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HYDRAULIC LOG-BARKING APPARATUS HAVING OPPOSED
SLIT-NOZZLES AND LOG-ALIGNING CONVEYERS
1951

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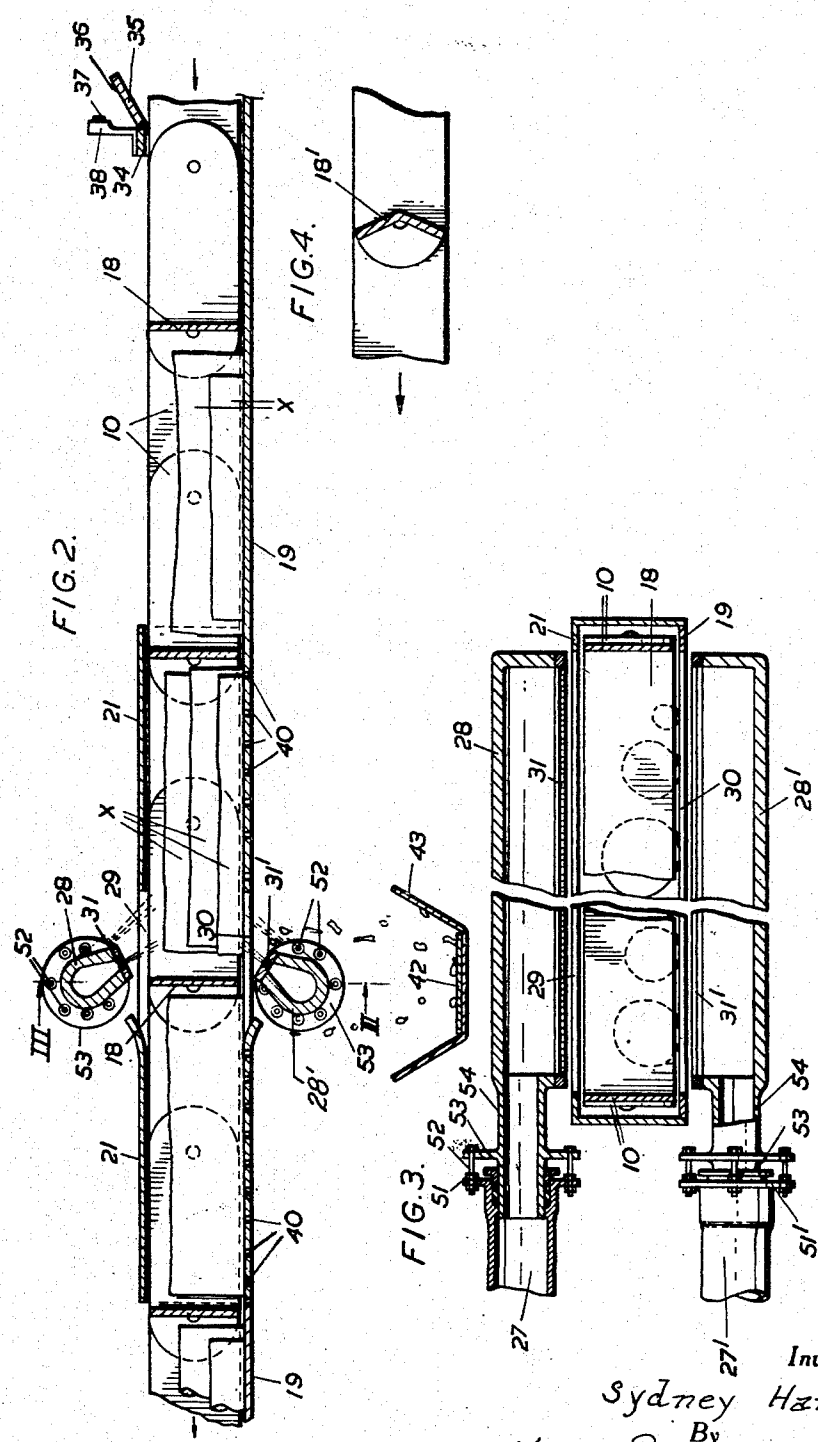
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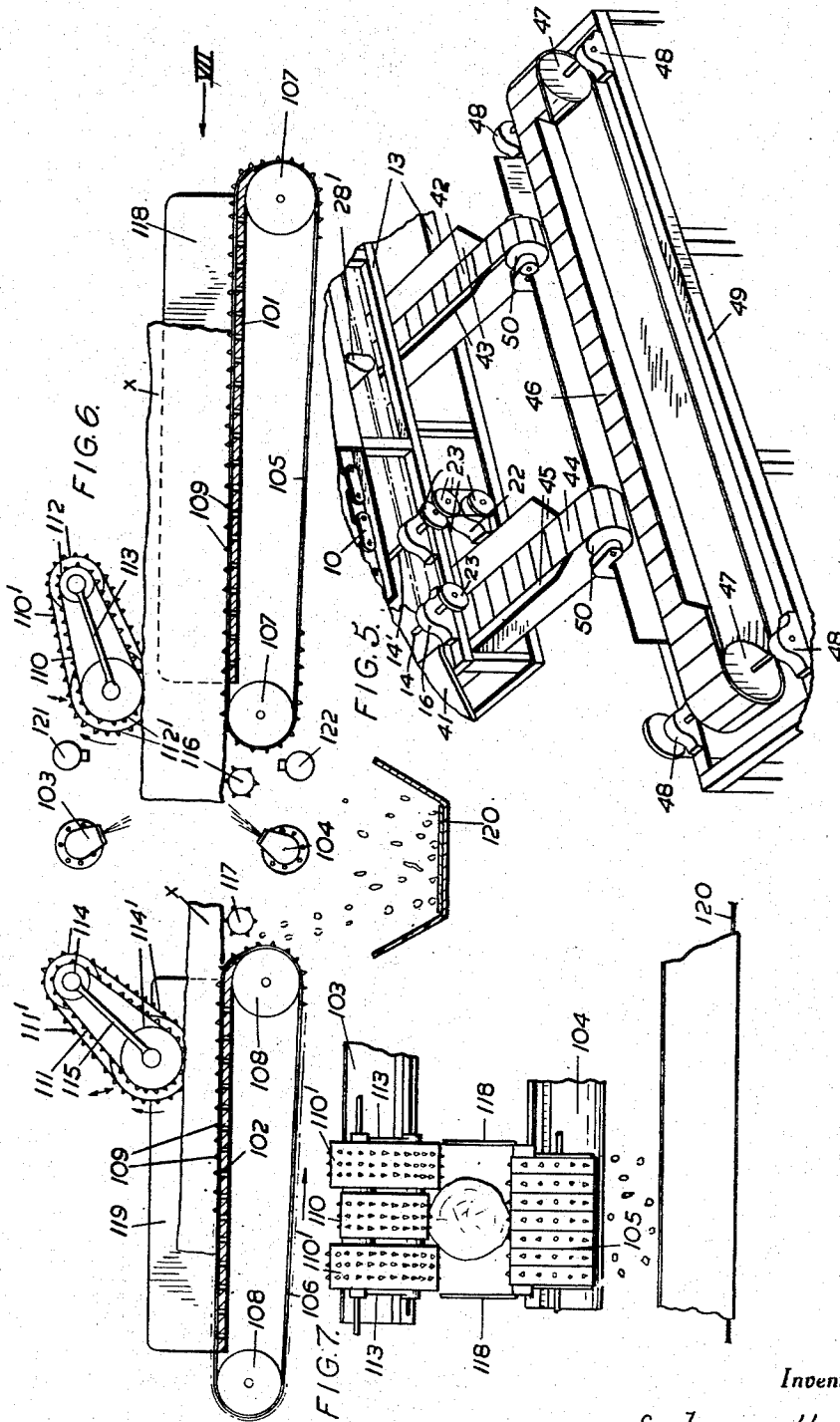
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HYDRAULIC LOG-BARKING APPARATUS
HAVING OPPOSED SLIT-NOZZLES AND
LOG-ALIGNING CONVEYERSSydney Hansel, Vancouver, British Columbia,
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This invention relates to the removal of bark from logs, sticks, slabs or edgings by subjecting them to the action of water at high pressure.

One object of the invention is to provide a novel means by which the bark is progressively removed from the logs over their entire circumference.

Another object of the invention is to provide a log barking apparatus in which barking is effected by a progressive peeling action produced by high pressure liquid jets.

A further object resides in the provision of a log barking apparatus capable of individually or simultaneously handling logs of different diameters or lengths without the necessity for any adjustments.

Still another object is to avoid displacement of the logs to prevent their escaping from the action of the liquid jets.

Another object resides in the provision of means for dressing the logs and feeding them to the barking position so that they are favorably located in relation to the liquid jets.

Other objects and advantages of the invention will be evident from the following detailed description of some embodiments thereof and of the drawings illustrating said embodiments. In said drawings:

Figures 1A and 1B jointly show one apparatus in perspective diagram;

Figure 2 is a longitudinal sectional view showing details of the barking unit;

Figure 3 is a transverse section on line III—III of Figure 2;

Figure 4 shows a modification of the barking conveyor;

Figure 5 is a detail perspective view illustrating the bark disposal features of the apparatus of Figure 1A;

Figure 6 is a longitudinal view showing diagrammatically a modification of the log barking device; and

Figure 7 is an end view of Figure 6 as seen in the direction of arrow VII.

The removal of the bark from logs by means of one or more jets of water at high pressure directed against the surfaces of the logs is well known but difficulties have resulted from such systems which have been used commercially, among the more important of which are the entire removal of the bark from each log in a single operation; the tendency particularly of the smaller size logs to be deflected by and escape from the action of the water jets; the very substantial space occupied by the plant; and the efficient dressing of the logs and feeding to the

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barking station. These difficulties have resulted in the need for considerable man-power at each plant and in an uneconomical rate of production of clean barked logs.

The present invention provides an improved or novel method and apparatus which eliminates or substantially reduces these difficulties. It allows for the treatment of a number of logs simultaneously and the dressing and feeding of the logs in batches to the barking station. It also ensures that the logs will be barked over their entire area during a single pass and that they cannot escape from the water action.

The apparatus employed in the barking of logs according to the embodiment of the invention illustrated in Figure 1 comprises a barking unit A through which the logs are moved progressively in batches and subjected to the action of slit jets of water impinging against the entire bark surface of each log; a dressing unit B in which the logs to be barked are dressed and arranged so that they arrive at the output end of said unit in an end-on condition and are spaced so that they can be handled individually; and a transfer unit C in which the logs are batched and by which they are conveyed to the barking unit.

The barking unit is shown as including a conveyor consisting of a pair of laterally spaced endless chains 10 supported by pairs of sprocket wheels 11, 12 mounted at opposite ends of a frame 13 on shafts 14, 15 respectively which are journaled in pairs of bearings 16, 17. The chains are interconnected by transverse plates 18 arranged at intervals in excess of the maximum length of log which the unit is designed to handle, these plates and the chains forming a series of compartments in which the logs to be treated are accommodated. The upper run of the conveyor travels over a stationary table 19 along which the logs are moved during the barking operation, said table being supported above the frame 13 by pillars 20. The table has fixed or integral therewith a hood 21 of inverted U-shaped cross-section which forms with the table an open-ended chamber through which the logs are arranged to pass and in which the barking operation is carried out. The barking conveyor is driven from an electric motor 22 by a belt and pulley or equivalent drive 23 and an intermediate shaft 14' to the shaft 14.

Barking of the logs is effected as they pass through the chamber formed by the hood 21 by upper and lower oppositely directed slit streams of water at high pressure, for example, between 900 and 1500 lbs. per sq. inch. The water is sup-

plied from a pump 24 driven by an electric motor 25 and passes through a conduit 26 which is branched at 27, 27' to a pair of nozzle housings 28, 28'. These nozzle housings are arranged transversely of the conveyor, the upper housing registering with an opening 29 in the hood 21 and the lower housing registering with an opening 30 (Figure 2) in the table 19, so that jets of water can be projected both downwardly and upwardly against the logs as they pass through the barking chamber. The housings are each formed with a slit nozzle 31 or 31' having a length, as shown in Figure 3, corresponding to the width of the conveyor compartments, so that the jets of water from the upper housing impinge against the entire upper surface portions of the logs while those from the lower housing impinge against the entire lower surface portions of the logs.

The logs to be barked are arranged in the conveyor compartments so that they lie lengthwise of the conveyor, the jet action thus being applied so as to commence at one end of the logs and to pass along them as they are moved through the barking chamber. Further, in order that the entire surface of each log shall be subjected to the jet action it is important that the logs in the conveyor compartments shall be placed therein so that they lie side by side and not on top of one another. For this reason only sufficient logs are placed in each conveyor compartment as to form a single layer. Moreover, the height of the barking chamber formed by the hood 21 is such as to provide for the passage of logs of a predetermined maximum diameter and means are provided in front of the forward end of the barking chamber to prevent the admission thereto of oversize diameter logs which might damage the conveyor or water jet mechanism. Such means, in the embodiment illustrated, comprises a switch controlling the circuit of the conveyor driving motor and mounted on an upstanding support 34 straddling the conveyor. The switch consists of a hinged plate 35 which carries an insulated contact 36 engageable with a second insulated contact 37 mounted on a plate 38 fixed to the support 34, said hinged plate being normally positioned, as shown in Figure 2, so as to be engaged by the leading end of an oversize diameter log, or a superposed log, and thus rocked to close the contacts 36, 37. This closing of the contacts is arranged to break the circuit of motor 22 in any convenient or known manner and is not shown in the drawings. To prevent damage to the switch and provide sufficient time lag for the stopping of the conveyor, the contact 37 may be flexibly mounted so that it will be pressed rearwardly by the plate 35 under the action of an advancing log and will return to its normal position once said log has been removed from the conveyor.

The table 19 is perforated as at 40 (Figure 2) at least along that portion of its length which forms the base of the barking chamber so as to allow for escape of the barking water. The barked and cleaned logs are carried to the discharge end of the barking conveyor where they are transferred to a chute 41. Some of the bark removed from the logs, more especially the smaller pieces, fall through the opening 30 in the table 19 and are collected by an endless transverse conveyor 42 (see Figures 2 and 5), the upper run of which moves within a fixed trough shaped guide 43 extending from one side of the frame 13. The remainder of the bark travels with the logs to the discharge end of the conveyor, from

whence it falls on to a second endless transverse conveyor 44 having its upper run moving within a fixed trough shaped guide 45 extending from the same side of the frame 13 as the guide 43. The conveyors 42, 44 discharge the bark to an endless conveyor 46 extending parallel to the barking conveyor and mounted on rollers 47 journaled in pairs of bearings 48 at opposite ends of a frame 49, the bark being removed from conveyor 46 for disposal in any convenient manner. The transverse conveyors 42, 44 are mounted on rollers (not shown) and on rollers 50, 50 journaled respectively on the frames 13 and 49 and, with the conveyor 46, are suitably driven by one or more electric motors (not shown).

The nozzle housings 28, 28' are mounted so as to enable the direction of the water jets to be adjusted relatively to the travel of the logs. As shown in Figure 3, the conduits 27, 27' are flanged at their ends 51, 51' respectively, and coupling rods 52 are provided to connect said flanged ends to flanges 53 on tube portions 54 extending from the nozzle housings. Either or both flanges 51, 53 of each pair may be provided with an annular series of bolt holes spaced so as to permit angular adjustment of the flange 53 with relation to the flange 51. Figure 2 shows in full and chain lines the two housings adjusted to direct the water jets towards the forward ends of the advancing logs at different angles to the plane of the conveyor. This angular adjustment of the nozzle housings is of considerable importance in the efficient barking of the logs since in their angular positions the jets produce a peeling action on the bark so as to prize the latter from the logs in the form of more or less long strips. The jet angle can thus be varied either according to the species of wood under treatment or to the barking propensities of the wood, which vary according to the season of the year.

The transverse plates 18 of the barking conveyor are shown in Figures 1 and 2 as being flat and arranged perpendicular to the conveyor run. However, in order to permit the water jets to be directed against the forward ends of the advancing logs as the latter approach the nozzle housings, said plates 18 may preferably be of angular or V-shape as shown at 18' in Figure 4, with the apex facing the opposite direction to that of the travel of the conveyor.

The treatment of the logs on the barking conveyor as described above requires that they shall be located lengthwise on said conveyor with respect to their direction of travel. In commercial barking practice the logs may be brought to the barking position from a storage or assembly position by suitable conveying means and the present invention envisages the use of such conveying means by which the logs are dressed so that they are in an end-on position in relation to the barking conveyor. Preferably also such conveying means provides for batching or grouping of the logs corresponding to the capacity of the barking conveyor compartments formed between the chains 10 and plates 12. Such conveying means, which will now be described, comprises the dressing unit B and transfer unit C previously mentioned.

The dressing unit B, which is shown in Figures 1A and 1B as lying parallel to the barking unit A and is arranged to one side thereof with its leading or delivery end slightly in advance of the rear end of the barking conveyor, comprises a frame 60 supporting at its rear end an endless conveyor band 61 on to which the logs to

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be barked are delivered as by means of a chute 62. The conveyor is carried on rollers 63, 64 having their axes journaled in bearings 65, 66 on the frame 60. The logs come to rest on the conveyor band in jumbled or haphazard positions and before leaving said conveyor they pass through a spacing gate 67 which locates them in more or less predetermined paths lengthwise of said conveyor and also in more or less end-on positions, while at the same time holding back those logs which are lying on other logs. The gate comprises a pair of upright side posts formed as extensions of the bearings 66 at the forward end of the conveyor in which is supported a vertically adjustable transverse beam 68 carrying a plurality of depending bars or springs 69. Since the bars are spaced apart by a distance greater than the maximum diameter of the logs, the latter, especially the smaller diameter logs, although being positioned by the bars in more or less predetermined longitudinal paths, may not be accurately aligned on the conveyor when they leave the gate. Such longitudinal alignment of the logs is thereafter effected by a series of transverse rollers over which the logs are caused to pass after leaving the conveyor 61. These aligning rollers, four of which are illustrated at 70, 71, 72 and 73 respectively, are journaled in bearing blocks 74 mounted on the frame 60 immediately beyond the forward end of the conveyor 61. The rollers are of equal diameter and are arranged with their axes in a common horizontal plane. They are, however, each rotated at a speed greater than that of the preceding roller i. e., roller 71 turns faster than roller 70, roller 72 turns faster than roller 71, and roller 73 turns faster than roller 72. Roller 70 may be rotated so that its surface speed is greater than that of conveyor 61. The conveyor 61 and the rollers 70-73 are driven from an electric motor 75 through a belt and pulley or equivalent drive 76 including a nest of driving pulleys 77 of progressively increasing diameter, the smallest driving the roller 64 of the conveyor and the others driving the rollers 70-73. The logs, after leaving the rollers, pass on to a further endless conveyor 78 passing about rollers 79, 80 having their axes journaled in pairs of bearings 81, 82 on the frame 60 and said conveyor may be driven from the nest of pulleys 77 by a belt and pulley or equivalent drive 83 either at the surface speed of the roller 73 or at a rather higher speed than said roller. In addition to the straightening effect applied to the logs the rollers 70-73 also serve to space the logs lengthwise of the conveyor 78 so that they can be individually inspected for size or any other requirement before being passed to the barking conveyor and unsuitable logs removed. This longitudinal spacing of the logs is assisted by the action of the gate 67, which prevents too many logs from passing on to the rollers 70-73 simultaneously.

The frame 60 is formed at its forward end with an extension 85 arranged at right-angles thereto and terminating adjacent the barking unit A rearwardly of the switch support 34. This extension frame carries bearings 86 in which is journaled one of a pair of rollers 87, 88 the other of which is journaled in bearings 89 (only one of which is shown) at the adjacent side of the barking unit frame 13. These two rollers 87, 88 support an endless transfer conveyor belt 90 driven from an electric motor 91 through a belt and pulley or equivalent drive 92 and which at intervals along its length is provided with

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transverse upstanding plates 93. The spacing of the plates 93 is approximately equal to the width of the barking conveyor between the chains 10. One edge of the conveyor 90 is located adjacent the delivery end of the conveyor 78 so that the logs leaving said latter conveyor pass on to the conveyor 90. The transfer conveyor 90 is driven at a speed such that each compartment thereon formed between a pair of successive plates 93 will be substantially filled with logs from the conveyor 78 while said compartment travels across the end of said conveyor. It is important therefore that the supply of logs from the conveyor 78 shall not be in excess of the capacity of the transfer conveyor and the motor 75 driving the belt 61 and rollers 70-73 is conveniently fitted with a gear box 75' by which the speeds of said belt and rollers can be controlled. The barking conveyor also is driven in synchronism with the transfer conveyor 90 so that the logs in each compartment on the transfer conveyor are off-loaded on to the barking conveyor while one compartment on the latter conveyor travels across the end of the transfer conveyor, said compartments each being of a length in excess of the width of the transfer conveyor so as to enable this operation to be effected without stopping the barking conveyor. Off-loading of the logs from the transfer conveyor directly into the compartments of the barking conveyor is achieved by locating the discharge end of the transfer conveyor above the upper run of the barking conveyor. The transfer unit is fitted with fixed guides 94, 95 at opposite sides of the upper run of the conveyor 90, the guide 94 aligning the forward ends of the logs passing on to the conveyor 90 from the conveyor 78 and the guide 95 being cut away adjacent the conveyor 78 to permit the logs to pass on to the transfer conveyor. The guides 94, 95 are carried by brackets 96 secured to the extension frame 85.

From the foregoing it will be evident that, provided suitable speeds are chosen for the several conveyors and rollers, the apparatus will function to dress, batch and completely bark the logs in a single operation and in a substantially automatic manner with a minimum of supervision. Apart from an operator at the input end of the batching or transfer unit C (who may also inspect the logs approaching the delivery end of conveyor 78 and remove unsuitable logs by rolling them laterally off said conveyor) and an operator at the gate 67 to ensure that the logs are passed through at the maximum rate consistent with the capacity of the transfer and barking units, no further man-power need be required. In the United States of America and Canada the pulpwood logs for which the apparatus of Figure 1 is particularly, though not exclusively, designed are generally of a length of between four and eight feet and a diameter of between two and twenty inches, and such logs can be rolled quite easily by a single operator on the conveyors 61 and 78.

The foregoing detailed description refers particularly to the barking of logs, by which is understood lengths of timber having bark-covered cylindrical surfaces. The apparatus may also be arranged to bark sawed lengths such as slabs and edgings which are only partly surfaced with bark. In such cases the slabs or edgings, which can quite easily be filled manually into the barking compartments without using the dressing and transfer units, are arranged with their bark surfaces uppermost. This requires only the use

of the upper nozzle housing 28 to supply the barking water and the branch conduit 27' is fitted with a cock 27'' enabling the water supply to the lower nozzle housing 28' to be cut off.

When the unbarked logs are being batched an operator may be required to check the loading of the logs on the conveyor 90 to ensure that the compartments on said conveyor are not overfilled. An operator may also be required to check the off-loading of the logs from the conveyor 90 to the barking conveyor to ensure that the logs are all lying flat on the table 19. However, in case some of the logs off-loaded on to the barking conveyor should have their leading ends resting on the plates 18 the switch plate 35 may be spring-loaded so that said logs are pushed off the plates 18 as the conveyor advances, the switch circuit being closed only if plate 35 should be engaged by an oversize log whose rear end is abutted by the following plate 18. During the actual barking operation the hood 21 prevents the possibility of the logs becoming displaced or superposed on one another under the action of the high pressure water jets and also protects any operator in the vicinity from the effects of the water.

While it is more usual in the United States of America and Canada to cut pulpwood logs to the relatively short lengths mentioned above, the method of barking by means of transverse slit jets of water which impinge on opposite sides of the logs is equally applicable to much longer logs which, particularly in Sweden and Finland, may have a length of up to 26 feet. The apparatus described with reference to Figures 1 to 5 is, however, unsuitable for these larger logs, particularly in regard to the handling of logs in batches. It is therefore preferred to use in such cases the apparatus diagrammatically illustrated in Figures 6 and 7, which is designed for operating on the logs one at a time.

The apparatus shown in these figures comprises a rear perforated table 101 and a forward perforated table 102, said tables being longitudinally aligned and appropriately spaced between their adjacent ends to permit the jets of water from the upper and lower nozzle housings 103, 104 to impinge against the logs as the latter are advanced through the apparatus. Each table supports the upper run of one of a pair of endless, chain conveyor belts 105, 106 passing about end rollers 107 and 108 respectively which are journaled in the machine frame (not shown), said belts being driven in any convenient manner at equal speeds. Each belt is provided throughout its length with upstanding pins, studs or the like 109 arranged in transverse rows which engage the logs and thus convey them through the apparatus, and this gripping effect of the belts on the logs is assisted by a series of studded or like endless belts arranged above each conveyor belt. In the arrangement shown each of said series comprises a centre belt 110 or 111 and two side belts 110' or 111', the centre belt engaging against the uppermost surface portion of each log and the side belts engaging adjacent side surface portions, as will be clear from Figure 7. The belts 110, 110' are supported each on a pair of freely rotatable rollers 112, 112', the rollers 112 being coaxially journaled in the machine frame and the rollers 112' being journaled in supporting arms 113 mounted for pivotal movement on the common axis of the rollers 112. The belts 111, 111' are each similarly supported on a pair of freely rotatable rollers 114, 114', the

latter being journaled in supporting arms 115. The pairs of arms carrying the rollers 112' and 114' may be arranged so that each series of belts 110, 110' or 111, 111' is urged gravitationally to engage the logs; or said pairs of arms may be resiliently loaded for this purpose. Under the pressure exerted on them by these series of belts the logs are maintained in contact with the conveyor belts 105, 106 and are prevented from being caused to slide over said belts due to the high pressure water jets. As will be seen from Figure 6, the two series of upper belts are located above the adjacent ends of the conveyor belts and thus operate to hold the logs steady while they are passing across the water jet zone between the two belts. Additional supporting rollers 116, 117 for the logs may be provided between the belts. The tables are shown provided with side guides 118, 119 respectively.

By reason of the greater length of log which the apparatus of Figures 6 and 7 is capable of handling, the spacing between the two conveyor belts 105, 106 may be considerably greater than the openings 29, 30 in the apparatus of Figures 1 to 5. Most, if not all of the removed bark will therefore discharge through the space between said belts and it may in general be necessary to employ only the one transverse bark disposal conveyor 120 beneath said space instead of the two conveyors 42, 44 of the earlier embodiment. In addition to the peeling action produced on the bark by the slit jets, other nozzles 121, 122 may be provided above and below the path of travel of the logs and in advance of the nozzle housings 103, 104 (considered in relation to the travel of the logs) to cut or break down the bark before it is finally removed by the slit jets. These nozzles 121, 122 are thus preferably arranged to provide water jets which are substantially perpendicular to the travel of the logs and are of particular advantage in the case of cedar logs, where the bark, although quite easy to remove, is of a fibrous nature and tends to clog the conveyors. Thus due to the cutting action produced by the water jets from the nozzles 121, 122 the bark peeled from the logs will come away in short pieces and will be collected and removed by the conveyor 120. The nozzles 121, 122 are fitted with means (not shown) for turning them on and off as required.

As in the earlier embodiment, the nozzle housings 103, 104 are preferably constructed to allow for adjustment of the jet angle, and a hood may be provided to enclose the jet zone and possibly also the upper series of belts 110, 110' and 111, 111'. An aligning device similar to that shown at B in Figure 1B may be employed to feed the logs one at a time and in end-on disposition to the barking conveyor 105 but the batching and transfer device C of the earlier embodiment will not be required.

While in the preceding description reference has been made to the barking of pulpwood logs, the invention nevertheless is equally suitable for the barking of logs required for other purposes, e. g., sawmill logs.

I claim:

1. Log barking apparatus comprising means by which the logs are progressively advanced longitudinally, a pair of housings arranged one at either side of the path of travel of the logs, means supplying water at high pressure to said housings, and a slit nozzle in that side of each housing facing said path of travel, said slit nozzles extending transversely of the direction of log travel and being of a length not less than the log width.

2. Log barking apparatus as claimed in claim 1 wherein the slit nozzles are disposed so as to direct the water jets in an inclined direction counter to that of the log feed.

3. Log barking apparatus comprising a conveyor for the logs, means for driving said conveyor to advance the logs lengthwise, a pair of nozzle housings arranged respectively above and below said conveyor and extending transversely in relation to the conveyor feed, and means supplying liquid at high pressure to said nozzle housings, the latter each having at that side facing the conveyor a slit nozzle extending transversely of the direction of feed of the conveyor and having a length not substantially less than the log width.

4. Log barking apparatus as claimed in claim 3, wherein the logs are advanced singly between the nozzle housings.

5. Log barking apparatus as claimed in claim 3, wherein the logs are arranged side by side in a single layer on the conveyor.

6. Log barking apparatus comprising a pair of spaced conveyor chains and plates secured transversely at intervals between said chains so as to form therewith a series of conveyor compartments in which the logs are arranged lengthwise of the conveyor, means for driving said conveyor, a barking chamber through which said conveyor passes, a pair of nozzle housings arranged respectively above and below said chamber and extending transversely in relation to the conveyor, openings in the walls of said chamber opposite said nozzle housings, and means supplying liquid at high pressure to the nozzle housings, the latter each having at that side facing the conveyor a slit nozzle extending transversely of the direction of feed of the conveyor and having a length approximately equal to the full log width.

7. Log barking apparatus as claimed in claim 6, wherein each nozzle housing is angularly adjustable about an axis transversely of the conveyor.

8. Log barking apparatus as claimed in claim 6, wherein each nozzle housing is formed with a slit nozzle extending over the full width of the conveyor.

9. Log barking apparatus as claimed in claim 6, wherein the barking chamber comprises a rectangular open-ended casing having transverse openings in its flat upper and lower walls registering with the nozzle housings, the said lower wall forming a perforated table supporting the logs and along which the conveyor moves.

10. Log barking apparatus as claimed in claim 6, wherein the barking chamber comprises a rectangular open-ended casing having transverse openings in its flat upper and lower walls registering with the nozzle housings, the said lower wall extending longitudinally beyond the casing to form a log-supporting table along which the conveyor travels and being perforated at least along that portion corresponding to the barking chamber.

11. Log barking apparatus comprising a conveyor on which the logs are placed in a single layer, means for driving said conveyor to advance the logs lengthwise, a fixed open-ended casing through which the conveyor travels, means for supplying transverse slit streams of liquid both upwardly and downwardly into said casing so as to impinge against the bark surfaces of the logs over the full log width, and means in advance of the casing for automatically interrupting the conveyor drive in the event that the diameter of a log on the conveyor exceeds the height of the casing.

12. Log barking apparatus as claimed in claim 11, wherein the conveyor is driven by an electric motor the circuit of which is controlled by a switch mounted above the conveyor in advance of the casing and having a movable element located at a height not substantially less than the internal height of said casing.

13. Log barking apparatus comprising a conveyor on which the logs are arranged lengthwise, means for driving said conveyor, means for directing two transverse slit jets of liquid in opposed directions against the bark surfaces of the logs over their full width, and mechanical means for aligning the logs with said conveyor prior to their transfer thereto.

14. Log barking apparatus comprising a compartmented conveyor on which the logs are placed lengthwise in a single layer, means for driving said conveyor, means for directing two transverse slit jets of liquid in opposed directions against the bark surfaces of the logs over the full log width, mechanical means for aligning the logs with said conveyor prior to their transfer thereto, and means for batching the aligned logs and placing said batches in successive conveyor compartments.

15. Log barking apparatus comprising a conveyor on which the logs are placed lengthwise, means for driving said conveyor, means for directing two transverse slit jets of liquid in opposed directions against the bark surfaces of the logs over their full width, a row of transversely arranged rollers towards which the logs are fed prior to being placed on said conveyor, means for driving successive rollers at speeds higher than that of the immediately preceding roller thereby to align the logs with said conveyor, and means for transferring the logs from said rollers to said conveyor.

16. Log barking apparatus comprising a compartmented conveyor on which the logs are placed lengthwise in a single layer, means for driving said conveyor, means for projecting two transverse slit jets of liquid in opposed directions against the bark surfaces of the logs over the full log width, a gate through which the logs are fed in an end-on direction so as to be segregated into a plurality of longitudinal rows, a row of transversely arranged rollers towards which the logs are moved from said gate, means for driving successive rollers at speeds greater than that of the immediately preceding roller thereby to align the logs with said conveyor, and means for batching the logs leaving said rollers and for transferring the batched logs to the compartments of said conveyor.

17. Log barking apparatus as claimed in claim 16, wherein the batching means for the logs comprises a continuously driven conveyor having upstanding transverse plates which form compartments to which the logs leaving the aligning rollers are delivered in end-on positions to lie transversely of the batching conveyor, said latter conveyor being arranged transversely of the barking conveyor with its discharge end overlying said barking conveyor.

18. Log barking apparatus comprising two longitudinally aligned conveyors on which the logs are progressively advanced in the direction of their length, a pair of nozzle housings extending transversely of the direction of feed of said conveyors and disposed intermediate their adjacent ends, and means supplying liquid at high pressure to said nozzle housings, the latter being provided with nozzles producing slit jets of liquid directed

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transversely and in opposed relation across the space between the conveyors so as to impinge against the bark surfaces of the logs over the full width thereof.

19. Log barking apparatus as claimed in claim 18, wherein each nozzle housing is angularly adjustable about an axis transversely of the conveyors.

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