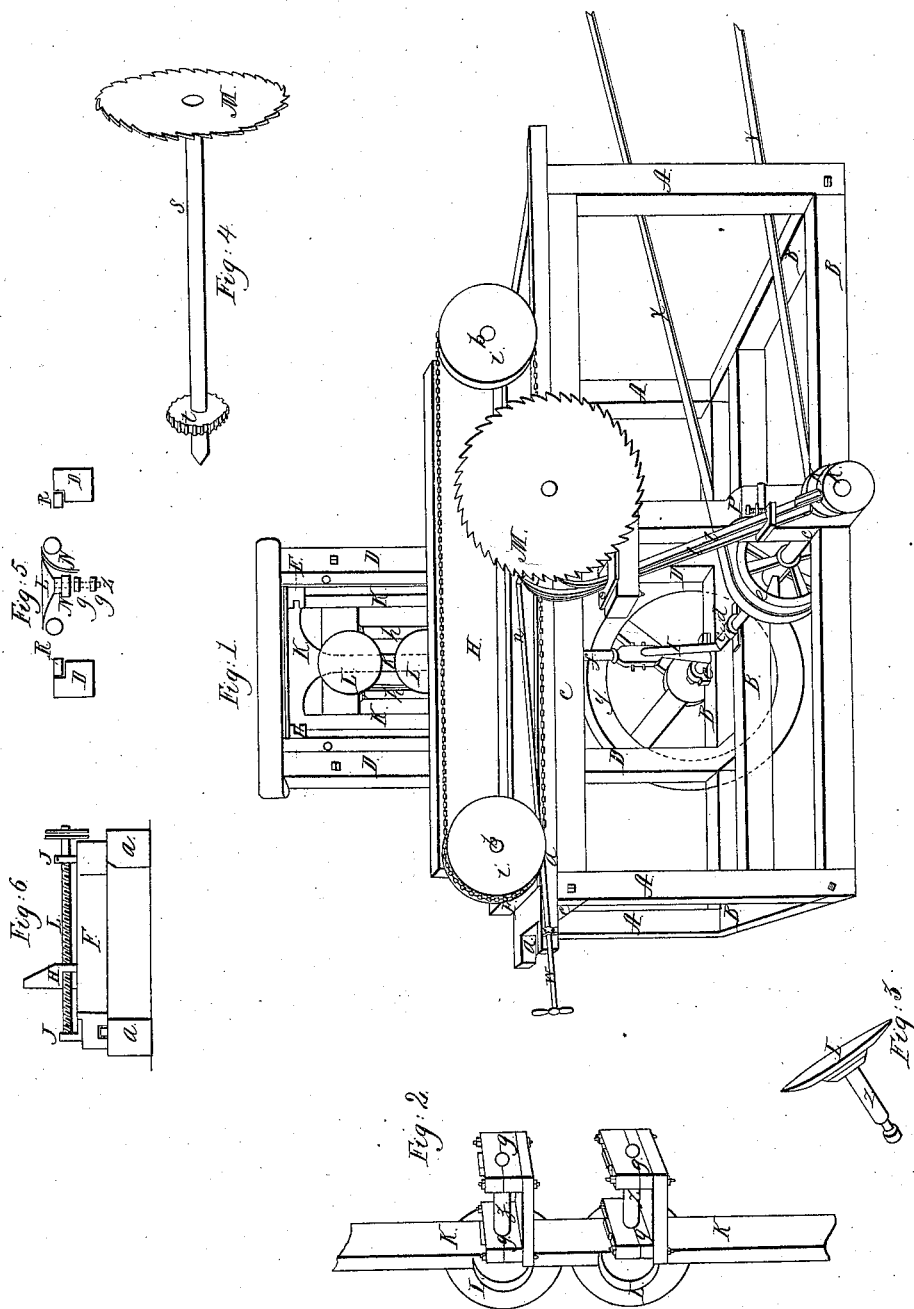


J. Hamilton,
Cutting Veneers,
Patented Nov. 10, 1836.



UNITED STATES PATENT OFFICE.

JAMES HAMILTON, OF NEW YORK, N. Y.

MACHINE FOR CUTTING VENEERS.

Specification of Letters Patent No. 77, dated November 10, 1836.

To all whom it may concern:

Be it known that I, JAMES HAMILTON, of the city, county, and State of New York, have invented and brought into successful operation a new and useful Improvement in the Mode of Cutting Veneers, and that the following is a full and exact description of the construction and operation of my machine, reference being had to the drawings annexed hereto and making part of this specification, wherein—

Figure 1, is an orthographical projection of the front view of said machine, Fig 2 is a back view of the center part of the sliding frame hereinafter described, Fig. 3 is a view of one of the cutting knives hereinafter described, Fig. 4 is a view of the ratchet wheel arbor, and pinion wheel hereinafter described, the same figures and letters of denoting the same parts in all the separate figures.

A, A, A, A, are four standards or posts connected together at the bottom by five pieces B, B, B, B, and at the top in the same manner by the pieces C, C, C, C. Upon C, C, C, C, are fitted two horizontal slide-ways A, A, on which the sliding frame F, traverses having fitted on it the sliding gage piece H, moved by the two screws *b, b*.

D, D, are two vertical standards or fender posts elongated above the slide ways *a, a*, to receive the vertical slideways E, E, attached to the connecting pieces B, B, are boxes C, C, C, which receive the arbor *d*, having on it the live, and dead pulleys *e, e*, to receive a belt X from some first moving power. On said arbor is the crank I, to which is attached the connecting rod or pitman *f* which communicates a reciprocating motion to the sliding frame K, on which are fitted boxes, or bearings *g, g, g, g*, Fig. 2. These carry the arbors *z, z*, of the circular cutting knives L, L, which are formed of steel, having the face turned true, and the back edge beveled to allow of strength, and are placed in an exact line with each other, and near to the adjusting rollers *h, h*, which are advanced toward or receded from the cutters L, L, by means of adjusting screws. On one end of the crank arbor *d* are fitted two circular cams *k, k*, placed eccentrically, and these communicate motion to the sliding feeder bars *l, l*, on the lower ends of which are fitted rollers to prevent friction, and on the upper end of each a jointed pawl *m*, having a spring O, at the back of

them is fitted. These pawls in their upward motion alternately communicate a circular motion to the ratchet wheel M, the face of which is regulated by means of the screws *p, p*, attached to the sliding feeder bars *l, l*, which strike on the top *r*, and these by being raised or lowered make the stroke of the feeders longer or shorter as required. The ratchet wheel M is attached to an arbor S, working in the boxes under the slide frame F, and has a pinion wheel *t*, at the inner end working into a rack attached to and under the sliding frame F.

W, is sliding bar which throws the pawls out of work when required.

Y, is a fly wheel on one end of the arbor *d*.

When it is desired to cut veneers, the workman, having adjusted the machine by measure, places the log to be cut on the horizontal slide bed F, and securing it to the gage piece H, by turning the gage screws *b, b*, the face of the log is compressed between H, and the adjusting rollers *h, h* and communicating by means of the belt X from any first mover a rapid rotary motion to the arbor *d*. The sliding frame K, K, slides up and down with grooves, or guides, in the standards, or fender posts D, D, in the manner of a saw frame, and a saw in a common saw mill. The middle vertical bar only of this sliding frame is seen in Fig. 2, for the purpose of showing the manner in which it sustains the arbors, or spindles of the circular cutters L, L. This middle bar is shown by a dotted line in Fig. 1, being behind the faces of the cutters as there shown.

Fig. 5 is a horizontal section through the feeder posts, the slide frame, one of the circular cutters, the gage rollers, and guides. D, D, are the fender posts, K, K, K, the vertical bars of the slide frame, and L, the circular cutter with its bearing and arbor; the circles *h, h*, are sections of the adjusting rollers, the journals of which work in sliding bearings attached to the cross timbers, which connect the two fender posts, the distance of these behind the face of the cutters determines the thickness of the veneer, which is capable of adjustment by screws, in ways familiar to every competent workman. N, is a curved guide plate between which and the roller *h*, the veneer passes and is conducted off as it is cut by the cutters. This plate extends the whole length of the rollers.

Fig. 6 is an end view of the slidebed and its appendages. *a, a*, are the slideways, F, the slidebed, H, the gage piece which is forced up against the stuff to be cut so as to make it bear against the rollers *h, h*. Each of the gage screws *b, b*, has a pulley *i, i*, on its end seen in Fig. 1, and a band passing around these causes them to operate simultaneously. The gage screws revolve in standards *j, j*. The slide frame K, carrying the circular cutters L, L, on it receives a reciprocating motion from the crank I, by which a rotary alternating motion is given to the cutters when they come in contact with the material to be operated upon at the same time that the ratchet wheel M, propelled by the cams *k, k*, acting on the feeder bars *l, l*, causes the pinion *t*, and rack attached to the slide bed F, and log upon it to approach the circular cutters, and as soon as the end of the log comes in contact with the cutters they give an alternating rolling cut which is continued until the veneer is separated from the log, and as it separates it passes between the adjusting rollers *h, h*, and cutters L, L, and by this means veneers of any thickness can be cut without any loss of wood, as is usual with saws, and the circular edge of the cutter acting on so small a portion of the cut at once cuts the veneer smooth without splitting it, and without being affected in any degree by the grain of the wood. One veneer having been separated, the workman attending draws the pawl stop *w*, and throws the ratchet out of gear, which allows him to draw the sliding bed and log back again to its first position to be operated on

in a familiar manner to that before described until the whole of the log is cut up, the thickness of the veneer being regulated by the distance between the line of the rollers *h, h*, and the face of the cutters L, L.

The frame of the machine must be made stout and well put together so as not to spring or shake in any of its parts.

Two cutters are described in the above specification, but one, or more may be used advantageously, according to the greater or less surface required to the diameter of the log for the cutters to traverse. These cutters with smooth sharp edges are much superior to the fine circular saws which have heretofore been used inasmuch as there is a great saving of material and the veneer is smoother and less power is required to operate the machine. I do not claim as my invention and improvement said cutter or cutters separately and without their connection in said machine or application to the purposes aforesaid nor any other part of said machine separately; but

I do claim as my invention and improvement—

The application of said circular revolving cutters above substantially described for the purposes aforesaid, and in combination with the other parts of said machine used for the purpose of applying the same in manner aforesaid or in any other manner substantially the same.

JAMES HAMILTON.

Witnesses:

W. HAMILTON,
A. I. HAMILTON.