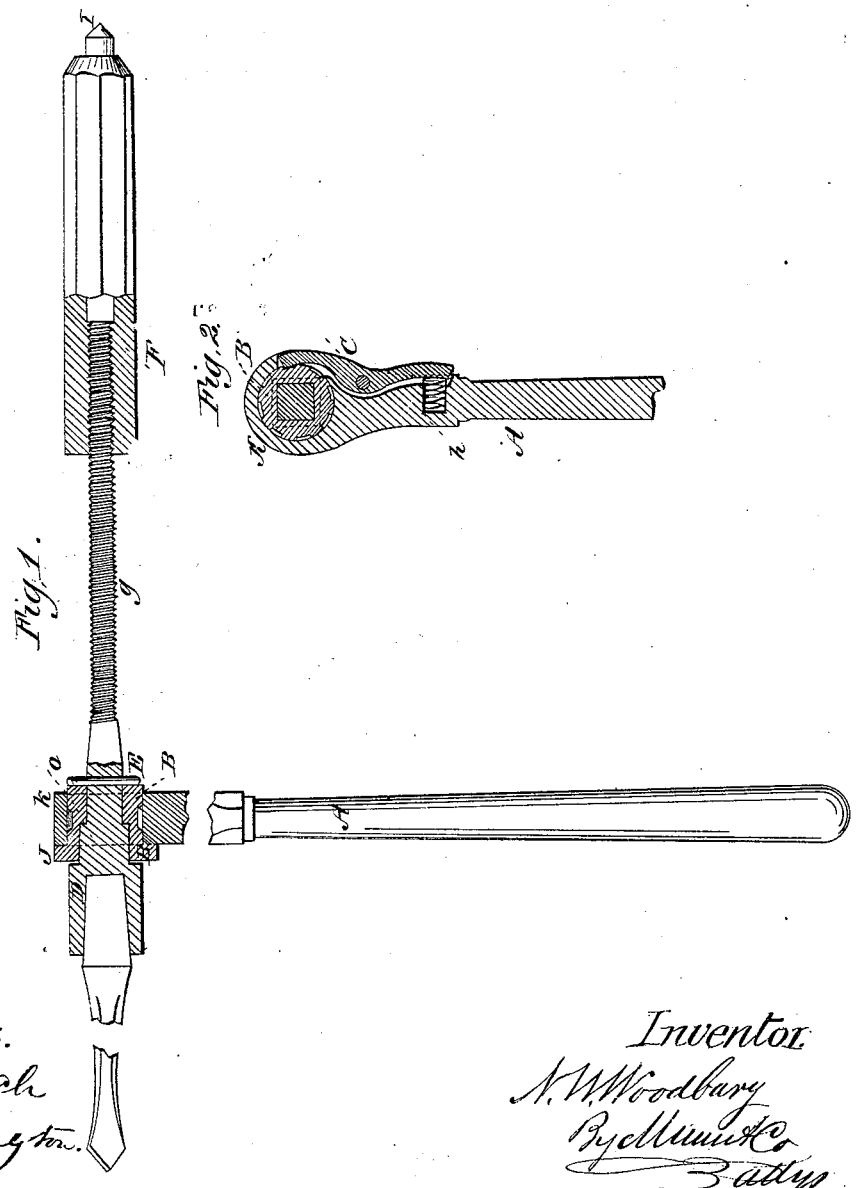
N. W. Woodbury.

Wrench and Drill.

No. 52,106. Patented Jan. 16, 1866.



Witnesses.
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UNITED STATES PATENT OFFICE.

NATHANIEL W. WOODBURY, OF SOUTH DANVERS, MASSACHUSETTS.

IMPROVED WRENCH AND DRILL.

Specification forming part of Letters Patent No. **52,106**, dated January 16, 1866.

To all whom it may concern:

Be it known that I, N. W. WOODBURY, of South Danvers, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in a Combined Wrench and Drill; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional elevation of a combined wrench and drill made according to my invention. Fig. 2 is an end view.

The object of this invention is to produce an implement which shall combine in itself a set-screw wrench and a ratchet-drill. The tool is, among other uses, especially applicable to turning set-screws in places difficult of access where other wrenches will not operate, and for boring holes in wood and iron in angular directions and in places not easy of access with other tools.

A designates the handle of the tool, applied at right angles to its axis. B is a revolving head, which is embraced by a ring, K, on the inner end of the handle. The head is circular on its exterior, and carries at one end a flange, J, which abuts against the side of the ring K of the handle. That part of the periphery of the head which is embraced by said ring is provided with a series of ratchet-teeth, with which the finger of a pawl, C, engages. This pawl is pivoted in the side of the handle A, and its toothed end is constantly pressed against the revolving head by a spring, *h*. The revolving head is perforated with a square opening of unequal diameter, so as to form a shoulder within, which shoulder comes in contact with the shoulder O of a drill-socket, D, whose shank is squared on that part of it which passes through the revolving head, to which it is secured by means of a pin, E, that passes through its shank on that side which is opposite to the shoulder O of the drill-socket and to the flange J of the head. The shank of the drill-socket is extended toward the right of the place of the pin E, and has a screw-thread cut on such extension, which works within a screw-threaded sheath, F, in order to feed the drill. The solid end of the sheath serves as a bearing-point for the tool to work against.

The operation of the tool will not require a detailed description. It is intended particularly for using on set-screws in small pulleys, where there is not room for turning wrenches of other kinds. The tool is reversible, so that it will operate for tapping screws in pulleys, and, since it works within a ratchet, it operates faster than wrenches of ordinary construction, as it enables the work to be done without taking off the tool.

When used as a wrench the tool may have bushings to fit the square holes in the revolving head to adapt them to any sized screw less than the large hole in the head; but I have not shown such bushings, since they do not form part of my invention.

When it is desired to turn a screw back or to reverse the motion of the tool, depress the pawl C with the thumb, take out the head and insert it in ring K on the opposite side of the handle, when the motion of the tool will be reversed.

When it is to be used as a drill, take off the feed-sheath F, draw out the pin E, then insert the drill-socket through the revolving head, return the pin E, screw on the feed-sheath, and the tool is ready for use.

It will also be found very convenient in boring with an auger or bit against walls and in angles that are difficult of access with ordinary tools.

I claim as new and desire to secure by Letters Patent—

The combination of the handle A K, reversible revolving ratchet-head B, and spring-pawl C, when so arranged as to form a wrench for the manipulation of a set-screw or for the insertion of the drill-socket O, or other bushings for analogous purposes.

NATHL. W. WOODBURY.

Witnesses:

JOSEPH POOR,
NATHAN H. POOR.