(No Model.)

A. HOKANSON.

MOLDING KNIFE.

No. 507,540. Patented Oct. 31, 1893.

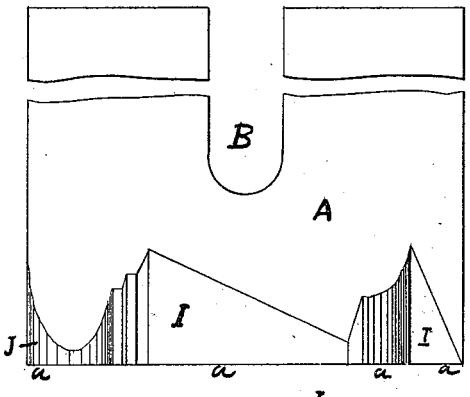


Fig. 1.

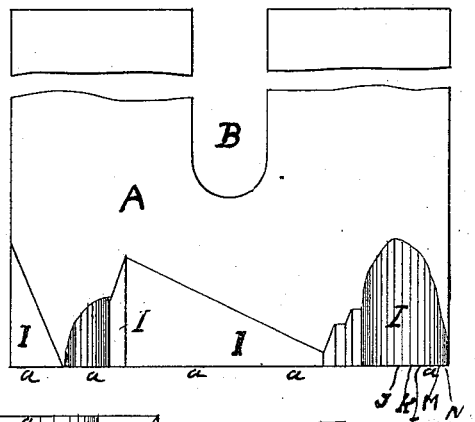


Fig. 2.

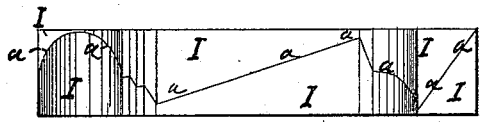


Fig. 3.

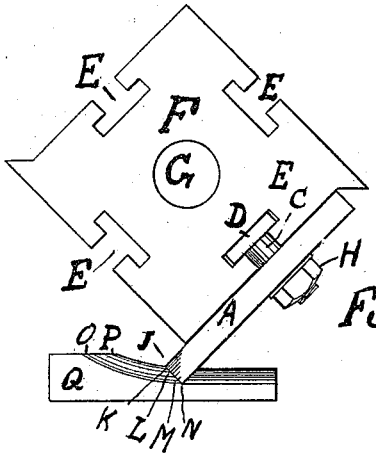


Fig. 4.

Fig. 5

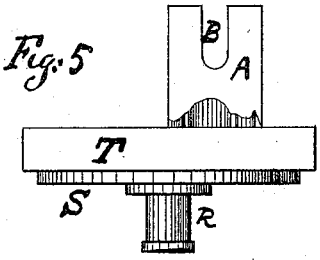
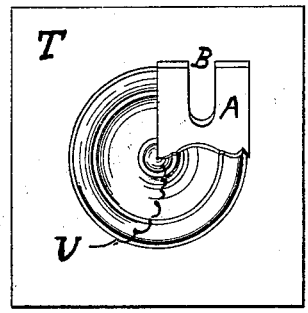


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

AUGUST HOKANSON, OF ST. PAUL, MINNESOTA.

MOLDING-KNIFE.

SPECIFICATION forming part of Letters Patent No. 507,540, dated October 31, 1893.

Application filed November 25, 1892. Serial No. 453,056. (No model.)

To all whom it may concern:

Be it known that I, AUGUST HOKANSON, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Molding-Knives; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in molding knives of the class usually secured upon a fast-revolving cutter head for planing moldings, or the like ornamental planing in either straight or curved lines upon wood work.

The objects of my invention are, first, to provide a cutter knife for moldings and ornamental wood work that will cut equally well in all directions upon the grain of the wood, and not like the molding knives heretofore used, tear up and split the wood when fed across the grain or obliquely therewith; second, to provide a molding knife that will cut two different shaped moldings simply by turning the knife upside down upon the cutter head. I attain these objects by the peculiar construction of the cutter knife, illustrated in the accompanying drawings, in which—

Figure 1, is a front side elevation of one of my cutter knives. Fig. 2, is a rear side elevation of same, and Fig. 3, is an end view looking toward the very cutting edge of the tool. Fig. 4, is a cutter head with one of my knives secured on it and shown in the act of cutting across a piece of lumber. Fig. 5, is a side view of a face-plate of a lathe with a square piece of board fastened upon it and one of my knives placed in contact with the piece of board for shaping it into a corner block for door and window casings. Fig. 6, is a front elevation of Fig. 5. In both Figs. 5 and 6 the knife is shown in perspective.

Referring to the different parts in the drawings by letters of reference, A, is the body or blade of the cutter knife.

B, is a notch in the blade for receiving the bolt C, which has a head D, engaging in a slot E, in the cutter head F, secured on the shaft G, by which it is revolved.

H, is a nut at the end of the bolt C, for tightening the knife securely to the cutter head.

The peculiarity of my knife consists in the way that the edge of it is formed and ground. In ordinary molding knives the front or cutting edge is of uneven length at different places according to the shape of the molding to be cut, and all of them are ground from one side only and the consequence is that the longest points of the knife are always ahead and are the first ones to try to leave the wood, but in so doing they carry away the cross grain located between two such long points of the knife, as the said knife points come from a good depth in the wood and try to reach the surface before the grain is cut off by the shorter portions of the knife edge. This old and wrong principle of shaping and using a molding knife I reverse entirely by making my knife of so considerable thickness that I grind its edge from both sides to the desired shape of two moldings of reversed shape until the sharp edge of the tool is formed as indicated; for example, by the line *a*, *a*, *a*, *a*, in Fig. 3, and still said edge is straight across the front of the knife as shown in Figs. 1, and 2, I, I, being the grindings. In Fig. 4, it is clearest illustrated that the portion J, of the knife-edge—which has hardly anything to cut and therefore can not break out the wood—reaches first out of the wood Q; next comes the edge portions K, L, M, and N, in respective succession; each of them cuts on a slant over (not shoveling or plowing under) the grain to be cut; hence, when the deepest point N, reaches near the surface at O, it has no tendency to lift away the short grain portions at P, because these are already severed by the edge portions J, K, L, from the grain portions to be removed by the deep-going knife portions M, N, which are usually the parts of the knife tearing the wood on account of their depth.

In Fig. 5, R, is a portion of a lathe spindle. S, is the face plate secured thereon. T, is a

corner block secured on the face plate in order to be turned with circular ornamental grooves or moldings on it as shown at U, in Fig. 6. This work is ordinarily done by a hand tool which is slow and inaccurate, so that hardly any two blocks will be alike. With my improved molding tool all the grooves U, are cut at one time and cannot help being alike in all the blocks cut by the same knife. The knife A, is in this case secured in any suitable way so that it stands at the desired angle with the surface of the block T, and may be fed toward the block as the latter is turned by the lathe and receive its ornamental moldings U, by contact with the said knife A. I may also secure the knife to the face plate of the lathe or other revolving spindle of wood shaping machines, &c., and have the block T, secured on a sliding carriage that may be quickly moved away from the knife for exchanging the finished block for an unfinished one. In the last named instance the spindle may run all the time which is a great advantage as it takes considerable time and power to stop and start repeatedly a fast running spindle.

It is evident that this improved tool may be used for all kinds of shapes and curvatures of moldings and is not confined to straight and circular work only. It may also be used as a hand tool with a handle on it, or as a knife in hand planes, although it is especially adapted to be used in connection with power and machinery and run at a good speed, about the same as ordinary molding stickers are run.

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

1. The molding knife A, having a curved cutting edge as *a*, *a*, or any other desired curvature, located in the middle of the front end of the knife so that the knife may be inverted and stick moldings of two different styles, substantially as shown and described.

2. The molding knife A, having the slot B, adapted to receive a bolt for securing it to a cutter head and being ground from both sides till its front end forms a cutting edge as *a*, *a*, with curvatures to fit different shapes of moldings at each side of the knife, said curved cutting edge having all its cutting points in a plane at right angles with the flat side of the body of the cutter, substantially as shown and described and for the purpose set forth.

3. The combination of the cutter head F, having the slots E, with the bolt C, and knife A, said knife having a corrugated cutting edge as *a*, *a*, with all its cutting points located in a plane at right angles with the flat side of the body of the cutter, substantially as shown and described and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUST HOKANSON.

Witnesses:
HAROLD HARRIS,
HENRY SCHULTZ.