June 4, 1957 J. L. GYLLENBERG 2,794,465

SLAB-BARKING MACHINE HAVING SWINGABLY MOUNTED AND PNEUMATICALLY BIASED BRUSH AND ROTARY CUTTERS

Filed Aug. 15, 1955 5 Sheets-Sheet 1

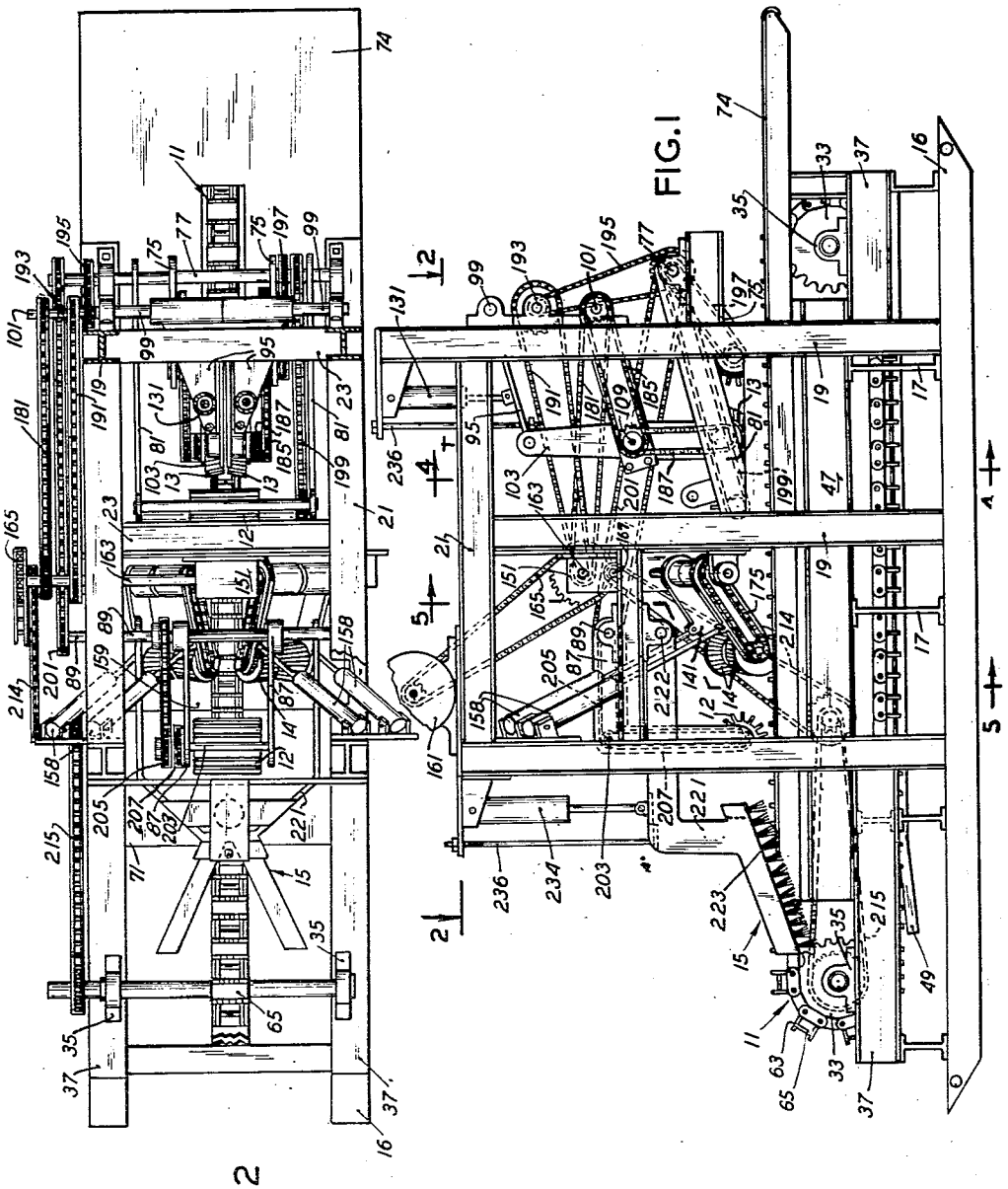


FIG. 1

FIG. 2

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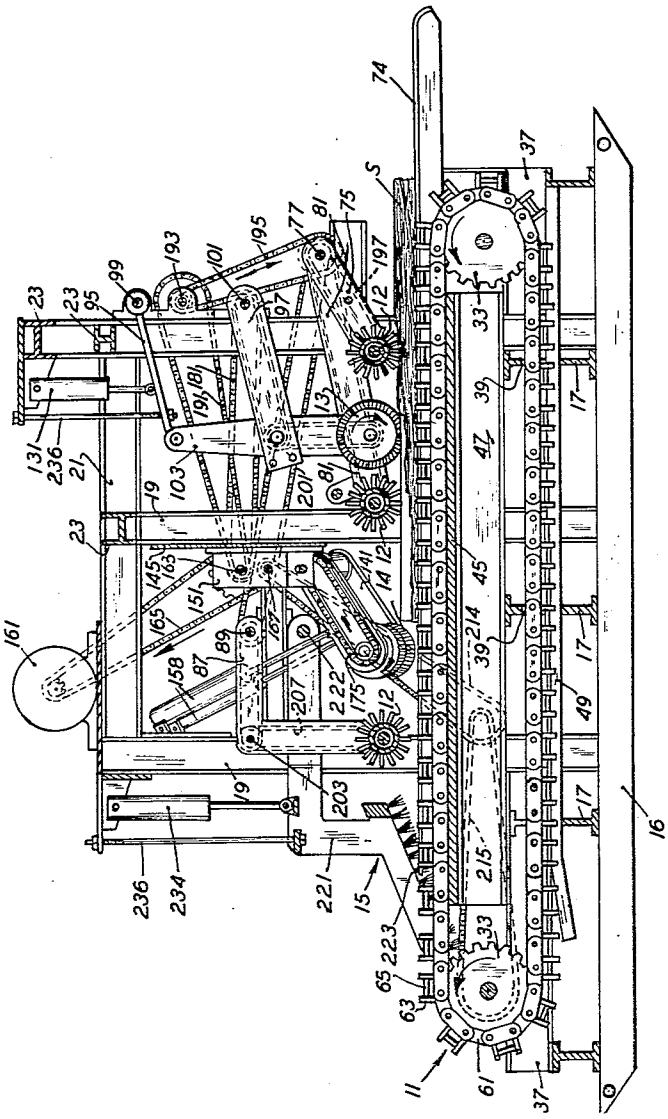


FIG. 3

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Filed Aug. 15, 1955 5 Sheets-Sheet 3

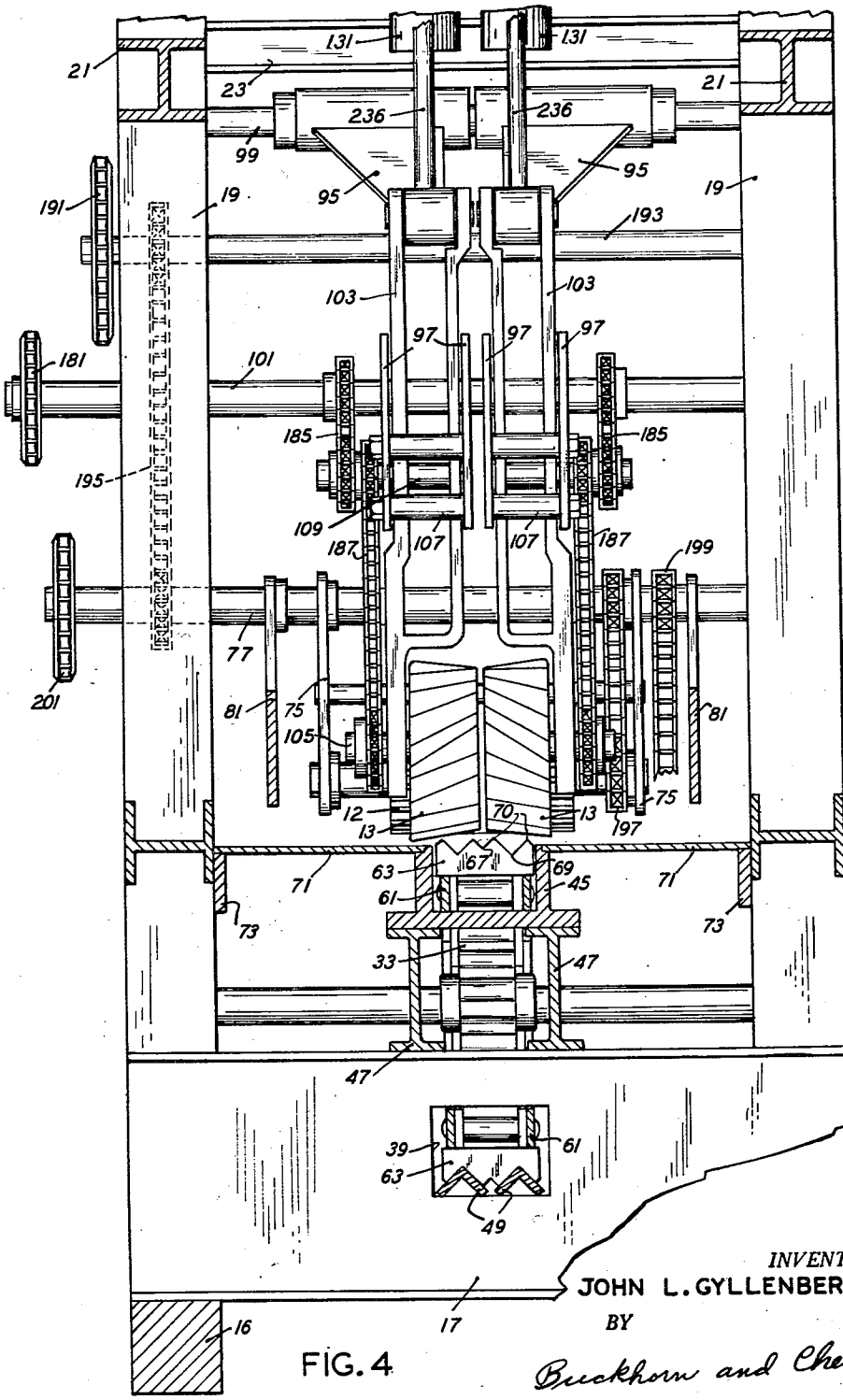


FIG. 4

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Filed Aug. 15, 1955 5 Sheets-Sheet 4

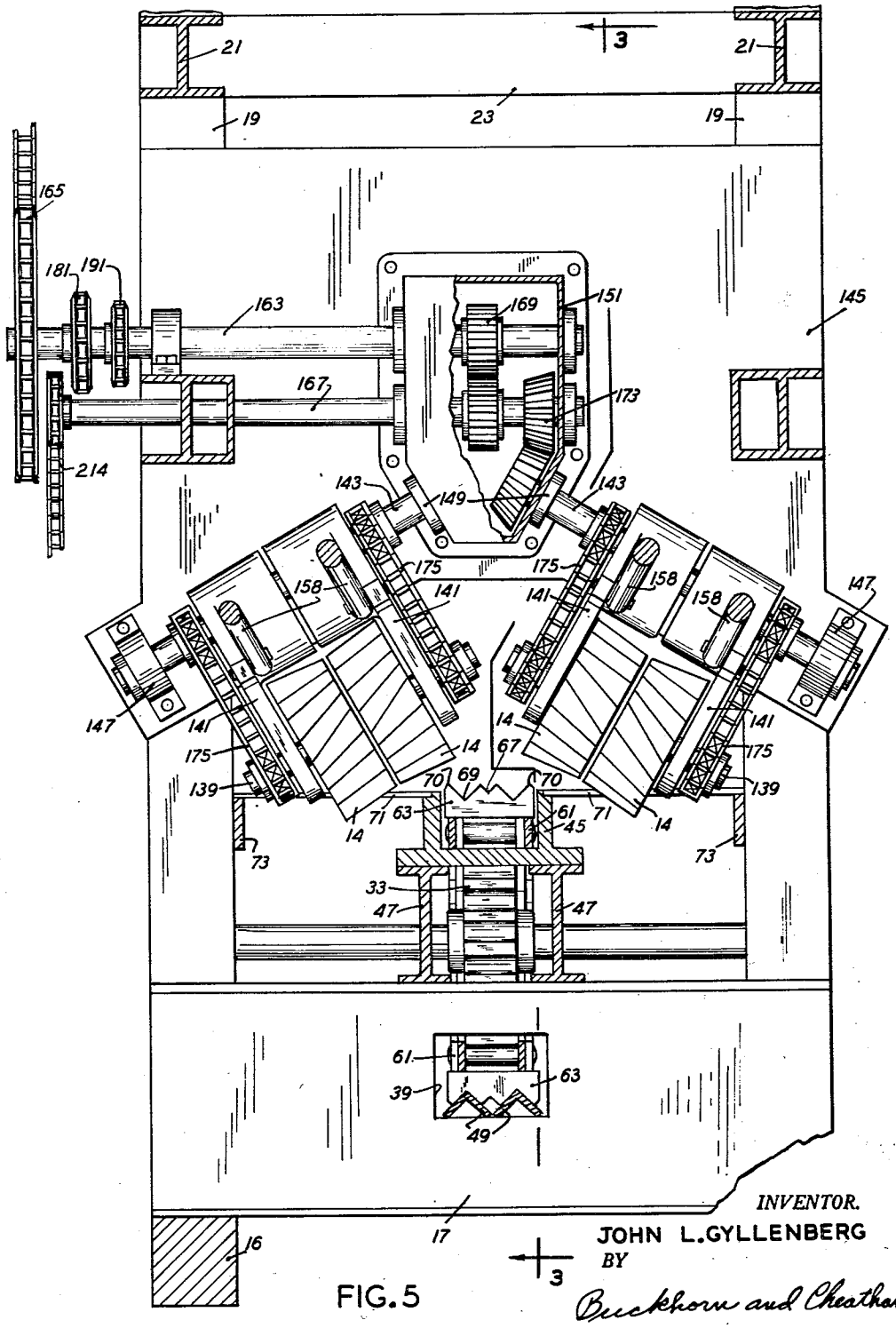


FIG. 5

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Filed Aug. 15, 1955 5 Sheets-Sheet 5

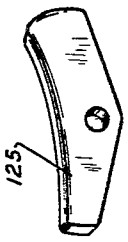


FIG. 8

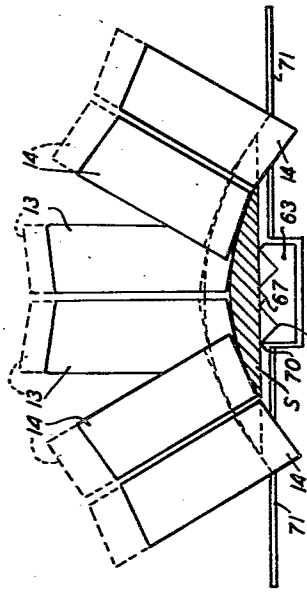


FIG. 9

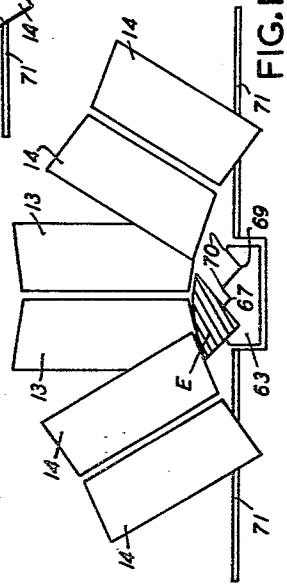


FIG. 10

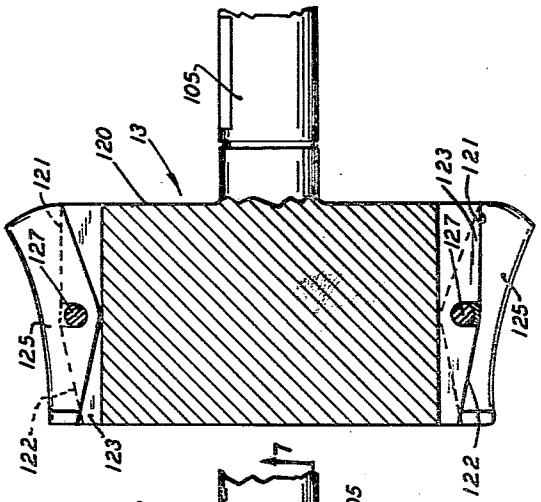


FIG. 7

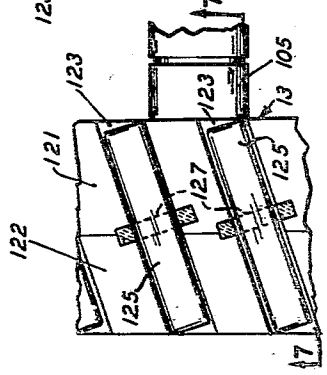


FIG. 6

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2,794,465

SLAB-BARKING MACHINE HAVING SWINGABLY MOUNTED AND PNEUMATICALLY BIASED BRUSH AND ROTARY CUTTERS

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Application August 15, 1955, Serial No. 528,182

18 Claims. (Cl. 144—208)

This invention relates to barking machines and particularly to machines for barking slabs and edgings. For convenience such a machine will be referred to hereinafter as a slab-barking machine.

Prior slab-barking machines have been extremely complex and expensive, and in general have not operated in a manner satisfactorily to remove all the bark from slabs, particularly slabs of different sizes and slabs having irregularly curved bark-covered surfaces.

It is a main object of the present invention to provide a barking-machine which is simple in construction as compared to prior barkers and is devised readily to properly engage and remove all the bark from slabs and edgings of varying sizes, lengths and shapes.

A further object of the present invention is to provide a slab-barking machine having barking tools specially mounted so that they may move inwardly and outwardly relative to slabs to be debarked to properly engage and accommodate the slabs.

A further object of the present invention is to provide a machine having improved barking instrumentalities for removing bark from slabs.

A further object of the present invention is to provide a barking machine having tools so arranged that they have continuous circumferential contact with the curved side of a slab regardless of the size thereof, within the operating range of the machine.

The machine of the present invention is characterized by including a plurality of barking tools arranged transversely of a path along which slabs to be debarked are fed, the tools being mounted for inward and outward movement relative to such path, and certain of the tools being mounted for movement from inward to outward positions along diverging paths to properly engage and accommodate different-sized slabs. The machine is further characterized in that those tools which move along diverging directions have end portions overlapping so that the tools will have continuous circumferential contact with a slab for a predetermined range of sizes of slab. The barking tools are characterized by having rocking teeth for properly engaging slabs, and the machine has a special brush operable on slabs, after they are subjected to the action of the tools, for removing loose bark and cambium-layer portions.

Various other objects of the present invention will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Fig. 1 is a side elevation of a machine embodying the concepts of the present invention;

Fig. 2 is a horizontal sectional view of the machine taken along line 2—2 of Fig. 1, with parts broken away;

Fig. 3 is a central, vertical, longitudinal, sectional view of the machine taken along line 3—3 of Fig. 5;

Fig. 4 is an enlarged vertical sectional view taken along line 4—4 of Fig. 1, showing part of the bark-removing tools;

Fig. 5 is an enlarged vertical sectional view taken along line 5—5 of Fig. 1, and showing the remainder of the barking tools in elevation;

Fig. 6 is a fragmentary view looking at the periphery of one of the bark-removing tools;

Fig. 7 is a cross-sectional view taken along line 7—7 of Fig. 6;

Fig. 8 is a perspective view of one of the barking teeth of a barking tool;

Fig. 9 is a schematic view illustrating the operation of the barking tools on a slab; and

Fig. 10 is a schematic view illustrating the operation of the barking tools on an edging.

General description

Referring to Fig. 3, the machine includes a conveyor 11 which cooperates with three rotary feed wheels 12 to feed a slab S through the machine from right to left, as the parts are shown. A first set of rotary barking tools 13 performs a barking operation on the central portion of the bark-covered surface of the slab, and a second set of rotary barking tools 14 performs a barking operation on the side portions of such surface. A wire brush at 15 functions to scrape the curved surface of the slab and remove loose or unremoved bark and cambium layer portions.

Detailed description

Referring to Figs. 1 and 2, the slab-barking machine includes an open framework, the principal parts of which include two spaced parallel skids 16 connected by cross members 17, and supporting the uprights 19 which are connected by stringers 21 and crosspieces 23.

The machine includes the endless conveyor 11 which is trained about a pair of sprocket units 33 (Fig. 3), the shafts of which are journaled by means of bearings 35 (Fig. 1) on stringers 37 of the open framework. The left-hand sprocket unit 33 in Fig. 3 is driven by means to be explained hereinafter, in a counterclockwise direction, to drive the upper run of the conveyor from right to left. The upper run of the conveyor 11 slides along and is guided by a channel-shaped guide 45 (Fig. 4) supported by stringers 47 which in turn are supported by cross members 17.

The lower run of the conveyor passes through openings 39 formed in certain of the cross members 17 and is slidably supported by a pair of rails 49 which extend through the openings 39 and are supported by such cross members 17.

The conveyor 11 includes an endless chain 61 (Fig. 3), on alternate pairs of the links on which are rigidly secured pairs of slab-supporting teeth 63, the teeth of each pair being rigidly connected by connecting pieces 65. As best shown in Fig. 5, each tooth 63 has a relatively small centrally located V-notch 67 and a pair of laterally spaced larger V notches 69, the purpose of which will presently appear. The notches define cusps 70 for supporting and penetrating the woody side of a slab.

Disposed in a plane just below that of the upper ends of the teeth of the upper run of the conveyor 11 is a table including spaced table portions 71 (Figs. 2 and 5) having their inner edges supported by the channel-shaped guide 45 and their outer edges supported by longitudinally extending stringer strips 73. The two table portions 71 are integrally joined to provide a wide table portion 74 at the right-hand end of the machine, as the parts are depicted in Fig. 2, so that slabs may be placed on this portion and slid thereoff onto the upper run of the conveyor 11.

Each of the rotary feed rolls 12 is mounted for swinging movement toward and away from the upper run of the conveyor 11 by means of a pair of arms pivotally supported on a transverse shaft journaled on the frame. The arms for the first feed roller 12 are indicated at 75 (Fig.

3), and the arms for the second feed roller are indicated at 81, both pairs of these arms 75 and 81 being pivoted on a shaft 77. The arms 81 are positioned outside of the arms 75. The arms for the third feed roller are indicated at 87, are of bell-crank shape and are mounted on a shaft 89. The feed rolls 12 are rotatably driven in a clockwise direction, as the parts are shown in Fig. 3, by means described hereinafter, at the same peripheral speed as that of the upper run of conveyor 11.

The first set of the debarking tools 13 comprise two rotary tools (Fig. 4) having inner faces disposed in very close adjacency and each being supported by a similar parallel linkage arrangement from the frame of the machine for independent movement, in parallel vertical planes, toward and away from the upper run of the feed chain. Referring particularly to Fig. 3, the linkage for each tool 13 shown includes an upper arm 95 and a lower parallel arm 97 which are pivoted, respectively, on shafts 99 and 101, supported by the frame, and which are pivotally connected at their other ends to a vertical link 103. The link 103, at its lower end, rotatably supports a cantilever shaft 105 (Fig. 4) of the associated barking tool 13. As best shown in Fig. 4, each lower arm 97 comprises a pair of spaced arm members straddling the associated link 103 and connected at their free ends by spacers 107. The pivotal connection of each arm 97 to the associated link 103 is by means of a rotary shaft 109 journaled in both the link and the arm.

The construction of a tool 13 is best shown in Figs. 6, 7 and 8. The tool shown includes a disc-shaped body 120 having the shaft 105 projecting axially from one side thereof and formed integrally therewith. The peripheral surface of the body includes a cylindrical portion 121 and a conico-frustum portion 122. Formed in the peripheral surface of the body are a plurality of helical grooves 123 which are equally circumferentially spaced about the periphery of the body. I have discovered that a helix angle of approximately 15 degrees results in a very satisfactory bark-removing tool.

Pivotally arranged within each groove 123 and guided by the side walls of the groove is a curved tooth 125 which slidably fits within the groove and is piovtally mounted intermediate its ends by means of a pivot pin 127 for rocking movement in the groove. As best shown in Fig. 7, the concave side or edge of a tooth faces radially outwardly of the body and the curvature of the concave side of the tooth is made such as to conform approximately to the curvature of the range of sizes of slabs to be debarked. As shown in Fig. 7, the concavely curved portion of a tooth projects beyond the periphery of the body 120 at all portions along the length of the tooth, so that only the tooth and not the body engages the bark of a slab. The pivot pin 127 is shown as fitting within a pair of U-shaped slots formed in the walls of a groove, the slots having a depth only slightly greater than that of the diameter of the associated pivot pin. The pivot pin may be retained in the slots in any convenient manner, such as by welding.

It will be noted that each tooth 125 has one end portion of a greater radial depth than that of the other, as best shown in Fig. 7, so that when the tooth assumes a position midway between its extremes of movement, the peripheral surface of the tool will have a generally conico-frustum shape, as schematically shown in Fig. 9, for general conformance with the curvature of a slab being debarked.

Each of the tools 13 is independently adapted to be pressed into engagement with the curved surface of a slab to be debarked by means of a pneumatic piston-and-cylinder unit 131 (Fig. 3), which is connected between the frame of the machine and the arm 95 of the parallel linkage supporting the tool. The manner of rotating the tools 13 will be described hereinafter.

Referring to Fig. 5, the tools 14 duplicate the tools 13. However, there are four tools 14 arranged in two pairs. Each tool 14 is mounted on a cantilever shaft 139 rotatably supported by a rearwardly and downwardly inclined arm 141 which is pivotally mounted at its upper end on a shaft 143. The arms for each pair of tools independently swing in parallel planes and are arranged such that the associated tools have their inner faces disposed in close adjacency. The shafts 143 for both pairs of tools are journaled on a mounting plate 145 by means of bearings 147 and 149, the latter bearings being directly supported by a gear casing 151 which is fixed to the mounting plate 145. The shafts 143 are shown as having their axes inclined to the horizontal at an angle of 30 degrees and inclined relative to one another at an included angle of 120 degrees. Thus each pair of arms 141 and the associated tools swing in planar paths making an angle of 30 degrees with the vertical, the planar paths of the two pairs of tools 14 having a 60 degree included angle. Therefore, the left-hand pair of tools 14, the right-hand pair of tools 14 and the center pair of tools 13 move toward and away from the slab S (Fig. 9) on the upper run of the conveyor 11 in directions or planar paths which diverge upwardly from the upper run of the conveyor.

Each of the tools 14 is adapted to be pressed independently into engagement with a slab S by a pneumatic piston-and-cylinder unit 158 (Fig. 3) coupled between the associated arm 141 and the frame of the machine.

Referring to Fig. 2, the table portions 71 are cut out at 159 to provide openings to accommodate the barking tools 14, so that portions of such barking tools in their lowermost position project substantially below the top plane of the table (Fig. 5) and thus below the plane of the upper ends of the teeth 63 of the conveyor 11.

The mechanism for driving the tools 14, is as follows. A motor 161 (Fig. 1) drives a main shaft 163 through a chain drive 165. The shaft 163 in turn drives a power-takeoff shaft 167 (Fig. 5) through spur gears 169. The shaft 167 drives the shafts 143 at the same speed through bevel gears 173 and each of the tools 14 is driven from the associated shaft 143 by a chain-gearing drive 175. The entire drive system is arranged so that tools 14 rotate in a clockwise direction, as the parts are viewed in Fig. 3, but at a rate of speed substantially greater than that of the upper run of the conveyor 11. In practice, it has been found that the barking tools 14 perform a satisfactory barking operation if they are driven at a peripheral speed three times that of the upper run of the conveyor 11.

The tools 13 are driven in the following manner. The shaft 163 drives the shaft 101 (Fig. 1) by means of a chain drive 181. The shaft 101 in turn drives the shaft 109 of each parallel linkage by a separate chain drive 185 (Figs. 1 and 4). Each shaft 109 in turn drives the associated tool 13 by means of a chain drive 187. The drive from the shaft 163 to the tools 14 is at a one-to-one ratio, and the same ratio drive connects the shaft to the tools 13. Thus the tools 13 are driven in a clockwise direction as the parts are depicted in Fig. 3 at a peripheral speed substantially greater than that of the upper run of the conveyor 11.

As previously mentioned, the feed wheels 12 are driven clockwise, as the parts are shown in Fig. 3, at the same peripheral speed as the upper run of the conveyor 11. The drive for the feed wheels is taken off the shaft 163 (Figs. 1 and 5) and includes a chain drive 191 from this shaft to a jack shaft 193 journaled on the frame, the latter shaft driving the shaft 77 through a chain drive 195. The right-hand feed roll in Fig. 3 is driven from the shaft 77 by a chain drive 197 and the intermediate feed roll 12 is driven from this shaft by a chain drive 199. The left-hand feed roll 12 is also driven from the shaft 77 but by means of a chain drive 201 (Fig. 1) which drives the shaft 89, the latter driving a shaft 203 journaled in the bell-crank arms 87 by means of a chain drive 205, and the shaft 203 driving the associated feed wheel by means of a chain drive 207.

The chain drives 191 and 195 from the shaft 163 to

the shaft 77 provide a step-down drive so that the peripheral speed of each feed wheel 12 is the same as that of the upper run of the conveyor 11. The conveyor is driven from the shaft 167 by chain drives 214 and 215 (Figs. 1 and 5) which drive the shaft of the left-hand sprocket unit 33, as the parts are shown in Fig. 1.

Referring particularly to Figs. 1 and 2, the brush unit 15 includes a pair of arm members 221 pivotally mounted on a shaft 222 (Fig. 1) journaled on the frame and supporting a generally V-shaped brush 223. As shown, the brush has its arms downwardly inclined and extending in the same general direction in which the upper run of the conveyor 11 moves. The wires or bristles of the brush extend generally normal to the plane of the V. The table portions 71 terminate short of the ends of the brush, and a pneumatic piston-and-cylinder unit 234 is pivotally connected between the brush to the frame to yieldingly press the brush against a slab S. A source of air under pressure, not shown, is provided for supplying air to the pneumatic piston-and-cylinder units of the machine, under the control of suitable air valves, not shown, which permit independent movement of the brush and the six barking tools.

The brush will function thoroughly to scour the curved surfaces of both small and large slabs. For small slabs, the central portion of the brush performs the scouring action whereas for larger slabs the entire brush performs the scouring action.

Appropriate limit stops, two of which are shown in Fig. 1 and numbered 236 are provided in the machine for limiting downward movement of the feed rolls 12 and the barking tools 13 and 14 to positions where they are just out of contact with the upper run of conveyor 11.

The operation of the slab-barking machine is as follows. A slab S is slid axially onto the table 74 of the machine at the right-hand end thereof, which is the supply end of the machine, with the flat, woody side of the slab lowermost and the curved bark-covered side uppermost. The cusps 70 of the conveyor are forced into the slab by the weight of the slab and by the action and weight of the feed wheels 12 and the barking tools. The feed wheels are gravity weighted and exert a substantial downward force urging the slab against the teeth 63 of the conveyor. Preferably the cusps 70 are provided with sharp points to hold the slab in place.

When the slab reaches the tools 13, these tools will ride up and onto the slab and be pressed downwardly thereagainst by the associated pneumatic cylinders. Thus these tools commence removing bark and cambium layer from the slab and also to assist the feed wheels 12 in drawing the slab along through the machine. Because each tooth 125 of the tools 13 has one end which is heavier than the other, this end will swing outwardly under the influence of centrifugal force for proper conforming engagement with the central longitudinal portion of the curved bark-covered side of the slab. Because the slabs are not of uniform curvature but have indented or concave portions, bark removal heretofore has been extremely difficult. However, the teeth 125 can rock to conform to the varying curvature of the surface of the slab and thus remove bark from all portions thereof.

The slab is then fed under the tools 14, and because the inner tools 14 overlap the tools 13, as best shown in Fig. 9, the tools 13 and 14 will have continuous circumferential contact with a slab and thus the tools 14 will remove all the remaining bark from the log. It is also pointed out that even though the tools 14 are shifted upwardly because of the slab having substantial size, the outermost tools 14 will continue to engage and remove bark from the outer margins of the slab, because, as previously mentioned, they initially project substantially below the top level of the table in their innermost positions relative to the upper run of the conveyor 11.

Thereafter the brush performs a scouring action on the curved side of a slab to remove loose or unremoved bark and cambium-layer portions.

An edging E (Fig. 10) may be debarked in a similar manner by placing it in one row of notches 69 of the teeth of the upper run of the conveyor with the bark-covered side of the edging uppermost.

Having described the invention in what is considered to be the preferred embodiment thereof, it is desired that it be understood that the invention is not to be limited other than by the provisions of the following claims.

I claim:

1. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined path, a plurality of toothed barking tools transversely spaced across said path for engagement with a curved side of a slab, means mounting said tools for rotary movement about axes extending transversely of said predetermined path and for bodily swinging movement from inward positions close to said path to outward positions spaced from said path along planar paths parallel to said predetermined path, power means for rotating said tools, said mounting means controlling the movement of said tools so that at least certain of said planar paths diverge upwardly and outwardly from said predetermined path so that said tools properly engage and accommodate slabs of different cross-sectional sizes.

2. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined path, a plurality of toothed barking tools transversely spaced across said path for engagement with a curved side of a slab, means mounting said tools for rotary movement about axes extending transversely of said predetermined path and for bodily swinging movement from inward positions close to said path to outward positions spaced from said path along planar paths parallel to said predetermined path, power means for rotating said tools, said mounting means controlling the movement of said tools so that at least certain of said tools move along planar paths parallel to said predetermined path and which diverge upwardly and outwardly from said predetermined path so that said tools properly engage and accommodate slabs of different cross-sectional sizes, at least certain ends of said tools being arranged in overlapping relationship when said tools are in said inward positions so as to provide a range of movement of said tools during which they have continuous circumferential contact with slabs of different widths.

3. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined horizontal path with a curved bark-covered side of such slab uppermost, a plurality of barking tools spaced transversely with respect to and generally above said path for engagement with such curved side of a slab, certain of said tools being arranged to engage such curved side of a slab at side edges thereof, means swingably mounting said tools for movement from inward positions close to said path to outward positions spaced away from said path along planar paths of travel parallel to said predetermined path, said mounting means controlling movement of said certain tools so that said planar paths diverge upwardly and outwardly, said certain tools in their innermost positions having portions projecting below a horizontal plane defining a lower boundary of said predetermined path so that said tools, when displaced along said planar paths either by a slab of large cross-sectional size or by a slab that increases in cross section, will still contact lowermost margins of such curved side of a slab.

4. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined path, a plurality of toothed barking tools transversely spaced across said path for engagement with a curved side of a slab, means mounting said tools for movement from inward positions close to said path to outward positions spaced from said path, said mounting means con-

trolling the movement of at least some of said tools to cause them to move outwardly along divergent directions so that said tools properly engage and accommodate slabs of different cross-sectional sizes, each of said tools having at least certain of the bark-engaging teeth thereof concavely curved in a direction generally normal to said path so that said tools generally conform to such curved side of a slab.

5. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined path, a plurality of pairs of barking tools transversely spaced across said path for engagement with a curved side of such slab, and means for mounting the tools for rotary movement about axes contained in planes normal to said predetermined path and so that the tools of each pair bodily move in parallel planar paths but the pairs of tools bodily move away from said predetermined path in directions which diverge from said predetermined path, and power means for rotating said tools.

6. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined path, a plurality of barking tools transversely spaced across said path for engagement with a curved side of such slab, means mounting said tools for movement from inward positions close to said path to outward positions spaced from said path, said mounting means controlling the movement of at least some of said tools to cause them to move outwardly along divergent directions so that said tools properly engage and accommodate slabs of different cross-sectional sizes, at least one of said tools being rotatably mounted and including a body and a plurality of barking elements distributed thereabout, at least certain of said elements each being pivotally mounted intermediate its ends about an axis angularly arranged relative to the axis of rotation of said body.

7. A barking machine comprising means for feeding an elongate piece to be debarked along a predetermined path, a barking tool for engagement with a curved bark-covered side of such piece, means mounting said tool for rotation about an axis extending transversely with respect to said path, said tool including a body and a plurality of barking elements distributed thereabout, at least certain of said elements being pivotally mounted on said body for movement about axes fixed with respect to the axis of rotation of said body and angularly arranged relative to the axis of rotation of said body thus enabling them readily to remove bark from pieces having bark-covered surfaces of different contours.

8. A slab-barking machine comprising means for feeding an elongate slab along a predetermined path, a barking tool for engagement with a curved bark-covered side of such slab, means mounting said tool for rotation about an axis extending transversely with respect to said path, said tool including a body and a plurality of barking elements distributed thereabout, at least certain of said elements being pivotally mounted intermediate their ends on said body for movement about axes angularly arranged relative to the axis of rotation of said body thus enabling them readily to adjust to the different contours of a bark-covered surface of such slab.

9. A slab-barking machine comprising means for feeding an elongate slab along a predetermined path, a barking tool for engagement with a curved bark-covered side of such slab, means mounting said tool for rotation about an axis extending transversely with respect to said path, said tool including a body and a plurality of barking elements distributed thereabout, at least certain of said elements being pivotally mounted on said body for movement about axes angularly arranged relative to the axis of rotation of said body thus enabling them readily to remove bark from slabs having bark-covered surfaces of different contours, at least some of said elements having concavely curved edges facing outwardly for conforming engagement with a curved surface of such slab.

10. A slab-barking machine comprising means for feeding an elongate slab along a predetermined path, a barking tool for engagement with a curved bark-covered side of such slab, means mounting said tool for rotation about an axis extending transversely with respect to said path, said tool including a body and a plurality of barking elements distributed thereabout, at least certain of said elements being pivotally mounted intermediate their ends on said body for movement about axes angularly arranged relative to the axis of rotation of said body thus enabling them readily to adjust to the different contours of a bark-covered surface of such slab, at least some of said elements having concavely curved edges facing outwardly for conforming engagement with such curved surface of such slab.

11. A slab-barking machine comprising means for feeding an elongate slab along a predetermined path, a barking tool for engagement with a curved bark-covered side of such slab, means mounting said tool for rotation about an axis extending transversely with respect to said path, said tool including a body and a plurality of barking elements distributed thereabout, at least certain of said elements being pivotally mounted on said body for movement about axes fixed with respect to the axis of rotation of said body and angularly arranged relative to the axis of rotation of said body thus enabling them readily to remove bark from slabs having bark-covered surfaces of different contours, and pneumatic means for yieldingly pressing said tool against a slab.

12. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined path, a plurality of barking tools transversely spaced across said path for engagement with a curved side of such slab, means mounting said tools for movement from inward positions close to said path to outward positions spaced from said path, and a brush unit swingably mounted about an axis spaced above and transversely of said path and extending from said axis in a downwardly inclined direction in the direction of travel of slabs through said machine, said brush unit having a brush disposed in spaced relation to said axis and being generally of V-shape to provide arms containing a common plane and diverging in a direction away from said axis, bristle portions of said brush extending downwardly in a direction angularly to the plane of said arms, whereby said brush is capable of thoroughly scraping slabs of different sizes.

13. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined path, a plurality of barking tools transversely spaced across said path for engagement with a curved side of such slab, means mounting said tools for movement from inward positions close to said path to outward positions spaced from said path, said mounting means controlling the movement of at least some of said tools to cause them to move outwardly along divergent directions whereby said tools properly engage and accommodate slabs of different cross-sectional sizes, and a brush unit swingably mounted about an axis spaced above and transversely of said path and extending from said axis in a downwardly inclined direction in the direction of travel of slabs through said machine, said brush unit having a brush disposed in spaced relation to said axis and being generally of V-shape to provide arms containing a common plane and diverging in a direction away from said axis, bristle portions of said brush extending downwardly in a direction angularly to the plane of said arms, whereby said brush is capable of thoroughly scraping slabs of different sizes.

14. A barking machine comprising means for feeding an elongate piece to be debarked along a predetermined path, a barking tool for engagement with a curved bark-covered side of such piece, means mounting said tool for rotation about an axis extending transversely with respect to said path, said tool including a body and a plurality of barking elements distributed thereabout, at least certain of said elements being pivotally mounted on said

body for movement about axes angularly arranged relative to the axis of rotation of said body thus enabling them readily to remove bark from pieces having bark-covered surfaces of different contours, and a brush unit swingably mounted about an axis spaced above and transversely of said path and extending from said axis in a downwardly inclined direction in the direction of travel of pieces through said machine, said brush unit having a brush disposed in spaced relation to said last-mentioned axis and being generally of V-shape to provide arms containing a common plane and diverging in a direction away from said last-mentioned axis, bristle portions of said brush extending downwardly in a direction angularly to the plane of said arms, whereby said brush is capable of thoroughly scraping pieces of different sizes.

15. A slab-barking machine comprising means for feeding an elongate slab along a predetermined path, a barking tool for engagement with a curved bark-covered side of such slab, means mounting said tool for rotation about an axis extending transversely with respect to said path, said tool including a body and a plurality of barking elements distributed thereabout, at least certain of said elements being pivotally mounted intermediate their ends on said body for movement about axes angularly arranged relative to the axis of rotation of said body thus enabling them readily to adjust to the contour of such bark-covered side of a slab, and a brush unit swingably mounted about an axis spaced above and transversely of said path, said brush unit extending from said last-mentioned axis in a downwardly inclined direction in the direction of travel of slabs through said machine, said brush unit having a brush disposed in spaced relation to said last-mentioned axis and being generally of V-shape to provide arms containing a common plane and diverging in a direction away from said last-mentioned axis, bristle portions of said brush extending downwardly in a direction angularly to the plane of said arms, whereby said brush is capable of thoroughly scraping slabs of different sizes.

16. A slab-barking machine comprising means for feeding an elongate slab along a predetermined path, a barking tool for engagement with a curved bark covered side of such slab, means mounting said tool for rotation about an axis extending transversely with respect to said path, said tool including a body and a plurality of barking elements distributed thereabout, at least certain of said elements being pivotally mounted on said body for movement about axes angularly arranged relative to the axis of rotation of said body thus enabling them readily to remove bark from slabs having bark-covered surfaces of different contours, at least some of said elements having concavely curved edges facing outwardly for conforming engagement with such curved side of a slab, and a brush unit swingably mounted about an axis spaced above and transversely of said path, said brush unit extending from said last-mentioned axis in a downwardly inclined direction in the direction of travel of slabs through said machine, said brush unit having a brush disposed in spaced relation to said last-mentioned axis and being generally of V-shape to provide arms containing a common plane and diverging in a direction away from said last-mentioned axis, bristle portions of said brush extending downwardly in a direction angularly to the plane of said arms, whereby said brush is capable of thoroughly scraping slabs of different sizes.

17. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined path, a plurality of toothed barking tools transversely spaced across said path for engagement with a curved side of a slab, arms mounting said tools for rotary movement about axes extending transversely of said predetermined path and for bodily swinging movment about axes disposed forwardly of said tools from inward positions close to said path to outward positions spaced from said path along planar paths parallel to said predetermined path, power means for rotating said tools, said power means extending to said tools along said arms, said mounting means controlling the movement of certain of said tools so that they move along planar paths diverging upwardly and outwardly from said predetermined path so that said tools properly engage and accommodate slabs of different cross-sectional dimensions and maintain a constant line of contact with such slabs.

18. A slab-barking machine comprising means for feeding an elongate slab lengthwise along a predetermined horizontal path, a plurality of barking tools transversely spaced across said path for engagement with a curved side of a slab, means swingably mounting said tools for movement from inward positions close to said path to outward positions spaced from said path along planar paths of travel parallel to said predetermined path, said mounting means controlling the movement of certain of said tools so that at least certain of said planar paths diverge upwardly and outwardly from said predetermined path so that said tools properly engage and accommodate slabs of different cross-sectional dimensions, said planar paths including a vertical plane and a plane oblique thereto on either side of said vertical plane.

References Cited in the file of this patent

UNITED STATES PATENTS

1,127,985	Galloway et al.	Feb. 9, 1915
1,673,265	Pangborn	June 12, 1928
1,818,657	Talbott et al.	Apr. 11, 1931
1,887,908	Tidblad	Nov. 15, 1932
1,942,095	Gruber	Jan. 2, 1934
2,005,799	Nicholson et al.	June 25, 1935
2,452,631	Cameron	Nov. 2, 1948
2,575,422	Laulainen	Nov. 20, 1951

FOREIGN PATENTS

20,316	Norway	Nov. 26, 1909
921,833	Germany	Dec. 30, 1954
76,235	Sewden	Jan. 10, 1933