

July 16, 1957.

A. H. BECKLEY

2,799,381

CONTINUOUS VENEER FEEDER

Filed Oct. 12, 1955

3 Sheets-Sheet 1

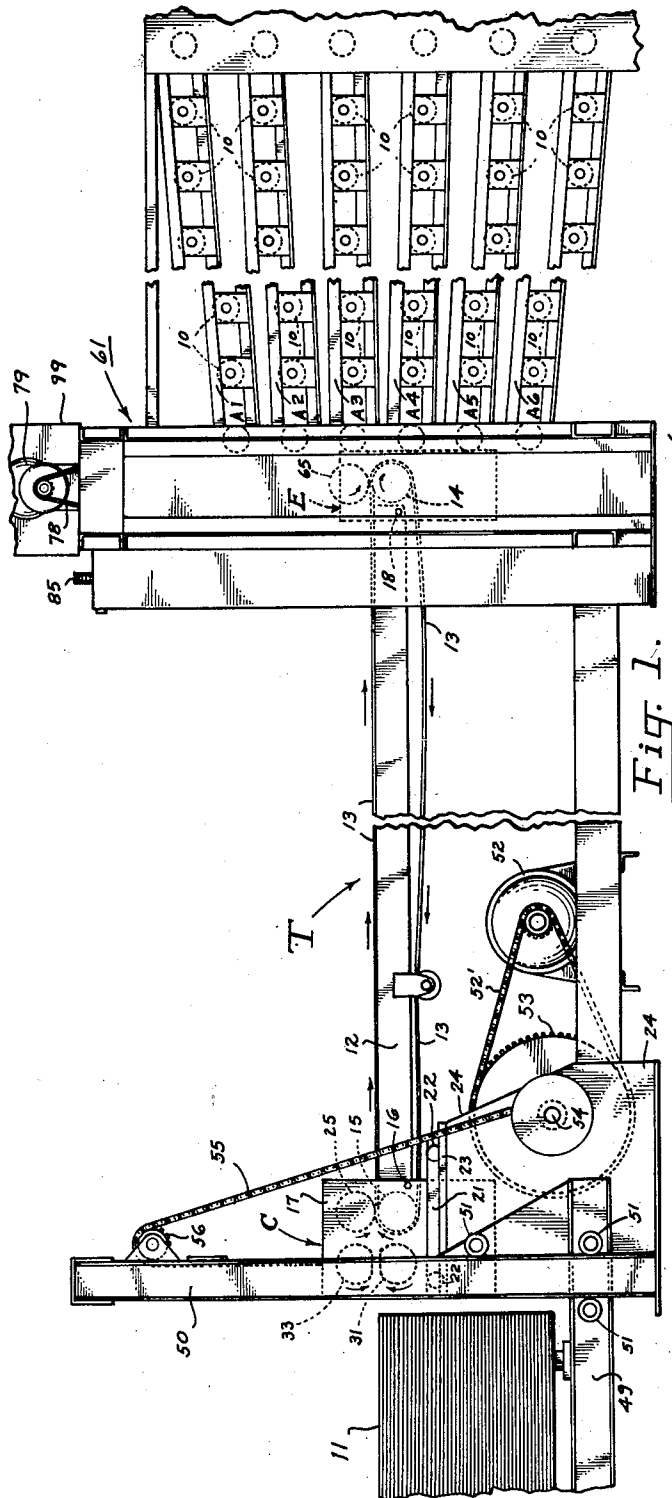


Fig. 1.

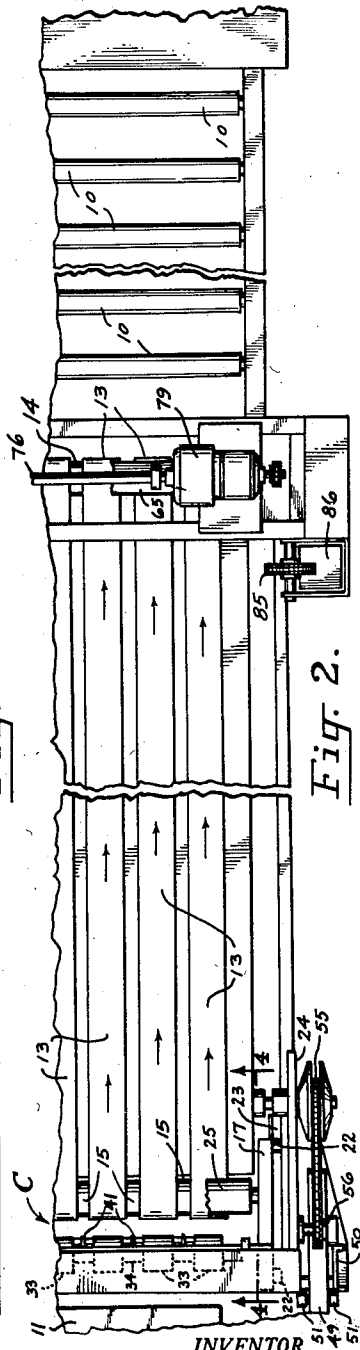


Fig. 2.

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3 Sheets-Sheet 2

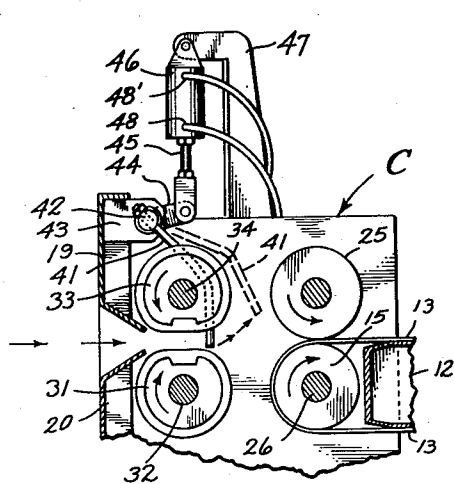


Fig. 4.

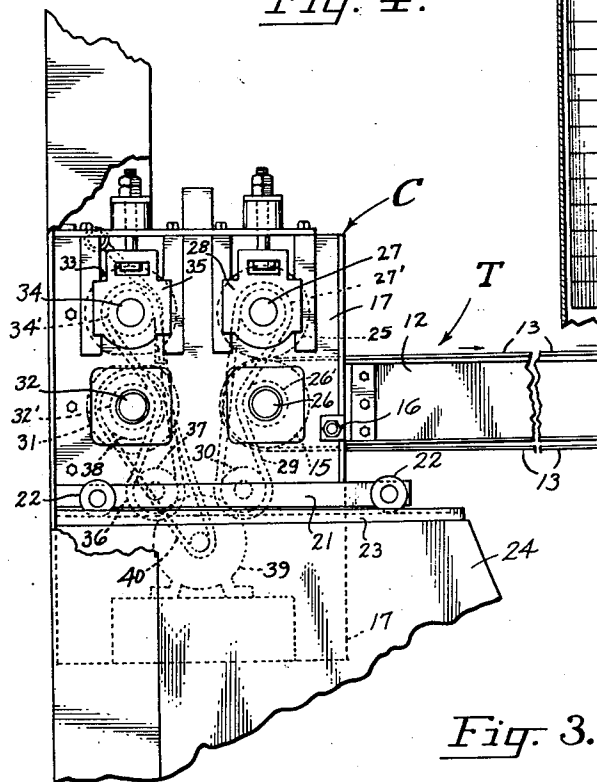
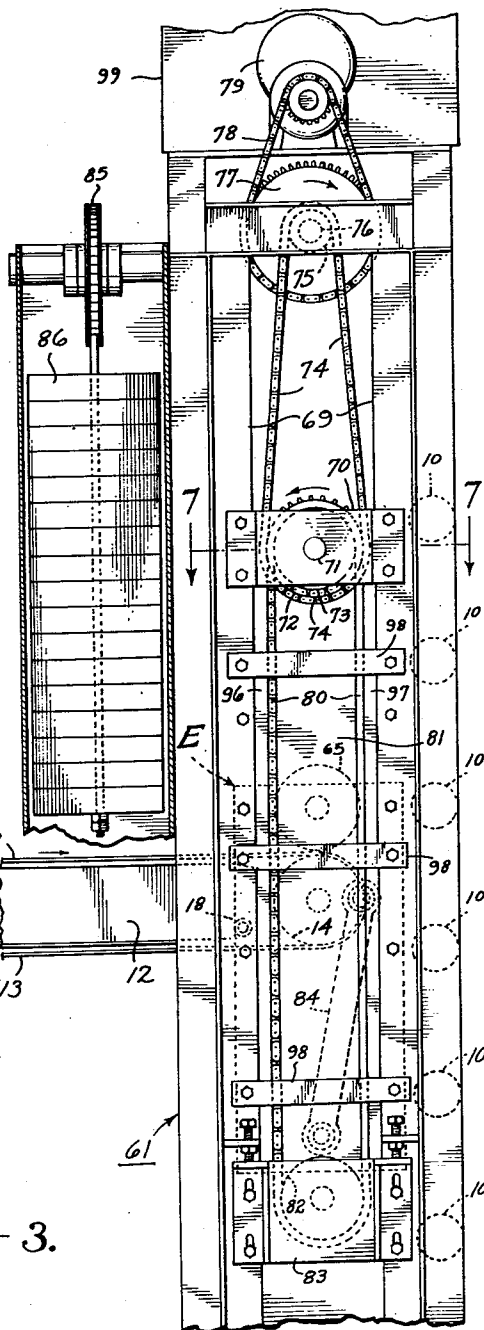


Fig. 3.



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3 Sheets-Sheet 3

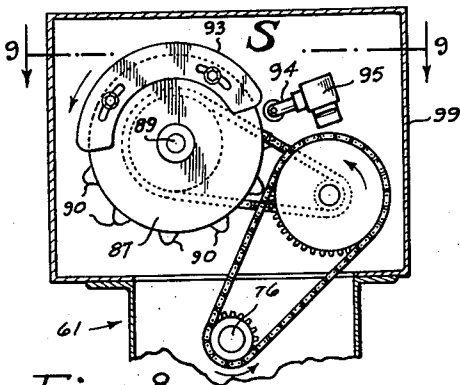


Fig. 8.

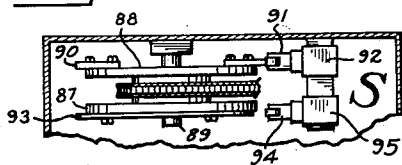


Fig. 9.

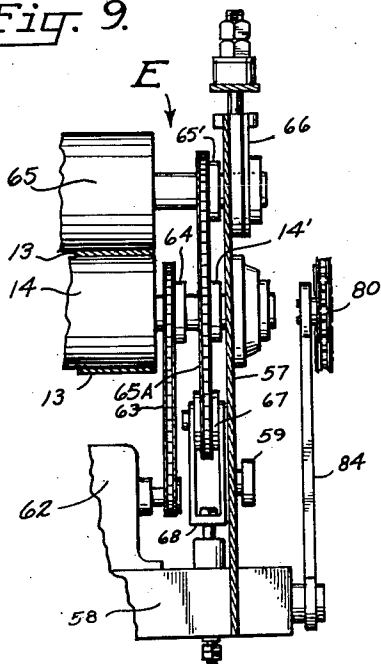


Fig. 6.

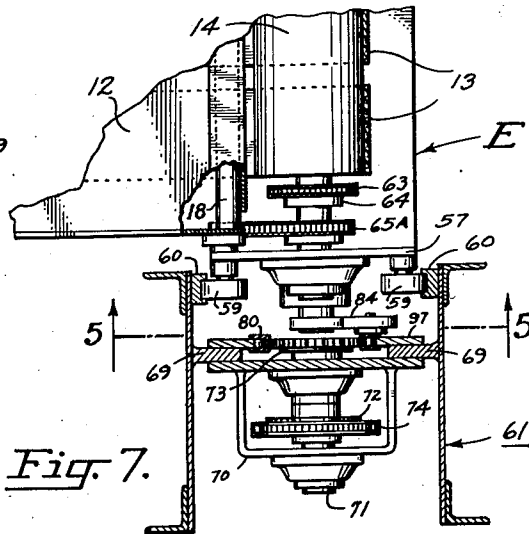


Fig. 7.

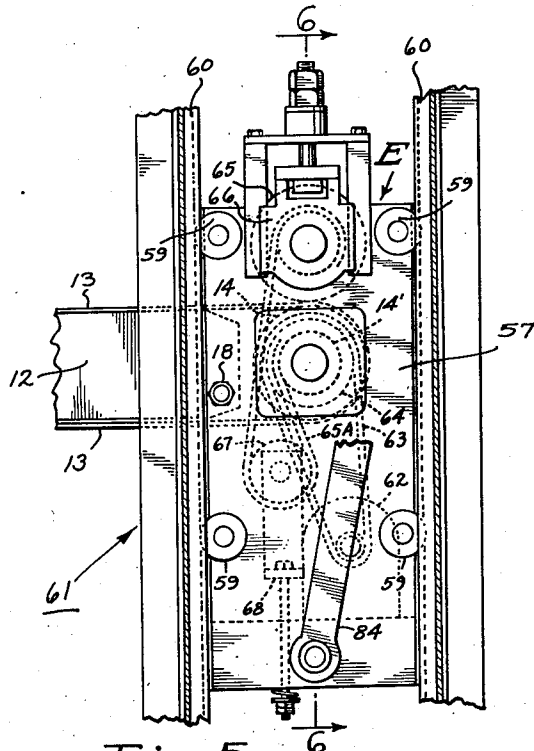


Fig. 5.

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2,799,381

CONTINUOUS VENEER FEEDER

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Application October 12, 1955, Serial No. 540,021

8 Claims. (Cl. 198—20)

This invention relates in general to conveying or feeding apparatus for sheet material whereby the separate sheets, as they are removed from a pile or stack, will be automatically and properly fed, in continuous succession, to subsequent treating or processing means.

More specifically and particularly the invention relates to a feeder type of apparatus adapted for the handling of sheets of veneer and for delivering the same to a veneer dryer of the well known multiple deck conveyor type.

It is common practice, in the feeding of veneer sheets from a stack or pile to a multiple deck dryer, to employ what is commonly known as a "tipple" which is equipped with conveyor belts or other sheet moving means and which is so arranged that the discharging end of the tipple can be raised or lowered to enable the successive sheets of veneer to be delivered consecutively to the separate decks of the dryer assembly, thus enabling the dryer assembly to operate to capacity with all decks of the dryer assembly utilized.

An object of the present invention is to provide a veneer feeder of this general type in which improved and simplified means will be employed for the raising and lowering of the discharging end of such a tipple so as to enable this desired distribution of the sheets of veneer onto the separate decks of the dryer assembly to take place efficiently.

A related object of the invention is to provide an improved control for the tipple by which the speed of operation of the tipple will automatically be governed by the drying speed at which the dryer is set to operate.

Another and important object of the invention is to provide improved means by which the tipple can be maintained in continuous operation, as opposed to intermittent operation, in order to make possible considerable simplification in the operating and control means for such tipple and to achieve more efficient operation.

A further object of the invention is to provide an improved and simplified tipple assembly in which vertical up and down motion of the tipple will be restricted to the discharging end of the same.

An additional object of the invention is to provide a tipple assembly with improved and simple feeding means and control means at the intake end automatically coordinated with the continuous moving or positioning of the discharge end of the tipple, and thus indirectly coordinated with the drying speed for which the dryer is set.

The manner in which and the means by which these objects, and other advantages, are attained through the medium of the present invention will be briefly explained and described with reference to the accompanying drawings.

In the drawings:

Figure 1 is a more or less diagrammatic side elevation of my improved continuous feeder illustrating the same in operation in conjunction with a six deck conveyor type veneer dryer, the infeed or receiving ends of the deck

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conveyors of the dryer being indicated at the right in the figure but the dryer itself being omitted;

Figure 2 is a corresponding fragmentary plan view of the same;

5 Figure 3 is a fragmentary and foreshortened side elevation of the device drawn to a larger scale;

Figure 4 is a fragmentary sectional side elevation of the intake control means for the feeder taken on line 4—4 of Figure 2;

10 Figure 5 is a fragmentary sectional side elevation of the discharging end of the feeder taken on line 5—5 of Figure 7.

Figure 6 is a fragmentary vertical section corresponding to line 6—6 of Figure 5;

15 Figure 7 is a fragmentary plan section corresponding to line 7—7 of Figure 3 and drawn to a slightly larger scale;

20 Figure 8 is an elevation, on an enlarged scale, of certain automatic switch control means positioned at the top of the frame in which the discharging end of the tipple is located; and

Figure 9 is a fragmentary sectional plan on line 9—9 of Figure 8.

Referring first to Figure 1, the intake ends, or receiving ends, of the decks of a multiple deck conveyor type veneer dryer (the dryer itself not being shown), of well-known construction are indicated at A1, A2, A3, A4, A5, A6. Each of the decks is provided with a succession of feeding rolls 10, which are connected by suitable driving means (not shown), for example by sprocket chain connections, and which are all driven at uniform speed corresponding to the speed at which the dryer has been set to operate. My device is shown in Figure 1 in operating position for enabling veneer sheets 11 from the pile indicated on the left in the figure to be fed successively to the intake ends of the decks of the dryer.

The device includes a movable transfer assembly T, commonly known as a tipple, comprising a frame or table 12, provided with a plurality of endless and identical conveyor belts 13, which are spaced a slight distance apart laterally and which are driven in unison in the direction indicated by the arrows. These conveyor belts 13 pass around a driven roll 14 at the discharging end of the tipple and around an idler roll 15 in the opposite or receiving end of the tipple (see also Figure 2).

The frame 12 of the tipple is pivotally supported, at the left hand or receiving end, on a transversally-extending shaft 16 (Figure 3), the ends of which are secured respectively to side portions 17 of a horizontally movable carriage, which carriage is indicated in general by the reference character C. At the opposite or discharging end the frame 12 of the tipple is pivotally supported on a transverse shaft 18 which is carried by an elevator or vertically movable assembly indicated in general by the reference character E (Figure 5).

The carriage C (Figure 3) comprises a pair of side portions 17, one of which is shown in Figure 3, which are joined by transversely extending channel members 19 and 20 (Figures 3 and 4). A bar 21, secured on the outside of each of the side portions 17, carries mountings for a pair of rollers 22. The rollers 22 on each side of the carriage move on a track 23 mounted on a side plate 24 of a supporting frame structure. Since the receiving end of the tipple is always maintained at the same height above the ground or floor while the discharging end, carried by the elevator assembly E, moves up or down in a vertical path, the purpose of mounting the carriage C on the rollers 22 is to enable the slight but necessary longitudinal adjustment of the position of the receiving end of the tipple to take place.

The roll 15, around which the endless conveyor belts

13 of the tipples pass at the receiving end of the tipples, is secured to a shaft 26 (Figure 3) mounted in the side portions 17 of the carriage C. A feed roll 25, (indicated in broken lines in Figures 1 and 3, with a portion shown in Figure 2), is carried on a shaft 27 which is arranged in vertical alignment with the shaft 26. The ends of this shaft 27 are carried in a pair of journal blocks 28, one of which is shown in Figure 3, and which journal blocks, in turn, are carried by the side portions 17 of the carriage C and are vertically adjustable therein. Pulleys 26' and 27' are secured on the shafts 26 and 27, respectively, in vertical alignment and are engaged by an endless belt 29 which belt also passes around a lower idler pulley 30. Vertically adjustable supporting means (not shown) is provided for mounting the idler pulley 30 in the adjacent side portion of the carriage C for the purpose of tightening the endless belt 29 when necessary. Thus the passage of the conveyor belts 13 around the end roll 15 causes rotation of the roll 15 and this results in simultaneous rotation of the feed roll 25, the latter rotating at the same speed as the roll 15 but in opposite direction, the rotation of the roll 15, as viewed in Figures 3 and 4, being clockwise and the rotation of roll 25 being counterclockwise.

For the purpose of feeding veneer sheets 11 from the top of the pile, (indicated at the left in Figure 1), to the intake end of the tipples, feed cams are provided. A plurality of these lower identical feed cams 31 (Figures 3 and 4) are secured in similar position on a common shaft 32, the cams being spaced a short distance apart laterally. The ends of the shaft 32 are supported in the side portions 17 of the carriage C. A corresponding, oppositely arranged, series of upper feed cams 33, arranged in vertical registration with the lower feed cams respectively, are secured on a shaft 34 which shaft is in vertical alignment with the shaft 32. The ends of the shaft 34 are carried in a pair of journal blocks 35, one of which is shown in Figure 3, which are mounted in the side portions 17 of the carriage C respectively, and are vertically adjustable therein. Sprockets 32' and 34' are secured to the shafts 32 and 34 respectively in vertical alignment with each other and are engaged by an endless sprocket chain 36. This chain 36 passes around a lower idler pulley 37 and vertically adjustable supporting means (not shown) is provided for mounting the pulley 37 in the adjacent side portion of the carriage C so that the pulley 37 can act as a chain tightener for the chain 36. A second sprocket 38 on the shaft 32 is connected to a driving motor 39 by the sprocket chain 40. The motor 39 is supported at the bottom of the carriage C. Thus operation of the motor 39 results in the rotation of the lower feed cams 31 and upper feed cams 33 in unison (see Figure 4) but in opposite directions, the lower feed cams 31 being rotated clockwise, as viewed in Figures 3 and 4, and the upper feed cams being rotated counterclockwise. The motor 39 for the feed cams is controlled by a limit switch, later referred to, which is so arranged that each time the motor operates the upper and lower series of feed cams will be rotated exactly 360°, always returning to the positions illustrated in Figure 4.

When the lower and upper series of feed cams 31 and 33 return to their starting position, with the cam portions of their peripheries opposed, the vertical spacing between the peripheral cam portions is greater than the thickness of a veneer sheet, thus permitting a veneer sheet to be inserted into feeding position between the two series of cams. However, as the cams are rotated, their peripheries are brought close together so that the sheet of veneer which had been inserted between them will be firmly engaged and fed forwardly to the intake end of the tipples (thus to the right as viewed in Figure 4). The peripheries of the feed cams are provided with rims of rubber or other suitable flexible gripping material so as to cause them to have a firm grip on the sheet of veneer while they feed the sheet to the tipples.

A plurality of fence type stops or stop arms 41, one of which is shown in Figure 4, are attached to a shaft 42 rotatably supported in brackets 43 secured to the frame C. The stop arms 41 are so positioned as to be in registration with the spaces between the individual feed cams of the upper as well as the lower series of cams 33 and 31, thus enabling the stop arms to drop down to the full line position shown in Figure 4 and be free from engagement with the individual feed cams. The function of the stop arms 41 is to limit the extent to which a veneer sheet can be shoved towards the tipples when the feed cams are at rest. A bracket arm 44 is secured on the rotatable shaft 42 and in turn, is connected with a piston rod 45. The piston rod 45 is operated by means of a double acting air cylinder 46 which is carried on a bracket 47 attached to the top of the carriage C. Delivery of air under pressure into one port 48 of the cylinder 46 causes the stop arms 41 to be raised to the broken line position indicated in Figure 4, and delivery of air into the other port 48' of the cylinder causes the stop arms 41 to return to the full line position of Figure 4 and thus again limit the extent to which a sheet of veneer can be inserted between the series of feed cams. The delivery of air under pressure to the cylinder 46 from a suitable outside source (not shown) is controlled by a solenoid-operated double acting valve mechanism (not shown) which is operated simultaneously with the actuation of motor 39 and controlled by the limit switch for the motor 39. Thus the stop arms 41 are raised to the broken line position shown in Figure 4 each time the feed cams 31 and 32 start to rotate and they return to their normal blocking position at the end of each rotation of the feed cams.

Since the carriage C on which the receiving or intake end of the tipples T is mounted and on which the shafts for the feed cams 31 and 33 are supported, always remains at the same height, although capable of being moved slightly in a horizontal direction as previously explained, an elevator platform 49 (Figure 1) is provided for the pile of veneer sheets 11 and the height of the elevator platform is adjusted by the operator from time to time so that the top of the pile will be substantially in line with the spacing between the feed cams 31 and 32 when these are at rest. The elevator platform 49, as indicated in Figure 1, is of the cantilever type and carries rollers 51 which ride on vertical rails formed by channel iron frame members 50 at the side of a supporting frame structure. A reversible motor 52 is connected by an endless sprocket chain 52' with a drive sprocket 53 secured on a shaft 54. A sprocket chain 55 is connected to the elevator 49 at each side. Each of these sprocket chains passes over a pulley 56 mounted near the upper ends of the supporting side frames respectively and the chains 55 have their other ends secured to suitable winding pulleys secured to the shaft 54. The motor 52 is controlled by a pair of switch buttons (not shown) placed at a location convenient to the operator in charge of the inserting of the veneer sheets into feeding position.

The vertically movable assembly E includes a pair of vertical side plates 57, one of which is shown in Figures 5, 6, and 7, which are located at each side of the assembly E and are rigidly connected to a transversally-extending bottom frame 58. Rollers 59, mounted on the outside of each of the side plates 57, ride on pairs of vertical rails 60 which are secured to stationary main frame columns 61 there being one such column on each side of the supporting main frame.

The shaft 18, on which the end of the tipples frame 12 is pivotally mounted at the discharging end of the tipples, has its ends supported in the side plates 57 of the vertically movable assembly E. The driven roll 14, around which the conveyor belts 13 of the tipples pass, has its shaft also supported in the side plates 57. A motor 62 (Figures 5 and 6), carried on the assembly E, is connected by sprocket chain 63 with sprocket 64 secured to the shaft of roll 14.

A companion feed roll 65 (Figure 6), corresponding in size to the driven roll 14, is positioned above and is in vertical alignment with the roll 14. The shaft for the companion roll 65 is mounted for vertical adjustment by being supported in a pair of adjustable journal blocks 66, mounted in the side plates 57 respectively, one of these journal blocks being shown in Figures 5 and 6. Sprockets 14' and 65', secured on the shafts of the rolls 14 and 65 respectively, are engaged by an endless sprocket chain 65A which passes around a lower idler pulley 67 carried by chain tightening means 68 (Figure 6). Thus the rolls 14 and 65 are driven in unison but in opposite directions, roll 15 being driven in clockwise direction, as viewed in Figures 3 and 5. The conveyor belts 13 of the tippie are driven by the roll 14. The roll 15 at the receiving end of the tippie, as previously mentioned, is driven by the belts 13, and the companion feed roll 25 is driven from the roll 15. Thus the rolls 14, 65, 15 and 25 and the belts 13 of the tippie are all driven at the same speed, which speed is determined by the speed at which the motor 62 is caused to operate.

In each of the two frame columns 61 (one of these columns being shown in Figures 3 and 7), a pair of vertical ribs 69 are welded to the opposite inside walls of the column in alignment with each other. A bracket housing 70 is secured to these ribs in each column and this housing is open at the top and bottom. The two bracket housings 70 are located at the same height in the respective frame columns and each bracket housing 70 provides suitable bearing supports for a stub shaft 71. On each stub shaft 71 a pair of sprockets 72 and 73 are secured. The outer sprocket 72 of each pair is connected by an endless sprocket chain 74 to a sprocket 75 (shown in broken lines in Figure 3). The sprockets 75 are secured on a driven shaft 76 and a driven sprocket 77 on this transversally-extending shaft 76 is connected by sprocket chain 78 to the variable-speed motor 79. Thus the two stub shafts 71 at opposite sides in the main frame structure are driven in unison by their connections with the driven shaft 76.

The sprocket 73 (Figure 7), on each stub shaft 71, drives a roller chain 80 (Figure 3). Each roller chain 80 moves in a guideway provided by a slot between a center stationary vertical plate 81 and two side plates 96 and 97 extending in the same vertical plane with plate 81. The plates 81, 96 and 97 are supported by straps 98. Each roller chain 80 passes around an idler pulley 82 at the bottom of its course, each idler pulley 82 being carried in an adjustable mounting support indicated at 83 in Figure 3.

A pair of identical links 84 (one such link being shown in Figures 5, 6 and 7) are located on opposite sides of the elevator assembly E and have their bottom ends pivotally connected to the bottom of the elevator assembly and their top ends pivotally connected to lugs secured on the corresponding roller chains 80 at identical locations. Thus, as will now be apparent from Figure 3, since the pair of roller chains 80 at the sides of the elevator assembly E are driven in unison (thus in counter-clockwise direction as viewed in Figure 3), the elevator assembly E and with it the discharging end of the tippie assembly T, will move vertically up and down, the speed of the upward movement and the speed of the downward movement being determined by the speed at which the variable-speed motor 79 is being caused to operate at the time.

The tippie frame 12 is connected at each side to one end of a cable which passes over a pulley 85 mounted at that side of the main frame structure, and suitable counterweights, indicated at 86 in Figure 3, are attached to the other end of each cable. The counterweights move in suitable guideways, and, by relieving the elevator assembly E of a considerable portion of the weight of that end of the tippie frame, facilitate the operation of the elevator assembly and thus the up and down movement

of the discharging end of the tippie and reduce the amount of power required for moving the elevator assembly up and down in its prescribed course.

From Figures 1 and 3 it is to be understood that when the elevator assembly E is at the lowest point in its travel the discharging end of the tippie T will be in registration with the intake end A6 of the lowermost deck of the veneer dryer, and similarly when the elevator assembly is at the uppermost point of its travel the discharging end of the tippie will be slightly above the intake end A1 of the top deck of the dryer.

A mechanical automatic switch-operating assembly (Figures 8 and 9), indicated in general by the reference character S, is mounted in a housing 99 at the top of the stationary main frame in which the elevator assembly E is supported. This switch-operating assembly includes a pair of disks 87 and 88 secured on a rotatably-mounted stub shaft 89. This stub shaft 89 is driven by suitable reduction gear and chain means from the shaft 76 as illustrated in Figure 8. The arrangement is such that the stub shaft 89 and the disks 87 and 88 will make exactly one revolution while the roller chains 80 (Figure 3) make one complete cycle. In other words, while the elevator assembly E travels from the top to bottom and back again to the top of its vertical course, the disks 87 and 88 will be rotated exactly 360°. Since the up and down movement of the elevator assembly E and the rotation of the disks 87 and 88 are produced through the positive mechanical drive connections with the shaft 76 this operating relationship between the rotating disks 87 and 88 and the elevator assembly E will always be maintained regardless of variations in speed at which the shaft 76 is driven. This is important and necessary for the proper functioning of the entire device, as will presently be apparent.

The disk 88 (Figure 9) is provided with a plurality of identical, equally-spaced trip elements 90 (there being six in the device as illustrated), which elements extend radially from the periphery of the disk 88 and which are distributed over 180° of its periphery. These trip elements 90 are arranged to engage a roller on the end of a spring-controlled plunger 91, which plunger constitutes a switch-operating element and is slidably mounted in a stationary housing 92. The plunger operates a limit switch (not shown) each time it is momentarily pushed inwardly against the force of its spring. The particular limit switch operated by this plunger element 91 is the limit switch which controls the operation of motor 39 (Figure 3) previously mentioned and which also at the same time controls the operation of the stop arms 41 (Figure 4). Thus each time one of the trip elements 90 comes into engagement with the roller on the end of the switch-operating plunger 91 the feed cams 31 and 33 (Figure 4) will be caused to rotate through 360° and the stop arms 41 will be raised when such rotation begins and then lowered at the completion of the rotation of the feed cams.

The number of trip elements 90 corresponds to the number of decks in the dryer and the dryer indicated in Figure 1 is assumed to have six decks. Since the disk 88 will be rotated 180° while the elevator assembly moves from its highest to its lowest point, the trip elements 90 and the disk 88 are so arranged that the first trip element 90 will operate the plunger 91 as the elevator assembly reaches its highest position, and thus, as the discharging end of the tippie T is moved into registration with the intake of the top deck of the dryer. The second trip element 90 of the series similarly actuates the plunger 91 after the discharging end of the tippie has passed below the intake for the top deck and is approaching the intake for the next lower deck; and so on. Inasmuch as the trip elements 90 are restricted to half of the periphery of the disk 88 there will be no operation of the plunger 91, and consequently no rotation of the feed cams 31 and 33 and no raising of the stop arms 41, during such time as the discharging end of the tippie is being moved

upwardly from the lowest to the highest deck of the dryer. Thus, although the belts 13 and the feed rolls of the tiple operate continuously while the entire device is functioning, any delivery of the veneer sheets to the dryer, while the discharging end of the tiple is moving upwardly from the lower to the highest position, is automatically prevented. This is an important feature of the device.

If the elevator assembly E, carrying the discharging end of the tiple moved upwardly at no faster rate of speed than it is moved downwardly, or in other words, if the motor 79 were operated at the same speed during both phases of the cycle made by the roller chains 80 there would be a considerable loss of time in the feeding of the veneer sheets to the dryer and the dryer would not be operated at full capacity.

In order to avoid this difficulty the variable speed motor 79 is caused to operate at greater speed during each period in which the elevator assembly E moves upwardly. Actually, in the particular device illustrated in which the dryer is assumed to have six decks, the speed of the motor 79 during such period of upward travel of the elevator assembly is increased to six times the speed with which it operates during the remaining period of the cycle when the elevator assembly is traveling downwardly. In order to produce this change of speed in the variable speed motor 79 the disk 87 (Figures 8 and 9) is provided with a cam segment 93 which extends beyond the periphery of the disk 87 and is arranged to engage a roller on the end of a second spring-controlled plunger switch element 94, slidably mounted in a housing 95. The outer edge of this cam segment 93 forms an arc of a circle concentric with the disk periphery and this segment has an arcuate length of approximately 180°. The cam segment is so positioned and arranged on the disk 87 as to actuate the plunger element 94 during the half rotation of the disk 87 which occurs when the elevator assembly E is performing its upward travel. The electric connection and controls of the variable speed motor 79 are not shown since such means are old and well known and no claim for patentable novelty is made for them. This is true also of the limit switch and electrical connections for the motor 39.

The speed of the motor 62 which operates the belts 13 and feed rolls on the tiple is determined by the speed at which the dryer is set to operate. The two speeds at which the motor 79 operates in addition to being capable of adjustment by manual means, are normally automatically controlled by the operating speed of the dryer. Such control is accomplished through the medium of well known speed synchronizing means (not shown). For example, one such synchronizing control which is being used very satisfactorily for this purpose embodies a "Thymotrol" controlled motor unit employing a feed back "Tachometer" as a speed control, which is well known and obtainable on the market and is manufactured by the General Electric Company.

The relative speeds are so arranged that one entire cycle of travel of the elevator assembly E will take place during the time required for a veneer sheet, of the standard size being processed, to travel a distance corresponding to its length on a deck of the dryer, and also that a veneer sheet of the same standard size, after having been inserted into starting position between the feed cams 31 and 33, will be delivered onto the tiple and transferred from one end of the tiple to the other and delivered to the intake for a dryer deck during the interval required for the elevator assembly E to move downwardly from one dryer deck to another (or during the same interval required for the elevator assembly to move upwardly from the bottom dryer deck to the top deck).

In most cases these relative speeds, which are thus made dependent on the speed of the dryer, will be arranged to accommodate the customary standard eight foot length for the green veneer sheets. However addi-

tional speed adjustment and an auxiliary control (not shown), are also provided so as to enable the governing time cycle to be adjusted when four foot veneer sheets, which are also standard for core stock, are being processed.

The fact that the tiple assembly of this improved veneer feeder is maintained in continuous operation while the device is run, instead of operating intermittently, as in the case of other veneer feeders which are at present on the market, results in several distinct advantages. For instance, the constant starting and stopping of the entire feeder assembly and the excessive vibration and wear resulting from such rapid intermittent operation when the feeder is set into operation separately each time by the delivery of a veneer sheet at the intake of the feeder, is avoided by the simplified and continuous operating means employed under the present invention. When, with the use of an intermittently operating veneer feeder, there is a momentary delay on the part of the operator in positioning a veneer sheet at the intake of the feeder, this will cause a correspondingly unused space to occur on every deck of the dryer, since the dryer itself must operate continuously even though the discharging end of the tiple stops. On the other hand, by the employment of the control feeder of the present invention, such a momentary delay on the part of the operator will result in an unused space on only one deck of the dryer, and the delayed veneer sheet will then be delivered automatically into the proper space on the next deck of the dryer. Consequently the present invention reduces the likelihood that maximum capacity of the dryer will not be efficiently utilized while the feeder is operating. With the motor for the elevator assembly E automatically caused to operate at the proper relative speed with respect to the dryer speed and operating continuously, the simple mechanical operating control for the limit switch for the feed cams and for the stop arms is all that is necessary in order to time the delivery by the tiple assembly properly. Only a minimum amount of care and attention on the part of the operator is required.

Various modifications could, of course, be made in the construction of the individual parts of the continuous feeder without departing from the principle of the invention. It is essential, however, for achieving the objects mentioned, that the up and down travel of the discharging end of the tiple assembly be maintained continuously and without interruption during the operation of the feeder, that one half of this cycle of the travel take place within the same length of time in which the discharging end of the tiple moves from one deck of the dryer to another during the other half of the cycle, and that this continuous travel of the discharging end of the tiple be properly synchronized with operating speed of the dryer and in turn control the rate at which each individual sheet will be received at the intake end of the tiple.

I claim:

1. In a device for loading veneer sheets of uniform length into a multiple deck dryer, a conveyor assembly having a discharge end moving vertically continuously into and out of alignment with the respective decks of said dryer, continuously operating motor-driven means alternately raising and lowering said discharge end, said means including a variable speed motor running at one speed while said discharge end is being moved vertically in one direction and at a multiple of such speed, based on the number of decks in said dryer, while said discharge end is being moved in the opposite direction, a mechanical switch-operating device, connected with said motor and motor-driven means, causing a change over from one speed of said motor to the other respectively as said discharge end reaches the upper and lower limits of its travel, sheet gripping and moving feed cams at the intake end of said conveyor assembly, driving means for rotating said feed cams intermittently, and a control au-

tomatically actuating said last mentioned driving means, said control operated by the continuously operating means raising and lowering the discharge end of said conveyor assembly.

2. In a feeder of the character described for feeding veneer sheets into a multiple deck player, a conveyor assembly having a discharge end moving vertically continuously into and out of alignment with the respective decks of said dryer, continuously operating motor-driven means alternately raising and lowering said discharge end, said means including a variable speed motor operating in synchronism with the operating speed of said dryer and running at one speed while said discharge end is being moved downwardly and at a multiple of such speed, based on the number of decks in said dryer, while said discharge end is being moved upwardly, and a mechanical automatic switch-operating device, connected with said motor and motor-driven means, causing a change over from one speed of said motor to the other respectively as said discharge end reaches the upper and lower limits of its travel, said switch-operating device including a rotating cam element having its rotation timed with the up and down travel of said discharge end.

3. In a feeding device of the character described for feeding veneer sheets into a multiple deck dryer, a conveyor assembly having a discharge end moving vertically continuously into and out of alignment with the respective decks of said dryer, continuously operating means alternately raising and lowering said discharge end, said means including a motor operating in synchronism with the operating speed of said dryer, sheet gripping and moving means at the intake end of said conveyor assembly, a motor operating said sheet gripping and moving means, and a control operated by said continuously operating means for said discharge end and automatically causing said last mentioned motor to operate intermittently.

4. In a device for loading veneer sheets of uniform length into a multiple deck dryer, a motor-operated conveyor having a discharge end moving vertically continuously into and out of alignment with the respective decks of said dryer, continuously operating motor-driven means alternately raising and lowering said discharge end, said means including a variable speed motor running at one speed while said discharge end is being moved downwardly and at a multiple of such speed, based on the number of decks in said dryer, while said discharge end is being moved upwardly, sheet gripping and moving means at the intake end of said conveyor, a motor operating said sheet gripping and moving means, and a control operated by said continuously operating means for said discharge end automatically causing said last mentioned motor to operate intermittently.

5. The combination set forth in claim 2 with the addition of sheet gripping and moving feed cams at the intake end of said conveyor assembly, driving means for said feed cams, and a mechanically-operated control automatically actuating said last mentioned driving means, said last mentioned control including a rotating, switch-actuating element rotated by said continuously operating means for said discharge end.

6. A feeder for feeding sheet material into a multiple deck processing device including a conveyor assembly having an intake end supported at a fixed height and a discharge end moving vertically continuously into and out of alignment with the respective decks of said processing device, continuously operating motor-driven means alternately raising and lowering said discharge end, said means including a variable speed motor running at one speed while said discharge end is being moved vertically in one direction and at a multiple of such speed while said discharge end is being moved in the opposite direc-

tion, a mechanical switch-operating device, connected with said motor-driven means, causing a change over from one speed of said motor to the other respectively as said discharge end reaches the upper and lower limits of its travel, sheet gripping and moving means, a mechanically-operated control automatically actuating said last mentioned driving means and operated by the continuously operating means for said discharge end, and a carriage supporting said intake end of said conveyor and said sheet gripping and moving means, said carriage mounted for limited movement in a horizontal plane to accommodate the vertical travel of said discharge end.

7. A feeding device for feeding veneer sheets into a multiple deck dryer including a conveyor assembly having an intake end supported at a fixed height and a discharge end moving vertically continuously into and out of alignment with the respective decks of said dryer, continuously operating motor-driven means alternately raising and lowering said discharge end, said means including a variable speed motor operating in synchronism with the operating speed of said dryer and running at one speed while said discharge end is being moved vertically in one direction and at a multiple of such speed, based on the number of decks in said dryer, while said discharge end is being moved in the opposite direction, a switch-operating device, connected with said motor-driven means, causing a change over from one speed of said motor to the other respectively as said discharge end reaches the upper and lower limits of its travel, said switch-operating device including a rotating cam element making one revolution with each cycle of said discharge end, sheet gripping and moving feed cams at said intake end of said conveyor, driving means for said feed cams, a mechanically-operated control automatically actuating said last mentioned driving means connected with the continuously operating means for said discharge end, and a carriage supporting said intake end of said conveyor and said feed cams, said carriage mounted for limited movement in a horizontal plane to accommodate the vertical travel of said discharge end.

8. A feeder for feeding veneer sheets into a multiple deck dryer including a motor-operated conveyor assembly having an intake end supported at a fixed height and a discharge end moving vertically continuously into and out of alignment with the respective decks of said dryer, continuously operating motor-driven means alternately raising and lowering said discharge end, said means including a variable speed motor operating in synchronism with the operating speed of said dryer, running at one speed while said discharge end is being moved downwardly and at a multiple of such speed, based on the number of decks in said dryer, while said discharge end is being moved upwardly, a mechanical switch-operating device, connected with said motor-driven means, causing a change over from one speed of said motor to the other respectively as said discharge end reaches the upper and lower limits of its travel, sheet gripping and moving feed cams at said intake end of said conveyor, driving means for said feed cams, a mechanically-operated control automatically actuating said last mentioned driving means, said last mentioned control including a rotating, switch-actuating element rotated by said continuously operating means for said discharge end, a carriage supporting said intake end of said conveyor, said carriage mounted for limited movement in a horizontal plane to accommodate the vertical travel of said discharge end, and elevating means for said veneer sheets located adjacent said intake end of said conveyor assembly.

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