(No Model.) 2 Sheets—Sheet 1.

N. E. RANGER.

VENEER CUTTING MACHINE.

No. 306,643. Patented Oct. 14, 1884.

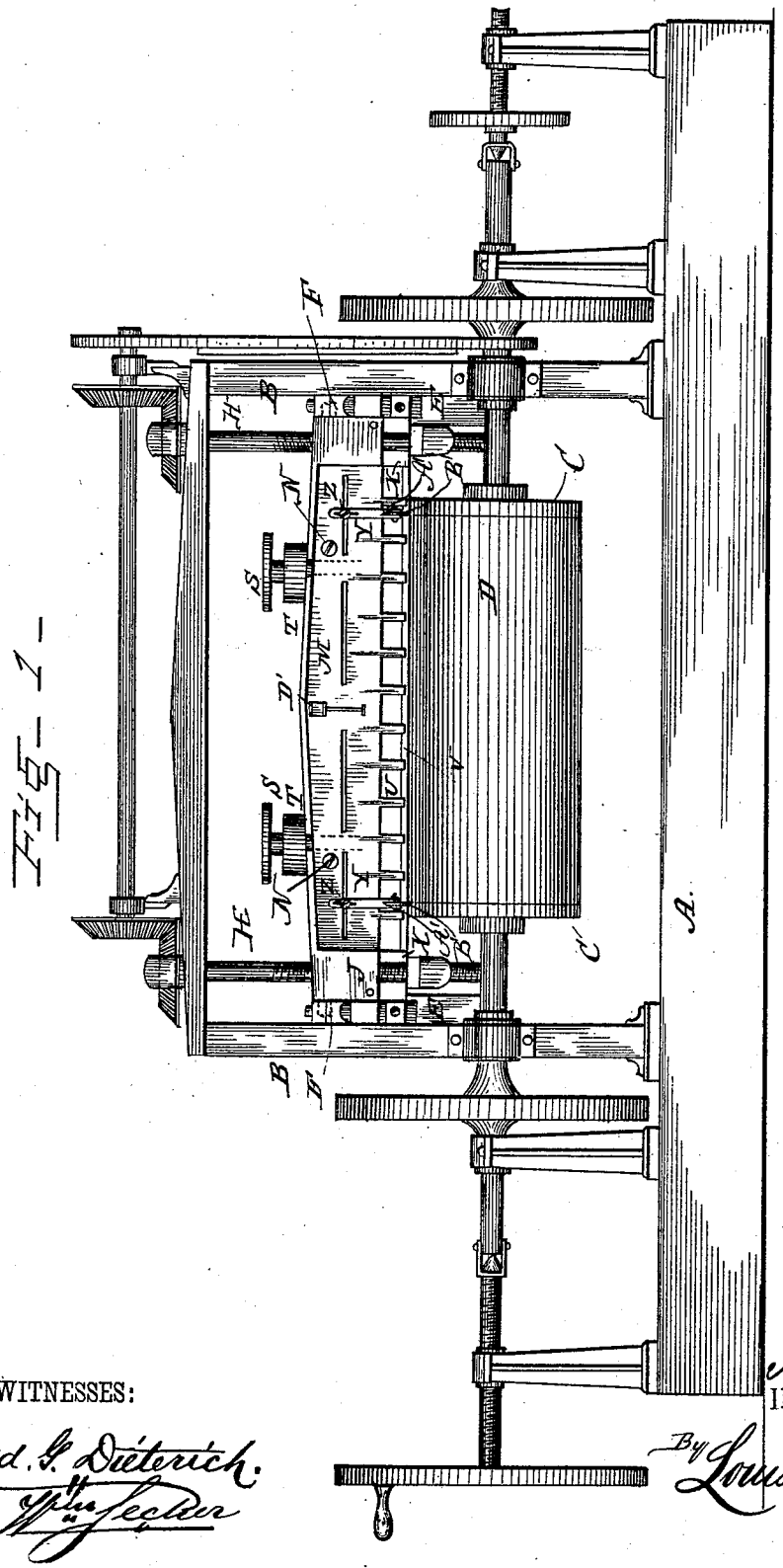

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

N. E. RANGER.

VENEER CUTTING MACHINE.

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Fig. 2.

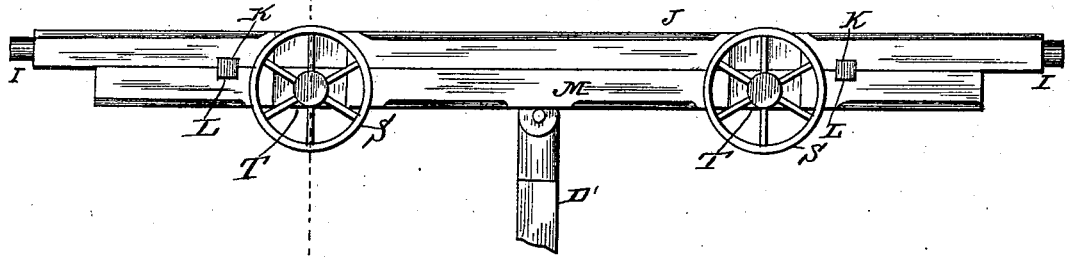


Fig. 3.

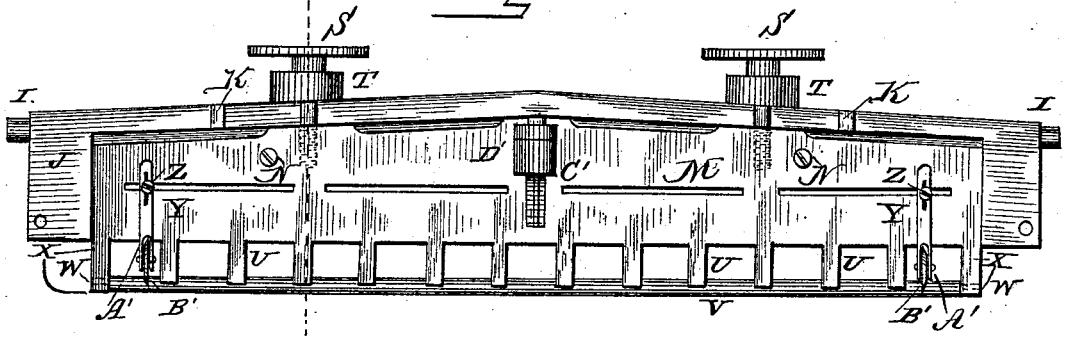
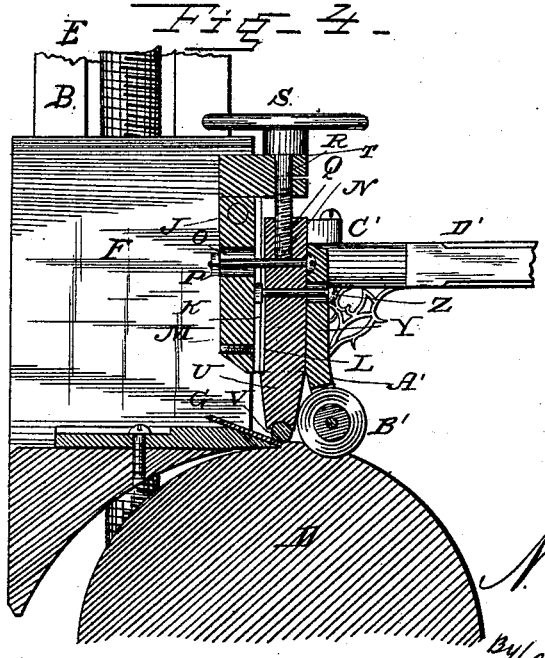


Fig. 4.



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UNITED STATES PATENT OFFICE.

N. EVANDER RANGER, OF WELD, MAINE.

VENEER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 306,643, dated October 14, 1884.

Application filed February 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, N. EVANDER RANGER, a citizen of the United States, and a resident of Weld, in the county of Franklin and State of Maine, have invented certain new and useful Improvements in Veneer-Cutting Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a front view of a machine for cutting veneer, provided with my improvement. Fig. 2 is a top view of the pivoted bar which embraces my improvement. Fig. 3 is a front view of the same; and Fig. 4 is a vertical cross-section of the pivoted bar, the cutter, and a portion of the log or bolt.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of machines for cutting veneer, or for slicing a bolt or log of wood into a continuous sheet, in which the log or bolt is secured between two revolving chucks, while a cutter is brought to bear against the surface of the bolt, cutting or paring a sheet off from the log, and in which a roller bears against the surface of the bolt above the edge of the cutter, preventing the sheet of wood from splitting; and it consists in the improved construction and combination of parts of such a machine in which the roller has a number of concave bearings, and is pivoted in the lower edge of a bar sliding adjustably upon the face of a pivoted bar connected to the cutter, and which is provided with a set of revolving cutters adapted to square or dovetail the sheet of wood at the same time that it is pared off from the bolt or log, as hereinafter more fully described and claimed.

In machines of this kind a difficulty has always existed—viz., the splitting of the sheet of wood as it is sliced or pared from the bolt or log; and to obviate this difficulty rollers have been employed to bear against the outer side of the sheet above the edge of the cutter; but to make the roller strong enough to resist the pressure which it must exercise upon the sheet of wood it has been necessary to make the roller of a considerable diameter, which, again, has interfered with its ability to bear against the sheet immediately above the edge of the cutter, and to bear with a sufficiently small surface to turn the sheet straight outward from the edge of the cutter by compressing the grain of the wood from the outside; and to this effect I construct a roller of a comparatively small diameter, and provide a number of concave bearings, which support or sustain the strain upon the roller across its entire length.

Another drawback in this kind of machinery has been that it has been necessary to either remove the entire roller and its means for adjusting it while the log or bolt is being rounded, or to perform the rounding upon another machine to prevent the roller from coming in contact with knots or rough or uneven points upon the log; and to avoid this I pivot the roller in the lower edge of a bar secured adjustably upon a bar pivoted in the frame upon which the cutter is secured, which bar may be lifted away from the log, out of the way of all unevenness upon the same. Furthermore, I provide a cutter or series of cutters which will cut the ends of the sheet off square, or cut the sheet into smaller sheets, or cut the edges to form dovetails, as desired, at the same time, as the sheet is severed from the log.

In the accompanying drawings, the letter A indicates the bed of the machine, which is provided with an upright frame, B, in which the shafts upon which the chucks C, between which the bolt D is secured, are journaled.

The upright frame forms vertical ways E, in which the bar F, to the forward edge of which the cutter G is secured, slides, which cutter-bearing bar is brought to bear gradually closer to the center of the bolt or log as the cutting progresses by means of screws H, connected to the motive mechanism, or by any other suitable feeding mechanism. All these parts, I wish it understood, may be of any other suitable construction, and I do not desire to make any claims upon any of the mechanisms for rotating the log or bolt or for feeding the cutter.

The ends of the cutter-bearing bar form upright sliding blocks, which form horizontal bearings for the gudgeons I of a flat bar, J, the said gudgeons being near its upper edges,

and the face of this pivoted bar is provided with a number of ribs, K, which fit into vertical grooves L in the rear side of a plate, M, sliding upon the face of the pivoted bar, guided by the ribs. This bar has a number of bolts, N, passing through it into vertical slots O in the pivoted bar, and having nuts P upon their ends, which bear against the edges of the slots at the rear side of the pivoted bar, securing the sliding plate adjustably upon the face of the pivoted bar.

The upper edge of the sliding bar has two, or more or less, screw-threaded bores, Q, into which feed-screws R, having hand-wheels S upon their upper ends, turn, the smooth upper portions of the feed-screws turning in perforated lips T upon the upper edge of the pivoted bar, by means of which feed-screws the sliding bar may be raised or lowered, and the lower edge of the sliding bar forms a number of concave bearings, U, or one continuous bearing, which bear against the periphery of a roller, V, journaled with its reduced ends W in bearings X at the ends of the lower edge of the sliding bar.

Two, or more or less, arms, Y, slide with their upper longitudinally-slotted ends upon set-screws Z, passing into the face of the sliding roller-bearing plate, upon which screws they may be adjusted, and their lower ends form bearings A′, in which cutter-disks B′, having either sharp plain cutting-edges or formed in the shape of revolving dies for cutting dovetails, are journaled, and at the middle of the face of the roller-bearing sliding bar is hinged a bracket, C′, swinging in a horizontal plane, the outer end of which forms a socket, in which a handle, D′, is inserted.

It will thus be seen that in this manner the sliding roller-bearing bar may be adjusted by means of the feed-screws at the upper edge of the pivoted bar, bringing the roller to bear more or less hard against the outer surface of the sheet of wood pared off, according to the thickness of the sheet cut off and according to the nature of the wood cut, and that also the cutting-disks or dovetailing-dies may be adjusted to cut into the wood to any desired depth, the squaring or doveteiling taking place before the sheet is separated from the bolt or log. It will also be seen that the entire pivoted bar, with the roller-bearing bar, may be lifted out forward, out of the way of knots or other unevenness upon the outer side of the log or bolt, while the latter is being rounded preparatory to cutting the sheets or veneers, by simply raising the handle in the hinged socket.

The further operation will be readily understood without further explanation by the foregoing description and the accompanying two sheets of drawings.

As stated in the statement of the invention and in the preliminary description of the invention, I am well aware that it is not broadly new to have a roller bearing against the outer side of the sheet of wood cut off the revolving log or bolt in machines of this class, and I do not therefore wish to claim such construction, broadly; but

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a machine for cutting veneer, of the cutter-bearing bar forming upwardly-projecting blocks having horizontal bearings, the flat bar forming gudgeons at the ends of its upper edge pivoted in the said bearings, the roller-bearing bar sliding adjustably upon the face of the pivoted bar, having a forwardly-projecting handle and forming bearings at the same, and the roller journaled in the lower edge of the roller-bearing bar, as and for the purpose shown and set forth.

2. The combination, in a machine for cutting veneer of the described class, of a cutter-bearing bar forming upwardly-projecting blocks having horizontal bearings, the pivoted bar forming gudgeons at its ends near its upper edge, having vertical ribs, vertical slots, and vertically-perforated lips at its upper edge, the sliding bar having vertical grooves upon its rear side, bolts passing through it and sliding in the slots in the pivoted bar, vertical screw-threaded bores at its upper edge, and concave bearings at its lower edge, and horizontal bearings in the ends of its lower edge, the feed-screws having hand-wheels at their upper ends, the roller journaled in the lower edge of the sliding bar, the handle hinged to swing horizontally upon the face of the sliding bar, the slotted arms sliding vertically upon set-screws upon the face of the sliding bar, and having cutter disks or dies journaled at their lower ends, and the cutter having its edge immediately under the presser-roller, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

N. EVANDER RANGER.

Witnesses:
E. H. RUSSELL,
A. D. RUSSELL.