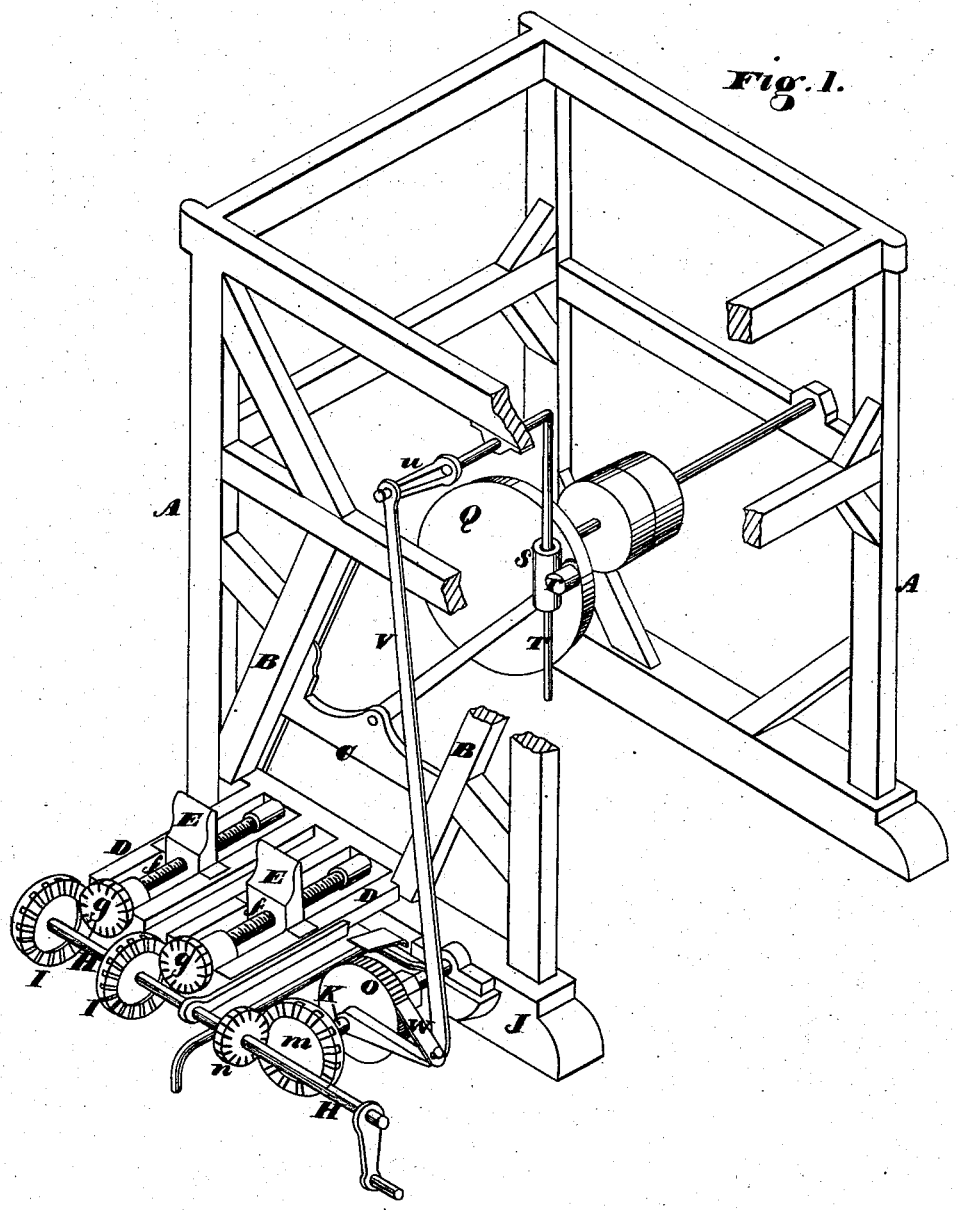
G. W. SWAN.

Veneer-Cutting Machine.

No. 164,699. Patented June 22, 1875.

Fig. 1.



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GEORGE W. SWAN, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN VENEER-CUTTING MACHINES.

Specification forming part of Letters Patent No. **164,699**, dated June 22, 1875; application filed April 27, 1875.

To all whom it may concern:

Be it known that I, GEORGE W. SWAN, of San Francisco city and county, State of California, have invented Improvements in Veneer-Cutting Machines; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art and science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to certain improvements in machines for cutting thin boards or veneers from blocks of wood; and it consists, first, of an improvement in mounting and operating the knife or veneer-cutter; and, secondly, in a device for feeding the block to cutting-knife.

In order to more fully illustrate and describe my invention, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view of my machine.

A is the frame of the machine. B B are the two guide-timbers, which serve to support and guide the cutting-knife C. These timbers I secure at an angle and parallel with each other, the angle preferred being about sixty degrees. The cutting-knife C is secured horizontally between the inclined guides, and is guided at each end in ways on the inside of the guide-timber, so that it may have an angular up-and-down motion, while its cutting-edge always maintains a horizontal position, thus giving a shearing cut across the entire length of the block.

I am aware that the cutting-knife of a veneer-cutting machine has been heretofore mounted at an angle between the two upright guides, so as to give a shearing cut, but the effect is different from the above-described plan, because the angular knife commences cutting at the corner of the block, and cuts diagonally through it, while by my arrangement, it cuts squarely across the block from top to bottom. By my arrangement the power required to force the knife through the block is more uniform, as it cuts the same length throughout its stroke.

To the lower part of the frame A, and in front of the knife C, I secure two or more horizontal pairs of guides, D D, upon a suitable support, J, and between each pair of guides I arrange a slide or dog, E, which can be moved by a screw, *f*, either back or forth, according to the direction in which the screw is turned. These guides are directly in line with the bottom of the gate or frame in which the knife moves, and at right angles to the knife, and the dogs or slides E serve to feed the block of wood to the knife after each stroke.

In order to operate the feeding-screws *f* automatically by the operation of the machine, I secure a pinion, *g*, on the outer end of each screw *f*. I then secure a shaft, H, transversely across the outer ends of the screws, upon which are toothed wheels I I, which engage with the pinions *g* on the ends of the screws *f*. This shaft can be rotated by hand, if desired, by means of a crank at one end, or it can be operated automatically, as hereinafter described.

A shaft, K, is supported in boxes across the end of the support or frame J at right angles to the shaft H, and parallel with the screws. This shaft has a toothed wheel, *m*, secured to its outer end, which engages with a pinion, *n*, on the shaft H. A ratchet-wheel, O, is secured to the middle of this shaft. The knife or cutter C is operated in its slides by a pitman connection with a large crank-wheel, Q, on the drive-shaft above. On the wrist-pin of this crank-wheel I secure a loosely-revolving sleeve, *r*, which has secured to it a short tube, *s*, at right angles to the sleeve. A rod, T, is supported in a box on the under side of the upper timber of the frame, and has its inner end bent at right angles, so as to pass through the tube *s*. To the opposite end of this rod a slotted crank, *u*, is secured. This slotted crank is connected with a pawl-carrier, which has one end attached to the shaft K by a connecting-rod, V, so that when the wheel Q rotates rock-shaft T is given a semi-rotation back and forth, thus causing the crank *u* to operate the pawl-holder. The pawl W engages with the ratchet-wheel each turn the wheel Q rotates, and moves the wheel a certain distance around, thus rotating the shaft H and screws *f*, so as to feed the block forward after each descent of the knife. The upper end of

the connecting-rod V is adjustable back and forth in the slotted crank *u*, so as to regulate the movement of the ratchet-feed, and thus lengthen or shorten the feed of the block for the purpose of obtaining the desired thickness of veneer.

I thus provide a simple device for feeding blocks to veneer-cutting machines, by means of which the thickness of the veneer can be easily gaged, and the operation performed automatically.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The horizontal guides D D, having the slides or dogs E operated by screws *f*, with their pinions *g* and shaft H provided with the toothed wheels I I and pinion *n*, in combination with the shaft K with its ratchet-wheel O, loosely-attached sleeve *r*, with its tube S, rock-shaft T, with its slotted crank *u*, connecting rod V, and pawl-holder W, all combined and arranged to operate as and for the purpose described.

GEORGE W. SWAN.

Witnesses:
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