

UNITED STATES PATENT OFFICE.

FRANK P. KUHN, OF KEARNEY, NEBRASKA, ASSIGNOR OF THREE-FOURTHS
TO J. H. BLACK AND CHAS. M. KUHN, OF SAME PLACE.

TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 618,796, dated January 31, 1899.

Application filed May 2, 1898. Serial No. 679,524. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. KUHN, residing at Kearney, in the county of Buffalo and State of Nebraska, have invented a new and
5 Improved Tool-Holder, of which the following is a specification.

This invention is in the nature of an improved tool post or holder for lathes, planers, shapers, and other machines which require a
10 tool and holding means therefor for operating on metals and other material worked by such machinery.

Primarily this invention seeks to provide a holder or tool-post of such construction where-
15 by it is adapted to hold the cutting or other tool at any angle and inclination to the article to be operated on and whereby to render the use of such tool of a wide range as regards the different sizes and other cuts of the article being worked on and the proper inclination to effect the best results.

This invention also comprehends a construction of tool-posts in which the tool can be set for use to cut both right and left hand
25 threads of the same or different pitches and have practically a universal movement in its relation to the article being worked upon.

Another object of this invention is to provide a holder or tool-post which will be of
30 great strength, by which a better and more firm grip is obtainable than by the ordinary set-screw-clamped tool-holder devices, whereby to assure a good and smooth action of the tool in various kinds of work.

In its subordinate features this invention embodies certain details and novel combination of parts, such as will be first described in detail and then be specifically pointed out in the appended claims, reference being had to
40 the accompanying drawings, in which—

Figure 1 is a perspective view of the tool-post. Fig. 2 is a side elevation of the head portion, showing the tool at a position giving the greatest rake or side inclination toward
45 the right. Fig. 3 is a similar view showing it at the greatest inclination toward the left. Fig. 4 is a longitudinal section of the tool-post and the stock, the cutter or tool being shown in a straight-ahead position. Fig. 5
50 is a transverse section taken on the line 5 5 of Fig. 4, the tool being shown swung to dif-

ferent radial positions in dotted lines; and Fig. 6 is a detail view of the post, the tool, the cam-lock washers, and the post lock-nut detached.

In the ordinary forms of tool-posts of the character specified the same generally embodies a set-screw for clamping the tool in the desired positions. This means for holding the tool does not effect all the results desired in
60 that the strain on the set-screw soon upsets it and renders it unfit for proper use. Again, in a set-screw formed of holders, so far as I know, no special construction has been provided whereby the tool can be practically ad-
65 justed at any angle or direction to give it substantially a universal set so far as it relates to the article being worked upon.

This invention comprises generally a stock or supporting member adapted to fit the seat
70 in the bed of the lathe or other means on which the improvement is used, a tool-post held on the stock rotatable at right angles to its length, adjusting means for holding the post at its different rotary positions, and sim-
75 ple and easily-manipulated clamp devices mounted on the tool-post adapted by proper adjustment to set the tool in a plane either at right angles to the post or at acute angles in reverse directions thereto.

Referring now to the accompanying drawings, in which like numerals indicate like parts in all the figures, 1 indicates the stock or shank of the holder, the upper end of which is bifurcated, the jaws 2 and 3 having
85 alining apertures 2^a and 3^a disposed at right angles to the stock-shank, in which the tool-post proper, 4, is held to rotate. One end of the post 4 terminates in a clamp-head 4^a and the other end in a threaded portion 4^b to re-
90 ceive the washer 5 and the clamp-nut 6, the tightening of which serves to securely hold the post to any of its adjusted positions. At a point midway the jaws 2 and 3 the post 4 is slotted transversely, as at 4^c, for the pas-
95 sage of the tool 7, such slot or mortise being of such size as to admit tools of different thicknesses.

8 8^a designate a pair of milled washers held to rotate freely on the tool-post, one at each
100 side of the tool. These washers have their outside faces 8^b on a plane parallel with each

other and at right angles to the post 4, whereby to provide flat abutments to engage the inner flat faces of the jaws 2 and 3, as clearly shown in Fig. 4. The inside faces 8° of the washers are in the nature of cam portions, the plane of such faces being at an angle to the post, but of such nature that they are parallel with each other when adjusted to grip the tool in any position to which it may be set.

So far as described it will be readily understood that by properly adjusting the washers 8 8° the tool can be securely held to project either in a plane at right angles to the post, as shown in Fig. 4, or at acute angles in opposite directions, as illustrated in Figs. 2 and 3. Furthermore, as the post is rotatably held in its bearings, the cutter can be set at different positions radially to the axis of the post, as shown in Fig. 5, thereby providing a tool-holding means having substantially a universal adjustment in relation to the article being worked upon.

To form a rest for holding the post from accidentally turning in its bearings when the tool is under a great lateral pressure and when projected longitudinally from the stock, the said stock has a socket 1^a, elongated in a plane parallel with the post 4, in which the rear end of the tool is adapted to fit, it being obvious that when projected into the said socket strain on the securing-nut and threaded end of the post 4 is relieved.

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

1. A tool-holder provided with rotary clamping devices, and having a socket located in rear of the clamping devices and arranged to receive a tool when the same is in a straight longitudinal position, substantially as described.

2. A tool-holder, comprising a stock bifurcated at the upper end and having a socket at the inner end of the bifurcation arranged to receive the rear end of a tool, a transverse tool-post rotatably held in the bifurcated end of the stock and provided with a slot, a pair of washers freely movable on the post to engage the opposite sides of the tool and having their outer faces at right angles to the post and provided with parallel inner faces arranged at an angle to their outer faces substantially as described.

3. The hereinbefore-described tool-holder, comprising a stock bifurcated at the upper end; an elongated slotted tool-post, rotatably held in the bifurcated end of the stock and having a clamp-nut; and a pair of milled washers freely movable on the post and adapted to engage opposite sides of the tool to be clamped to the washers, having their outer faces parallel and at right angles to the post and adapted to engage the inner faces of the bifurcations or jaws of the said stock and having their inner faces in a plane at an angle to the post and parallel with each other when at their gripping positions, as specified.

FRANK P. KUHN.

Witnesses:

JOSEPH H. BLACK,
EDWIN E. SQUIRES.