No. 699,546. Patented May 6, 1902.

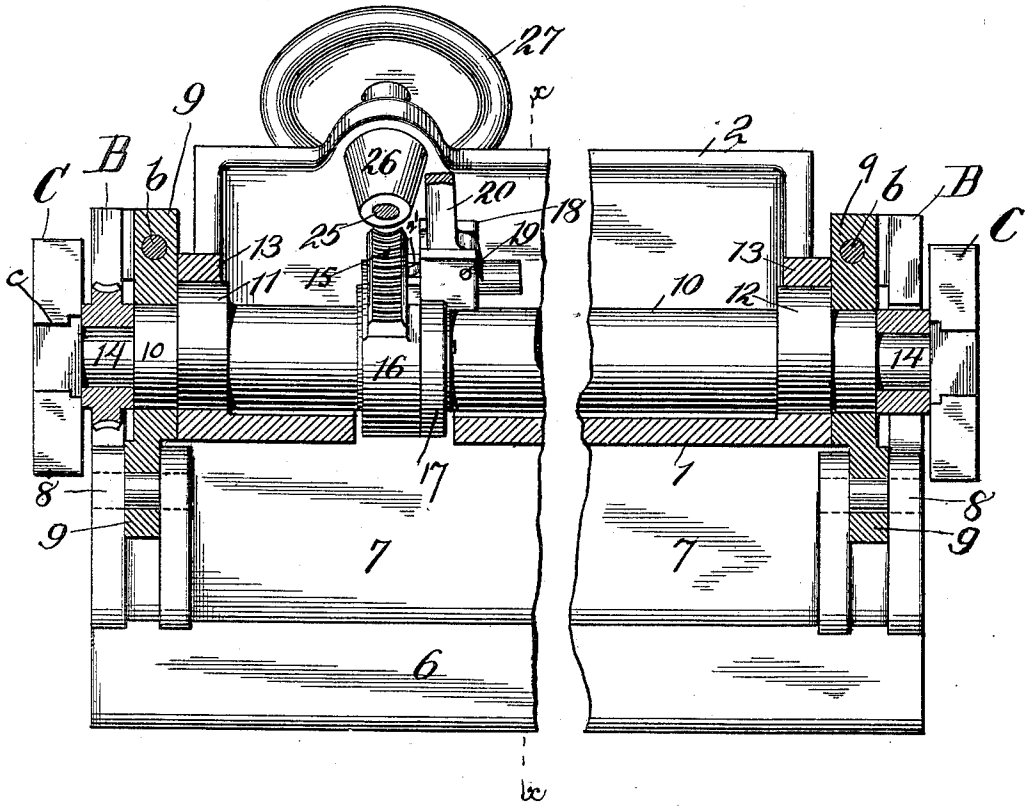
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VENEER CUTTING MACHINE.

(Application filed July 23, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.



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Fig. 2,

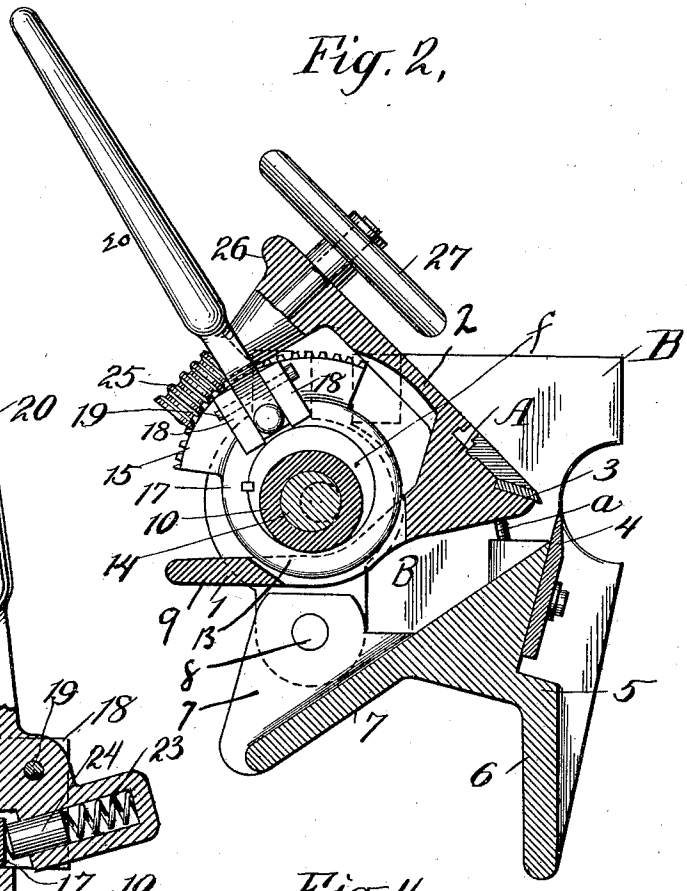


Fig. 3,

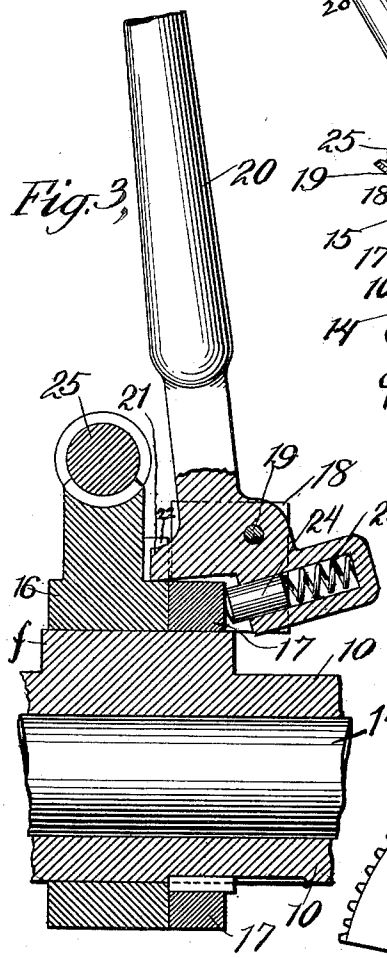
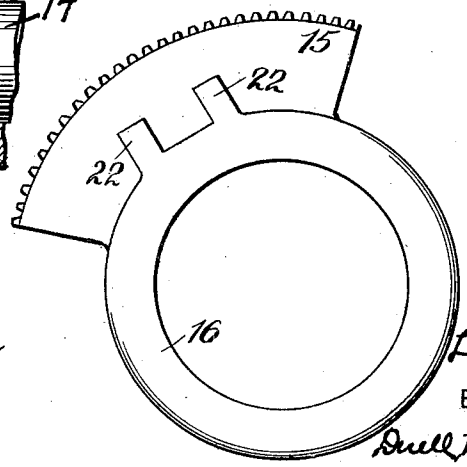


Fig. 4,



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UNITED STATES PATENT OFFICE.

LOUIS G. MERRITT, OF LOCKPORT, NEW YORK.

VENEER-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 699,546, dated May 6, 1902.

Application filed July 23, 1901. Serial No. 69,365. (No model.)

To all whom it may concern:

Be it known that I, LOUIS G. MERRITT, residing at Lockport, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Veneer-Cutting Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a veneer-cutting machine in which the stock from which the veneer is to be cut is rotated or otherwise moved in front of a fixed knife, a pressure-bar being positioned to act in conjunction with such knife in producing the veneer.

The object of my invention is to provide means for controlling the movement of the pressure-bar, whereby it may be moved to and from the work with a comparatively slow and measured adjusting movement or with a rapid clearing movement, and whereby also it may be easily and quickly tilted or swung up away from the knife-carriage, as is desirable at certain times for the purpose of clearing the machine of clogging pieces of wood, slivers, &c., as will be understood by those skilled in this art; and my invention consists, further, in certain features of construction and combinations of elements, as will be hereinafter explained, and the novel features of which will be pointed out in the claims at the end of this specification.

In the drawings, Figure 1 is a rear elevation, partly in section, of so much of a veneer-cutting machine as is necessary in order to illustrate this invention. Fig. 2 is a vertical sectional view taken on the line *x x*, Fig. 1, looking toward the left. Figs. 3 and 4 are detail views, on an enlarged scale, of certain parts which will be described later.

Certain subject-matter shown herein forms the basis of another application filed by me June 13, 1901, Serial No. 64,374, and only so much of the machine will be described in this application as is necessary to give full understanding of the present invention.

Referring now more particularly to Figs. 1 and 2, A represents the main casting or frame for the pressure-bar, substantially triangular in cross-section, having legs or side plates 1 and 2. The pressure-bar proper (indicated at 3) is suitably secured to this main casting A, the front of which is adjustably supported on set-screws *a*, a single one of which is shown in Fig. 2. The knife 4 is supported on the knife-carriage, which is made up, as here shown, of an integral casting having end plates B and a connecting bar or frame 5, which has outwardly-extending plates or legs 6 7 and is pivoted or hinged at 8 to hangers 9. It will be apparent that parts which are for convenience throughout this specification spoken of as "castings" may be formed in separate pieces or in any desired manner. A shaft 10, which has eccentric portions 11 12, passes through sleeves 13 13, formed in the rear of the pressure-bar casting, and thereby furnishes an eccentric support for said pressure-bar casting such that upon rotation of shaft 10 the pressure-bar will be adjusted horizontally—*i. e.*, moved to and from the work in order that the position of the said pressure-bar with reference to the work and to the knife with which it coöperates in the action of the machine may be properly adjusted for purposes well known in the art.

It is only necessary in carrying out my present invention that suitable bearings may be provided for the ends of shaft 10 in the frame-work of the machine or otherwise, as desired. However, in the construction shown herein such shaft 10 is hollow, forming thereby a long hollow sleeve, and through this sleeve or hollow shaft passes a second shaft 14, which has at its ends bearings (shown in dotted lines in Fig. 2) in blocks C, which are adapted to slide in planed ways in the frame-work of the machine. (Not here shown.) The ends of said shaft 10 are journaled in the hangers 9, and both shaft and hangers are supported by the shaft 14, bearing in the blocks C. The hangers 9 have also an adjustable connection with the end plates B of the knife-carriage through adjusting-bolts *b*. Such construction is in accordance with the machine set forth in my previous application with which this improvement is intended to be used and is described only as a single embodiment out of a number which might be used. It is only necessary in carrying out this invention that the shaft 10 have suitable fixed bearings, so that upon rotating such shaft with reference to the pressure-bar casting the eccentric parts which furnish bearings for

such casting may move it forward and back as the shaft is rotated one way or the other, while at the same time the pressure-bar is pivotally supported, so that it may be tilted or swung up when desired. For rotating said shaft 10 I provide a worm-wheel 15, shaped preferably in the form of a segment and carried by a collar 16, which is loose upon eccentric portion *f* of shaft 10. By the side of this collar on the same eccentric portion is a second collar 17, which is keyed fast to the shaft or may be cast integral therewith and which is provided with two ears 18 18. Pivoted at 19, between these ears, is lever 20, the pivot 19 being transverse of the axis of the shaft 10, so that the throw of said lever is parallel with said axis. Lever 20 has a lug or projection 21 at its lower end, which is adapted in one position of the lever to lie between lugs or projections 22 22, carried by collar 16. A coil-spring 23 is seated in a pocket or recess in the lower end of lever 20, as shown, between the end of said pocket and a pin 24, which bears against collar 17, and said spring, as will be readily apparent from the drawings, tends to hold said lever normally in position such that the lug 21 on said lever lies between the lugs 22 22 upon the collar 16, the two collars 16 and 17 being thus locked, so that they will rotate together. Worm 25, engaging worm-wheel 15, is located in a housing 26, connected with the upper leg 2 of the pressure-bar casting and is controlled by hand-wheel 27.

The operation, which will now be readily understood, is as follows: The pressure-bar is moved toward and from the work in a substantially horizontal line by rotation of the shaft 10, of which the eccentric bearing portions 11 support the pressure-bar casting through the sleeves 13 13, shown as integral with said casting. When the lever 20 is in the position shown in Fig. 3, with the lug 21 resting in the notch formed by the lugs 22, the lever and worm-wheel act as one piece keyed fast to the shaft 10, and the position of the pressure-bar can then be adjusted by means of the hand-wheel 27 and worm 25, actuating said worm-wheel. In this way a gradual measured and comparatively slow movement will be given to the pressure-bar and which, as it is produced by the action of a worm and hand wheel, may be regulated within very small limits, as turning the hand-wheel 27 through a fraction of a revolution will only advance or retract the pressure-bar a very slight distance. This movement is desirable in adjusting the position of the pressure-bar with reference to the work and to the knife, which adjustment must be very delicate in order that the best effects may be produced. It will also be apparent that by the use of such a worm-wheel the pressure-bar can be replaced in its correct position, once determined upon, as often as desired by noting the amount of rotation of the hand-wheel, which is necessary in order to bring it to that position from any fixed point, or by a simple and obvious expedient, such as an index and pointer, used in connection with the hand-wheel; but the motion of the pressure-bar obtained in this way is necessarily slow, and there are times when it is desirable that the pressure-bar should be quickly retracted from the work and swung up away from the knife and the work in order to clear the machine of dirt, pieces of wood, &c. If the hand-wheel is used for this purpose, loss of valuable time ensues. Consequently additional advantages of my construction will be apparent from a further description of the operation. By throwing lever 20 to the right, turning it upon its pivot 19 against the pressure of spring 23, the dog 21 will leave its notch and the swinging of said lever will now revolve the shaft 10, throwing the pressure-bar to or from the work with a quick movement, while the worm-wheel, being loose on the shaft, is inoperative. Thus when it is desired to clear out accumulations in front of the pressure-bar the pressure-bar may be thrown back with this rapid movement of clearance or clearing movement and much time saved. In many cases the throwing back of the pressure-bar by lever 20 will be found sufficient to clear the machine of obstructions without any tilting of such bar. Inasmuch, however, as the bar is pivotally mounted on the shaft 10 it is possible, as is apparent from the drawings, by continuing the movement of the lever 20 in its course after it comes in contact with the lower plate or leg 1 of the pressure-bar, to tilt said pressure-bar about the bearings of shaft 10 as points of support and carry its forward end upward and away from the knife and the work. Thus by a single movement of a lever the pressure-bar may be withdrawn from the work a short distance and then tilted, giving free access to the parts beneath. While the lug 21 is in the notch in collar 16, the lever and worm-wheel act as one piece keyed fast to the eccentric, and a downward pull on the lever will then tilt the pressure-bar as the worm 25 locks the shaft to the pressure-bar casting. Thus used the lever 20 takes the place of a tilt-lever, which is connected simply to the lower plate of the pressure-bar casting, as shown in my application above referred to.

It is to be noted that when a proper adjusted position of the pressure-bar is obtained through the adjusting movement obtained by the hand-wheel and worm if the pressure-bar is then retracted and thrown up in order to clean out the machine by the use of the lever 20 it will be returned to exactly the same adjusted position when the lever 20 is brought back in a position such that the lug 21 drops into the notch in collar 16. Thus the operation of the lever does not disarrange the adjustment of pressure.

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

1. In a veneer-cutting machine, a pressure-bar, an immediate support for the pressure-bar, a means for moving the support toward and from the work with a slow and gradual movement and a means for directly moving the immediate support toward and from the work with a comparatively quick clearing movement.

2. In a veneer-cutting machine, a pressure-bar, an immediate support for the pressure-bar, a means for moving the support toward and from the work with a slow and gradual movement and a means for directly moving the immediate support toward and from the work with a comparatively quick clearing movement and along the path in which the support moves when moved by the first stated means.

3. In a veneer-cutting machine, a pressure-bar, a support for the pressure-bar, a means for moving the support toward and from the work with a slow and gradual movement and a means for moving the same support toward and from the work with a comparatively quick clearing movement and along the path in which the support moves when moved by the first stated means.

4. In a veneer-cutting machine, a pressure-bar, means for moving said pressure-bar toward and from the work with a slow and gradual movement and means for moving said pressure-bar toward and from the work with a comparatively quick clearing movement and along the path in which it is moved by the first stated means.

5. In a veneer-cutting machine, a pressure-bar, an eccentric shaft, connections between said shaft and bar whereby the bar is adjusted upon rotation of the shaft, means for giving said shaft a gradual rotation, the limits of which may be positively fixed whereby a definite amount of adjusting movement may be given to the pressure-bar, and means for giving said shaft a quick rotation whereby a rapid movement of clearance may be given to the pressure-bar.

6. In a veneer-cutting machine, a pressure-bar, a shaft upon which said pressure-bar is eccentrically mounted, means for giving said shaft a quick throw to carry said pressure-bar rapidly toward or from the work, and means for giving said shaft a slow, measurable throw whereby the position of said pressure-bar may be accurately adjusted within narrow limits.

7. In a veneer-cutting machine, a pivotally-mounted pressure-bar, and means whereby at one operation said pressure-bar may be retracted from the work and then tilted or rocked about its pivots.

8. In a veneer-cutting machine, a pressure-bar, means for moving said pressure-bar from the work with a comparatively slow and measurable adjusting movement, and a single means whereby said pressure-bar may be moved toward and from the work with a quick clearing movement and then tilted or rocked vertically.

9. In a veneer-cutting machine, a pressure-bar, an eccentric shaft upon which said pressure-bar is pivotally mounted, and means whereby the pressure-bar may be given a rapid movement toward or from the work to an extent depending upon the eccentricity of the shaft and then tilted or rocked on its pivots.

10. In a veneer-cutting machine, a pressure-bar, an eccentric shaft upon which said pressure-bar is pivotally supported, and an operating-lever for said eccentric shaft, said pressure-bar having a part rigid therewith extending into the path of movement of said operating-lever, whereby by a single movement of said lever the pressure-bar may be moved a horizontal distance equal to the full throw of the eccentric shaft and then tilted or swung up about its pivotal support.

11. In a veneer-cutting machine, a pressure-bar, a shaft upon which said pressure-bar is eccentrically mounted, a collar loose upon said shaft, a worm-wheel carried by said collar, a worm adapted to engage said worm-wheel, a collar rigid with said shaft, a lever connected with said second collar whereby said shaft may be rotated, and means for locking said collars together.

12. In a veneer-cutting machine, a pressure-bar, a shaft upon which said pressure-bar is eccentrically mounted, a collar loose upon said shaft, a worm-wheel carried by said collar, a worm engaging said worm-wheel, a second collar rigid with said shaft, a notch or recess in said first collar, a lever mounted upon said second collar so that it will carry such collar with it in its movement transverse of said shaft but free to swing upon said collar parallel to said shaft, and a lug upon said lever adapted to rest in said recess.

13. In a veneer-cutting machine, a pressure-bar frame, a shaft upon which said pressure-bar is eccentrically mounted, a worm-wheel loosely carried by said shaft, a worm for engaging said worm-wheel, a housing for said worm carried by said pressure-bar frame, a recess in the side of said worm-wheel, a collar keyed to said shaft, a lever pivoted to said collar and having a projection therefrom adapted to rest normally in said recess so that the rotation of said worm-wheel normally carries with it the shaft, but upon disengaging the lever and worm-wheel the shaft may be revolved freely within said worm-wheel by movement of the lever.

14. In a veneer-cutting machine, in combination, the pressure-bar casting A, the eccentric shaft 10 supporting said pressure-bar casting, the collar 16 loose upon said shaft carrying the worm-wheel 15, the worm 25 housed in said pressure-bar casting, the collar 17 keyed to said shaft, and the spring-pressed lever 20 pivoted to said collar 17 and adapted in one position to lock said collars together.

15. In a veneer-cutting machine, in combination, a pressure-bar casting, an eccentric shaft upon which said pressure-bar casting is pivotally supported, a worm-wheel loose upon said shaft, a collar adjacent to said worm-wheel keyed to said shaft, a recess in said worm-wheel, projecting lugs upon said collar, a lever pivoted between said lugs to swing toward and from said worm-wheel and having a projection thereon adapted to rest in the recess in said worm-wheel.

16. In a veneer-cutting machine, a pressure-bar casting or frame, a shaft upon which said casting is eccentrically mounted, a collar loose upon said shaft, a worm-wheel carried by said collar, a worm housed in said pressure-bar casting and engaging said worm-wheel, a collar rigid with said shaft, a lever connected with said second collar whereby said shaft may be rotated, and means for locking said collars together.

17. In a veneer-cutting machine, a pressure-bar, means for moving said pressure-bar toward or from the work with a comparatively slow and measurable adjusting movement, means for moving said pressure-bar toward or from the work with a comparatively quick clearing movement, and a single operating-lever by the movement of which said first-mentioned means may be disconnected from the pressure-bar and said second-mentioned means actuated.

18. In a veneer-cutting machine, a pressure-bar, means for moving said pressure-bar toward or from the work with a comparatively slow and measurable adjusting movement, and a single means whereby said first-mentioned means may be disconnected from the pressure-bar and the pressure-bar moved toward or from the work with a comparatively quick clearing movement.

19. In a veneer-cutting machine, a pressure-bar mounted for movement toward or from the work, a shaft in operative connection to the pressure-bar whereby the pressure-bar is so moved, means acting upon said shaft for moving said pressure-bar with a measurable adjusting movement, and means acting upon said shaft for moving said pressure-bar with a quick clearing movement.

In testimony whereof I affix my signature in the presence of two witnesses.

LOUIS G. MERRITT.

Witnesses:

JAMES ATWATER,

H. C. WHITE.