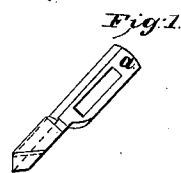
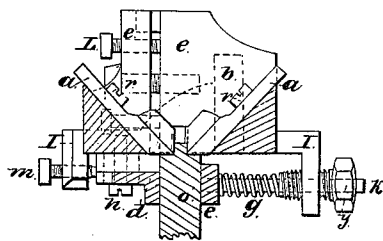
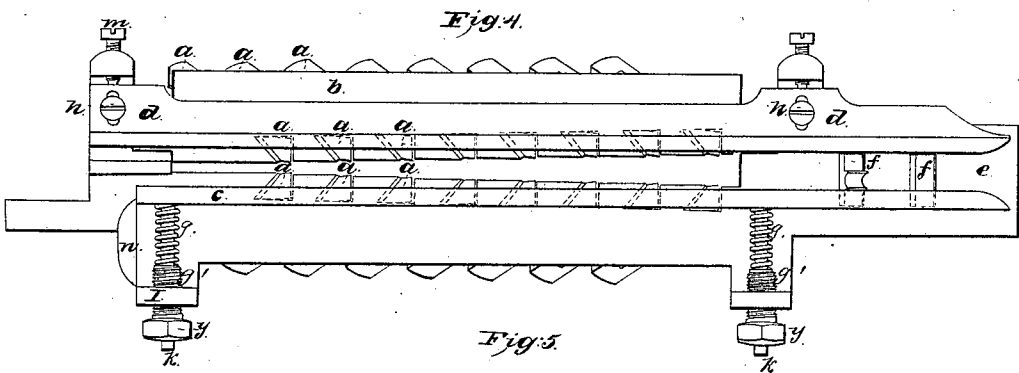
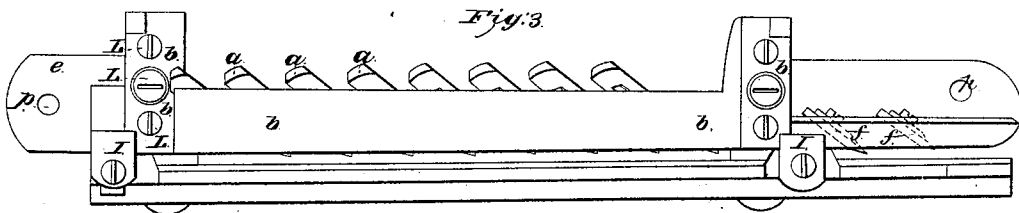
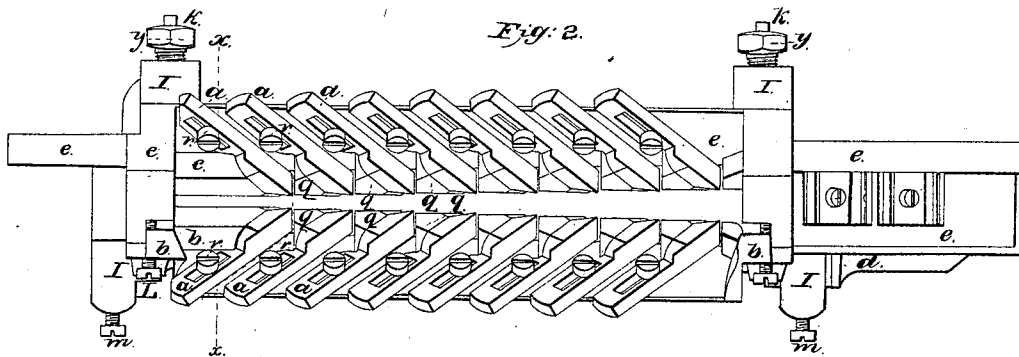


*S. Albro,*  
*Wood Planing Machine.*  
*No. 9,111.* *Patented July 13, 1852.*



# UNITED STATES PATENT OFFICE.

SAML. ALBRO, OF WHITEHALL, NEW YORK.

## MACHINE FOR TONGUING BOARDS.

Specification of Letters Patent No. 9,111, dated July 13, 1852.

*To all whom it may concern:*

Be it known that I, SAMUEL ALBRO, late of Buffalo, in the county of Erie and State of New York, but now of Whitehall, in the county of Washington and State aforesaid, have invented certain new and useful Improvements in Machines for Tonguing and Grooving Boards, &c.; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1, represents different views of one of the cutters for forming the tongue; Fig. 2 represents the back or throat part of the stock and cutters to form the tongue; Fig. 3 represents the top of the said stock; Fig. 4 represents the cutting face of the same stock, and Fig. 5, represents a transverse or cross section through the red line *x, x*, of Fig. 2.

Similar letters in the several figures denote the same parts.

The nature of my invention consists in the making of a flaring stock, for the free escape of the shavings, in combining therewith a series of cutters so arranged as to cut a shaving both from the side and shoulder of the rabbet, and giving to the said cutters a double grade so as to be adjustable both to the side and shoulder aforesaid.

To enable others skilled in the art to make and use my invention I will proceed to describe the same with reference to the drawings.

The stock is formed of two parts—the one portion of it *e*, to which is attached the cutters *a*, for forming the underside of the tongue, has two or more jointers *f, f*, arranged in advance of the cutters, to joint the edge of the board and to corner the tongue, and said portion of the stock is firmly bolted or fastened to a frame which may be attached to any planing machine, so as to produce a continuous planing, tonguing and grooving operation. The portion of the stock *b*, is bolted to the part *e*, and has arranged upon it the series of cutters *a*, for forming the upper part of the tongue, and by means of the set screws *L*, can be adjusted to any desired point to give the desired thickness of tongue. Both portions of these stocks are so made as to increase the opening of the throat for the free discharge of the shavings. The cutters *a*, for forming the tongue, are so graduated upon the stock as to take a double shaving both

from the edge of the board and from the top or bottom as the case may be, or as it may be termed, from the side and shoulder of the rabbet—each graduated cutter removing more and more of the wood, until the two last cutters complete the tongue. Each cutter has its throat made by a lug *g*, against which the preceding cutter rests, the lug being so formed as to make the throat for both cuts of the knife, producing a double shaving, which by its peculiar shape is held together and passed freely, out of the flaring stock without clogging. The lugs *g*, also form a series of graduated planes which guide the board after the cutters have removed the shavings, each cutter being set in a line with the lug against which it rests. This graduation of the series of cutters in these stocks is made, both, to cut away from the top and bottom of the board, and also, in from the edge, until the required form of the tongue is obtained. To the stock *e*, (as a guide for the required distance of the tongue from the top of the board or plank) is bolted a straight edge *d*, by the bolts *h*, against which the board is firmly held while passing through, by an adjustable bar *c*, arranged upon springs on the opposite side of the board.

The stock to which the cutters are attached for forming the groove, may be made, as well as the other portions of the machine, of iron or other metal, and in the forward part of the stock may be placed jointed which with the jointers on the tongue stock shall reduce the board to the required width. It then approaches the series of knives, which may be fixed to a plate or plates—graduated upon lugs or rests which may also as in the case of the tonguing cutters, form both a guide and throat to the cutters. These grooving cutters may be of alternate gouge and fleam cutters, for removing the center and corners of the groove, and similar stops and gages may be used with them, as with the tonguing cutters, and the stocks may be made adjustable in any well known manner. *g'*, is the hollow bolt for supporting the springs *g*, of the straight edge *c*, and *k*, the steady pins passing through said hollow bolts and springs.

*m*, are set screws to adjust the upper gage or straight edge. *n* a lug that receives the ends of the lower gage or straight edge. *o*, the board, and *p*, the bolts that fasten the

stock to the frame. *n*, the bolts for fastening the cutters to the stocks.

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

In combination with flaring stocks, substantially as described, the arranging of a series of cutters therein so formed as to  
10 take the shavings from the sides and shoulders of the rabbet substantially as described,

and this I claim whether said cutters have a double or single graduation, so that I attain the result herein set forth, by substantially the arrangement and combination herein described.

SAMUEL ALBRO.

Witnesses:

T. J. VAN ALSTYNE,  
R. G. BEARDSLEE.