E. Jewett,

Cutting Veneers.

No. 68,203. Patented Aug. 27, 1867.

Fig. 1

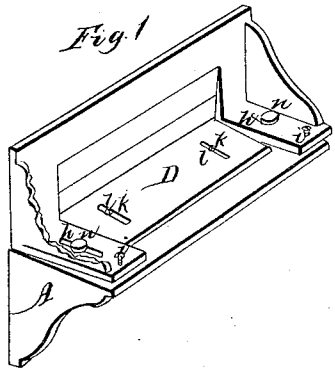


Fig. 2

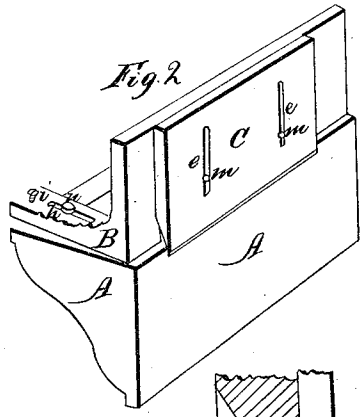


Fig. 3

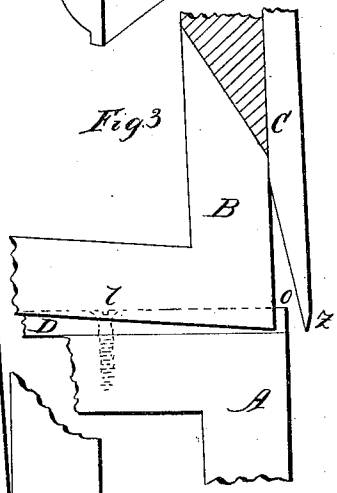


Fig. 4

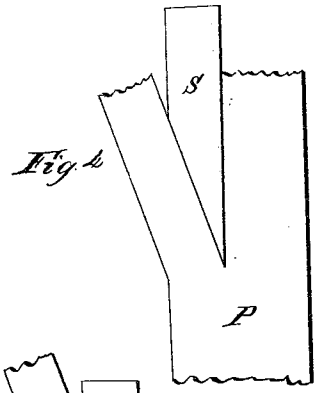


Fig. 5

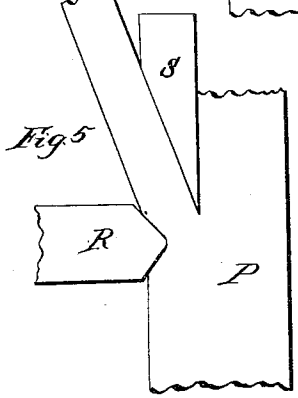
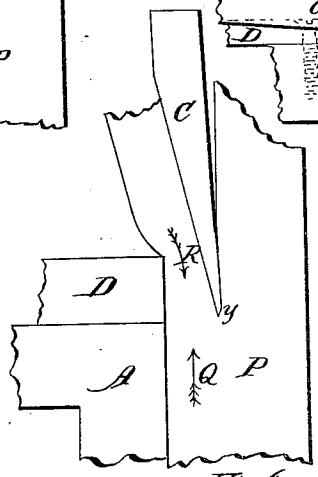


Fig. 6



Witnesses
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AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS)

United States Patent Office.

EDWARD JEWETT, OF RINDGE, NEW HAMPSHIRE.

Letters Patent No. 68,203, *dated August* 27, 1867.

IMPROVEMENT IN VENEER-CUTTERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, EDWARD JEWETT, of Rindge, Cheshire county, State of New Hampshire, have invented new and useful Improvements in Face-Lumber Machines for Cutting Veneers and the like; and I do hereby declare the following to be a full and exact description of the same, reference being had to the drawings that accompany and form a part of these specifications, in which—

Figure 1 is a perspective view from the rear.

Figure 2, perspective view from the front.

Figure 3, sectional view.

Figures 4 and 5, other methods and devices heretofore adopted for doing this work.

Figure 6 shows the operation of my device in cutting veneer.

Letter A, gauge-plate regulating the thickness of the sheet cut; letter B, the frame that supports the cutter; letter C, the cutter; letter D, friction-plate; letters E E, slots in the cutter for the purpose of adjustment; letters *h h*, slots in the cutter-head or frame B, by which the desired distance between the cutting edges of C and the face surface of A is readily established; letters *i i*, screws by which the angle of the plane of the cutter C to the plane or face of the block A may be varied, as desired; letters *k k*, slots in the plate D, which provide for any adjustment required by wear or otherwise; letters *l l*, screws retaining the plate D in position; letters *m m*, bolts for securing the cutter C in position; letters *n n*, bolts to keep in place the cutter-head B; letter P_2 the wood from which sheets are being cut; letter R, a pressure-bar heretofore used by some in work of this kind; letter S, form of knife heretofore in use; letter Z, bevel in the face side of the cutter.

The object of my invention is to provide a machine that will cut wood into sheets of any desired thickness, without injury to the texture by breaking or separating its fibre; and furthermore, to secure for the sheets, at the very time of cutting, a smooth and polished surface.

The means by which I accomplish these very desirable results consist principally in the application of pressure to the sheet edgewise, in the direction in which it is being cut, as also in so shaping and setting the cutter C as to provide a projecting ledge immediately behind the cutting edge on the face or side next to the block. This peculiar structure of the knife aids very materially in separating the fibres without roughening the surface. Indeed, one effect of the bevel Z is to press forward the fibres on the surface on the block, and compress them at and near the cutting edge of the knife C, and in this respect acting to the same end as the edgewise pressure on the sheet being cut. Another effect of this bevel is to rub down and polish the surface beneath it, and in these respects entirely unlike other cutters heretofore used in machines of this kind.

The edgewise pressure upon the sheet being cut is produced by contracting the throat O by means of the plate D, which, by the resistance it offers to the passage of the sheet, produces this edge pressure on it at and near its point of leaving the log or block, and thus prevents expansion, separation, or breakage of the fibre as the sheet bends to the angle of the knife.

It will be readily seen, by reference to fig. 6, that as the block P is held in position by the bed-plate of the machine, the knife C with the friction-plate D, which grasp the sheet between them, produce a compression of the sheet at and near the cutting point Y, in the direction of and between the arrow R representing the direction of the forward thrust of C and D, and the arrow Q representing the direction of the resistance of that part of the sheet which is still unsevered from the block. This compression is what I have called the "edgewise pressure," and is the pressure which prevents the breakage of the fibre, by preventing the extension of the sheet in the direction of the arrows Q and R as it is bent by the action of the knife, it being a well-known fact that while wood, when steamed or otherwise softened, may be compressed to a considerable extent without injury, it cannot be extended to any considerable degree without rupture.

Figs. 4 and 5 represent some of the imperfect methods heretofore in use. Pressure produced, as shown in fig. 5, can only be of use in cutting very thin sheets, where the deflection may be felt at the cutting edge of the knife. The bevel Z, on the face side of the cutting-knife, very much strengthens it, as it can be made much thicker without increasing the bevel on the throat side; and furthermore, it serves to counterbalance the pressure of the compressed sheet on the opposite side. The length of this bevel Z may be varied to suit the thickness

of the strip being cut, or the character or condition of the wood passing under its action, woods wanting in tenacity requiring a longer bevel than others.

To cause the knife to traverse the wood, without varying from the desired direction, the adjusting head-block B is brought into requisition. A close examination of figs. 2 and 3 will show how the knife-blade may be turned to or from the block P, until the force or pressure on the one side of the knife counterbalances that on the other, and the knife traverses properly. In reciprocating motion suitable devices may be used to prevent the friction of the knife on the block during the return stroke.

The gauge-plate A is not an essential part of my machine, for the friction-plate D may be secured directly to the cutter-head B. If preferred, a roller may be used in place of the friction-plate D, to narrow the throat O, and produce the requisite edgewise pressure. The plate D or roller (if roller be used) may be adjusted rigidly in the desired position, or it may be held by a spring of sufficient force to produce the requisite pressure.

Frail woods or the cutting of thick sheets requires greater pressure than tougher woods or thinner sheets. This is provided for by contracting the throat O, more or less. By reference to fig. 3, of the drawings, it will be observed that the throat O is contracted in proportion as the face of the plate D and the opposing surface of the cutter C overlap each other.

The screws *i* and *n* in the cutter-head B, and the slots *h*, with the screws *m* and slots *e*, afford means of adjusting the knife C, not only as to its traversing the wood, but also for adjusting it as to the distance it may overlap the plate D, and thereby, in connection with the adjustment of the plate D, lengthen or shorten, or expand or contract the throat O.

The advantages of my invention are that it will produce sheets of any thickness from any kind of lumber, retaining all the original strength and firmness, and possessed of very fine surface.

My device is equally applicable for dressing or surfacing lumber, when the shaving is not to be used; for instance, planers and machines for similar work.

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

I claim the face-bevelled knife C, when combined with the head-block B, and arranged with relation to the friction-plate D as and for the purposes set forth.

EDWARD JEWETT.

Witnesses:

D. C. COLBY,

C. F. WILSON.