

J. E. ELWING.
 CUTTING GAGE FOR VENEER CLIPPERS.
 APPLICATION FILED FEB. 26, 1914.

1,127,975.

Patented Feb. 9, 1915.

3 SHEETS—SHEET 1.

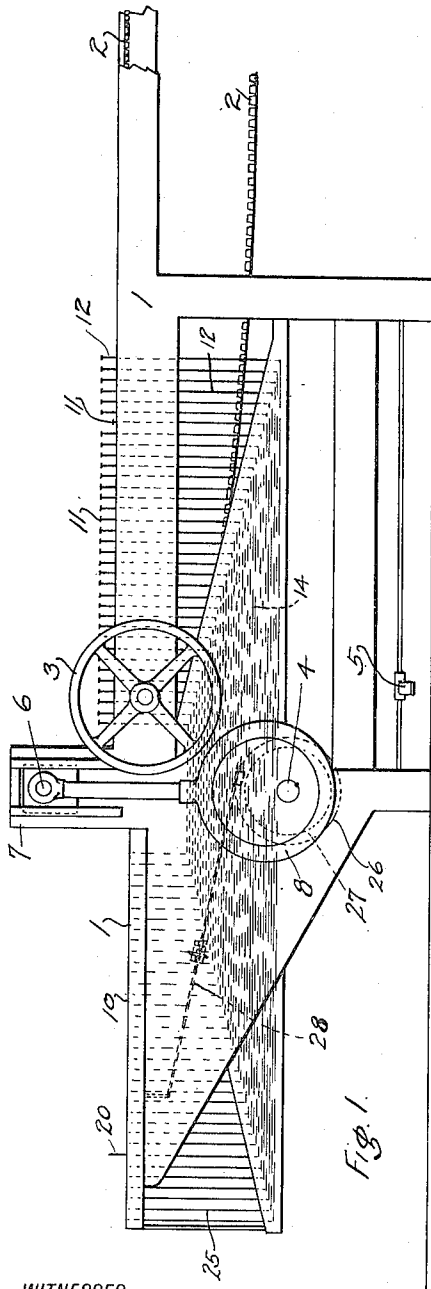


Fig. 1.

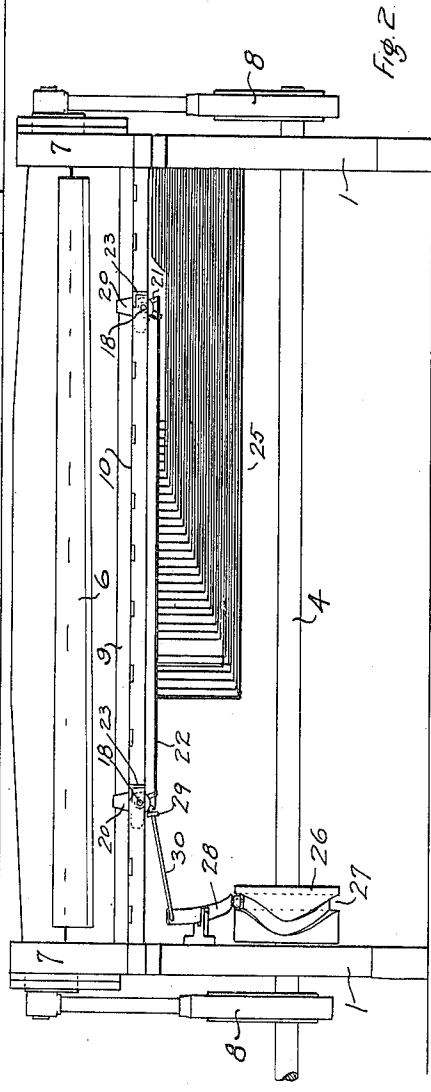


Fig. 2.

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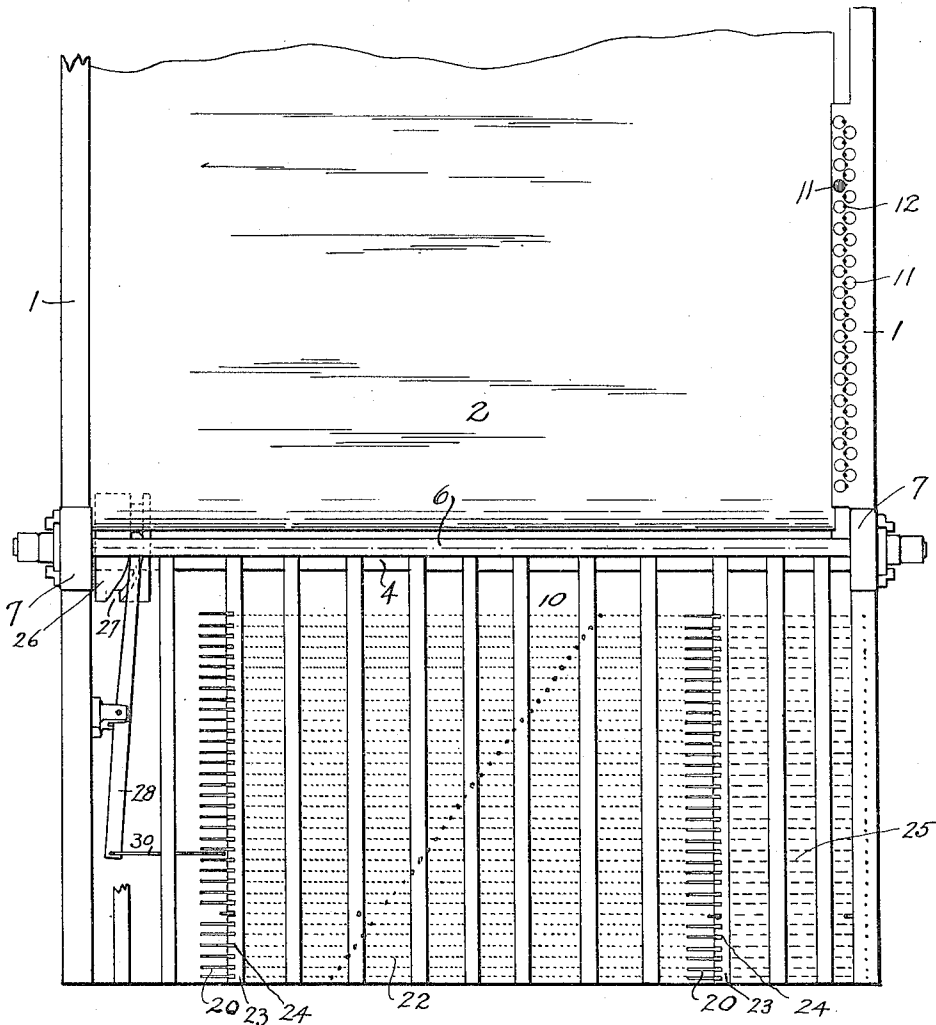


Fig. 3.

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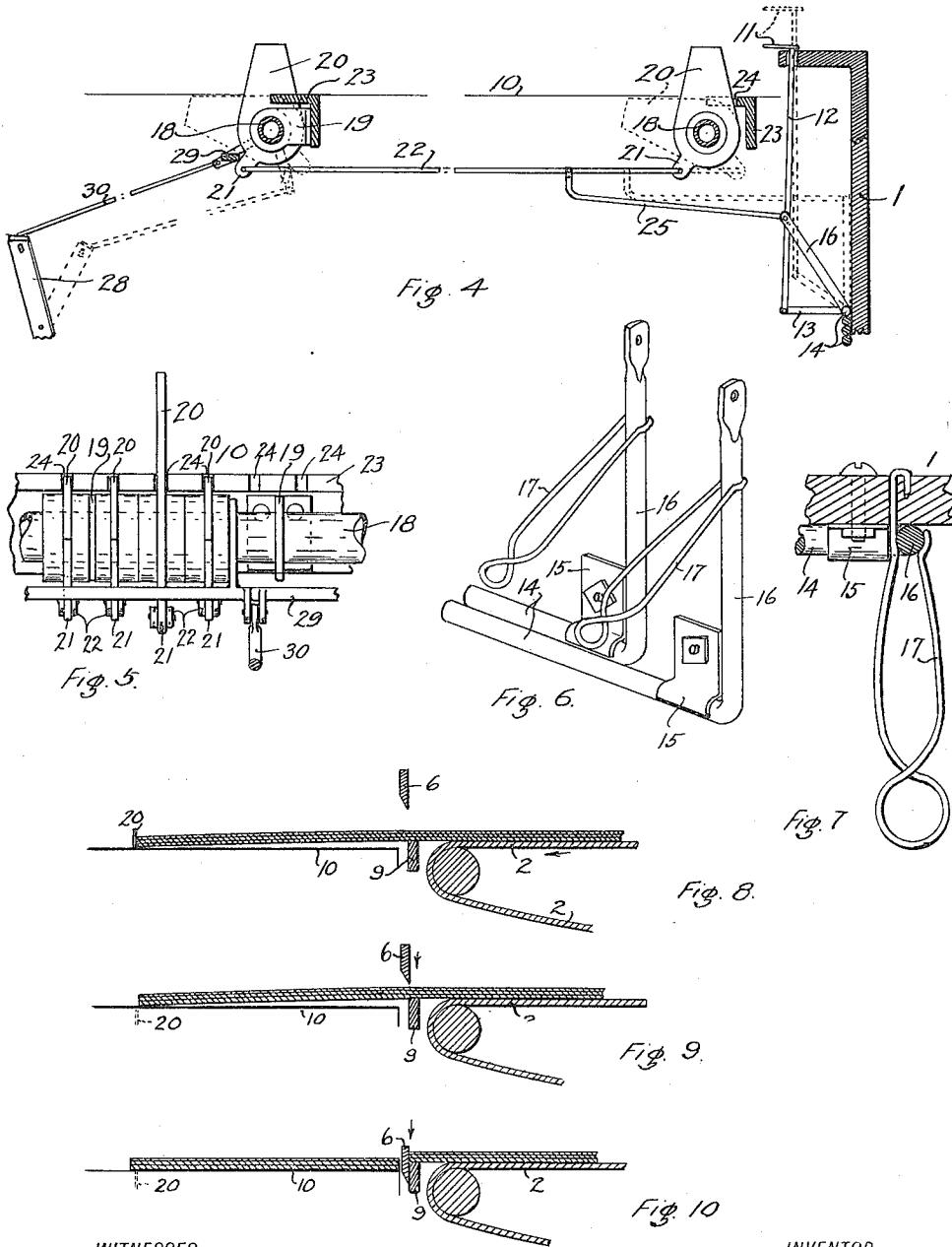
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CUTTING-GAGE FOR VENEER-CLIPPERS.

1,127,975.

Specification of Letters Patent.

Patented Feb. 9, 1915.

Application filed February 26, 1914. Serial No. 821,112.

To all whom it may concern:

Be it known that I, JOHN E. ELWING, a citizen of the United States, and a resident of McCleary, in the county of Chehalis, State of Washington, have invented certain new and useful Improvements in Cutting-Gages for Veneer-Clippers, of which the following is a specification.

This invention relates to devices whereby a continuous sheet of veneer can be cut transversely into sheets of as great dimensions as the imperfections of the continuous sheet will allow, or into any desired lengths.

The invention does not relate primarily to the mechanism for cutting the said sheet, but rather to the means for determining how long a sheet may be cut at the next motion of the cutting means, and for stopping the said sheet when it has passed under the cutter the said predetermined distance.

Further objects are to automatically remove said stop before the cutter engages the veneer thereby allowing the free end of the veneer to give way under the wedge-like action of the cutter; and means for holding the stops out of action when they are not in use.

I attain these and other objects by the devices, mechanisms and arrangements illustrated in the accompanying drawings, in which—

Figures 1, 2 and 3 are, respectively, a side elevation, rear elevation, and plan of a veneer clipper equipped with my cutting gage mechanism; Fig. 4 is a cross-section of a portion of the machine showing a pair of gage-stops raised into operative position, together with the mechanism for raising said stops, and showing in dotted lines the positions of the parts when the said stops are lowered into inoperative position; Fig. 5 is a side elevation of a part of the shaft holding a number of such gage-stops, showing one stop in operative position and showing the means for supporting the shaft and for hanging the return bar therefrom; Fig. 6 is a perspective view of two of the vertical levers which operate the stops, showing the spring means whereby they are retained in inoperative vertical position when they are not actuated, and showing the means for holding them in position on the frame; Fig. 7 is a plan of said spring holding means; and Figs. 8, 9 and 10 are sections showing, respectively, a strip of veneer being fed under the cutter and against a

stop, the stop removed and the cutter descending into contact with the veneer, and the veneer cut through.

Similar numerals of reference refer to similar parts throughout the several views.

This mechanism is mounted on a table veneer clipper of any desired construction, which may consist of a frame 1, in which a traveling belt or conveyer 2 is suitably mounted, said conveyer being under control so that the feed thereof can be stopped at any time (not shown) and also having a hand operating wheel 3 by means of which the veneer can be brought to the exact position desired. A shaft 4 is also mounted across the frame, below the table, and it is controlled by the foot lever 5 so that it can be stopped at any moment. A clipper knife 6 extends across the frame, above the table, at a point just beyond the conveyer 2 and travels vertically in girders 7, being actuated by eccentrics 8 on the shaft 4. A cutter bar 9 is mounted below the path of the veneer and immediately adjacent to the front or cutting surface of the knife 6, said cutting bar coacting with the movable knife to clip the veneer. The portion 10 of the table beyond the knife 6 is slightly lower than the conveyer 2 and consists of a number of parallel slats, arranged longitudinally of the machine, on which the veneer is received while it is being cut. The foregoing is a brief description of the mechanism of a table veneer clipper as now in common use and to which my gaging means is attached.

Veneer is now usually made by turning a log in a veneer lathe and taking therefrom a continuous sheet of veneer. This sheet will have, at periodical points, flaws in its surface, such as knots or other imperfections which, when the veneer is made up for use, have to be eliminated. At present the conveyer belt 2 is actuated by power until the flaw is near the knife 6 then it is stopped and the hand wheel is turned to bring the veneer to the proper place for a cut. This takes time, if carefully carried out, and the chief object of my invention is to save the time now wasted, without wasting any more material than is now done under the best possible operation of such a machine. When the veneer is being cut, the uncut portion lies in close contact with the face of the knife and extends therefrom toward the lathe, being supported by the con-

veyer. At this moment the operator can see where he desires the next cut to be made; he can measure the distance from the knife to such point or he can estimate the distance he is to allow the belt to be moved to bring the desired point under the knife.

With my apparatus the operator need only glance at the veneer and press the button in line with the point in the veneer where he desires the next cut to be made, and the stops against which the veneer may be fed, which are located at the required distance on the other side of the knife, will be elevated into position so that the veneer can be fed against the stop by the moving belt. If the belt is stopped too soon the operator will turn the hand wheel until the veneer touches the said stops without having to watch the exact point where the cut is to be made and thus he saves much time and material. The apparatus by which this is attained, consists of any desired number of similar devices, mounted at varying distances from the knife, and a returning mechanism acting on all said devices whereby the one in operative position is returned to its normal inoperative position before the knife has engaged the veneer to cut it.

Referring particularly to Figs. 1, 3 and 4, it will be noted that a series of buttons 11, which may have numbers or other identifying means on their upper surface, are mounted on vertical push rods 12 along the side of the machine. The push rods 12 pass through holes in the frame 1 of the machine and their lower ends are mounted on and supported by the lever arms 13. The lever arms 13 extend in a normally inclined line from the side of the frame in such position that when the corresponding button is depressed the lever arm is turned into a substantially horizontal position. The rods 12 are pivoted to the ends of the arms 13. Each lever arm 13 is formed on the end of a rod or shaft 14 secured, one above the other, to the side of the frame 1, each shaft being preferably bent at the end to form the said lever arms. The shafts 14 are of varying lengths, the upper ones being the shortest, and are secured to the frame by means of bent clips 15 partially encircling the shaft at its ends and being secured to the frame at a point above the shaft (Fig. 6). The other, or rear end of the shaft is provided with a similar bend forming the lever 16 which is normally vertical but which is turned into an inclined position when the button 11 is depressed. A spring holder 17 is mounted adjacent each such lever 16 and is adapted to hold it in vertical position until its button is depressed.

Two shafts 18 are mounted below the portion 10 of the table, said shafts being parallel and extending longitudinally of the table. The shafts 18 are supported at vari-

ous intervals by means of hangers 19 secured to the table. Each shaft 18 supports a plurality of independent stops 20 each of which is free to turn on the shaft. The stops 20 are preferably uniformly spaced being separated on the shaft by suitable washers or flanges. The pairs of stops 20 on the two shafts are arranged in line with each other, being equidistant from the cutting edge of the knife. Each stop has a lug 21 extending from its lower edge. The lugs 21 of the stops forming a pair, are connected by means of the connecting rod 22 (Fig. 4) so that the two stops will move equally and simultaneously on their respective shafts. The form of each stop 20 is such that when they are in their normal position they are wholly removed from the plane of the table 10, but when they are turned on their shafts they project above the level of said table and are adapted to be engaged by the veneer being fed under the knife. The bars 23 which form part of the table 10 immediately above the stops, are slotted along one edge as at 24 so as to receive the said stops when they are turned upward, thus holding the stops firmly against any bending action due to the pressure of the veneer thereon. The connecting rods 22 are each connected by means of push rods 25 with the upper end of the corresponding lever 16 and the parts are so positioned and proportioned that when the button 11 is raised the corresponding stops are lowered out of action but as soon as the button is depressed they are raised to extend above the surface of the table. The distance from the cutting edge of the knife to any button is equal to the distance from the cutting edge of the knife to the corresponding stops. Thus when it is seen that a certain button is in line with the place where a cut is to be made and that button is depressed, the stops against which the veneer may now be fed will stop the veneer when that point comes under the cutting edge of the knife.

Now, it is evident that if the veneer is placed against the stops and the knife forced down through it, that the veneer will be wedged between the knife and the stops and it would be broken or spoiled or would probably have to be chopped out, hence it is very necessary that the stops be removed from their position before the knife has engaged the veneer. This is accomplished by the mechanism illustrated in Figs. 1-5. A wheel 26 is mounted on the shaft 4, which operates the knife, and a cam-slot 27 is formed in its periphery. A lever 28 engages the slot 27 and is pivoted to the frame 1. The lever operates a bar 29, hung from the shaft 18, by means of a connecting rod 30. The bar 29 extends parallel with the shaft 18, and is positioned immediately adjacent to all the lugs 21 of the stops on said

shaft, so that when the bar 29 is moved by the slot 27 it will engage any of the said lugs 21 which have been displaced from their normal position and will return it to its said normal position. The characteristic of the said cam-slot 27 is such that the bar 29 is moved to return the stop 20 as the knife descends and then promptly returns to its normal position in which it remains until the knife again descends. Thus the bar 29 is removed out of the way of said lugs 21 when the knife is raised sufficiently to pass veneer under it, allowing any desired stops to be raised by pressing the corresponding button as above described.

Having described my invention, what I claim is—

1. In a machine of the class described, the combination with a veneer clipping machine comprising a veneer feeding means, a transversely mounted vertically reciprocating knife; of a plurality of operating means spaced at varying distances from the front of the knife and arranged along the veneer feeding means; a plurality of pairs of veneer stops spaced at varying distances on the rear of the knife, each such pair corresponding with one of said operating means and being equidistant from the knife therewith, said stops being normally removed from the path of the veneer but being extended into the said path when said operating means is actuated; and a plurality of transmitting means each connecting one of said operating means with the corresponding pair of veneer stops, whereby when the operating means is actuated the said stops will be brought into position to be engaged by the veneer.

2. In a machine of the class described, the combination with a veneer clipping machine comprising a veneer feeding means, a transversely mounted vertically reciprocating knife, and a rotating means for operating said knife; of a plurality of operating means spaced at varying distances from the front of the knife and arranged along the veneer feeding means; a plurality of pairs of veneer stops spaced at varying distances on the rear of the knife, each such pair cor-

responding with one of said operating means and being equidistant from the knife therewith, said stops being normally removed from the path of the veneer but being extended into the said path when said operating means is actuated; a plurality of transmitting means each connecting one of said operating means with the corresponding pair of veneer stops, whereby when the operating means is actuated the said stops will be brought into position to be engaged by the veneer; and means actuated by said rotating knife-operating means and engaging any of said stops when in its operating position whereby, when the knife descends to cut the veneer engaging the stops, said stops will be withdrawn into their inoperative position and the stop-operating means returned to its first position.

3. In a machine of the class described, the combination with a frame; of a rotating shaft mounted therein; a vertically movable knife mounted in said frame and actuated by said shaft to cut the veneer thereunder; a vertically movable button mounted on the frame to one side of the knife; a stop mounted on the frame at an equal distance on the other side of the knife, said stop being adapted to be moved into or withdrawn from the plane of the upper surface of the frame; a connecting mechanism joining said button with said stop whereby, when the button is depressed, said stop is moved into the said plane and when the stop is withdrawn from the plane the button is returned to its first position; a swinging bar mounted on the frame adjacent said stop and adapted to engage and withdraw it when the bar is actuated; a wheel mounted on the rotating shaft and having a cam formed thereon; a lever pivoted to the frame and connected to said bar and engaging said cam whereby the position of the bar is controlled by said cam, the characteristic of said cam being such as to actuate the bar to withdraw the stop when the knife descends to engage the veneer.

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