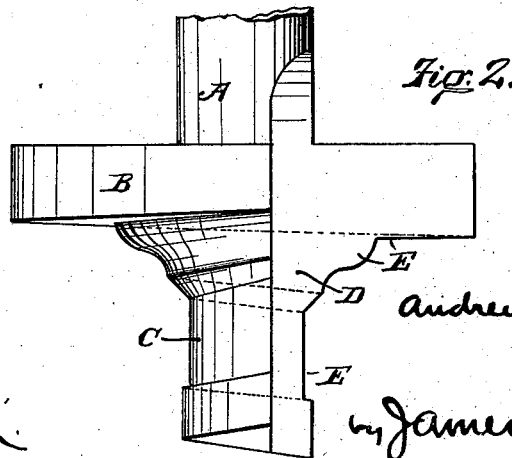
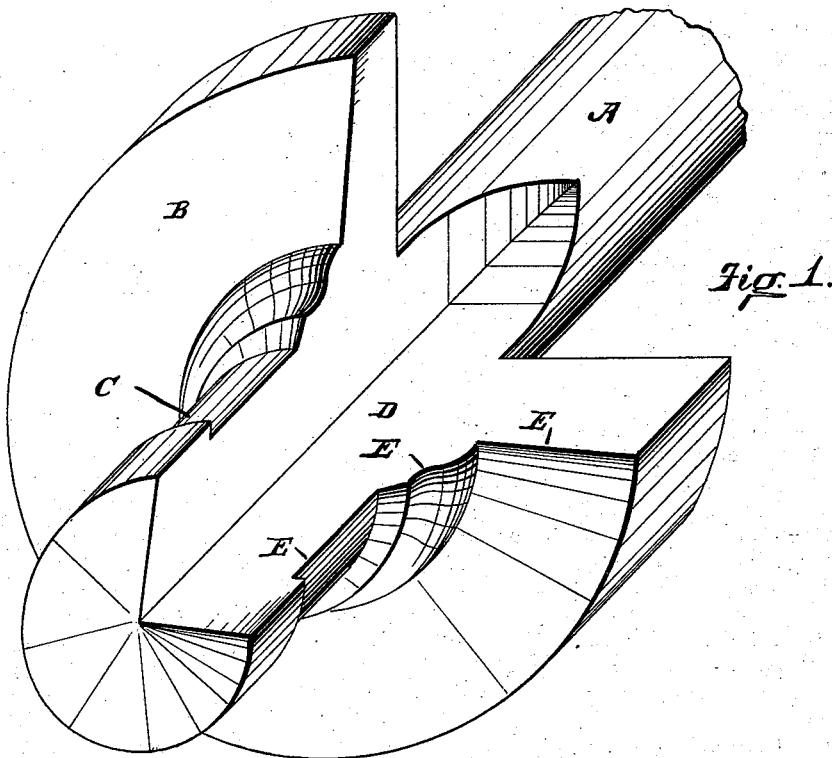


(No Model.)

A. PATERSON.
LATHE TOOL.

No. 382,724.

Patented May 15, 1888.



Witnesses:
Carl Spengel,
W. A. Bernard.

Andrew Paterson
Inventor
James H. See
Attorney

UNITED STATES PATENT OFFICE.

ANDREW PATERSON, OF McKEESPORT, PENNSYLVANIA, ASSIGNOR TO THE NATIONAL TUBE WORKS COMPANY, OF BOSTON, MASSACHUSETTS.

LATHE-TOOL.

SPECIFICATION forming part of Letters Patent No. 382,724, dated May 15, 1888.

Application filed February 23, 1888. Serial No. 264,957. (No model.)

To all whom it may concern:

Be it known that I, ANDREW PATERSON, of McKeesport, Allegheny county, Pennsylvania, have invented certain new and useful Improvements in Lathe-Tools, of which the following is a specification.

This invention pertains to lathe-tools designed, primarily, for use in boring the nuts of wagon-axes. The nuts referred to are the kind known as "blind-nuts" or "cup-nuts"—that is to say, the hole does not go all the way through them, there being a closure at the front. These nuts having a flange which is to be faced, the hole is to be bored for the thread and the root of the hole is to be counterbored to furnish clearance for the point of the tap, and the end of the hole—that at the flange—is to be chamfered to adapt it to properly seat against the shoulder of the axle. The work will of course be usually done in a turret-lathe; and for that reason I have shown my improved tool as provided with a shank adapted for use in a turret.

My improved lathe-tool will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of a lathe-tool illustrating my improvement, and Fig. 2 a plan of the same.

In the drawings, A indicates the shank of the tool, (shown as of cylindrical form,) adapted to be held in the ordinary turret of a turret-lathe; B, a flange thereon having a diameter somewhat in excess of that of the flange of the nut which the tool is to operate on; C, a stem projecting axially in front of the flange and having a general contour suited to the bore of the nut to be operated upon—that is to say, the stem has an enlargement at its outer end corresponding with the counterbore of the nut, and where the stem joins the flange there is a fillet in form corresponding to the corner cut to be taken in the nut; D, a notch or flute milled out of the stem and flange, and E the cutting-edge formed upon flange and stem by one shore of this flute.

The outer face of the flange is cut upon a spiral, this spiral retreating from the cutting-

edge E of the flange. By this means the cutting-edge E of the flange has a perfect clearance. In a similar manner the forward face of all of the cutting portions are formed upon a spiral, whereby the cutting-edges at the end of the stem and at the fillet portion have perfect clearance.

The tool is easily kept sharp by grinding the proper wall of the flute, and this grinding may be continued as the grinding becomes worn, so long as there are substances enough left of the tool to perform its work, and the clearance will remain constant throughout the life of the tool.

In using this tool it is fed endwise into the nut to the proper depth. The extreme forward cutting-point of the tool will thus bore out the nut, and the fillet portion of the tool will produce, partially, the corner chamfering of the nut, and the flange of the tool will face the flange of the nut. The tool while thus in the nut is fed radially outwardly until the body of the stem of the tool produces the exact diameter for the bore of the nut; and by so doing the enlargement upon the end of the stem will cut the counterbore, and the fillet of the tool will have completed the chamfering of the nut, and, in fact, the exact contour of the cutting-edge of the tool will have been produced in the nut.

To make the tool, it is only necessary to first turn it up in a lathe to proper shape without the clearance, then to mill the flute, and then to put proper screw-gearing on the lathe and produce the proper spirality and recut the facial surfaces of the tool by revolving the lathe backward and forward one revolution, or nearly so.

I claim as my invention—

An improved lathe-tool provided with an attaching-shank and with a cutting stem and flange fluted to form a cutting-edge, and having the cutting-faces of flange and stem formed spirally, substantially as and for the purpose set forth.

ANDREW PATERSON.

Witnesses:

FRANK R. FIELD,
H. W. GRAY.