Sept. 15, 1959 E. W. KNOKEY 2,904,111

CLIPPER AND CONTROL THEREFOR INCLUDING A DISC TYPE SELECTOR MEANS

Filed June 4, 1956 3 Sheets-Sheet 1

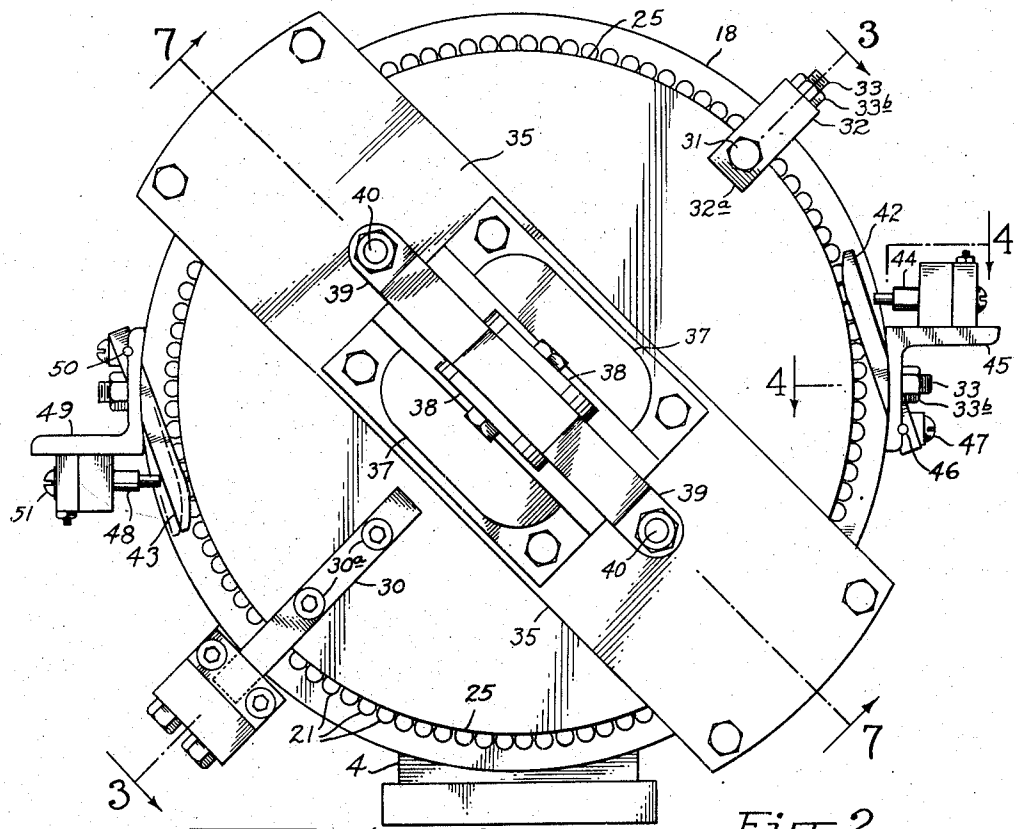


Fig. 2.

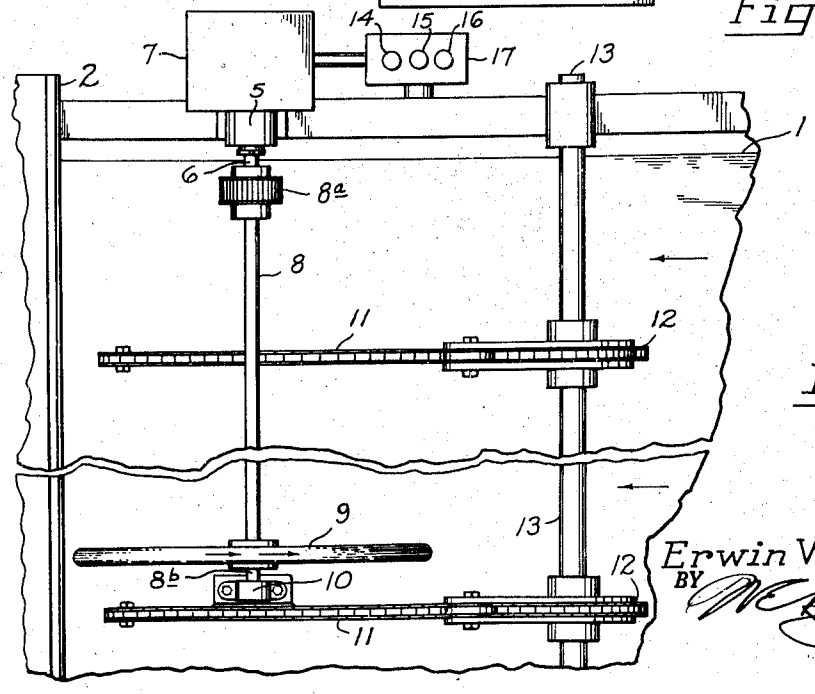


Fig. 1.

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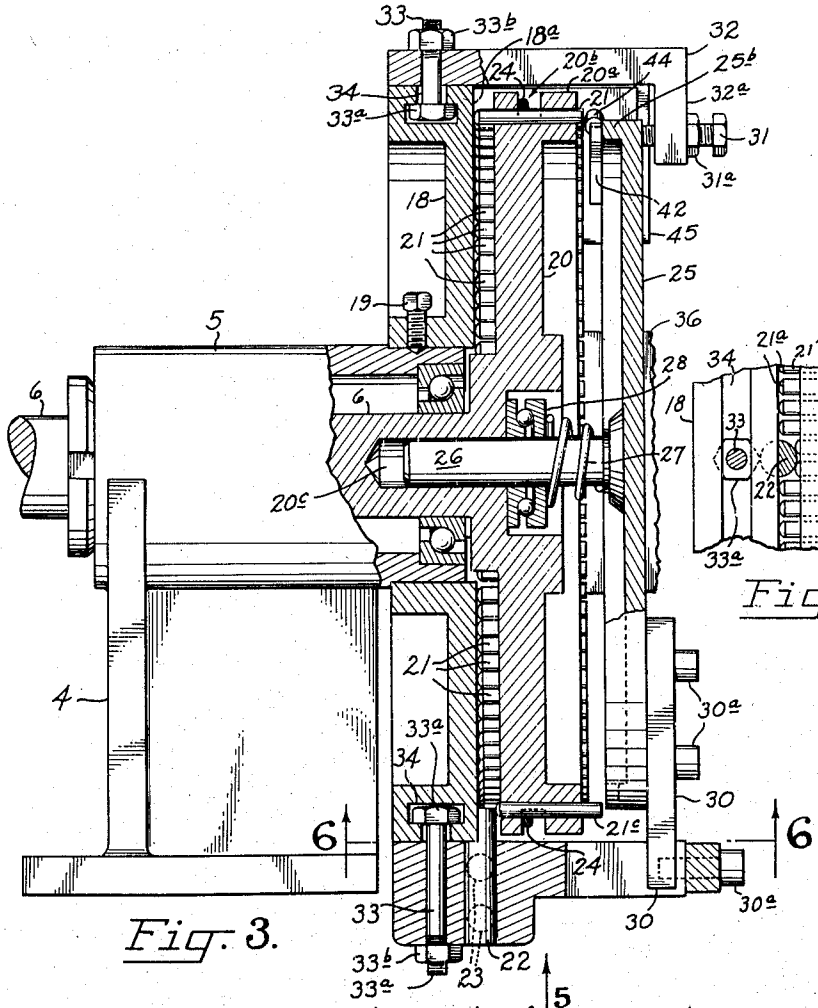


Fig. 3.

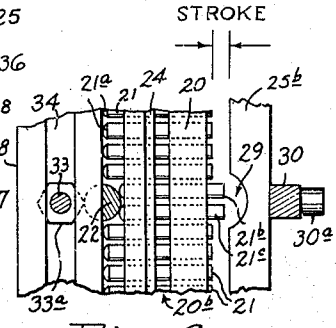


Fig. 6.

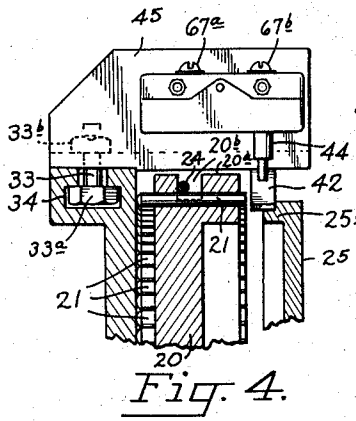


Fig. 4.

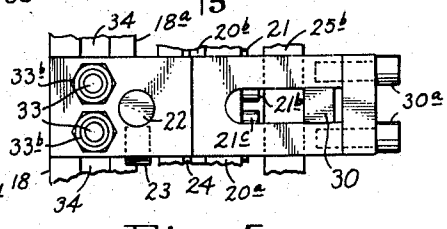


Fig. 5.

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CLIPPER AND CONTROL THEREFOR INCLUDING A DISC TYPE SELECTOR MEANS

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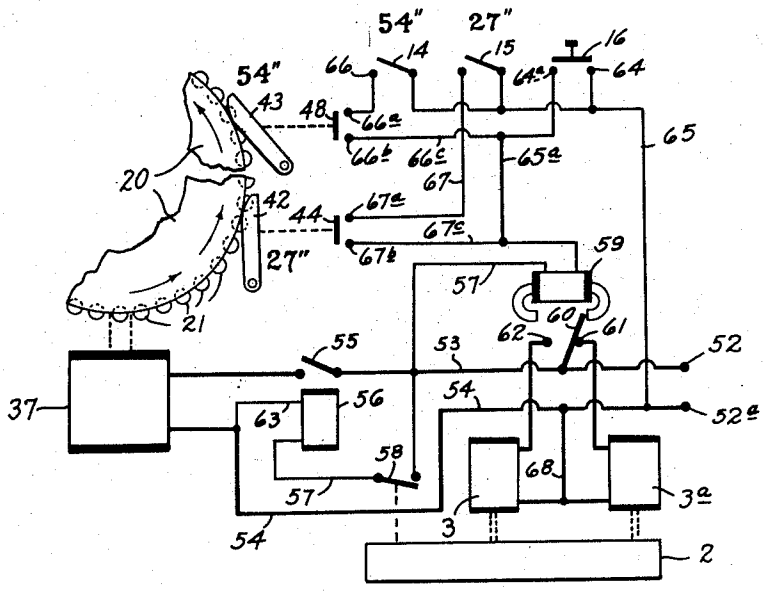


Fig. 8.

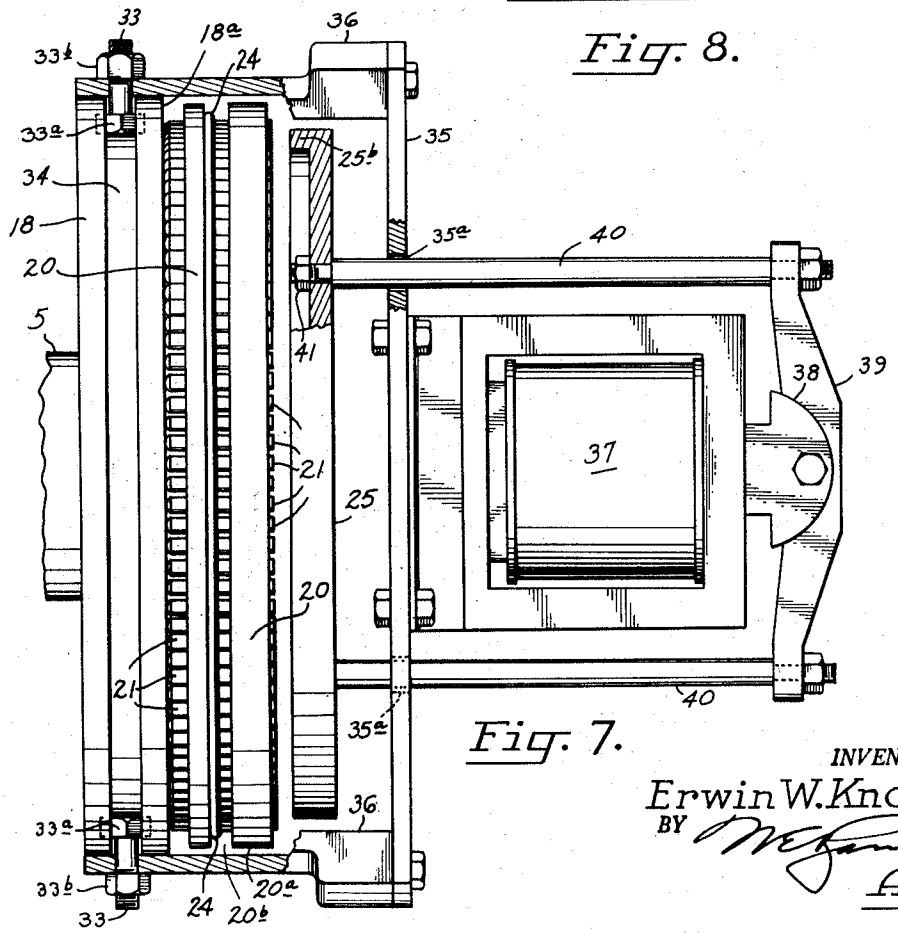


Fig. 7.

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United States Patent Office 2,904,111
Patented Sept. 15, 1959

2,904,111

CLIPPER AND CONTROL THEREFOR INCLUDING A DISC TYPE SELECTOR MEANS

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Application June 4, 1956, Serial No. 589,179

7 Claims. (Cl. 164—48)

My invention relates to veneer clippers such as are employed in the plywood industry to clip or to cut a continuous sheet of veneer into pieces of either preselected width or to pieces of maximum width from sound stock. More particularly, my invention concerns an improvement in a control for such type of clipper which lends itself to the preselection of sheets of stock either to module widths or to the maximum widths attainable between imperfections.

My invention is adapted to be used with the general type of veneer clipper described and illustrated in my copending application for Letters Patent No. 2,808,833, dated October 8, 1957, and entitled Rotary Veneer Clipper.

In the operation of clippers of this general character, an operator gauges the ribbon of veneer flowing along an infeed conveyor and determines the best usage of said stock in advance of the clipping operation. Veneer stock as it is turned from a peeling lathe must be viewed to obtain the maximum clear or face stock because such clear stock is of greater value and is of shorter supply. This is increasingly a problem as old growth fir, for example, is being harvested and smaller and poorer quality logs are peeled to produce veneer for plywood. It is essential that said stock flow rapidly and continuously past the clipper and clipping cuts must be made rapidly and expertly to obtain the best economic advantage from said ribbon of veneer stock.

One of the principal objects of my invention is to provide a selector which may be distantly actuated and will automatically be tripped as the veneer flows beneath the clipper knife. Thus, preselecting means must be provided which may be set and the action delayed from the time that the operator makes said selection until such time as the ribbon of veneer flows under the line of the clipper knife.

A further object of my invention is to be able to select one of several modules to provide sheets of veneer of such width as will lend themselves to the fabrication of plywood.

A further object of my invention is to provide a control for a clipper knife which is automatically cleared after each cutting stroke and the parts reset for a subsequent cutting stroke.

A further and more specific object of my invention is to provide a control of this character which is simple in construction, positive in operation and one which has few moving parts and has a long operating life.

A further object of my invention is to provide a control which may be adjusted within close limits and thereafter will operate within close cutting tolerances so as not to be wasteful of wood.

A further and more specific object of my invention is to provide a clipper and a control therefor which is capable of electromechanical operation, one which has no movable selector chain and keys thereof which require manipulation and one which is held in close synchronization with the flow of a ribbon of plywood past the clipper.

Further and other details of my invention are hereinafter described with reference to the accompanying drawings, in which:

Fig. 1 is a foreshortened plan view of the inflow side of a clipper organization showing the arrangement of a push button control, the selector, the riding wheel and the path of the ribbon of veneer;

Fig. 2 is an elevation of the selector portion of my improved mechanism taken in the direction of the arrow 2 in Fig. 3;

Fig. 3 is a transverse section taken substantially along the line 3—3 in Fig. 2;

Fig. 4 is a sectional detail taken on the line 4—4 in Fig. 2 showing one of the selector fingers with relation to an annular bank of selector pins with which said finger may engage;

Fig. 5 is a detail view taken in the direction of the arrow 5 in Fig. 3;

Fig. 6 is a sectional view taken on the line 6—6 in Fig. 3 illustrating the manner in which a certain selector pin or pins may be selectively engaged and shifted laterally into operating position;

Fig. 7 is a sectional view taken on the line 7—7 in Fig. 2; and

Fig. 8 is a schematic electrical diagram of the electric circuits, the selecting and operating mechanism joined therein, and associated therewith, and schematically illustrating the manner in which selector fingers may be actuated thereby.

My control is specifically adapted for a veneer clipper which is essentially a vertically reciprocal knife which moves from a position superimposed above a ribbon of veneer 1 and severs said ribbon transversely either into sections of predetermined or selected width, or else cuts out imperfections such as knots, pitch pockets, cracks, and other imperfections. One type of veneer clipper upon which my control is designed is illustrated in my Patent No. 2,808,833, previously referred to. Reference is had to the details of said veneer clipper as to the construction thereof and its mode of operation. The connection between such veneer clipper is not mechanical but is electrical, as is illustrated in Fig. 8.

A reciprocating knife 2 may be operated through one cutting stroke by motor means illustrated in Fig. 8 as two electrically operated reciprocal members 3, 3*a*. Some types of clippers operate upon an up and down stroke either normal to the plane of ribbon of veneer or obliquely with respect thereto. Others, such as is illustrated in my said Patent No. 2,808,833, operate upon a circular sweep into and out of cutting position.

The control and selector mechanisms with which my present invention is concerned are mounted upon a frame 4 which is rigidly mounted and which supports a journal bearing 5 rotatably supporting a control shaft 6. The general organization is best illustrated in Fig. 1 and reference is had thereto. The selector is given the general reference character 7 and lies to one side of the ribbon of veneer, as is shown in said drawing. A drive shaft 8 has a flexible coupling 8*a* arranged therein. It permits the shaft 8 to leave its free end 8*b* free to move vertically within limits.

Said free end 8*b* carries a rider wheel 9 which is preferably rubber tired and bears upon the upper surface of the ribbon of veneer 1 as it approaches the clipper. Said free end 8*b* of the shaft is held more or less in fixed alignment transversely of the sheet of veneer by a slotted guide 10 mounted upon the frame at the side of the ribbon of veneer opposite the selector. Thus, said shaft is arranged transversely of the ribbon and extends the entire width thereof. The ribbon of veneer is moved by conveyor means (not shown).

Ancillary conveyor or guiding means are provided to

engage the upper face of said ribbon of veneer. Said ancillary conveying and hold-down mechanism comprises endless lengths of chain 11 engaging sprockets 12 fixed to a power shaft 13. Said power shaft in turn is connected to the general driving mechanism or conveying mechanism for feeding the ribbon of veneer towards and from the clipper. In Fig. 1 the reciprocating knife 2 lines at the left-hand side of said figure and veneer flow is from right to left towards said reciprocating knife, as is indicated by an arrow. The rider wheel 9 being in frictional contact with said ribbon of veneer has a peripheral speed equal to the lineal speed of the veneer. Selector buttons 14, 15 and 16 are shown to the right of the selector 7 and it is adjacent said selector buttons and the housing 17 in which they are mounted, that the operator stands in making his selection of cuts by the reciprocating knife.

Next referring to Fig. 3. A circular base plate 18 is fixed to the journal bearing 5 by means of a set screw 19. A selector disc 20, either fixed to or integral with the control shaft 6, is arranged in face-to-face relationship with said base plate 18 and is generally of the same diameter. A series of selector pins 21 is arranged in an annular course adjacent the periphery of said disc and the ends 21*a* of said pins preferably are rounded somewhat and their left-hand ends, as viewed in Fig. 3, bear upon the inner face 18*a* of the base plate 18. Said inner face is plane and thus when said pins bear against said face, they are all aligned, as is illustrated in Fig. 3, except when one or more of said pins is pushed outwardly by a protuberance 22 arranged at the bottom of said figure. Said protuberance preferably is a pin which extends radially to the selector disc 20 and engages the ends of aligned pins 21 by the peripheral surface of said protuberance. Said protuberance, in the form of a pin, is detachably secured in the frame by means of set screws 23 (see Fig. 5). Thus, when said protuberance is to be replaced, this may easily be done by backing off of said set screws and turning said pin end for end or by inserting a new pin therefore.

The periphery 20*a* of said disc 20 is provided with an annular groove 20*b* which opens to the selector pins 21. An endless O-ring 24 lies in said groove and exerts constrictive frictional pressure upon said pins to hold them in set position. Said O-ring preferably is made of rubber or similar material having a proper coefficient of friction.

Lying adjacent the other face of said selector disc 20 is a clearance plate 25. Said clearance plate is carried by a pilot pin 26 which is arranged coaxially with the base plate 18 and the control shaft 6. Encircling said pilot pin is a helical spring 27. One end of said spring bears upon an antifriction bearing 28 housed within a recess 20*c* in the selector disc 20. The other end of said spring bears against a boss 25*a* upon the inner face of the clearance plate 25. Said spring is a compression spring and exerts outward pressure against the clearance plate 25 to hold it spaced from the selector disc 20.

Said clearance plate has a lateral peripheral flange 25*b* formed thereon and said flange is aligned more or less with the annular course of selector pins 21 so as to engage them, as is shown in Fig. 6. A portion of said lateral flange 25*b* is cut away at 29 which is in alignment with the protuberance 22, as is illustrated in said Fig. 6. Thus, when selector pins 21*b*, 21*c* are pushed laterally as shown in said view, the cut away portion tends to prevent contact with the margin of said flange.

As is also indicated in said figure and illustrated by arrows and the legend stroke, said clearance plate moves a distance sufficient to push in any laterally displaced pins and to clear the selector at the end of each operating stroke. The clearance plate is prevented from rotating because it also engages a radially disposed bracket 30, shown in Fig. 3, which has a squared section permitting this said selector plate to move axially but to prevent it from rotating. The length of the stroke, indicated in Fig. 6, may be varied by an adjusting screw 31 carried by a bracket 32 and adapted to be fixed to the base plate by means of bolts 33. The adjusting screw 31 is fitted in a tapped hole in the downturned end 32*a* of said bracket and is held in adjusted position by a lock nut 31*a*. Said bolts 33 have enlarged heads 33*a* which lie within a T-shaped annular slot 34 in the periphery of the base plate 18. Nuts 33*b* are carried by said threaded bolts and when said nuts are slackened off the brackets 30 and 32 may be rotated radially with respect to said base plate.

Next referring to Fig. 7. A diametrically disposed plate 35 carried by brackets 36 overlies the base plate 18. Secured to said plate 35 is a large electromagnet 37 having a core 38 which is reciprocated by said magnet. Pivotally secured to said core is a saddle 39 carrying at its ends push and pull rods 40. Said push and pull rods are secure to the clearance plate 35 by nuts 41. Said push and pull rods 40 slide freely through apertures 35*a* in the plate 35. Said electromagnet has an operating stroke indicated by arrows in Figs. 6 and 7 and moves the clearance plate from the position shown in Fig. 7 to the end of its clearance stroke indicated by the left-hand line in Fig. 6.

Also spaced peripherally about the selector disc 20 is a pair of pivoted fingers 42 and 43 (see Fig. 2) which are actuated by those selector pins 21*b*, 21*c* which are shifted laterally by engagement with the protuberance 22. A comparison of Figs. 4 and 5 indicate that when pins 21*b* and 21*c* are extended to the right into the operating space or stroke, they will be moved laterally into engagement with the finger 42 when the pins pass beneath it. This will rock the finger 42 clockwise as shown in Fig. 2 and will actuate the make-and break 44. Both the finger 42 and its make-and-break 44 are carried by a clip (see Fig. 4).

The finger 42 is pivotally joined to the clip 45 by a pin 46 and is spring pressed to the position it assumes in Fig. 2 such as by a hold-down spring housed in a pocket beneath the screw 47. The finger 43 is similarly provided with a make-and-break 48 pivotally mounted upon clip 49 carried by a pin 50 and spring pressed into the position it assumes in Fig. 2 by a spring means associated with screw 51.

Next referring to the electrical diagram shown in Fig. 8. At the top of the diagram are shown switch blades which correspond to the selector buttons 14, 15 and 16, respectively, shown in Fig. 1. The selector button 14 closes the circuit and causes the selector to be actuated to produce a cut 54 inches wide upon the ribbon of veneer. The selector button 15 produces a cut 27 inches wide and the selector button 16 causes an instantaneous cut thus to cut out an imperfection in said ribbon of veneer to be removed.

Power is supplied to the electric circuit through terminals 52, 52*a*. A principal lead 53 from terminal 52 goes to one side of the electromagnet 37 and lead 54 joins the opposite side of said electromagnet with terminal 52*a*. The lead 53 is broken by switch point 55 and said switch point is biased to open position by electromagnet 56 each time the reciprocating knife 2 passes through one stroke. A lead 57 for the electromagnet 56 is normally opened by a biased switch point 58, which switch point 58 is closed by the upward movement of the knife 2 such as is indicated by dashed lines in Fig. 8. Said lead 57 joins the electromagnet 56 and the electromagnet 59 of a polarized relay which throws its switch blade 60 alternately from contact with terminal 61 to terminal 62. Lead 63 is fixed to main lead 54. Said lead 57 is joined intermediate its ends to lead 53.

Selector button 16 makes contact between terminals 64, 64*a* in leads 65, 65*a*. Lead 65 joins main lead 54 to terminal 64 and lead 65*a* joins terminal 64*a* to electromagnet 59. Thus when selector button 16 is closed, it causes current to flow from the main lead 53 through

lead 57, the windings of electromagnet 59, through lead 65a to terminal 64a across selector button 16 to terminal 64 and lead 65 to the other main lead 54. Depending upon which way switch blade 60 rests, it will cause the energizing of electric motor means 3 or 3a and in either event will cause the reciprocating knife to move through one operating stroke and thereafter, by the closing of switch point 58, will actuate the electromagnet 37 and clear the selector 7.

If selector button 14 is depressed it will permit current to flow from main lead 54 through lead 65, through the switch point controlled by button 14, lead 66, make-and-break 48 across terminals 66a and 66b, lead 66c, which is joined to lead 65a, to operate the polarized relay including the electromagnet 59 and switch blade 60 to actuate the electric motor means 3 or 3a and the clearance electromagnet 37 for the selector 7. Current flows only when finger 43 is rocked clockwise by engagement with that selector pin or pins 21b, 21c which are moved to the right, as viewed in Fig. 6. As has been pointed out, finger 43 is placed at a position on the peripheral sweep of the selector pins so as to produce a cut 54 inches wide.

Selector button 15 performs a similar function when closed to cause electrical energy to flow from principal lead 54 through lead 65, lead 67, make-and-break 44 across terminals 67a, 67b and lead 67c which joins lead 65a. Current flows between terminals 67a and 67b only when switch point 67d is in contact with the terminals 67a, 67b and this occurs only when the finger 42 bears against protruding selector pins. This causes the reciprocating knife 2 to move through one stroke and thereafter actuates the clearance plate electromagnet 37 to reset the selector pins 21. Branched lead 68 constitutes the return circuit from electric motor means 3 and 3a to the main lead 54.

The operation of a selector mechanism for a veneer clipper operates as follows:

A ribbon of veneer flows more or less without interruption beneath the reciprocating knife 2 of a clipper. Somewhat in advance of the cutting line, an operator stands, as has been described and as is illustrated in Fig. 1. He determines how wide a piece of veneer is to be cut from said moving ribbon. It is a general practice to cut a strip 54 inches wide in order to make a four foot panel and a strip 27 inches wide to produce a two foot panel. This allows sufficient material to produce a clean trimming operation. If the operator sees that there is 54 inches of usable ribbon moving towards the reciprocating cutting knife, he closes button 14. Clearance plate 25 has already been moved towards the left, as viewed in Fig. 7, to push all of the selector pins so that the left-hand ends are in engagement with the inner face 18a of the base plate 18 except for those pins which are aligned with the protuberance 22. These are shifted to the left relatively as is shown in Figs. 3 and 6. The clearance plate is immediately retracted by means of the helical spring 27. The selector disc rotates until the outstanding pin or pins 21b, 21c move into underlying arrangement with the finger 43. This closes the circuit across terminals 66a, 66b to energize the electromagnet 59 of the polarized relay to throw the switch blade 60 into its opposite position in contact with terminal 62 to actuate electric motor means 3 and cause the reciprocating knife 2 to pass through one cutting stroke. At the end of the stroke the switch point 58 is closed to energize electromagnet 56, close switch 55 and energize the electromagnet 37 for the clearance plate 25 which resets the selector pins 21 for the subsequent cut.

A similar series of operations take place when the selector button 15 is closed to make a 27 inch cut. The same mechanisms are set and the circuit is completed when the finger 42 causes contact to be made between terminals 67a, 67b. Then the electromagnet 59 of the polarized relay is actuated, the switch blade 60 moves to the opposite terminal to energize an electric motor means to cause the reciprocating knife to move through one cut and the electromagnet for the clearance plate to be actuated to reset the devices.

If the button 16 is closed there is no delay in its action. This is due to the fact that the lead 65a spans the delayed action switches and causes the electromagnet of the polarized relay to be actuated immediately to actuate one of the electric motor means 3, 3a to cause the knife immediately to pass through a cutting stroke and to actuate the electromagnet for the clearance plate and reset the devices for the next succeeding cut. Thus, each time the knife 2 passes through a cut, all of the selector devices are reset. This is independent of whether they have been utilized on the previous cutting stroke or not. Thus, they are all reset even though button 16 is closed to make a selective cut to remove an imperfection from said ribbon.

It is thus the practice to make the first cut by closing the selector button 16 to move the selector plate towards the left and set proper pins in operative position where they may be utilized by the closing of either selector buttons 14 or 15 to make cuts of predetermined width. Selections are thus made from the last cut through the ribbon because the selector disc rotates continuously with the movement of the ribbon of veneer beneath the knife. The movement of veneer through a 54 inch interval or through a 27 inch interval permits the operator to gauge the width of his next cut or to make a selective cut to remove an imperfection.

I claim:

1. In a clipper and a control therefor, including a frame, a knife movable therein, means for feeding sheet material past the knife, a selector and means coupled with said material feeding means for actuating said selector, said selector comprising: a bearing fixed to said frame, a shaft journalled in said bearing, a selector disc carried by and fixed to said shaft, a plane faced base plate fixed to said frame and lying laterally of one side of the selector disc, a clearance plate slidably carried by said frame to move axially of said shaft, and lying at the other side of said selector disc, said clearance plate being held against rotation, a series of axially movable selector pins lying in an annular course about said disc, and being of greater length than the thickness of said disc, a protuberance fixed against said base plate and aligned radially with said annular course for engaging one end of one or more of selector pins, said clearance plate being plane and having a recess complementary to and aligned with said protuberance, means for shifting said clearance plate toward said selector disc thereby engaging the adjacent ends of the selector pins and pushing all of them into abutment with said base plate save the one or more pins lying intermediate the protuberance and the recess, which latter pin or pins project laterally from the clearance plate, and an actuator element lying in the path of the projecting end of one of said pins and being tripped thereby.

2. A control element for a clipper comprising three mated discs including a base plate, a selector disc and a clearance plate in normally spaced face to face arrangement, said selector disc lying intermediate said base plate and said clearance plate, said selector disc having an annular course of elongated selector pins of equal length slidably mounted therein, said pins being longer than the thickness of said selector disc thereby to project beyond the sides thereof, said base disc having a plane aligning face opposing said clearance plate and adapted to engage one end of each of said pins and to arrange said pins to lie between common parallel planes, said clearance plate having an annular section concentric with said annular course of pins and engageable with the other ends of said pins, said selector plate being rotatable and said base and clearance plates, respectively,

being nonrotatable, the clearance plate being axially slidable toward and from the opposed face of the selector disc, a projection arranged adjacent the plane face of said base plate and extending to a point intermediate said plane face of the base plate and the opposed face of the selector disc, a recess in said clearance plate mated and complementary with said projection, and an actuator element lying in the path of the projecting end of one of said pins and being tripped thereby, whereby when the clearance plate is moved toward the selector disc it will shift all of the selector pins against the base plate save and except that one or two pins lying between the projection and said recess which pins or pins will extend laterally beyond the face of the selector disc opposing the clearance plate, one of the pins thus projecting constituting tripping means for actuating the clipper.

3. A control element for a clipper comprising three mated discs including a base plate, a selector disc and a clearance plate in normally spaced face to face arrangement, said selector disc lying intermediate said base plate and said clearance plate, said selector disc having an annular course of elongated selector pins of equal length slidably mounted therein, said pins being longer than the thickness of said selector disc, thereby to project beyond the sides thereof, said base plate having a plane aligning face opposing said clearance plate and adapted to engage one end of each of said pins and to arrange said pins to lie between common parallel planes, said clearance plate having an annular section concentric with said annular course of pins and engageable with the other ends of said pins, said selector disc being rotatable and said base and clearance plates, respectively, being nonrotatable, the clearance plate being axially slidable toward and from the opposed face of the selector disc, a projection arranged adjacent the plane face of said base plate and extending to a point intermediate said plane face of the base plate and the opposed face of the selector disc, a recess in said clearance plate mated and complementary with said projection, said projection comprising a cylindrical member with its axis arranged normal to that of each of said selector pins and with its peripheral surface opposing the course of annular pins to engage any pins abutting the plane face of the base plate, and an actuator element lying in the path of the projecting end of one of said pins and being tripped thereby, whereby when the clearance plate is moved toward the selector disc it will shift all of the selector pins against the base plate save and except that one or two pins lying between the projection and said recess which pin or pins will extend laterally beyond the face of the selector disc opposing the clearance plate, one of the pins thus projecting constituting tripping means for actuating the clipper.

4. A control element for a clipper comprising three mated discs including a base plate, a selector disc and a clearance plate in normally spaced face to face arrangement, said selector disc lying intermediate said base plate and said clearance plate, said selector disc having an annular course of elongated selector pins of equal length slidably mounted therein, said pins being longer than the thickness of said selector disc, thereby to project beyond the sides thereof, said base plate having a plane aligning face opposing said clearance plate and adapted to engage one end of each of said pins and to arrange said pins to lie between common parallel planes, said clearance plate having an annular section concentric with said annular course of pins and engageable with the other ends of said pins, said selector disc being rotatable and said base and clearance plates, respectively, being nonrotatable, the clearance plate being axially slidable toward and from the opposed face of the selector disc, a projection arranged adjacent the plane face of said base plate and extending to a point intermediate said plane face of the base plate and the opposed face of the selector disc, a recess in said clearance plate mated and complementary with said projection, and electromagnetic means for moving the clearance plate axially into engagement with the annular course of selector pins, and an actuator element lying in the path of the projecting end of one of said pins and being tripped thereby, whereby when the clearance plate is moved toward the selector disc it will shift all of the selector pins against the base plate save and except that one or two pins lying between the projection and said recess which pin or pins will extend laterally beyond the face of the selector disc opposing the clearance plate, one of the pins thus projecting constituting tripping means for actuating the clipper.

5. A control element for a clipper comprising three mated discs including a base plate, a selector disc and a clearance plate in normally spaced face to face arrangement, said selector disc lying intermediate said base plate and said clearance plate, said selector disc having an annular course of elongated selector pins of equal length slidably mounted therein, said pins being longer than the thickness of said selector disc, thereby to project beyond the sides thereof, said base plate having a plane aligning face opposing said clearance plate and adapted to engage one end of each of said pins and to arrange said pins to lie between common parallel planes, said clearance plate having an annular section concentric with said annular course of pins and engageable with the other ends of said pins, said selector disc being rotatable and said base and clearance plates, respectively, being nonrotatable, the clearance plate being axially slidable toward and from the opposed face of the selector disc, a projection arranged adjacent the plane face of said base plate and extending to a point intermediate said plane face of the base plate and the opposed face of the selector disc, a recess in said clearance plate mated and complementary with said projection, electromagnetic means for moving the clearance plate axially into engagement with the annular course of selector pins, and a spring bias for spacing the clearance plate for said selector pins, and an actuator element lying in the path of the projecting end of one of said pins and being tripped thereby, whereby when the clearance plate is moved toward the selector disc it will shift all of the selector pins against the base plate save and except that one or two pins lying between the projection and said recess which pin or pins will extend laterally beyond the face of the selector disc opposing the clearance plate, one of the pins thus projecting constituting tripping means for actuating the clipper.

6. A control element for a clipper comprising three mated discs including a base plate, a selector disc and a clearance plate in normally spaced face to face arrangement, said selector disc lying intermediate said base plate and said clearance plate, said selector disc having an annular course of elongated selector pins of equal length slidably mounted therein, said pins being longer than the thickness of said selector disc, thereby to project beyond the sides thereof, said base plate having a plane aligning face opposing said clearance plate and adapted to engage one end of each of said pins and to arrange said pins to lie between common parallel planes, said clearance plate having an annular section concentric with said annular course of pins and engageable with the other ends of said pins, said selector disc being rotatable and said base and clearance plates, respectively, being nonrotatable, the clearance plate being axially slidable toward and from the opposed face of the selector disc, a projection arranged adjacent the plane face of said base plate and extending to a point intermediate said plane face of the base plate and the opposed face of the selector disc, a recess in said clearance plate mated and complementary with said projection, electromagnetic means for moving the clearance plate axially into engagement with the annular course of selector pins, and an actuator element lying in the path of the projecting end

of one of said pins and being tripped thereby, whereby when the clearance plate is moved toward the selector disc it will shift all of the selector pins against the base plate save and except that one or two pins lying between the projection and said recess which pin or pins will extend laterally beyond the face of the selector disc opposing the clearance plate, one of the pins thus projecting constituting tripping means for actuating the clipper, and a plurality of actuator elements spaced about the path of and positionable to be tripped by a projecting pin.

7. A control element for a clipper comprising three mated discs including a base plate, a selector disc and a clearance plate in normally spaced face to face arrangement, said selector disc lying intermediate said base plate and said clearance plate, said selector disc having an annular course of elongated selector pins of equal length slidably mounted therein, said pins being longer than the thickness of said selector disc, thereby to project beyond the sides thereof, said base plate having a plane aligning face opposing said clearance plate and adapted to engage one end of each of said pins and to arrange said pins to lie between common parallel planes, said clearance plate having an annular section concentric with said annular course of pins and engageable with the other ends of said pins, said selector disc being rotatable and said base and clearance plates, respectively, being nonrotatable, the clearance plate being axially slidable toward and from the opposed face of the selector disc, a projection arranged adjacent the plane face of said base plate and extending to a point intermediate said plane face of the base plate and the opposed face of the selector disc, a recess in said clearance plate mated and complementary with said projection, electromagnetic means for moving the clearance plate axially into engagement with the annular course of selector pins, and an actuator element lying in the path of the projecting end of one of said pins and being tripped thereby, whereby when the clearance plate is moved toward the selector disc it will shift all of the selector pins against the base plate save and except that one or two pins lying between the projection and said recess which pin or pins will extend laterally beyond the face of the selector disc opposing the clearance plate, one of the pins thus projecting constituting tripping means for actuating the clipper, a plurality of make-and-break actuator elements spaced about the path of and positionable to be tripped by a projecting pin, and an electric circuit closed by said make-and-break actuator elements for moving the clipper through one slicing cut and sequentially for actuating the means for moving the clearance plate.

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