(No Model.)

P. J. BYRNE.

TOOL HOLDER FOR METAL PLANING MACHINES.

No. 267,147. Patented Nov. 7, 1882.

FIG. 1.

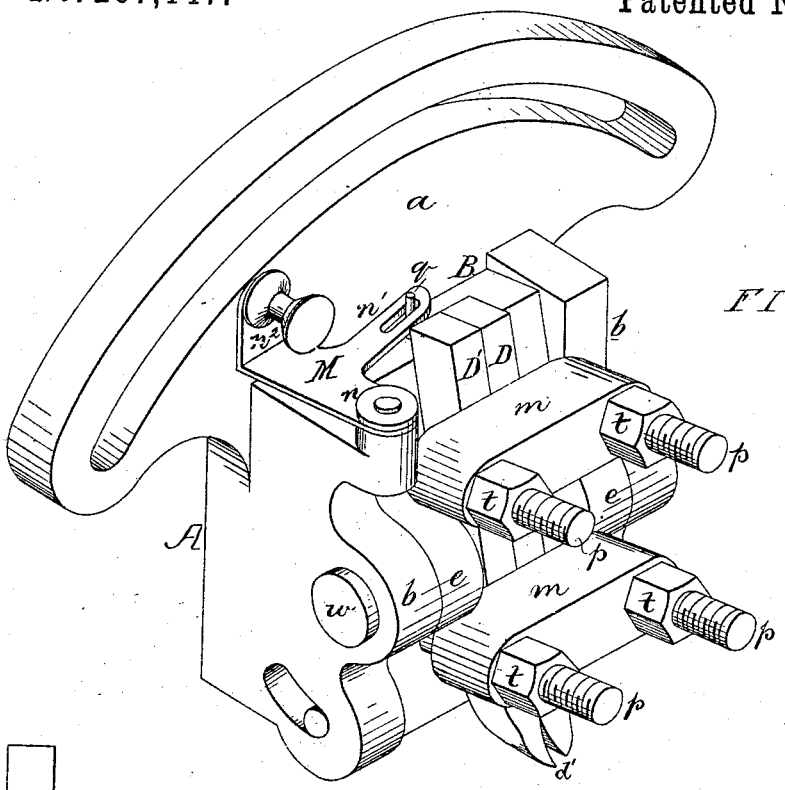


FIG. 5.

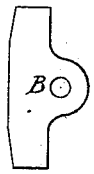


FIG. 2.

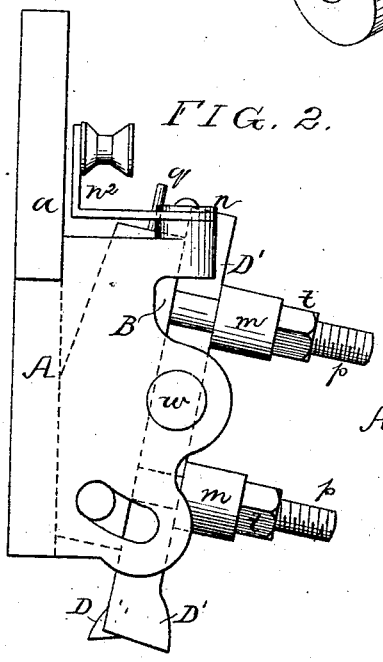


FIG. 3.

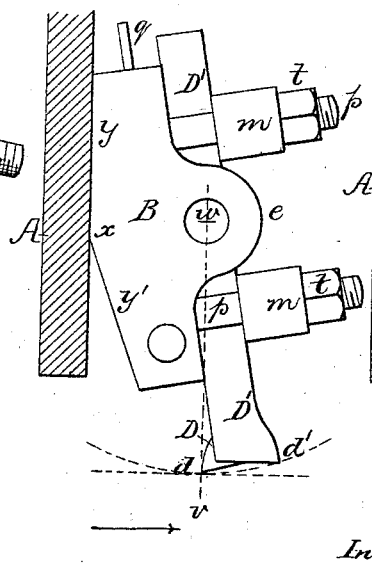
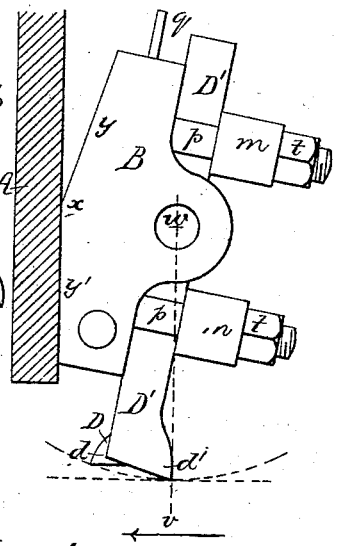


FIG. 4.



Witnesses.

Harry Drury

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UNITED STATES PATENT OFFICE.

PETER J. BYRNE, OF PHŒNIXVILLE, PENNSYLVANIA.

TOOL-HOLDER FOR METAL-PLANING MACHINES.

SPECIFICATION forming part of Letters Patent No. 267,147, dated November 7, 1882.

Application filed May 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, PETER J. BYRNE, a citizen of the United States, and a resident of Phœnixville, Chester county, Pennsylvania, have invented certain Improvements in Tool-Holders for Metal-Planing Machines, of which the following is a specification.

My invention relates to an improvement, fully described hereinafter, in that class of tool-boxes for metal-planing machines in which a pivoted tool-holder carrying two tools with cutting ends pointing in different directions admits of being so tilted that one cutting end shall be in action when the bed of the machine traverses in one direction, the other cutting-end being in action when the bed is traversed in a contrary direction; and the object of my improvement is to insure the proper action of the tools thus carried by the pivoted holder of the box, as hereinafter fully explained.

In the accompanying drawings, Figure 1 is a perspective view of my improved tool-box for planing-machines; Fig. 2, a side view of the same; Figs. 3 and 4, diagrams illustrating my invention, and Fig. 5 a modification of the tool-holder.

The box proper, A, is of substantially the same form as those in common use in connection with metal-planing machines, and consists of the rear plate, *a*, having the cheek-pieces *b b*, between which is pivoted the tool-holder B, the box being secured to the carriage of a planing-machine in the usual manner. The tool-holder B has lugs *e e*, which are pivoted by pins *w* to the cheeks of the box, and at the back of the holder are two inclined planes, *y y'*, meeting at *x* and serving as stops to limit the movement of the holder.

D is a cutting-tool, having a cutting end, *d*, and D' is a second cutting-tool, having a cutting end, *d'*, the tools being secured to the holder by the usual transverse bars, *m m*, screw-studs *p*, and nuts *t*. When the cutting end *d'* of the tool D' is in action the lower inclined plane, *y'*, at the back of the holder bears against the box, and when the cutting end *d* of the other tool is in action the upper inclined plane, *y*, of the holder bears against the box, the cutting ends of the two tools pointing one in one direction and the other in the opposite direction. The relation of the cutting ends of these tools to each other and the limit of their movement may be best explained by reference to the diagrams Figs. 3 and 4, in which the straight horizontal lines indicate the bottom of the cut made by the tools, and are of course parallel with the guides of the planing-machine bed, a vertical dotted line, *v*, being drawn at right angles to the horizontal dotted line in both diagrams. When the bed of the planer is traversed in the direction of the arrow, Fig. 3, the end *d* of the tool D is in action on the object to be planed, and this end is at the said line *v*. When the bed of the planer is traversing in the direction of the arrow, Fig. 4, the end *d'* of the tool D' is in action at the same line, *v*, these positions of the cutting ends being determined by the inclined planes or stops *y y'*. There may be a single tool with two cutting ends pointing in contrary directions. The object of thus determining the positions of the ends of the cutting-tools when in action may be described as follows: There is often more or less yielding or spring of the tool when a heavy cut is being made, and it is important that in thus springing the point of the tool should not dig into the metal to a greater depth than that of the required cut. If the cutting end of the tool when in action is in the line *v*, drawn at right angles to the guides of the planer through the center of the pivot of the tool-holder, and there should be any spring or yielding of the tool, its cutting end will rise instead of falling and taking too deep a cut, which would be the case should the cutting end be in advance of the line *v*. I wish it to be understood, however, that I do not claim broadly so restricting the movement of the tools that their cutting ends may be made to occupy the positions described when in action.

The tilting movement of the holder on its pivot may be effected by the three-armed lever M, one arm, *n*, of which is pivoted to one of the cheeks of the box, another arm, *n'*, being slotted to receive a pin, *q*, on the upper edge of the holder, and the third arm, *n''*, being used as a handle by which the holder may be tilted by automatic mechanism connected with the feed-motion devices.

The inclined planes *y y'* at the back of the holder may be of the reduced extent shown in Fig. 5.

I claim as my invention—

1. The combination of the box A, the tool-holder B, pivoted to the box and having at the back two inclined planes, *y y'*, and the tool or tools having cutting ends pointing in contrary directions, substantially as described.

2. The combination of the box A, the pivoted tool-holder B, and the three-armed lever M, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PETER J. BYRNE.

Witnesses:
C. S. YARNALL,
JAMES R. TEAL.