(No Model.)

M. C. JOHNSON.

TOOL HOLDER.

No. 302,496. Patented July 22, 1884.

Fig. 1

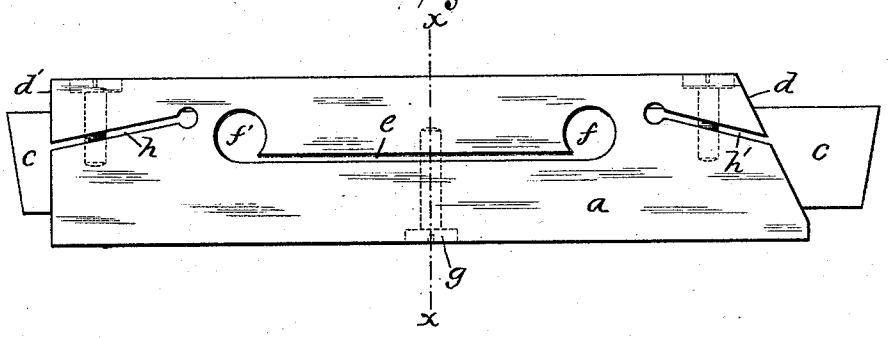


Fig. 2

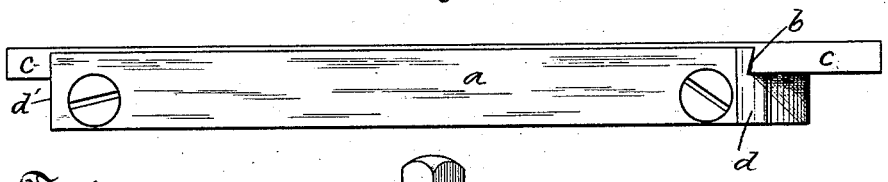


Fig. 4

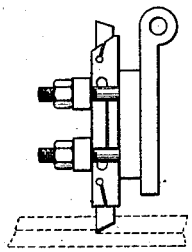
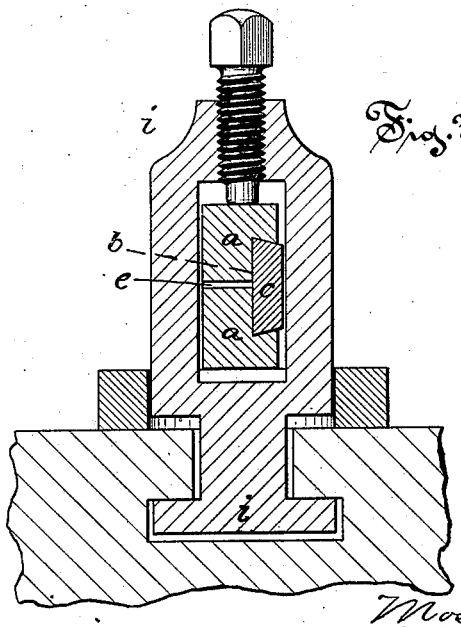


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

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TOOL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 302,496, dated July 22, 1884.

Application filed June 2, 1883. (No model.)

To all whom it may concern:

Be it known that I, MOSES C. JOHNSON, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Tool-Holders; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

Figure 1 is a side view of my improved device. Fig. 2 is a top view of same. Fig. 3 is a view of my device in cross-section on the line *x x* of Fig. 1, showing it as held in a tool-post, also in section. Fig. 4 is a side view of my device shown in use in a planer, the work being shown in dotted lines.

My invention relates to the class of devices commonly used to hold cutters for turning, planing, and the like; and it consists in the improved form and combination of the holder and tool, and in the method of holding the tool in the holder.

In the accompanying drawings, the letter *a* denotes a holder, preferably of steel, having on one side the lengthwise mortise *b*, opening outward, with edges inclined slightly inward, and adapted to grasp a thin blade, *c*, fitted to slide in the mortise. One end, *d*, of the holder is preferably cut at an angle, or "beveled," and the other, *d'*, is at right angles, or "square," with all the faces of the holder. A slot, *e*, is cut in the holder from side to side, and it extends for a larger part of the length of the holder, and terminates, preferably, in the enlarged openings *f f'*. Near the ends of the holder, however, a sufficient stock of metal remains to prevent it from twisting or being distorted by any pressure upon its edges when in a tool-post. A clamp-screw, *g*, is seated about centrally of the holder in such manner that by turning it the lips of the mortise may be clamped upon the blade *c*. At each end of the holder slits *h h'* are made and a clamp-screw inserted widthwise, to hold a tool in the mortise while sharpening, or to keep it in place while moved from place to place or overhauled on the tool-bench. The main agent in holding the blade in the holder is the clamping-screw of the tool-post *i*, for use in which the holder is especially adapted, the slot *e* allowing the holder to yield edgewise under the pressure of the screw appurtenant to the post. By making the slot completely through the holder, it yields edgewise and binds directly upon the blade, with no tendency to twist the latter, as would be the case if the holder were but partly cut through and bent sidewise to grasp the blade. A loose collar or stop may be inserted in the slot, of such thickness as to limit the compression of the holder and prevent setting. The blade *c* is beveled on the edges to fit the mortise, except at its ends, where a proper cutting-face is provided in the usual manner, and is double-ended, so that by simply sliding it in one direction as to the beveled end of the holder a tool adapted for use in a lathe is formed, and by sliding it to the square end a tool for use in a planer is provided.

The blade may be beveled on its upper and lower edges where it is grasped in the holder, as seen in section in Fig. 3, and the longitudinal mortise or tool-holding socket in the holder conforms in outline of its bearing-faces to those of the blade, while the projecting part of the blade adjacent to the cutting-edge is shaped to the ordinary outline, as by grinding it off.

A particular feature of my device is that the edgewise compression of the holder, by a pressure applied (as in a tool-post) at any point between its ends, or between the material that prevents the parts from bending sidewise under such pressure, grasps the tool so as to prevent in a great measure any twist of the blade from a vertical plane by bending the holder in the direction of its length; and the function of the material of the holder left at the end of the slot *e* is to so unite the upper and lower edges of the holder as to prevent such twisting—an office that can obviously be performed by pins or screws arranged edgewise of the stock.

The holder and blade may each be cheaply made from market sizes of merchantable steel, and the tool, as a whole, is free from the projections and clamps that on the tools of the same class in the prior art limit their usefulness and adaptability to the many uses for which my improved tool-holder is fitted.

I am aware that tool-holders have been made with a stock having a longitudinal and lateral tool-socket, and thinned by a groove to allow a blade to be grasped by the edgewise compression of the stock, and such I do not broadly claim.

I claim as my invention—

1. The tool-holder having the lateral longitudinal mortise or channel, one beveled and one square end, and the longitudinal slot with closed ends, all substantially as described, and for the purpose set forth.

2. As an improved article of manufacture, a tool-holder, *a*, having a lateral longitudinal mortise or channel, *b*, and a transverse longitudinal slot, *e*, opened from side to side and closed at or near each end, in combination with a cutting-blade, *c*, fitted in said mortise, and clamped in place while in use by the edgewise grasp of the stock, all substantially as described.

3. The tool-holder *a*, having a longitudinal mortise or blade-socket, *b*, the transverse longitudinal slot *e* terminating in the enlarged openings *f f'*, in combination with a cutting-blade, *c*, all substantially as described.

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Witnesses:
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