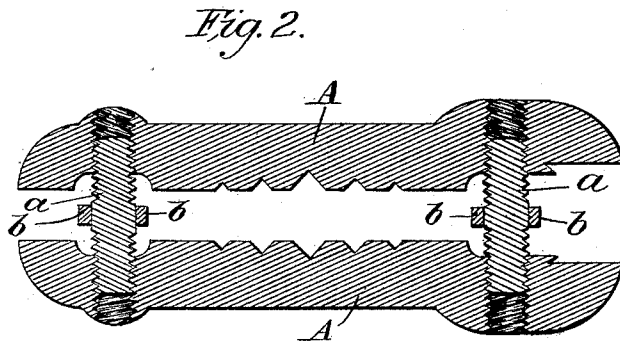
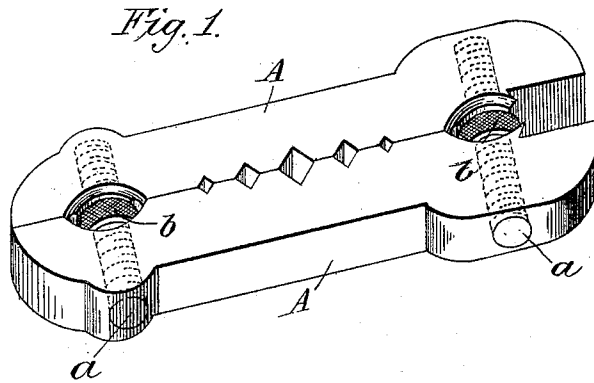


(No Model.)

C. F. HILL.
COMBINATION TOOL.

No. 465,560.

Patented Dec. 22, 1891.



Witnesses:

E M Wilcox

Edwin A. Corwin

Inventor:

Charles F. Hill

UNITED STATES PATENT OFFICE.

CHARLES F. HILL, OF PHELPS, NEW YORK.

COMBINATION-TOOL.

SPECIFICATION forming part of Letters Patent No. 465,560, dated December 22, 1891.

Application filed January 28, 1891. Serial No. 379,473. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. HILL, a citizen of the United States, residing at Phelps, in the county of Ontario and State of New York, have invented a new and useful Improvement in Combination-Tools, of which the following is a specification.

The object of my invention is to provide a simple, economical, and readily-adjusted tool combining the properties of a pipe-wrench, wrench-pliers, pin vise and clamp, nut-wrench, &c., and applicable in a general sense for uses for which the ordinary wrench is adapted, with the additional merit of an increase of leverage, which is accomplished in a very simple manner, as will be hereinafter described. I attain this object by providing two metal plates connected and operated by two threaded bolts, the mechanism and operation of which will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a perspective view closed, and Fig. 2 a sectional plan view of my device open.

Similar letters of reference refer to similar parts in the two views.

A A are metal plates connected by the threaded bolts *a a* near the ends of each and operated by corrugated berls *b b*. The inner edges of the plates are provided with openings for the reception of tools when the device is used as a handle, and one end of each plate is cut away to allow of the introduction

of larger objects when open than could be accommodated at the other. The jaws at the two ends of the plates are provided with corrugated faces, either vertical, transverse, or linear corrugations, or, for use as a pipe-wrench, semicircular, as may be desired.

It will readily be seen that by turning the berls *b b*, which are fastened to and form a part of the threaded bolts *a a*, at the same time and in the same direction the plates A A will be drawn together or forced apart, as the case may be. The increased leverage previously spoken of is obtained by tightening up the berl at the disengaged end.

The simplicity, usefulness, and economy of manufacture of my device are apparent. As a general combination tool for the workshop or household experience has demonstrated that its merits cannot be overestimated.

Having thus shown and described at length in the specification and drawings which form a part of this application in what my invention consists, what I claim, and desire to secure by Letters Patent of the United States, is—

The plates A A, connected, operated by, and combined with the threaded bolts *a a* and berls *b b* in a combination tool or wrench, substantially as described and set forth.

CHARLES F. HILL.

Witnesses:

EDWIN S. CORWIN,
E. H. WILCOX.