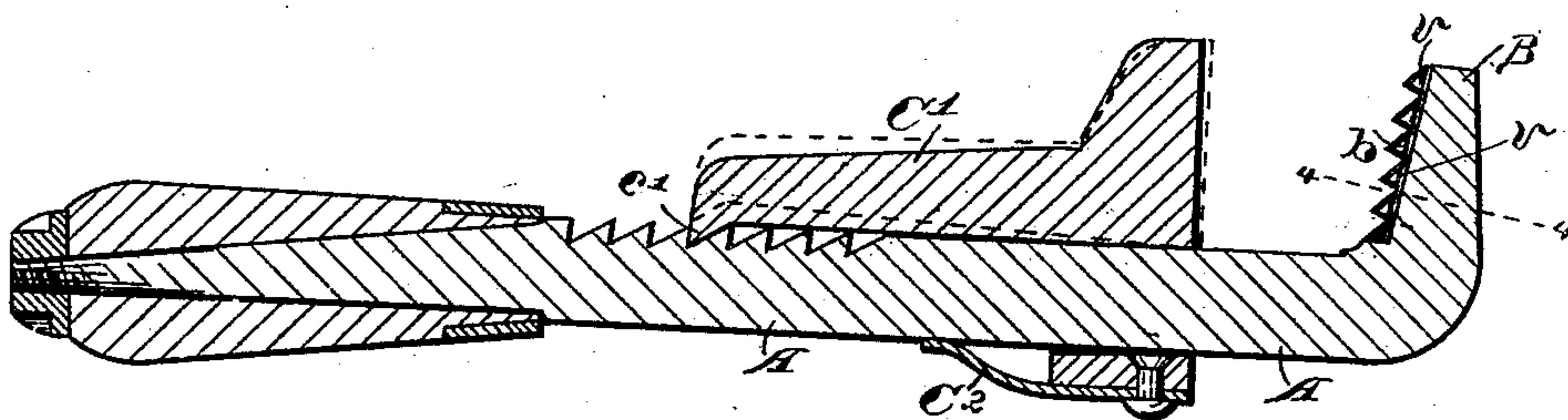
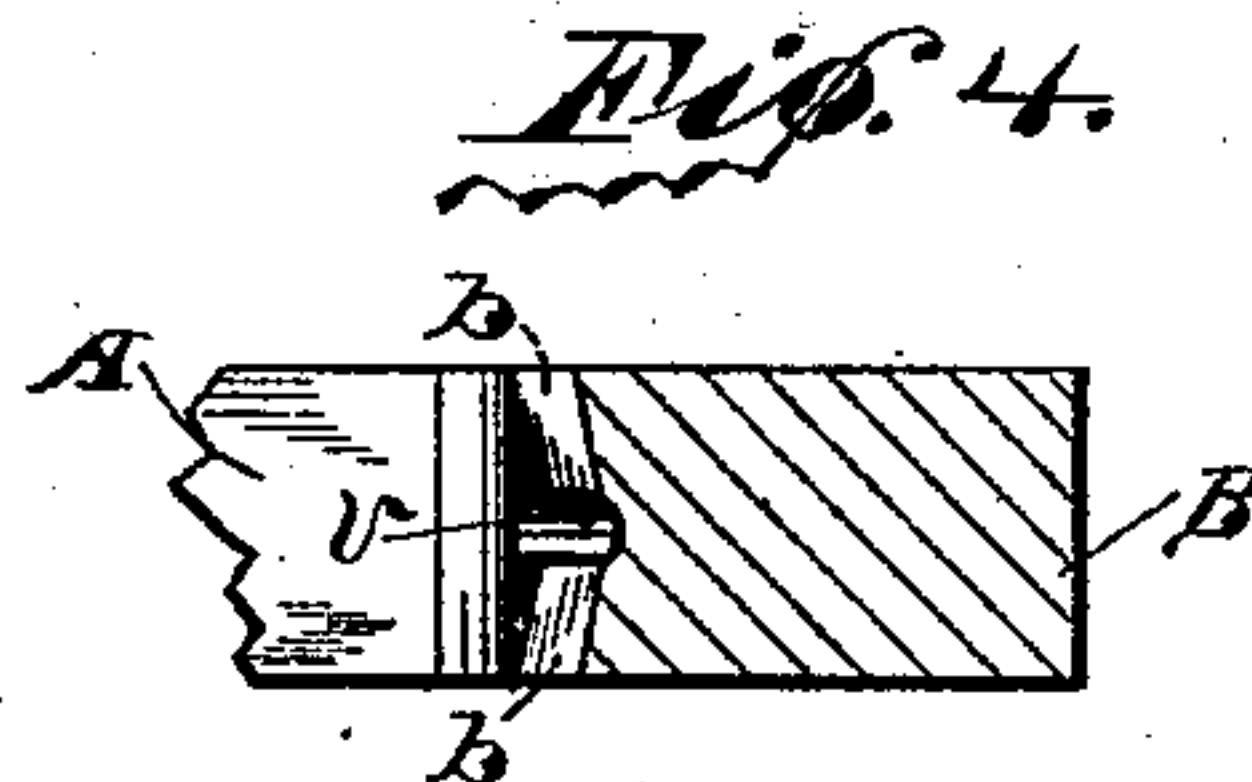
No. 444,511.

Patented Jan. 13, 1891.

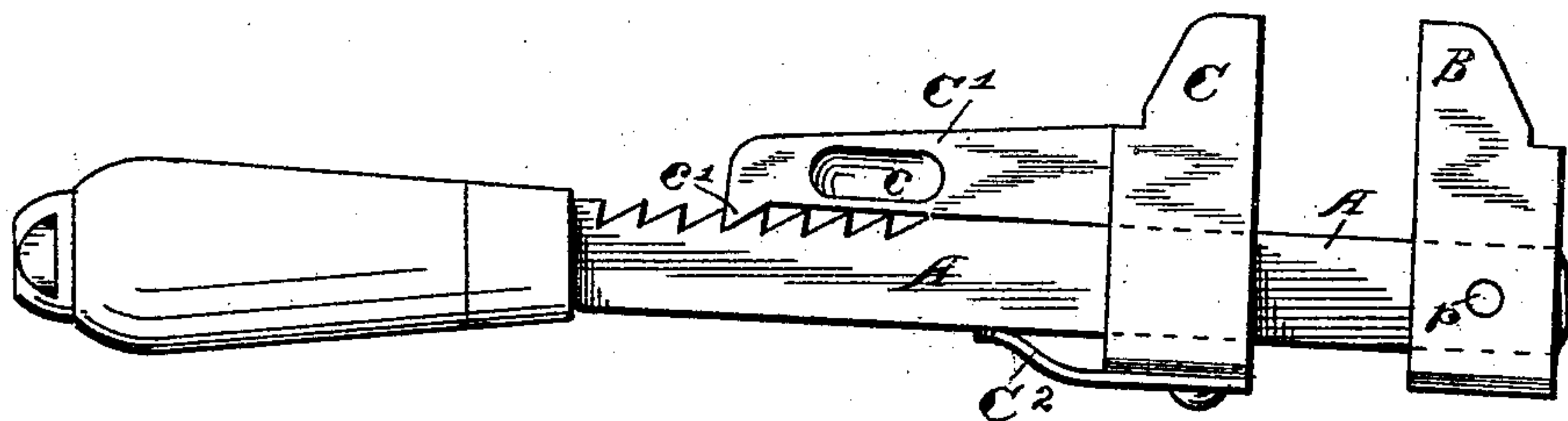
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



WITNESSES.

*F. Dean Rhodes.*  
*L. E. Tallentire*

PER

*Theodore F. Vandegrift,*  
*Edw. W. Bradford,*  
ATTORNEYS.

INVENTOR.



# UNITED STATES PATENT OFFICE.

THEODORE F. VANDEGRIFT, OF NOAH, ASSIGNOR TO THE VANDEGRIFT  
MANUFACTURING COMPANY, OF SHELBYVILLE, INDIANA.

## WRENCH.

SPECIFICATION forming part of Letters Patent No. 444,511, dated January 13, 1891.

Application filed June 10, 1890. Serial No. 354,866. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE F. VANDEGRIFT, a citizen of the United States, residing at Noah, in the county of Shelby and State of Indiana, have invented certain new and useful Improvements in Wrenches, of which the following is a specification.

The object of my said invention is to produce a simple, inexpensive, and easily-operated wrench, having few parts and not likely to easily get out of order, as will hereinafter be more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of a wrench embodying my said invention constructed to operate as a pipe-wrench; Fig. 2, a central longitudinal section of the same; Fig. 3, a side elevation of such a wrench formed particularly for use with nuts and bolts, and showing also the outer jaw of the wrench adjustable on the bar as well as the inner jaw; and Fig. 4, a detail sectional view on the dotted line 4 4 in Fig. 2.

In said drawings, the portion marked A represents the main bar of the wrench, B the outer jaw, and C the inner jaw.

The bar A is for the greater portion of its length a plain rectangular bar having, however, near the handle a series of notches upon its upper side with which the adjustable dog on the inner jaw will engage, as will be hereinafter more fully described. The extreme end of this bar is formed into a tang, upon which the handle is secured in the ordinary manner.

The jaw B may be formed integrally with the bar A, as shown in Figs. 1 and 2, or it may be formed separately, as shown in Fig. 3. As a pipe-wrench, for which my present invention is more particularly designed, the operative face of this jaw is inclined somewhat and provided with a series of teeth *b*, as shown, which I prefer to make in two rows, divided by a valley *v*. These teeth incline somewhat toward this valley—i. e., the outer corners of the teeth are higher than the inner corners which are bounded by said valley. This arrangement is adapted to insure a square hold

on the pipe rather than an oblique or twisted hold, as the concave operative surface of the jaw B thus produced enables the teeth to always engage at the outer edge first, thus securing a better grip on the pipe.

The jaw B, when made removable, is secured to the bar A by a pin *p* passing through both. In case this jaw should need redressing after use it can be removed and redressed without heating, cooling, and tempering the bar itself, and in case it should be broken a new jaw may be easily substituted, thus saving the bar, or vice versa, in case the bar should be broken.

The jaw C is a movable or adjustable jaw and slides upon the bar A, being provided with a hole through which said bar passes. Its operative face is formed substantially at right angles with said bar A, and should be smooth, so that there is no operation on the pipe as it comes in contact with this jaw until the teeth of the jaw B have taken a firm hold upon said pipe. By this construction a quick and desirable grip can be secured upon the pipe in any position and as quickly released by a reverse motion. This jaw has a tail-piece or dog C', the point of which *c'* is formed to fit into the notches on the upper side of the bar A. The hole in the jaw C, through which the bar passes, is tapered very slightly, just sufficiently so that the jaw may be tipped on said bar enough to permit the point of this dog to rise above said notches, and thus be moved back and forth. The position it occupies or is held into while being moved is indicated by dotted lines in Fig. 2. On the sides of this tail-piece are depressions *c* for the thumb and finger of the operator in making the adjustments. Secured to the under side of the head is a spring C<sup>2</sup>, which extends back therefrom and the end of which rests against the under side of the bar A. This spring operates to hold the tail-piece down and keep the dog-point into engagement with the notches at all times, except when forcibly raised.

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

1. The combination, in a wrench, of a bar

having notches on its upper edge, a jaw secured to its outer end, and a second jaw mounted on said bar and provided with the tail-piece having the dog or pawl adapted to  
5 engage in said notches, the spring secured to said jaw and adapted to hold said dog or pawl into engagement with said notches, and cavities in the sides of said tail-piece forming finger-holds, whereby it may be operated re-  
10 versely to the action of the spring, substantially as shown and described.

2. The combination, in a wrench, of a bar A, the jaw B, having a series of gripping-teeth

tapered from the outer edges toward the center, thus making said teeth concave in the direction of their length, and a second jaw opposed to said toothed jaw, substantially as set forth. 15

In witness whereof I have hereunto set my hand and seal, at Shelbyville, Indiana, this 20 30th day of May, A. D. 1890.

THEODORE F. VANDEGRIFT. [L. S.]

Witnesses:

JOHN W. GORDON,  
E. S. POWELL.