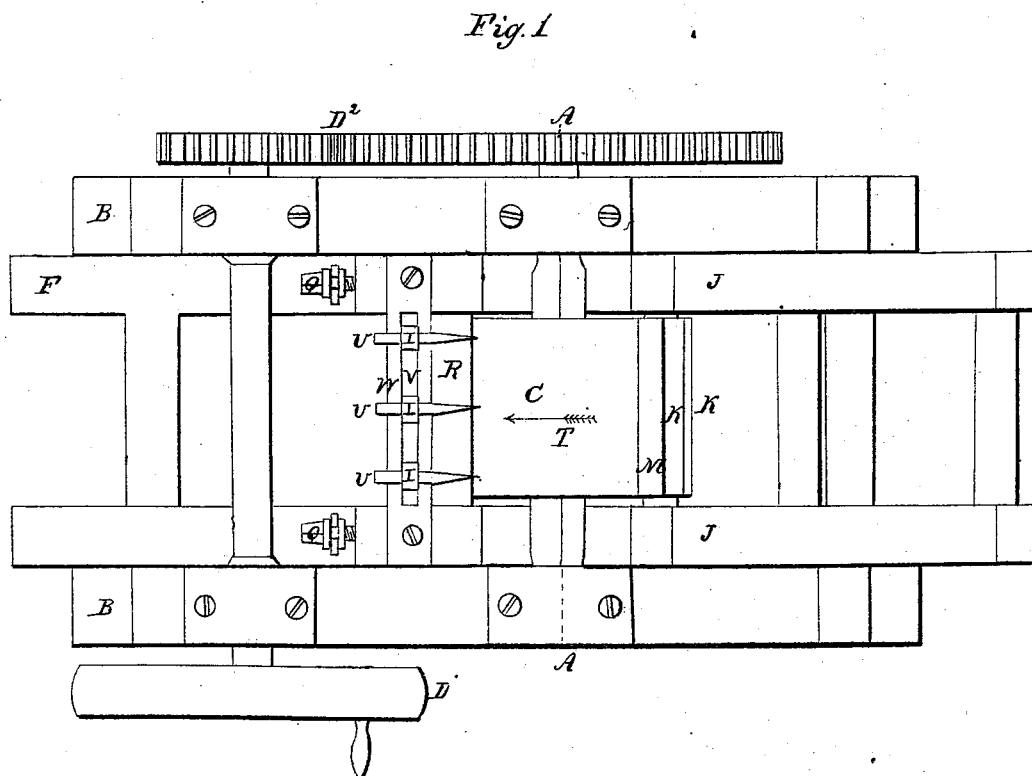
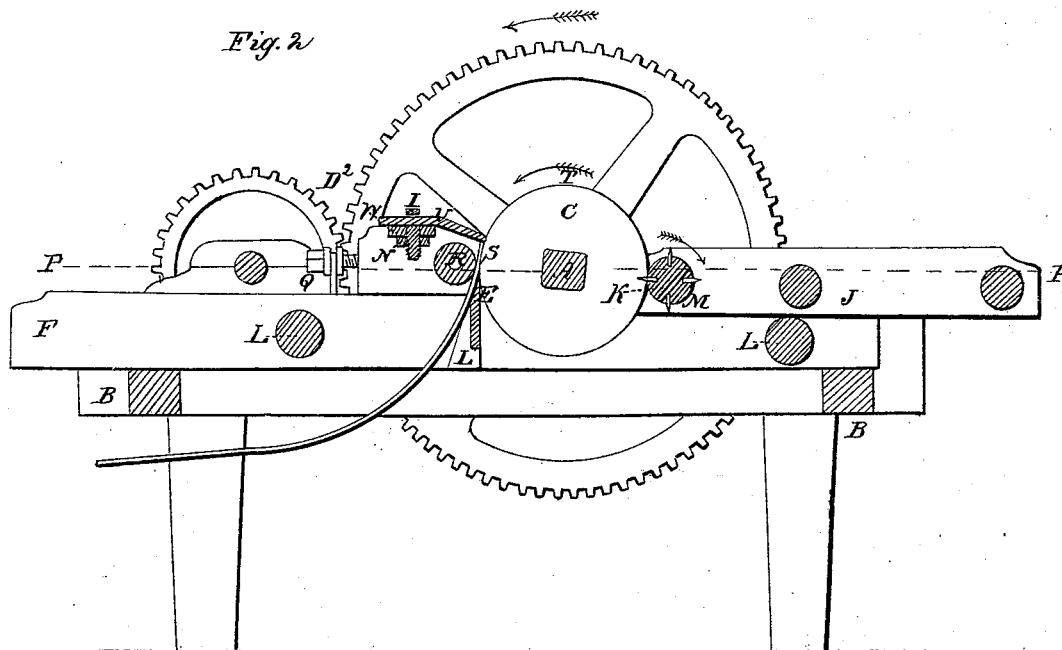


J. Humphrey,
Cutting Veneers,

No 2,834,

Patented Oct. 26, 1842.



UNITED STATES PATENT OFFICE.

JNO. HUMPHREY, OF HARRINGTON TOWNSHIP, BERGEN COUNTY, NEW JERSEY.

MACHINE FOR CUTTING VENEERS AND OTHER THIN PIECES OF WOOD FROM THE CIRCUMFERENCE OF A LOG.

Specification of Letters Patent No. 2,834, dated October 26, 1842.

To all whom it may concern:

Be it known that I, JOHN HUMPHREY, of the township of Harrington, in the county of Bergen and State of New Jersey, have
5 invented a new and useful improvement not before known or used by others on the machine for cutting veneers or other thin sheets of mahogany, rose-wood, curled maple, bird's-eye maple, or any other orna-
10 mental wood, &c., by which such veneers, &c., may be cut in continuous sheets of any desirable lengths and widths of uniform thickness from the surface of a revolving cylindrical block of wood.

15 The method in which it is done is as follows: A cylindrical block of wood to be cut into veneers of the desirable length and diameter termed the "bolt" is firmly fixed in a strong turning lathe either upon a
20 square iron axis passing through the center of the cylinder or any other way sufficiently firm and is put rapidly in motion around its axis by a power proportioned to the size of the block or bolt the hardness of the
25 wood and the thickness of the veneer to be cut. A large strong steel blade longer than the block to be cut and having an eye perfectly straight is firmly fixed in a sliding frame attached to the lathe in such man-
30 ner that the knife may be made to approach and recede from the revolving cylindrical block or bolt fixed in the lathe keeping its straight edge exactly parallel with the axis of the cylindrical block, the sharp edge of
35 the knife to be upward and the back of the knife downward with a slight inclination from the cylindrical block. A roller or straight edge is fixed firmly to the sliding frame parallel to the sharp edge of the knife and is termed the regulator. This
40 regulator is so placed that the part of it which is nearest the cylindrical block is a little farther from the cylindrical block than the sharp edge of the knife and is a
45 little higher than the edge of the knife. The distance between the front edge of the regulator and the edge of the knife determines the thickness of the veneer to be cut and the regulator is attached to the
50 sliding frame in such manner that this distance may be altered at pleasure. When the machine is ready for operation the sliding frame is advanced toward the cylindrical block in the lathe until the edge of
55 the knife is brought in contact with the

surface of the cylindrical block; the block is then put in motion on the lathe, revolving against the edge of the knife. The sliding frame is then pushed forward either by the hand, a weight attached, a screw
60 and rack or other machinery connected with the lathe, so that the knife enters the surface of the cylinder and the front edge of the regulator is kept in contact with the cylindrical block just above the edge of the
65 knife by continuing the motion of the lathe and pushing forward the sliding frame toward the cylindrical block. A thin veneer is cut from the surface of the cylindrical block and passes off between the edge of
70 the knife and regulator in one continuous sheet cut spirally from the surface of the block until it approaches the axis in the center and of a width corresponding with the length of the cylindrical block. This
75 veneer or thin sheet of wood may be cut extremely thin and is solid and firm and can without difficulty be adapted to plain surfaces. It may be cut from wood in its natural state but it is cut much easier and
80 the veneer is much better if the blocks from which it is cut are first well boiled or steamed.

The machine and its operation may be better understood by the drawings annexed
85 and making part of this specification in which—

Figure 1 represents a horizontal view of the machine, and Fig. 2 is a vertical section of the machine and cylindrical block. In
90 these B B is a strong bench or frame in which the lathe and sliding frame are fixed. A is the axis of the lathe; D¹ D² the drum and gearing by which the rotary motion is given; C the cylindrical block
95 from which the veneers are to be cut fixed upon the axis A. F is a frame sliding in grooves in the sides of the bench or frame B B so as to admit of being moved forward toward the cylinder C. H, is the knife
100 fixed in the front of the sliding frame with its sharp edge E E upward and parallel to the axis of the cylindrical block. R is the regulator with its most forward surface a little behind and a little above; E E the
105 edge of the knife. The sliding frame and cylinder are so fixed that the edge of the knife E E advances to the cylinder in a plane P P passing through the axis of the cylinder. Q Q are screws by which the
110

regulator may be moved forward and backward upon the sliding frame so as to vary the distance of the regulator from E E and with it to vary the thickness of the veneer
 5 when the cylinder is put in motion in the direction of the arrow from T to S; the sliding frame F F is advanced in the groove G until the edge of the knife E E is in contact with the surface of the cylinder C at S;
 10 the knife being pushed forward will enter the cylinder gradually until the forward edge of the regulator R is in contact with the surface of the cylinder and being kept in such contact by continued pressure it is
 15 easy to see that the motion of the lathe will cut or turn from the surface of the cylinder a continued sheet of wood which will pass off between the regulator and E and which will be cut spirally from the cylindrical
 20 block until it is entirely cut away; L and L are the cross bars of the sliding frame to the front one of which L the knife E is fixed.

The foregoing description relates to the machine as adapted for cutting veneers or thin sheets of wood in continuous spiral pieces or volutes but in order to adapt the machine for cutting the pieces of wood in parallel strips of given widths and
 30 strengths the following parts must be added: Longitudinal parallel knives U for making parallel incisions in the revolving bolt the width apart of the required strips or veneers to be cut are arranged at the top
 35 of the sliding frame F in separate adjustable stocks I placed in a transverse horizontal mortise V in a cross bar W of the frame F, so that the stocks of said knives can be moved transversely and horizontally
 40 to the right and left in said mortise for the purpose of changing their width apart at pleasure and the knives to move longitudinally in said stocks toward or from the revolving bolt for the purpose of increasing
 45 or diminishing the depth of incision. The adjustable stocks I for holding the parallel knives are made in the form of hooks with shanks having screws cut on them and pro-

jecting down through the mortise in the cross bar on which nuts N are screwed for 50 securing the same to the bar, W, being screwed against the under side thereof. Transverse parallel horizontal revolving knives K for making incisions in the bolt as it revolves at right angles to those made 55 by the knives just mentioned for determining the length of the veneer to be cut are inserted into a roller M parallel with its axis and at equal distances apart projecting beyond the periphery as far as the required depth of incision to be made, which 60 roller is placed in a horizontal sliding carriage J, moved longitudinally in grooves in the main frame toward the revolving bolt by pressure on weight causing said 65 knives to enter their depth into the bolt lengthwise or parallel with its axle in succession as it revolves and to leave the same without danger of breaking as the bolt revolves by being placed in the surface of 70 the roller having a rotary movement in a contrary direction from that of the bolt, which movement causes the bolt to leave the knife after the incision has been made without injury; the carriage J with said revolving 75 roller of knives being caused to advance toward the revolving bolt as it is gradually reduced in diameter by means of weights, springs or the pressure of the operator as aforesaid. 80

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

The arrangement of the parallel longitudinal adjustable knives V for determining the width of the veneers or other thin pieces 85 of wood to be cut and the arrangement of the transverse parallel revolving knives K for determining their lengths in combination with the fixed blade E for cutting the thin piece or pieces of wood or veneers as 90 before described.

JOHN HUMPHREY.

Signed in the presence of—

WILLIAM HENRY HUMPHREY,
 A. O. LABRIZKER.