(No Model.)

T. FITZSIMMONS.

CUTTER HEAD FOR WOOD WORKING MACHINES.

No. 253,273. Patented Feb. 7, 1882.

Fig. 1.

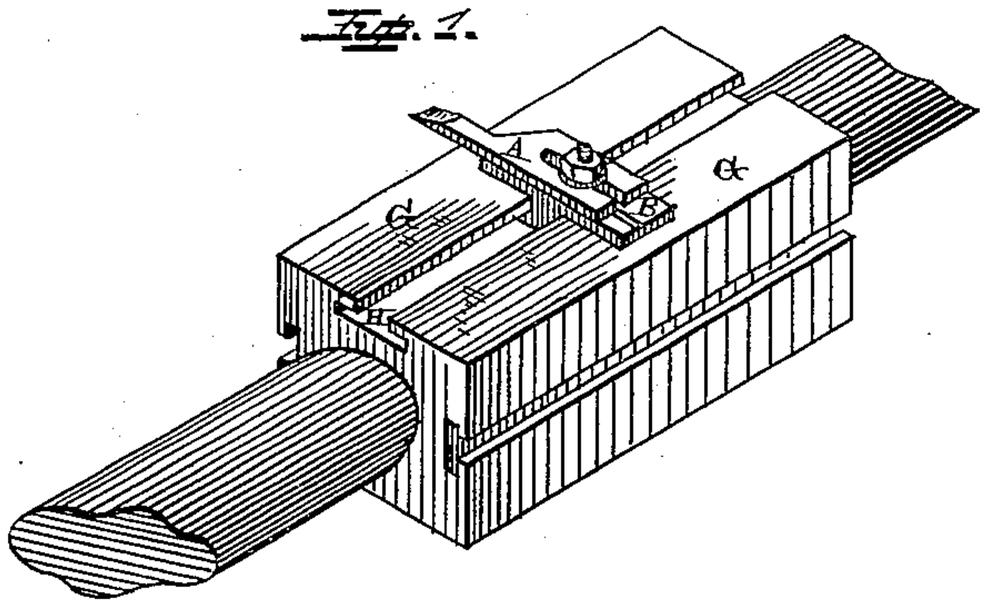


Fig. 2.

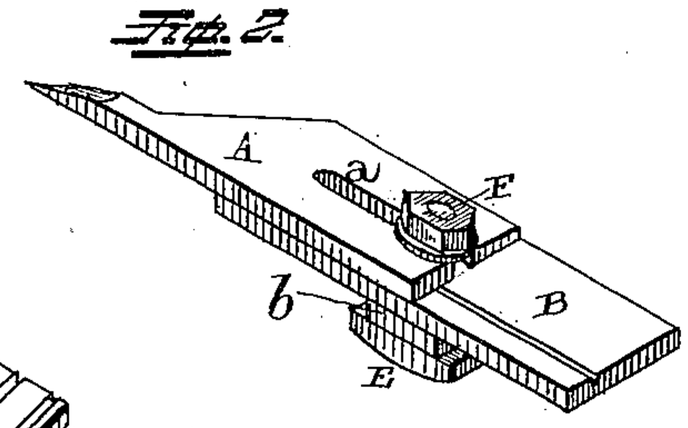


Fig. 3.

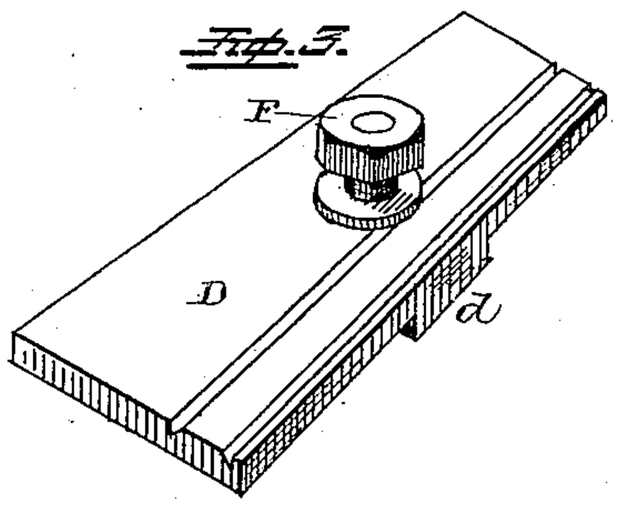
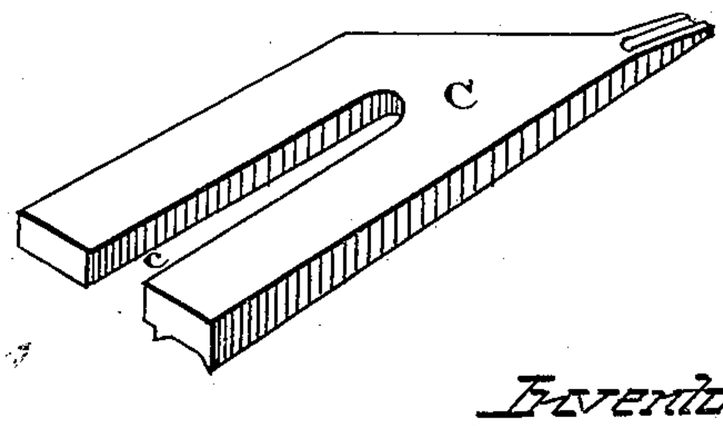


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

THOMAS FITZSIMMONS, OF BURLINGTON, VERMONT.

CUTTER-HEAD FOR WOOD-WORKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 253,273, dated February 7, 1882.

Application filed November 10, 1881. (No model.)

To all whom it may concern:

Be it known that I, THOMAS FITZSIMMONS, a citizen of the United States of America, residing at Burlington, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in Cutters and Plates for Planing and Molding Machines; and I do hereby 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 letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in cutter heads and plates for planing and molding machines; and the objects of my improvements are, first, to provide a device by which the cutter may be readily attached to the cylinder without a possibilty of displacement in the act of setting the same; second, to so arrange its attachment to the cylinder that it cannot yield to any obstruction which may arise in its operation; and, third, to afford facilities for keeping the cutter in line and clearing the groove at the side of the head, thereby leaving the bead always of a uniform size, and avoiding any liability of heating the cutters, and thus drawing their temper. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a side cutter blade and plate attached to the cylinder. Fig. 2 is a detailed view, in perspective, of a side cutter blade and plate. Figs. 3 and 4 are similar views of a center cutter and plate in detail.

Similar letters indicate like parts throughout the several views.

A is a side cutter-blade, slotted at *a*, as is customary, to receive the bolt E, by which it and its plate B are rigidly attached to the usual slotted square cylinder, G. Along the entire length of its lower face and parallel with the cutting-edge projects a lip, which is a continuation of the interior knife of the cutter-head, and is designed to fit into a corresponding groove in the upper face of the plate B, so that when in position the exterior edges of the cutter blade and plate shall correspond. The plate B is of the same length, as well as width, of the cutter-blade A. On its under face is a transverse projection, *b*, of a width sufficient to closely fit into the upper part of the slot H of the cylinder G. The two plates A and B are held together by a bolt, E, whose head is designed to fit into the lower and elongated portion of the slot H of the cylinder G. A nut, F, and washer serve to attach them rigidly to each other and to the cylinder G after the cutter is slid forward to its desired projection beyond the edge of the cylinder. The center cutter, C, and its plate D are of similar form as the side cutter, A, and its plate B, except that an additional lip projects from the under face of the cutter-blade, being the continuation of the line of the outside knife, and an additional corresponding groove near the outside edge of the upper face of the plate D. To better brace and support the cutters they are made to project beyond the full width of the plates A and C only that distance which is absolutely essential to their practical operation.

In operation the head of the bolt E is slid into the slot H of the cylinder G. The bolt is then passed through a hole in the plates B or D, which brings their respective projections, *b* or *d*, into the upper part of the slot H. The cutters A or C are then placed upon their respective plates, B or D, their lips sliding into their corresponding grooves. Then by screwing down the nut F and washer of the bolt E, which passes through the slot *a* or *c* of the cutters, both the blades and their respective plates become easily and rigidly attached to the cylinder G. To set the cutter no care is required to prevent its being turned or moved out of line on the cylinder, as would be necessary if it were directly attached to the cylinder in the ordinary manner, as its lip or lips, moving in the fixed grooves, a plate which is always kept in place by the projection on its under surface, retain it absolutely in place. For the same reason it cannot be displaced by any obstruction it may meet with in its working—a liability to which it is often subject when it is only held by the bolt. A great advantage also is found in the presence of the lip, which continually clears the groove of any fuzz or shavings along the side of the blade.

This leaves the bead always of the same uniform size, keeps the cutters of the same shape, and effectually prevents their heating. The result is that by means of my improvements not only much time and labor are saved in setting the cutters, but also the work performed is of a more perfect and satisfactory character.

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

1. The combination of the grooved cutter, with a plate, B, having a projection on its inner side to catch in the slot, a clamping-bolt, and a cutter-head, substantially as shown.

2. The combination of the grooved cutter-head, the plate B, provided with the projection *b*, and having one or more grooves made in its outer surface, the bolt E, nut F, and cutter having a bead or beads on its inner surface, substantially as described.

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

THOMAS FITZSIMMONS.

Witnesses:
CHARLES E. ALLEN,
ALBERT N. PERCY.