

D. Donalds,
Cutting Veneers,
N^o 27,893,
Patented Apr. 17, 1860.

Fig. 1.

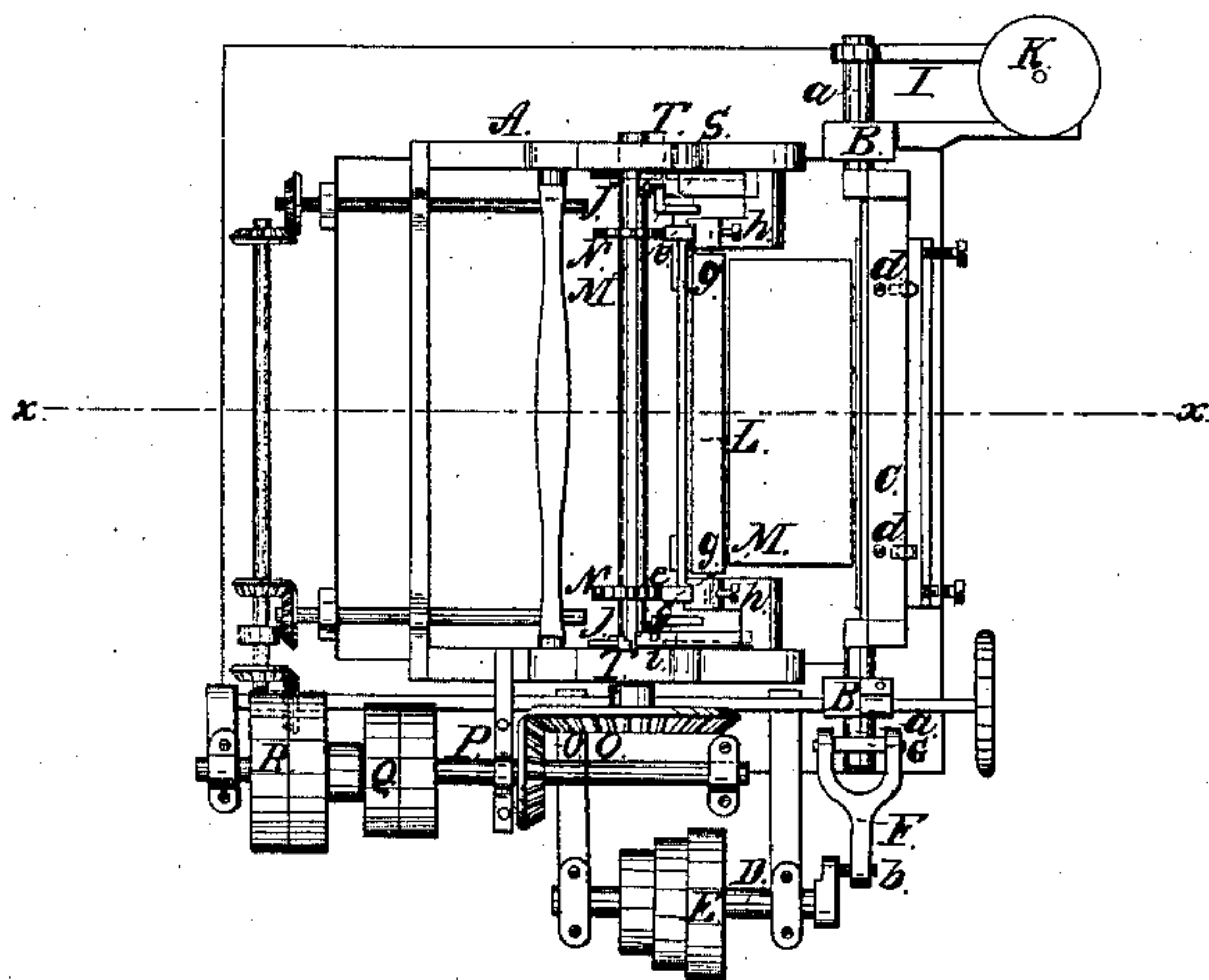
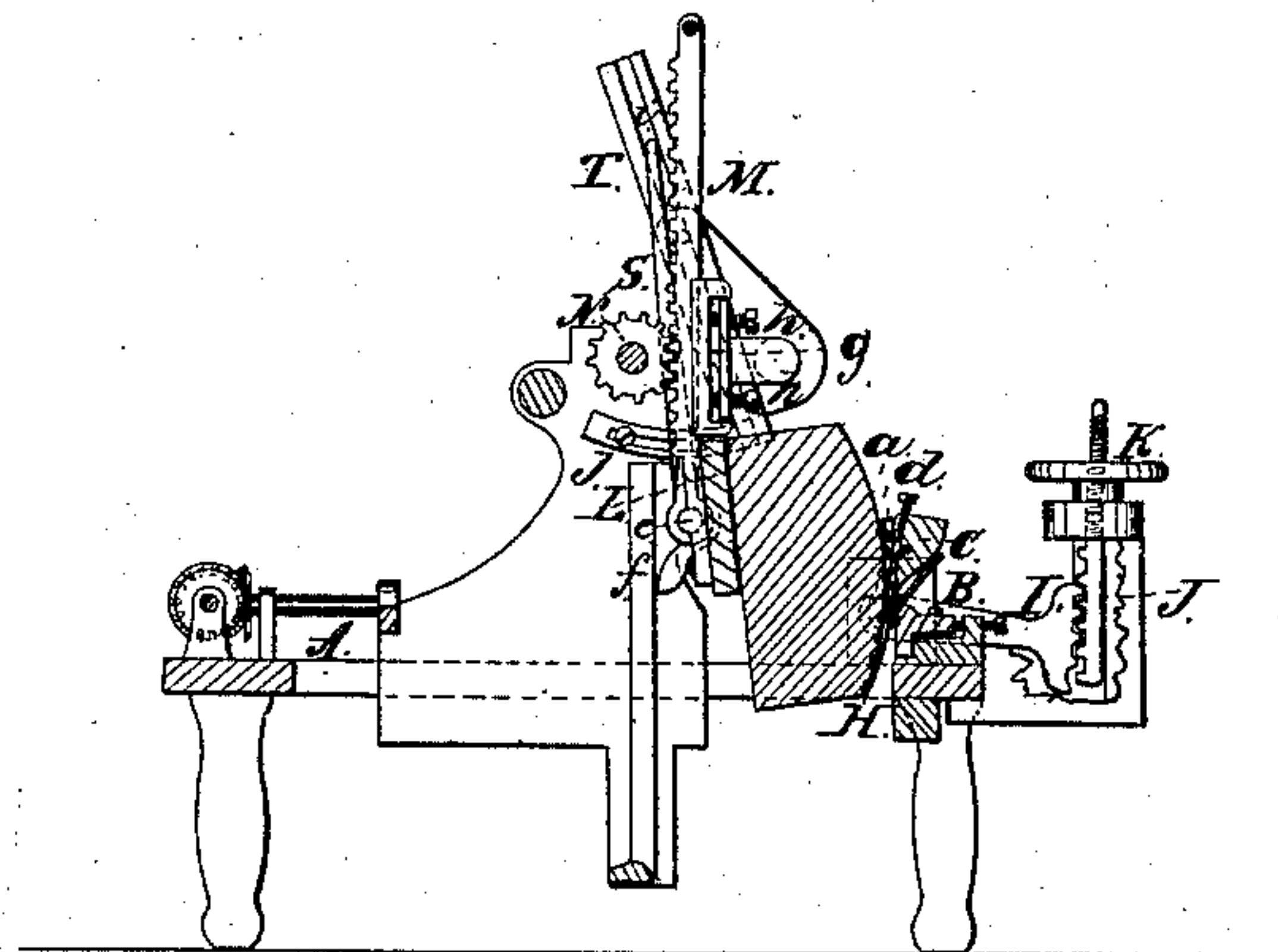


Fig. 2.



Witnesses:
Wm. Thompson
James Johnston

Inventor:
David Donalds

UNITED STATES PATENT OFFICE.

DAVID DONALDS, OF NEW YORK, N. Y.

MACHINE FOR CUTTING VENEERS.

Specification of Letters Patent No. 27,893, dated April 17, 1860.

To all whom it may concern:

Be it known that I, DAVID DONALDS, of No. 14 Cannon street, in the city, county, and State of New York, have invented a new and Improved Machine for Cutting Veneers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 represents a plan or top view of my invention, and Fig. 2 is a longitudinal vertical section of the same, the line *x, x*, Fig. 1 indicating the plane of section.

Similar letters of reference in both views indicate corresponding parts.

This invention consists, 1st, in combining a laterally sliding knife stock, with a toothed segmental arm, and with a sliding rack, on trunnions, in such a manner that the edge of the knife coincides with the center of the trunnions, and that the inclination of the knife can be adjusted at any moment, as well when the same is in operation, as when it is at rest; and it also consists in arranging a reciprocating log carrier, attached to vibrating arms in combination with laterally adjustable guide grooves, in such a manner that a curvilinear motion is imparted to the log carrier, which motion can be adjusted according to the nature of the stuff by means of the guide grooves.

To enable those skilled in the art to make and use my invention I will proceed to describe its operation and construction, with reference to the drawing.

A represents a frame or bed of any suitable material and sufficiently strong to support the whole of my machinery. On one end of the same, and firmly secured to it are the journal boxes B, which form the bearings for the trunnions *a, a'*, that extend on either side from the knife stock C. Said journal boxes are sufficiently far apart to allow a certain side motion to the knife, so as to produce a drawing cut, and the side motion is effected by means of a crank shaft D, to which motion is imparted by a cone pulley E. The wrist pin *b*, of the crank on the end of the shaft D, connects by a rod F, with one of the trunnions *a*, of the knife stock. The connection between the rod F and this trunnion is effected by a universal joint G so that said trunnion is free to turn around without interfering with the side motion of the knife stock. The skive H, is secured to the knife-

stock by means of set screws *c*, and the cutting edge is adjusted higher or lower by means of screws *d*. The other trunnion *a'* bears the toothed segmental arm I, which meshes into a toothed rack J, to which a sliding motion in a vertical direction is imparted by a screw K, and the width of this rack is such that it allows the segmental arm to move in a lateral direction with the knife stock without throwing the teeth of the arm out of gear with the teeth of the rack.

By turning the screw K in one direction or in the other the knife is more or less inclined toward the stuff, and if it is found that during one and the same cut the knife has a tendency to run out or in, it can be set without stopping the machine.

I, is the log carrier which is secured to trunnions *e*, that have their bearings in the lower end of toothed racks M, to which a reciprocating motion is imparted by means of pinions N, and gear wheels O. These gear wheels receive their motion from a shaft P to which two sets of pulleys Q, R, are attached, one to drive the shaft in one and the other to drive it in the opposite direction. The toothed racks M are guided in their up and down motion on one side by slides *f*, that are attached to the ends of the trunnions *e*, and on the other side by gibs *g*, which are adjusted by means of set screws *h*. The log carrier is thus left free to rotate on the trunnions *e*, and a vibrating motion is imparted to the same by means of arms S, the upper ends of which are turned over so as to extend into guide grooves *i*. These guide grooves are formed in bars T, that are adjustable by slotted arcs *j*. If the guide grooves are placed in a vertical direction, it is obvious that the arms S will be guided straight up and down, parallel with the toothed racks M, and the log carrier will move up and down without imparting to the log a curvilinear motion. But if the guide grooves *i* are brought in an inclined position, as shown in Fig. 2, a curvilinear motion is imparted to the log. As the hooked ends of the arms approach the upper ends of the guide grooves, the lower edge of the log will be thrown out toward the knife, and as the hooked ends of the arms S approach the lower end of the guide grooves *i*, the upper edge of the log is turned out toward the knife. The surface of the log after the knife has acted on the same, will therefore present a curve, the larger or small convexity of

which is determined by the greater or smaller inclination of the guide grooves *i*. This feature of my invention is of very great importance, for it is well known to every practical veneer cutter, that different logs do not cut with the same ease, and that for different logs and different kinds of wood, more or less curvilinear motion is desirable.

My log carrier is so arranged that the log can be attached to the same with facility, and it offers a firm bearing for the same, and furthermore, the driving power is communicated to the log in a direct and positive manner, so that the knife acts with increased ease and precision in cutting thin veneers. By having the edge of the knife in the center of the trunnions, the thickness of the veneer is not changed by altering the position of the knife, whereas in other machines with adjustable knife stocks the cutting edge is brought nearer to or farther from the stuff, when more or less inclination is given to the knife and the thickness of the veneer is altered.

Having thus fully described my invention, I do not want to be understood as if I intended to claim broadly the arrangement of

the knife stock, so that it can be set to the desired inclination, neither do I claim hinging the knife stock to the main frame for the purpose of being able to adjust it.

I am also aware that veneer cutters have been heretofore constructed with reciprocating log carriers capable of giving a curvilinear movement to the log; such, however have been arranged, entirely different from mine, and I do not therefore claim broadly to give to the log carrier a curvilinear movement, but

What I claim as new and desire to secure by Letters Patent is—

1. Combining with a laterally sliding knifestock C, a toothed segmental arm I, and a toothed sliding rack J, substantially in the manner and for the purpose described.

2. The arrangement of laterally adjustable guide grooves *i*, and vibrating arms S, in combination with the reciprocating log carrier L, constructed and operating substantially as and for the purpose set forth.

DAVID DONALDS.

Witnesses:

WM. THOMPSON,
M. M. LIVINGSTON.