Feb. 6, 1940. J. E. POORMAN 2,188,917

TOOL POST

Filed Aug. 12, 1938

Fig. 1.

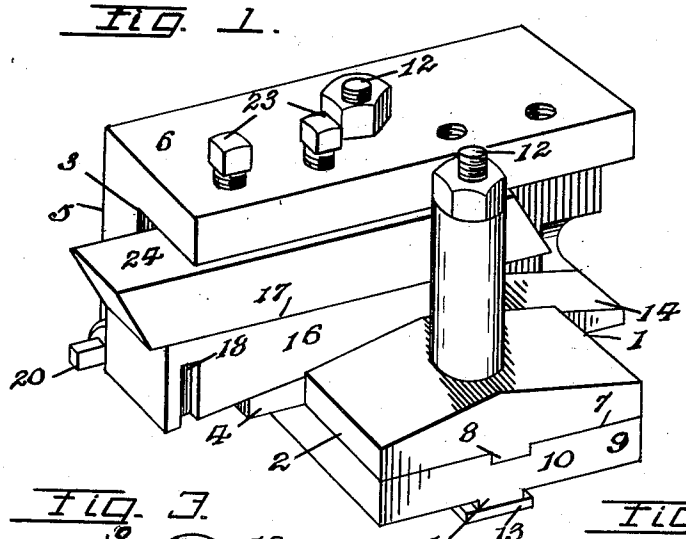


Fig. 3.

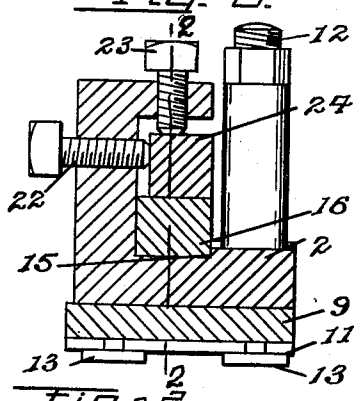


Fig. 4.

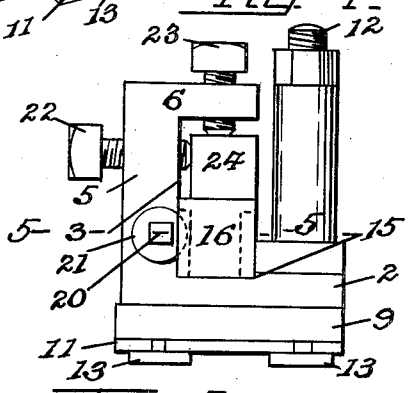


Fig. 3a.

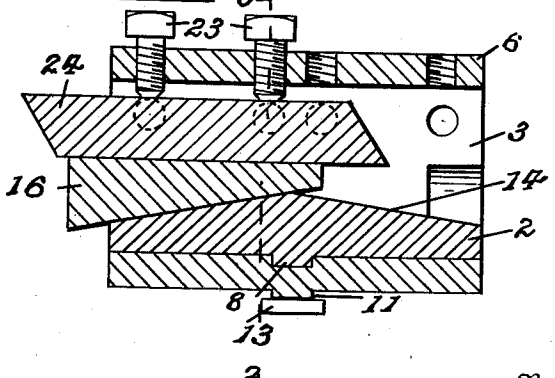
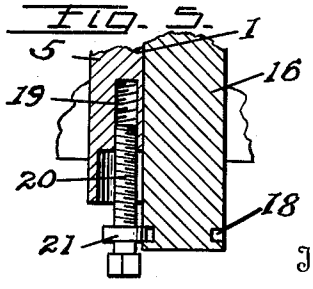


Fig. 5.



Inventor

John E. Poorman

By

Attorney

3

Patented Feb. 6, 1940 2,188,917

UNITED STATES PATENT OFFICE

2,188,917

TOOL POST

John E. Poorman, Philadelphia, Pa.

Application August 12, 1938, Serial No. 224,625

2 Claims. (Cl. 82—36)

This invention is directed to an improvement in tool posts designed more particularly for holding square or flat tools and constructed with a view to permitting the reversal of the tool in the post and the adjustment of the tool in all directions.

The primary object of the present invention is the provision of a tool post constructed as a single block and formed to provide a tool-receiving channel extending entirely through the block, the rear wall of which is formed at each end for the reception of a pair of adjusting bolts, with the top wall formed adjacent each end for the reception of a pair of spaced clamping bolts and the bottom wall formed from the transverse center of the block in oppositely sloping inclined wedge-receiving surfaces with either of which, according to the position of the tool, a wedge cooperates to underlie and support the tool, with means cooperating with the wedge and the block for adjusting the wedge for initially positioning the tool vertically of the block and holding the wedge immovably in the adjusted position.

The invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of the improved tool post.

Fig. 2 is a longitudinal section on the line 2—2 of Fig. 3.

Fig. 3 is a transverse section on line 3—3 of Fig. 2.

Fig. 4 is an end view.

Fig. 5 is a detailed section on line 5—5 of Fig. 4.

The improved tool post comprises a block 1 having a base 2 formed in a portion of its transverse dimension to provide a tool-receiving recess 3 including a bottom wall 4, a rear wall 5 and a top wall 6. The base in advance of the recess is of slightly less length than the bottom wall 4 of the recess and of somewhat greater thickness than said bottom wall 4 for a purpose which will later appear.

The bottom 7 of the block presents a plain flat surface except for a central depending rib 8 with which cooperates an auxiliary block 9 recessed at 10 to cooperate with the rib 8 and formed on its lower surface with a transverse rib 11 to cooperate with the channel in the slide with which the tool cooperates. The rear wall 5 of the tool-receiving recess and a portion of the block in advance of the bottom wall of the recess as well as the auxiliary block are formed with openings to receive bolts 12 having square heads 13 to fit in the undercut recesses of the slide.

The bottom wall 4 of the recess inclines downwardly in both directions from the transverse center line of the wall and as the projecting portion of the block is thicker than that of the bottom wall 4 of the recess, there is provided by the projecting portion of the block an abrupt shoulder 15 at the longitudinal edge of the bottom wall 4.

A wedge block 16 is arranged to cooperate with either of the inclined surfaces 14 of the block, the wedge block presenting a plane upper surface 17 which, in any position of the wedge, is parallel with the top wall 6 of the tool recess to provide a support for the tool. The respective side edges of the wedge are channeled, as at 18, and the rear wall 5 of the tool-receiving recess is formed at each end with a threaded opening 19 to receive a bolt 20 having an integral annular collar 21 to seat in one of the channels 18 of the wedge block in order to adjust the wedge through the obvious operation of the bolt in the threaded opening 19. As the wedge is designed to be used with either end of the tool post, the bolt 20 and more particularly the collar thereof will cooperate with the appropriate channel according to the position of the wedge.

The rear wall 5 of the tool-receiving recess is formed on each side of the longitudinal median line of such recess with a pair of threaded openings to receive adjusting bolts 22 and the top wall 6 of the tool-receiving recess is correspondingly formed in each direction beyond the transverse median line with a transverse opening to receive clamping bolts 23.

The tool, shown at 24, is placed in one end of the tool-receiving recess for the initial application of the wedge through the operation of the bolt 20. The tool is then adjusted by the operation of the adjusting bolts 22, the wedge primarily adjusted to set the tool and the clamping bolts 23 tightened to engage the tool in opposition to the wedge. If necessary, the wedge may then be fixed in final position by tightening the bolt 20, when the tool will be found to be held fixedly in desired position for use.

Of course, the parts at each end of the tool-receiving recess are duplicated as described so that the tool may be reversed or projected from either end of the tool post and obviously in either position may be adjusted vertically and laterally for the desired work. The block 1 as a whole is, of course, an integral structure and when applied to the slide will permit the tool as a whole to be set very close to the chuck and obviously the post may be used on front or back cross slide with the spindle running either forward or backward.

What is claimed to be new is:

1. A tool post formed with a tool-receiving recess, the bottom wall of the recess inclining in both directions downwardly from the transverse center of the post, a wedge having an inclined face for directly cooperating with either inclined surface, said wedge having a plane upper face to directly engage and support a tool, interfitting cooperating means on the wedge and engaging the post to positively adjust the wedge in either direction, threaded openings in the upper wall of the post duplicated on each side of the transverse median line of the post to receive clamping bolts, and threaded openings in the rear wall of the recess duplicated on each side of the transverse median line of the post to receive adjusting screws for the tool.

2. A construction as defined in claim 1, wherein the wedge is formed on each side with a channel and the cooperating means to engage the post being in the form of a threaded bolt with a collar to seat in either channel.

JOHN E. POORMAN.