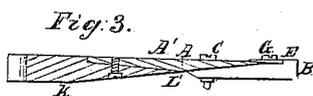
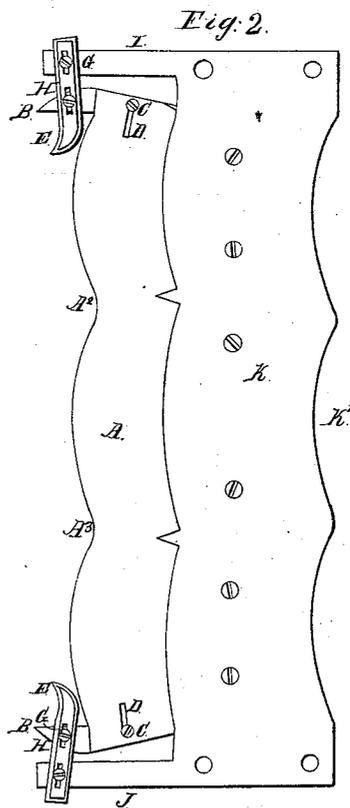
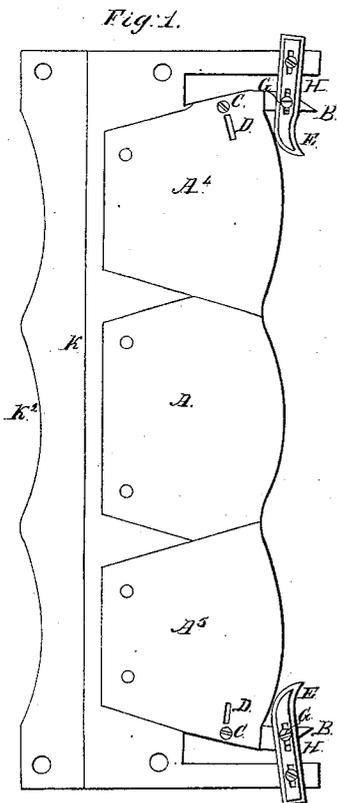
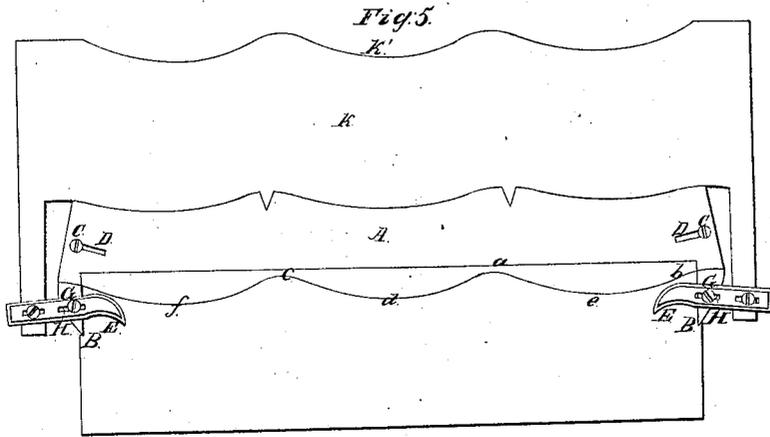


I. Crossett,
Cutting Veneers.

No. 925,

Patented Jan. 13, 1847.



UNITED STATES PATENT OFFICE.

ISAAC CROSSETT, OF EAST BENNINGTON, VERMONT.

KNIFE FOR CUTTING STAVES, &c.

Specification of Letters Patent No. 4,925, dated January 13, 1847.

To all whom it may concern:

Be it known that I, ISAAC CROSSETT, of East Bennington, Bennington county, State of Vermont, have invented a new and useful
5 Improvement in the Construction of Knives for Cutting Timber, called "Crossett's Reversible Scalloped-Edged Knife," which is described as follows, reference being had to the annexed drawings of the same, making
10 part of this specification.

Figure 1 is a plan of the knife with a scalloped cutting edge and plain straight face for cutting heading, &c., and of the frame or stock in which it is placed. Fig. 2
15 is a plan of the knife with scalloped edge and concave face for cutting staves, &c., and of the frame or stock containing the same, also made concave on the face next the concave face of the knife. Fig. 3 is a vertical cross
20 section of the knife and stock shown in Fig. 1. Fig. 4 is a vertical cross section of the knife and stock shown in Fig. 4. Fig. 5 is a section showing the blade in the act of passing through the block of wood and taking
25 off a piece of heading.

In the use of the common straight edged knife set parallel or obliquely to the face of the bolt or block of timber to be cut a great
30 evil is experienced in severing therefrom thin pieces designed for heading staves, &c., which I design to remove by the peculiar form of the knife hereafter described, namely in the use of the common straight edged
35 knife as aforesaid the fibers or grains of the wood are strained in its way through the block and the piece severed therefrom becomes unsound and not fit for the use for which it was intended.

To remove this evil I have invented a
40 peculiar form of knife which I will now describe.

It consists of a plate of metal A of the form represented in Figs. 1, 2, 3 and 4 or of
45 any suitable form on the face, sides and back edge. On the front or cutting edge, however it is scalloped, or made in waving lines A² A³ for the purpose of severing the pieces of wood from the block of timber, or bolt,
50 for making staves, heading, shingles, veneering &c., without straining or otherwise injuring, the fibers or grain of the wood, and this effect is produced by reason of said scalloped edge cutting the wood in such manner
55 that while one part of the wood is being severed from the bolt or block the said part is sustained or supported from being broken by

the adjoining parts remaining uncut by the concave parts of the knife.

Fig. 5, represents the knife in the act of passing through the block and severing a
60 thin piece therefrom the portions between *a* and *b* and *a* and *c* being severed from the block while the portions between *d* and *e* and *d* and *f* remain sound on the block and sustain the parts already cut by the convex
65 portions of the knife and these parts thus cut being sound will sustain the adjoining parts during the operation of cutting by the concave parts of the knife which immediately follow the operation of the concave
70 portions of the blade by which operation the thin piece of wood will be separated from the block in a sound state which can not be effected by any other knife in use.

The two cutters B B at the ends of the
75 scalloped knife are designed to square the timber preparatory to the operation of the hooked knives and the scalloped knife and to the required length of the article to be cut and at the same operation. These cut-
80 ters are confined to the knife by means of screws C and oblong mortise D or other suitable means and may be set to the required distance apart by moving the screws in the oblong mortises to cut longer or shorter
85 articles.

The two cutters E E attached to the last named cutters are designed to cut into the
90 ends of the block in advance of the scalloped knife for the purpose of preventing it fracturing the timber at the ends, there being no support beyond the ends as in the middle of the block. These cutters are attached to the end cutters by screws G and mortises H and also to the frame or stock of the scalloped
95 knife by extending the same to meet them at or near their outer ends as at I, J.

The stock or frame *k* to hold the knife is made of cast iron or other suitable material in the form represented at *k* in Figs. 1 and
100 2 and of any suitable form being recessed on the face sides in recesses corresponding with the shape of the back of the knife which is to be placed in said recess. The back of the stock must be scalloped as represented at
105 K' K² in Figs. 1 and 2 for the purpose of enabling the operator to grind the scalloped cutting edge to the required curvature and bevel which he could not accomplish without thus forming the back. The curvature of
110 the required cutting edge of the knife must be first given to the back of the stock. The

edge is then grooved to the requisite curvature and bevel by passing the scalloped back to the right and left over a fixed guide or rest placed in front of the grind stone at a suitable distance therefrom, the stock and knife rising and falling in a waving line corresponding to that of the edge of the knife which is thus kept at a uniform distance from the rest or guide placed in front of the grind stone which is necessary to a correct grinding of the edge scalloped as aforesaid. The knife is made tapering from the center toward the scalloped or cutting edge resembling in its vertical transverse section a sharp edge as seen in Figs. 3 and 4 and a frustum of a wedge on the back—the recess in the stock or frame being of a corresponding shape to admit said back; so that when the knife is placed and secured in the stock as represented in Figs. 1 and 3 the straight face A' will be in a straight line and adapted for cutting heading and other straight pieces of wood, and when the knife is turned over or reversed in position so as to bring the straight side next the bottom of the recess in the stock and the position of the stock is also reversed, as shown in Figs. 2, and 4, a concave surface will be presented to the block to be cut as will be required in cutting concave pieces for staves and this is effected by sloping the bottom of the stock from K to L and bringing the stock to a feather edge where it meets the bottom of the recess at L Fig. 3 and where it comes in contact with the middle of the blade at L in Fig. 4 which represents the position of the stock and

blade reversed from that shown in Fig. 3—the side of the stock which was the bottom in Fig. 3 being the top in Fig. 4.

The frame or stock is designed to be stationary, the block to be cut into thin pieces being brought to the cutter in a straight or curved line according to the kind of article to be produced. The block, however, may be stationary and the cutter be brought to it in a straight or curved line and produce the same effect as that produced by the stationary knife. The knife and stock may also be made in a single piece and be secured to a stationary frame, or attached to a movable gate, wheel, or other suitable article. The knife may be also secured to the stock by screws or bolts or by having the edges made dovetailing to fit into corresponding dovetailed grooves in the sides of the recesses. The scalloped knife may also be made in sections as represented at A', A⁴, A⁵ in Fig. 1 which shows a knife composed of three sections, each section being let into its corresponding groove in the stock and secured by screws, bolts, or other suitable means.

What I claim as my invention, and desire to secure by Letters Patent, is—

The particular manner of combining and arranging the peculiarly constructed cutters B, E, and A with the scalloped backed stock as above set forth.

ISAAC CROSSETT.

Witnesses:

J. FRANCIS MAHER,
ALBERT E. H. JOHNSON.