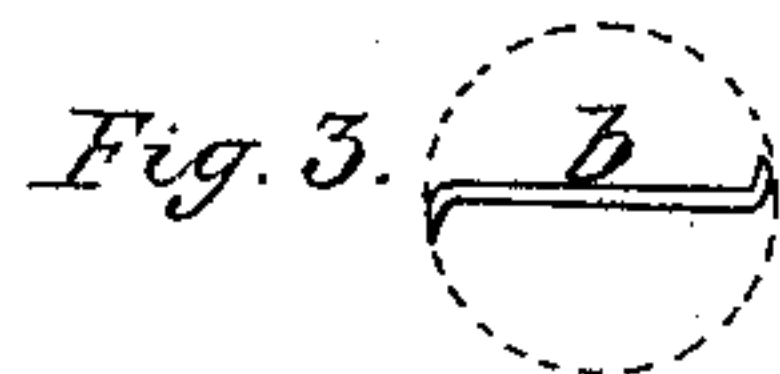
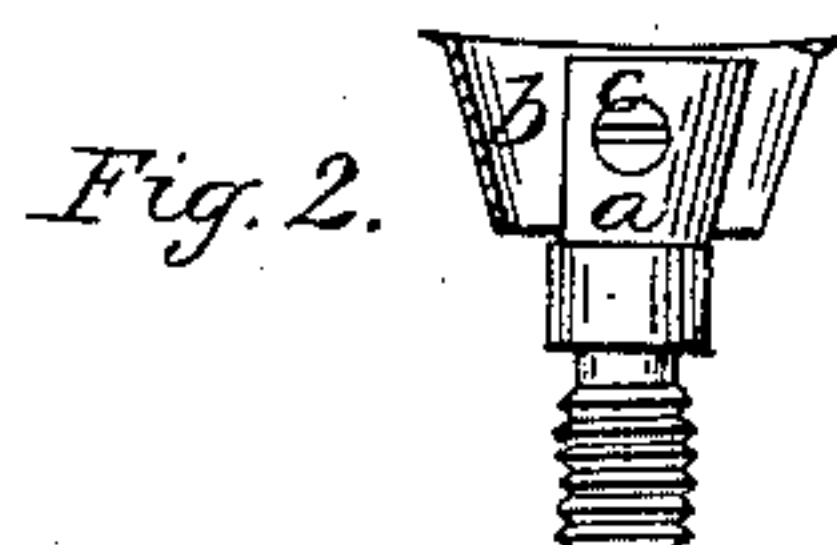
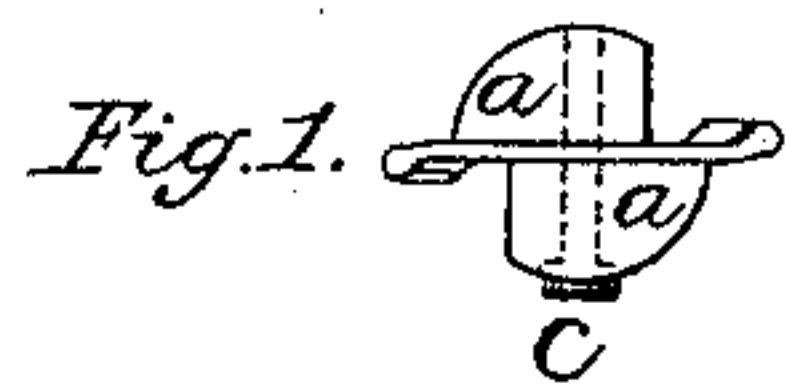


J. C. Hursell,
Dovetailing Machine.
N^o 55,661. Patented June 19, 1866.



Witnesses.
W. H. Frothingham
J. M. McIntire

Inventor:
John C. Hursell
by his attys,
Crosby & Gould

UNITED STATES PATENT OFFICE.

JOHN C. HURSELL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CUTTERS FOR DOVETAILING-MACHINES.

Specification forming part of Letters Patent No. 55,661, dated June 19, 1866.

To all whom it may concern:

Be it known that I, JOHN C. HURSELL, of Boston, in the county of Suffolk, in the State of Massachusetts, have invented certain new and useful Improvements in Cutters for Dovetailing-Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

This invention relates to improvements in the details of construction of cutters or cutter-heads designed to be employed in dovetailing-machines embodying the invention patented to S. E. Hartwell, March 22, 1862.

In such machines the cutters heretofore employed have been of such form that after each sharpening they make a smaller groove or cut than before, in consequence of which the dovetail tenons are left too large to fit the grooves or mortises without being recut or pared.

To remedy this difficulty is an object of one part of my invention, which consists in making those parts of a conical cutter where the cutting-edges are formed, and substantially parallel thereto, of some width concentric with the axis of rotation, so that as the edges become dulled they may be sharpened without decreasing the size of the cut intended to be made.

My invention further consists in combining, with a cutter made with such concentric coned surfaces for the formation of the cutting-edges, cutting-lips at the upper outer corners of the cutter-steel, when made to extend beyond any part of the edges of the cutters, the object of such lips being to support and protect the extreme points or angles of the cutting-edges and to relieve such points, corners, or angles from a portion of the work which would otherwise have to be done by them, which would cause them to become sooner dull than any other part of the cutting-edges, and would prevent the formation of sharp-angled and well-defined smooth tenons and mortises; and my invention further consists in a cutter-head made of a frusto-conical stock, slotted to receive the cutter-steel, with sector-like portions of the stock removed to form the mouths for the cutter-steel, and provided with a holding-screw passing through one part of the stock and cutter-steel into the other part of the stock, the

cutter-steel abutting against the stock at the bottom of the slot made through it, this abutment and the screw together preventing turning or movement of the cutter-steel in its stock.

Figure 1 of the drawings is a plan of a cutter-head embodying my invention. Fig. 2 is an elevation thereof; and Fig. 3 is a section of the cutter-steel, taken just below the lips formed on the upper outer corners thereof.

The frusto-conical part of the cutter-stock is marked *a*, an extension therefrom being provided with screw-threads, by which it is secured to one of the mandrels of the dovetailing-machine before named.

In the plan, Fig. 1, will be seen how the slot is made through the part *a* for reception of the cutter *b*, and also that sector-like parts are removed to make mouth-pieces for the cutter.

The screw for holding the cutter is indicated in dotted lines in Fig. 1, its head being marked *c*.

The lips on the upper outer corners of the cutter *b*, and in their cutting action, extend beyond the action of the edges of the cutter by which the wood is removed.

In Fig. 3 is shown how the cutter is formed with parts thereof—say about one-sixteenth of an inch in width—concentric with the axis of rotation, so that when the cutter becomes dull its diameter is not changed by sharpening the edges from the inside, forming new edges in the periphery of the intended conic frusto. These conic surfaces made on the cutter drag upon the wood left by the cutter and polish and condense the surfaces of the dovetail tenons and mortises and improve the quality of the work.

I claim—

1. The construction of the cutters, as herein described, for polishing and condensing the surfaces of dovetail tenons or mortises.

2. Providing the upper outer corners of a cutter constructed as above claimed with outward cutting-lips, as and for the purpose specified.

3. Constructing the conical cutter-head *a* with a slot to receive a solid cutter, with opposite cutting-edges, the cutter being inserted in said slot and confined to the head, as described.

J. C. HURSELL.

Witnesses:

J. B. CROSBY,
S. B. KIDDER.