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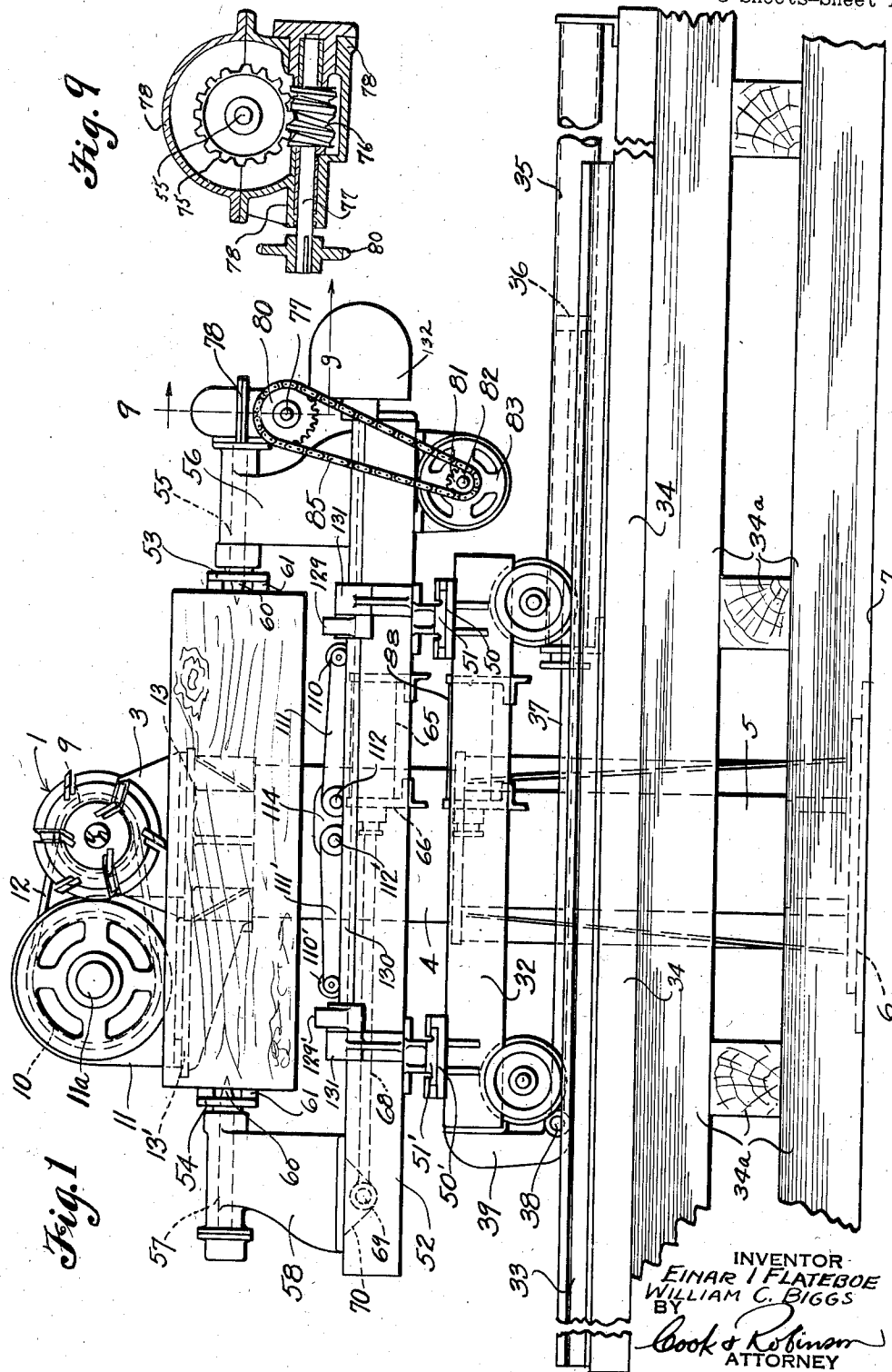
E. I. FLATEBOE ET AL

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CANT BARKING MACHINE

Filed Sept. 6, 1938

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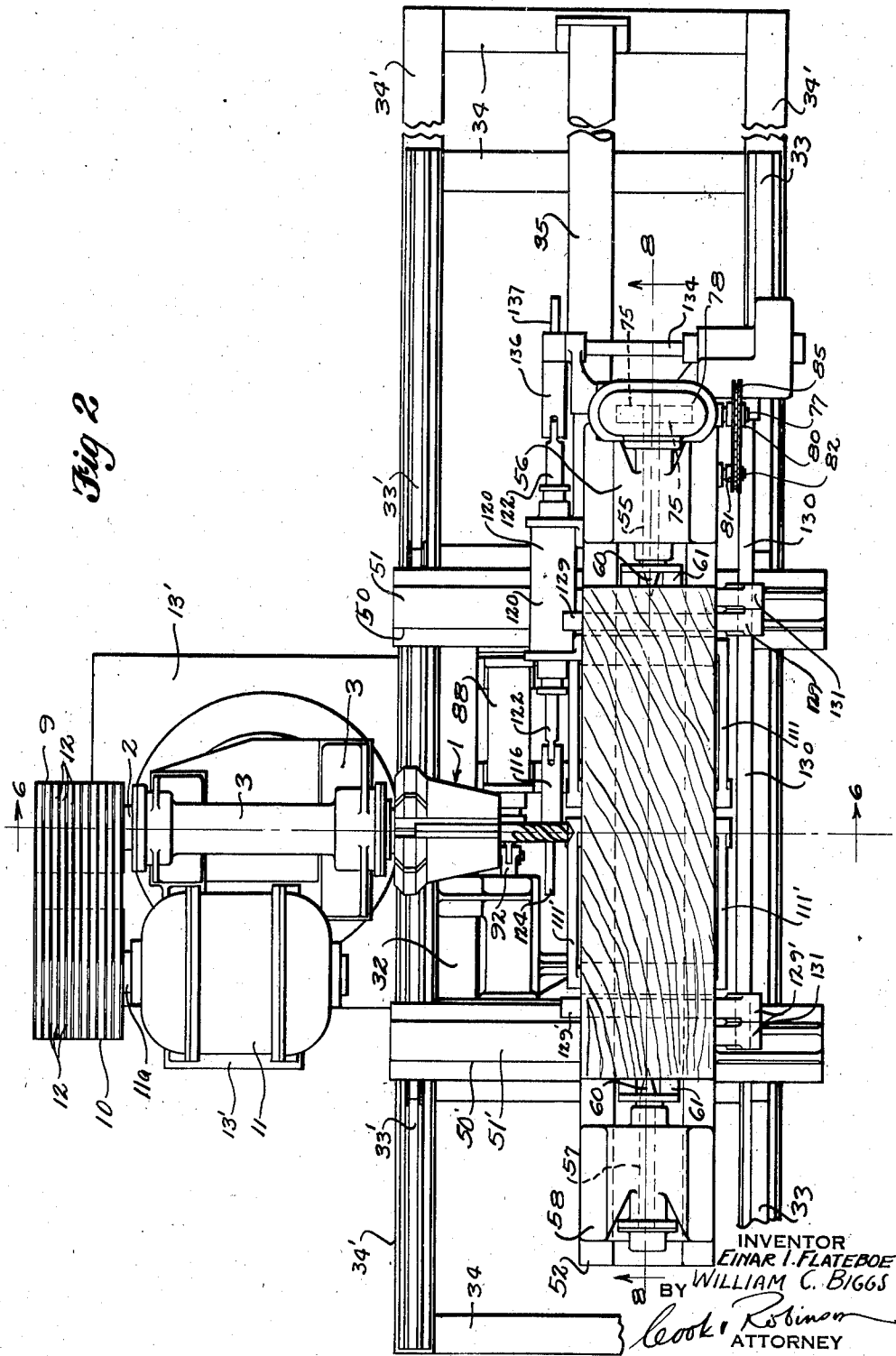
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CANT BARKING MACHINE

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Fig 2



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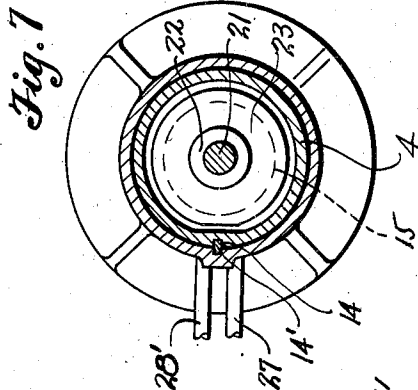
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CANT BARKING MACHINE

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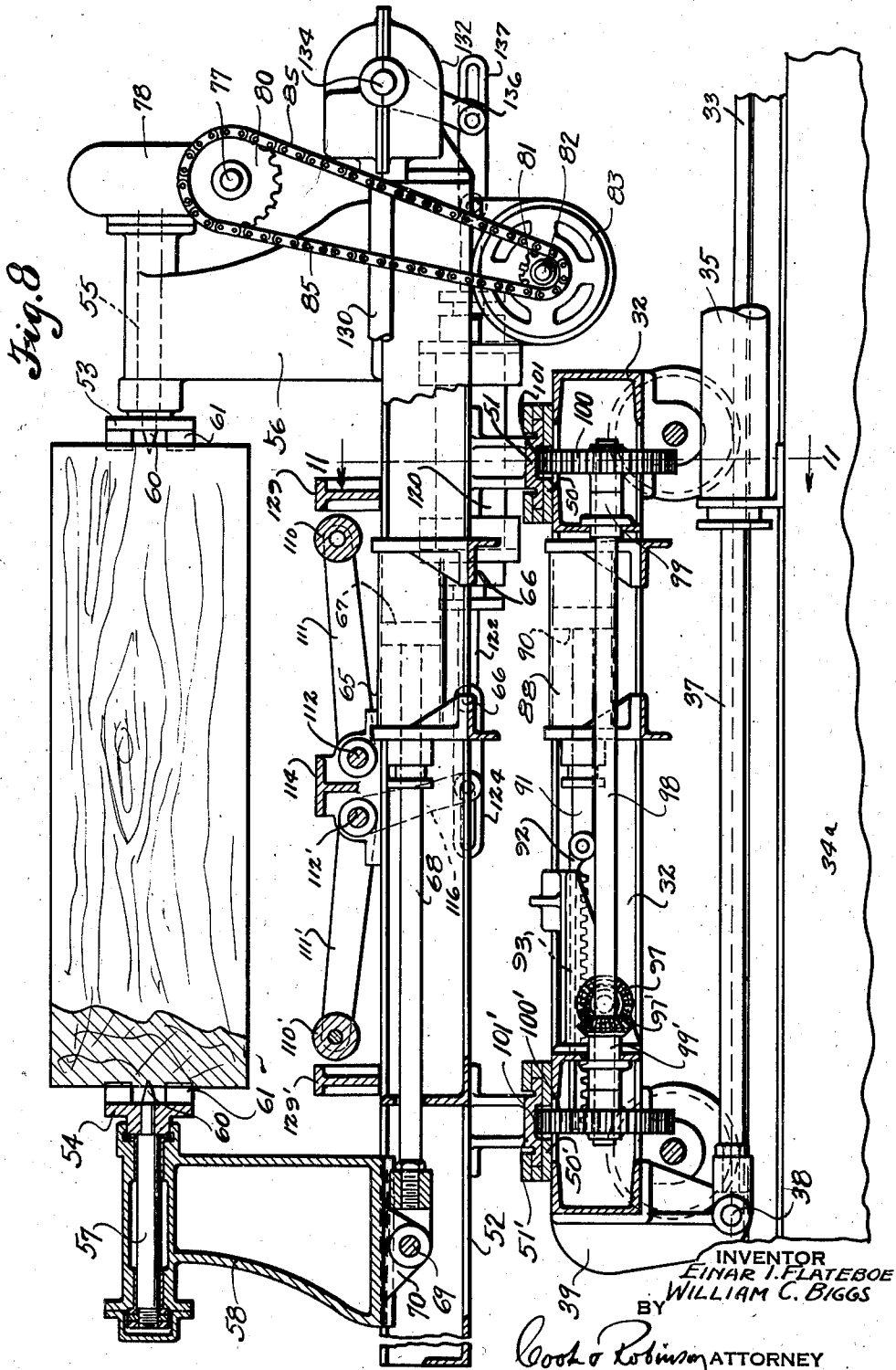
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CANT BARKING MACHINE

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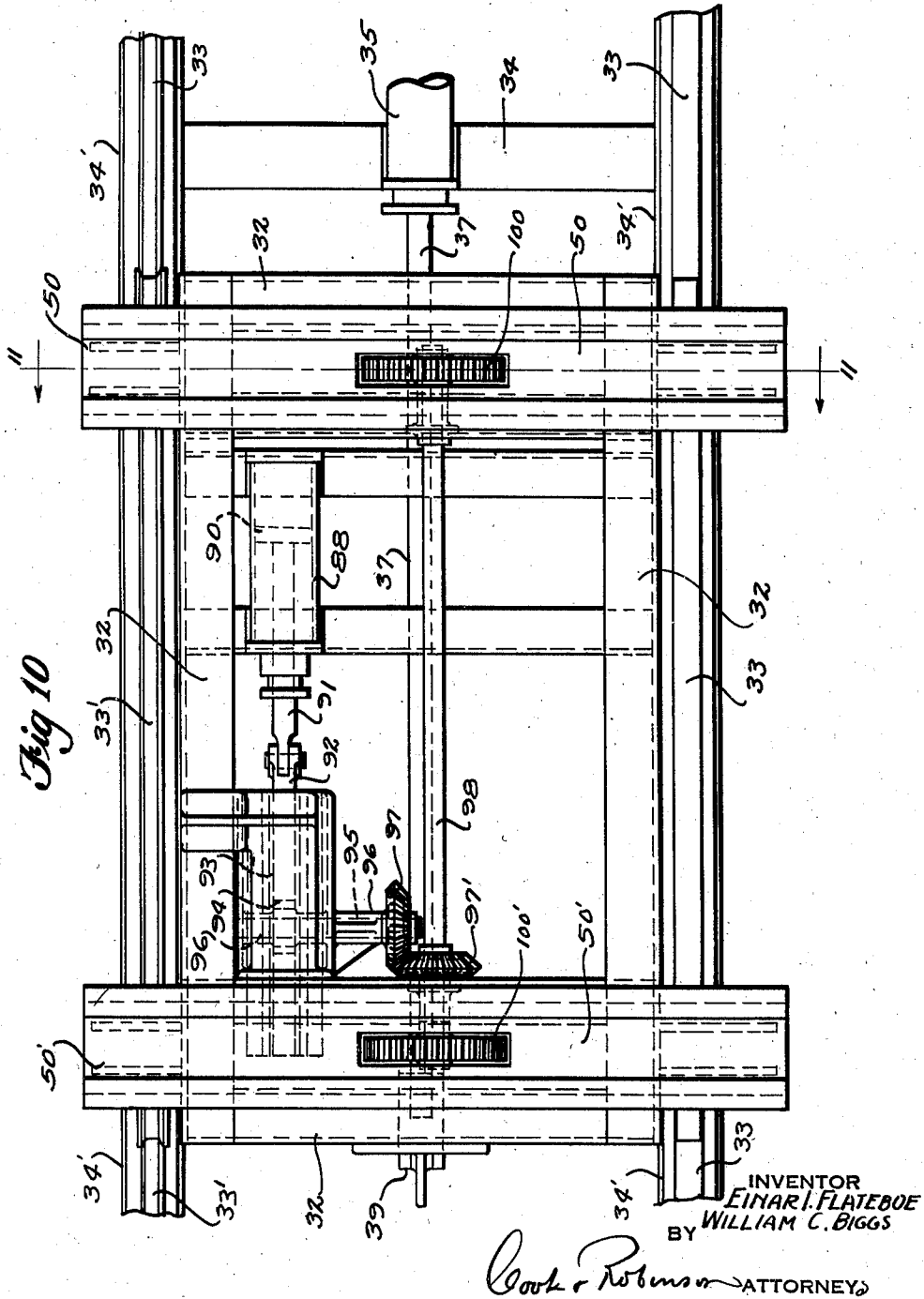
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CANT BARKING MACHINE

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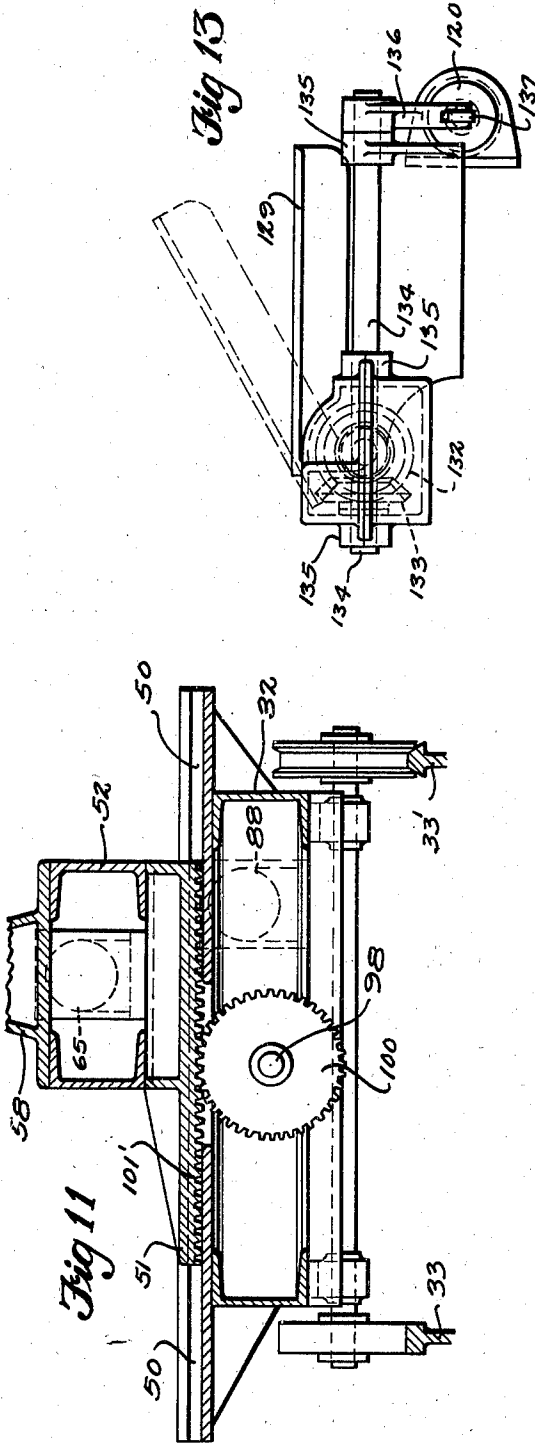
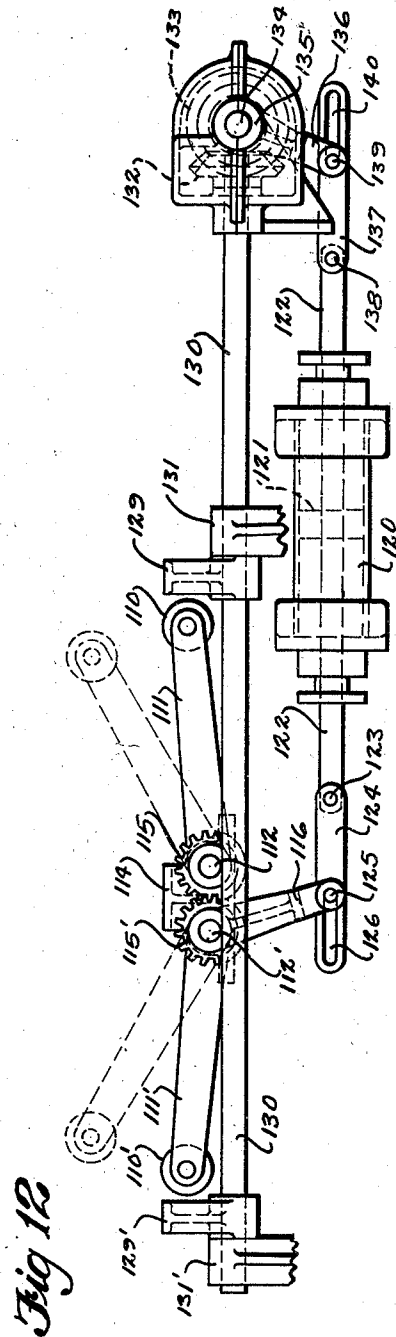
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CANT BARKING MACHINE

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CANT BARKING MACHINE

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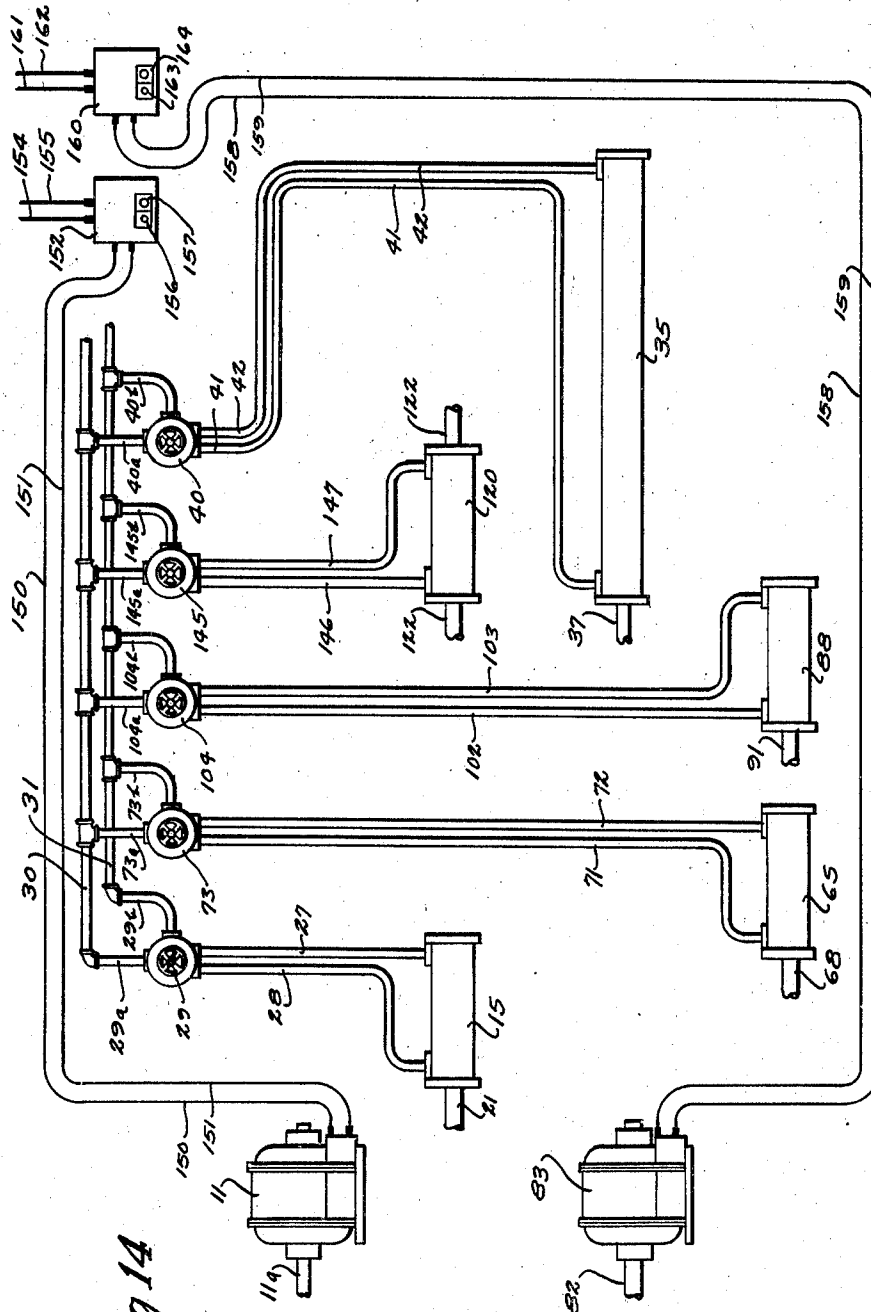


Fig. 14

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UNITED STATES PATENT OFFICE

2,263,036

CANT BARKING MACHINE

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Application September 6, 1938, Serial No. 228,598

2 Claims. (Cl. 144—208)

This invention relates to machines for the barking and cleaning of wood slabs, cants and blocks preparatory to their being used in the making of pulp for the manufacture of paper.

More particularly, the invention relates to those types of machines generally referred to in the pulp wood industry as "barkers"; the present machine being designed especially for the removal of bark, pitch seams and pockets, stained portions and various other defective areas that might be found in wood slabs, cants or blocks as prepared for the making of pulp as used in the manufacture of paper.

Explanatory to the present invention, it will here be stated that in the making of pulp from wood, particularly that which is to be used in the manufacture of paper of the better grades, it is extremely desirable that the wood to be used be entirely free of all bark, stained or rotted portions, pitch and all discolored and defective areas that are detrimental to the appearance of the paper in its finished state. In order that no such defective parts of the wood shall appear in the pulp, it is necessary that each piece of wood, before being ground or divided, be inspected and that all defective parts thereof be removed. Heretofore, various mechanical devices have been employed for doing a material amount of this work, but because of the character or construction of such machines, their use has been more or less limited to roughing off operations, and it is still required that a considerable amount of the work of cleaning the pieces be done by hand. Such manual or hand work is slow and is difficult, especially when the pieces of wood worked on are large and heavy. Furthermore, hand work is relatively expensive as compared to the mechanical operation, and manifestly mechanical "barking" or cleaning is preferred, provided it will take care of the maximum amount of the work.

It is the general case that barking machines as heretofore employed have provided means whereby the piece of wood to be cleaned is supported and axially rotated to present the surfaces that are to be cleaned to a barking tool, and usually the tool has been mounted for movement along the piece. Also, boring machines of various kinds have been employed for the removal of knots, but to our knowledge, previously employed machines have provided that the piece be held substantially stationary while the routing, barking or boring tool is swung to different positions along the length of the piece, and we are not aware of any machine in which the tool

used combines means for barking, routing and boring. It is our belief that the above mentioned types of machines now generally in use are not as economical, nor as practical, especially for the handling of large pieces, as would be a machine wherein the tool used is designed for both routing and boring operations and wherein the piece to be operated on is universally movable with respect to the tool, and the tool, while adjustable to some extent, is substantially stationary while in use.

In view of the above, it has been the principal object of this invention to provide a machine that is capable of handling relatively large and heavy pieces of wood, and wherein the removal of defects is effected by a relatively stationary tool of novel character, designed both for boring and for routing and wherein the support for the piece being worked upon is movable both longitudinally and transversely of the piece and also provides for its rotation, thus to provide for presenting any selected portion or area of the piece to the tool for removal of whatever defect it may contain, whether it is required that it be removed by boring, routing or by a combination of these operations.

It is also an object of this invention to provide a machine as above stated wherein the combined routing and boring tool is mounted by a vertically adjustable support, permitting the tool to be raised or lowered as may be found necessary to accommodate it to the piece being worked upon.

Specifically stated, the objects of the present invention reside in the provision of a vertically adjustable support for an electrically driven arbor on which there is fixed a combined routing and boring tool, and adjacent which tool is a track on which is mounted a horizontally movable carriage, equipped with means in the form of chucking heads or clamps for mounting and supporting a slab or cant of wood horizontally therein for rotation, while lateral movement relative to the tool, is provided in the lateral shifting of the clamps so that the router head or the boring tool may be caused to contact any desired area of the piece for cleaning it of whatever defect it may contain.

Other objects of the invention reside in the provision of novel mechanical means for raising a cant or slab in the machine to clamping position, and whereby, when released from the clamps, the piece may be discharged laterally from the machine.

Still further objects of the invention reside in

the specific details of construction of the combined router and boring tool, also in those parts of the machine whereby the movement of the piece being worked upon is controlled.

Various other objects reside in the details of construction and in the combination of parts associated with or forming a part of the movable carriage, and in their relationship and mode of operation for the accurate and expeditious handling of the piece being worked upon.

In accomplishing these and other objects of the invention, we have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein—

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

Fig. 2 is a plan view of the same.

Fig. 3 is an end elevation of the machine and illustrating, in dotted lines, the lower limit of vertical adjustment of the routing and boring tool and lateral travel of the cant.

Fig. 4 is an end view of the router and drill.

Fig. 5 is an axial section of the router and drill on line 5—5 in Fig. 4.

Fig. 6 is a vertical section through the tool supporting column and carriage, substantially on line 6—6 in Fig. 2.

Fig. 7 is a horizontal section on the line 7—7 in Fig. 6.

Fig. 8 is a longitudinal, sectional view of the carriage and clamping devices for supporting the slab or cant, as seen on line 8—8 in Fig. 2.

Fig. 9 is a sectional detail on line 9—9 in Fig. 1.

Fig. 10 is a plan view of the carriage, and particularly illustrating the means for lateral adjustment of the clamping devices.

Fig. 11 is a vertical section on line 11—11 in Fig. 10.

Fig. 12 is a detail illustrating the cant lifting and discharge mechanism.

Fig. 13 is an end view of the same.

Fig. 14 is a diagrammatic illustration of the hydraulic system employed.

Referring more in detail to the drawings—

The router head, presently to be described in detail, is designated in its entirety by reference numeral 1, and is coaxially fixed upon one end of a horizontally disposed shaft, or arbor 2, extending from a supporting housing 3, which is fixedly mounted on the upper end of a vertically disposed tubular column 4. The column 4, in turn, is slidably fitted for vertical, telescopic travel in a tubular supporting standard 5 that is fixed to a base plate 6 resting upon and fixed to the foundation or floor 7 upon which the machine is disposed.

As will be observed best by reference to Fig. 6, the arbor, or shaft, 2 is rotatably mounted in the housing 3 by means of anti-friction bearings, designated by reference numerals 8 and 8a, and it is equipped at that end opposite the end carrying the router head, with a driving pulley wheel 9. The wheel 9 is aligned with a drive pulley wheel 10 fixed on the shaft 11a of an electric motor 11. Both pulley wheels, 9 and 10, are grooved to accommodate a plurality of V-belts, designated at 12, whereby the driving connection between the motor and the arbor 2 is effectively completed.

The electric motor 11 is fixedly mounted upon a horizontal table, or base, 13', that is formed as a part of a cap 13 on the column 4 which mounts the housing 3, and thus the motor and router head will move upwardly or downwardly

in accordance with the vertical adjustment of the column 4.

Referring more particularly to Fig. 6, it will be observed that the column 4 is held against rotation in the standard 5 by means of a longitudinal key 14 that is fixed to and extends the length of the column and is fitted for movement in a keyway 14' provided in the standard wall. The column is adapted to be vertically adjusted and to be held at any of its different positions of adjustment by a hydraulic lift-mechanism comprising a hydraulic cylinder 15 that is contained coaxially within the standard 5 and which rests at its lower end against the base plate 6. Reciprocally fitted in the cylinder is a piston 20 having a rod 21 extending upwardly therefrom and through a packed gland 22 in the upper end head 23 of the cylinder. At its upper end, the piston rod is threaded onto a fitting 25 which is fixed by a cross bolt, or pin, 26 to the cap 13 on the upper end of the column 4.

To actuate the piston upwardly or downwardly within the cylinder 15, and thus effect a corresponding adjustment of the column, and also to hold the column against movement when at any definite position of adjustment, we utilize a hydraulic medium under pressure. This medium is admitted into or from the lower end of the cylinder through a pipe connection 27 and a channel 27' in the cylinder wall, and it is likewise admitted into or from the upper end of the cylinder through a pipe connection 28 and a channel 28'. The pipes 27 and 28 are adapted to be selectively connected with a source of pressure medium, through the adjustment of a four-way valve, as designated at 29; this valve having a connection 29a with a source of supply of pressure medium indicated by the pipe 30 in Fig. 14 and a connection 29b with an exhaust pipe 31. The valve control is such that the pressure medium, preferably city water, can be applied to either end of the cylinder while exhausted from the other end, thus to adjust the column 4 to a desired height. It is understood also that when the valve 29 is closed, the piston will be locked against movement in either an upward or downward direction, and the router head 1 will then be held at a fixed position with reference to its up or down limits of travel.

As will be observed by reference to Figs. 3 and 6, the router head 1 is disposed at one side of the supporting column. Also, it will be noted that at that same side of the column, and extending in a direction at a right angle to the direction of the axis of the router, is a track on which a carriage 32 is mounted for back and forth travel. The track comprises two parallel, spaced rails 33—33' that are fixed in the same horizontal plane on a base frame structure 34. This structure, in turn, rests upon and is fixed to a foundation structure 34a that may be built up to any suitable or necessary height, as determined by the limits of adjustment of the router head.

The frame structure 34 is rectangular and of rigid I-beam construction, comprising longitudinal side beams and cross beams 34' that join the longitudinal beams at opposite ends of the frame, and at spaced intervals between its ends; this structure being somewhat longer than the wheel base of the carriage and supports the track rails thereon, and these rails are sufficiently long that the carriage will have travel, back and forth lengthwise of the track, a distance that is somewhat longer than the cants that are to be worked on in the machine.

The movement of the carriage to various positions along the track, and the holding of the carriage at different positions of adjustment is effected by a hydraulic cylinder mechanism which comprises a hydraulic cylinder 35 of substantial length, fixed on the frame structure 34 lengthwise thereof. In the cylinder is a piston 36 having a rod 37 extending from the cylinder and connected by a pin 38 with a bracket 39 fixed to and depending from the bed of the carriage as observed in Figs. 1 and 8.

Hydraulic pressure medium is administered through a four-way control valve 40 to and from the opposite ends of the cylinder 35 through pipes 41 and 42; the valve being connected with the source of supply 30 through pipe 40a, and with the exhaust 31 through pipe 40b. The arrangement provides for admitting the pressure medium into either end of the cylinder and allowing it to discharge from the other end accordingly to cause the piston to be moved and thus to effect the desired travel of the carriage. This adjustment may be held secure by closing the valve against inlet or outlet of the hydraulic medium from the cylinder.

Fixed upon the carriage 32, symmetrically spaced from the transverse medial line, are cross guides, or ways, 50—50' in which are mounted the supporting slides 51—51' of a horizontal frame 52, which we will refer to as the clamping base. This base is in the nature of an elongated, rectangular structure formed of channel iron beams, and it extends in a direction lengthwise of the track, and overlying the cross ways 50—50'. Erected upon the base 52, at its opposite ends, are chucking clamps 53 and 54, designated for the support of the opposite ends of the cant, or slab that is to be worked upon. The clamp 53 is fixed coaxially on a turning shaft 55 that is revolvably mounted to a head bracket, or housing, 56, that is bolted to the base 52. The clamp 54 is likewise fixed on the end of a supporting shaft 57 that is revolvably contained in the tail bracket or housing 58 that is mounted on the base 52 for adjustment longitudinally thereof, thus to adjust the spacing of the clamps or chucks for the accommodation of slabs, cants or logs of different lengths. Each of the clamps, or what might be called "chucking heads" has a center point 60 and radial lugs 61 for entering the end of a cant or slab to fixedly support it for rotation.

The adjustment of the tail bracket or housing 58, that is necessary for the mounting and for the releasing of a slab or cant, is effected by means of a hydraulic mechanism which is best disclosed in Fig. 8. This comprises a hydraulic cylinder 65 that is fixed within the base 52 by means of the cross bars 66. The cylinder is so mounted as to extend in a direction lengthwise of the frame and it reciprocally contains a piston 67 having a rod 68 extending from the cylinder and connected at its end by a pin or bolt 69 to a base lug 70 on the tail housing 58.

Admittance of a pressure medium into and from the opposite ends of the hydraulic cylinder 65 is provided for through the mediacy of flexible tubes 71 and 72 which are connected through a control valve 73 with the source of supply of pressure medium 30 by the pipe 73a, and with the exhaust pipe 31 by a pipe 73b. Manipulation of the valve provides for admitting the pressure medium into either end of the cylinder to move the piston accordingly.

When a cant is to be placed between the clamps, the latter are then spaced sufficiently

apart to receive it. Then, when the cant has been lifted into position, as presently described, the hydraulic pressure medium is admitted to the cylinder 65 to actuate the piston to pull the head 54 toward the head 53, thereby to embed the center points and turning lugs of the chucking heads in the opposite end surfaces of the cant. For the removal of, or release of, the cant, it is only necessary to move the chucking head 54 away from the head 53, and this is likewise effected by the application of pressure medium into the cylinder.

While it is not herein illustrated, it is contemplated that the flexible tubes 71 and 72 will be carried on reels and will wind onto or unwind therefrom automatically as necessary for travel of the movable clamp. Other connections, between the source of pressure medium and movable cylinders may be likewise arranged.

When a cant is mounted by the clamps or chucking heads, it may be rotatably adjusted by rotating the supporting shaft 55 which mounts the clamp 53. For this purpose, the shaft 55 is equipped at its outer end with a relatively large worm gear 75 that operates in mesh with a worm 76 mounted on a cross shaft 77. The shaft 77 is rotatably contained in a housing 78 that is fixed to the head bracket 56. Fixed on one end of the shaft 77 is a sprocket wheel 80 and this is alined with a smaller sprocket wheel 81 fixed on the end of the shaft 82 of an electric motor 83; the motor being mounted on the under side of the frame 52, as will be observed by reference to Figs. 1 and 8. A sprocket chain belt 85 operates about the sprocket wheels 80 and 81 for driving the worm shaft 77, thus through the worm gear 75 and shaft 55 to rotatably adjust the supported cant as a means of bringing a selected or designated part into position for being worked on by the router head 1.

With a cant mounted in the clamps, as noted in Fig. 1, its movement in a longitudinal direction for presenting selected parts to position for being worked on by the router, is effected by the travel of the carriage 32 along the supporting track, but in order that the cant, or piece being worked on, may be shifted laterally toward or away from the router head, provision is made for bodily shifting the clamping base frame 52 laterally on the carriage 32. For this purpose, the supports or slides 51—51' which mount the base 52 are slidably fixed in the guideways 50—50' and mechanical means is provided for effecting a quick and definite adjustment of the base 52 either toward or from the router, whenever such is desired.

The mechanism for effecting this lateral adjustment of base 52 is best shown in Figs. 6, 8, 10 and 11, and it comprises a relatively short hydraulic cylinder 88 disposed horizontally of and rigidly mounted in the carriage bed lengthwise thereof. This cylinder is equipped with a piston 90 having a piston rod 91 extended therefrom and connected at its end to a rack bar 92 that is slidably contained in a guideway 93. The rack bar operatively meshes with a pinion gear 94 fixed on a transversely directed shaft 95 mounted in bearings 96 carried in the carriage bed. This shaft also is equipped with a miter gear 97 that operatively meshes with a miter gear 97' fixed on a shaft 98 that extends longitudinally of and in the central line of the carriage and is rotatable in supporting bearings 99—99' fixed in the carriage bed near its opposite ends. Fixed on the opposite ends of the longitudinal shaft 98 are

gear wheels 100—100' which, respectively, mesh with rack surfaces 101—101' that are formed in the under surfaces of the slides 51—51' whereby the clamping chucking base 52 is mounted.

It will be understood by reference to Fig. 10 that movement of the piston 90 in the cylinder 88 will effect a similar movement of the rack bar 92, and this will cause the rotation of shaft 95 and this rotary motion will be transmitted through the miter gears 97—97' to shaft 98. Since shaft 98 is rotatably fixed in the carriage, its rotation will effect a transverse adjustment of the clamping base 52 to an extent and direction dependent upon the extent and direction of travel of the piston 90 in its cylinder. The movement of the piston 90 is controlled and effected by the application of hydraulic pressure medium into the cylinder 88 and this is effected through pipe connections as diagrammatically illustrated in Fig. 14, wherein—102 and 103 respectively designate pipes that lead from a four-way valve 104 to opposite ends of the cylinder; parts of these pipes being flexible to permit the easy movement. Valve 104 has a connection 104a with the source of supply 30 of pressure medium and has a discharge pipe 104b.

Since the present machine is designed for the handling of cants or wood pieces of considerable weight as well as large size, it is desirable that mechanical means be provided for lifting them into clamping position and for subsequently discharging them from the machine. For this first mentioned purpose, there is provided a pair of loading or lifting rolls 110—110', as noted best in Figs. 1, 8 and 12. These rolls are disposed just above and transversely of the clamping base 52 between the chucks or clamps 53 and 54 and each roll is mounted between the outer ends of a pair of arms 111—111'. These pairs of arms are fixed, respectively, on parallel cross shafts 112—112' that are rotatably mounted on the clamping base 52, at a point substantially medial of the clamps, in bearings 114 which also are fixed to base 52. Corresponding ends of the cross shafts are equipped with intermeshing gears 115—115' of like size, and on one of the shafts, at the end opposite the gears, a lever arm 116 is fixed whereby that shaft may be rotatably actuated in either direction to effect a synchronous rotative action in the opposite direction of the other shaft, thus, by the rotation, to cause the paired arms to be oscillated for raising or for lowering the rolls 110—110' in unison.

Normally, the rolls are disposed closely adjacent the top surface of the base 52, and substantially below the axial line of the chucks or clamps. In this position, a slab or cant may be loaded thereon, and in a position lengthwise of the clamping base that, by swinging the arms upwardly, the cant may be lifted to and held properly in position between the two clamps or chucks 53 and 54 for being clamped in place thereby.

For the purpose of mechanically actuating the lever arm 116, there is provided a hydraulic mechanism as noted in Figs. 12 and 13, comprising a hydraulic cylinder 120, fitted with a piston 121 having a piston rod 122 that, for a purpose presently explained, extends from both ends of the cylinder. At one end, the rod 122 is pivotally connected by a pin 123 with a link 124 which has a lost motion connection, provided through the medium of a pin and slot designated at 125—126, with the lever arm 116. Thus, when the piston is caused to be moved to its limit toward that end of the cylinder, the connection

provides that the rollers will be actuated upwardly and lift the cant into position for being operatively engaged and supported by the chucking heads or clamps.

When a cant is released from the clamps or chucks, it will be lowered by the rollers 110—110' to rest with its opposite end portions supported respectively on a pair of transverse cross bars 129 and 129'. These bars have ends fixed to a shaft 130 that extends lengthwise on the frame 52 for rotation in bearings 131—131'. On one end of this shaft is a bevel gear wheel 132 in mesh with a bevel gear 133 fixed on a cross shaft 134, revoluble in bearings 135. On one end of the shaft 134 is a lever arm 136, which has an actuating connection with the adjacent end of piston rod 122. This connection comprises a link 137 which is pivotally connected to piston rod 122 by a pin 138 and has a pin and slot 139 and 140 providing a lost motion connection with the arm.

With this above described connection, travel of the piston rod to its extreme in the direction of arm 136 causes rotation of shaft 130 whereby to swing the arms 129 upwardly, thereby to skid the cant from the frame to the side of the machine, where it may be received into a car or conveyor.

The hydraulic cylinder 120 is connected in the hydraulic system, as seen in Fig. 14, through the mediacy of a four-way valve 145 having flexible connections 146 and 147 leading to the opposite ends of the cylinder and a connection 145a to the supply 30 and a connection 145b with the exhaust 31.

By reference to Fig. 14, it will be seen that the motor 11 has circuit wires 150 and 151 leading to a switch box 152, into which lead the power lines 154 and 155. Start and stop press buttons 156 and 157 control the closing and opening of the circuit to the motor. Also, it will be seen that the motor 83 has circuit lines 158 and 159 leading to a switch box 160, into which lead the power lines 161 and 162. Likewise start and stop press buttons 163 and 164 control the opening and closing of the circuit to the motor 83.

The router, best illustrated in Figs. 4 and 5, comprises a head 165 of truncated, conical form, mounted coaxially on the shaft 2. The head is drilled to receive the shaft 2 and the latter is formed with a shoulder 166 against which the head abuts. The shaft end comprises a threaded portion 2a connected to the head 165 in such manner that rotation of the shaft tightens the connection.

It will be noticed that this head 165 comprises the tapered body 165a, and this is formed about the larger end with an encircling collar portion 165b. Formed in the body, parallel with the axis, and at equally spaced intervals, are slots 167a in which knives or cutters 167 are mounted; these being held in their respective slots by set screws in the conventional manner, and since the details of this mounting are standard practice and not claimed as a part of the invention, a detailed description is dispensed with.

Likewise, there are mounted in the collar portion 165b of the head 165, a plurality of knives or cutters 168, these being held in their respective slots 168a in the conventional manner. The knives or cutters 167 and 168 are inclined in the direction of rotation of the head 165, as observed by reference to Fig. 4.

Fixed coaxially within the end of the head is a drill 170 of a diameter suitable for the work to be done.

Assuming the machine to be so constructed, its use and mode of operation is as follows:

A block, slab or cant of wood is skidded or lifted to loading position by any suitable means; this position being one of rest on the paired arms 129 and across the rolls 110—110'.

By an operation of the valve 145, pressure medium is caused to act on piston 121 in the cylinder 120 to move it toward the left, as shown in Fig. 12, thereby causing the lever 116 to be oscillated also in that direction. The shaft 112' is thus rotated and, through the gears 115—115', the shaft 112 is also caused to rotate, thereby causing the arms 111—111' to raise in unison to the position as shown in dotted outline in Fig. 12. By careful operation of the valve 145, the cant of wood may be accurately centered between the chucking heads 53 and 54.

It is to be understood that, during this loading operation, movement of the link 137 is not such that it will operate the lever 136, because, with the piston traveling in the direction stated, the slot 140 permits the link to slide on the pin 139.

After the cant has been lifted to position, the valve 13 is operated to admit pressure medium into the cylinder 65 to cause piston 67 to move the head bracket 58 toward the block of wood to clamp it in position for operation thereon. Then by a releasing operation of the valve 145, the piston 121 will be returned to a central position in the cylinder 120, and the arms 111—111' returned by gravity to their lowered positions.

Through the movement of the piston 30 in hydraulic cylinder 35, effected by manipulation of the valve 40, any longitudinal adjustment necessary to locate a defective spot in the block or cant in line with the router 1 may be accomplished. Likewise, any lateral motion or adjustment toward or from the router may be accomplished through the actuation of the piston 90 within the cylinder 88 through manipulation of the valve 104. However, the normal position of the router head 1 is at its raised limit, and it is brought into operating position by lowering it, and this is accomplished through the mediacy of cylinder 15 and the piston 20 therein under control of the valve 29. The electric motor 11 is energized incident to closing a circuit by pressing the start press button on the switch box 152.

With one side of the block or cant prepared, another surface may be presented to be prepared by turning the block over. This is accomplished by energizing the motor 83 through the start and stop press buttons 163 and 164 in the switch box 160.

It is to be understood that the router head may be brought into cutting contact with the block, and the carriage 32 slowly moved in either one direction or the other by the application of pressure medium to the cylinder 35; also, that the frame 52 may be moved either inwardly or outwardly from the router head by application of

pressure medium to the cylinder 88, and that these two movements might be carried on simultaneously, along with an up or down movement of the router head at the same time.

When the bark has been removed and the defects routed out, and it is desired to remove the block from the machine, the arms 111—111' are lifted, bringing the rollers 110—110' in contact therewith and the clamps released by operating the piston 36 within the cylinder 35 toward the left as seen in Fig. 8, so as to move the clamping head 58 away from the block.

Then, by applying pressure in the cylinder 120, the piston 121 will be actuated to the right, as seen in Fig. 12, the block lowered and brought to rest on the arms 129—129'. Then, by operating this piston 120 on toward the right, the slot 126 in the link 124 slides on the pin 125, and the link 137 operates the lever 136 so as to rotate the shaft 134. The bevel gear 133 on this shaft 134, meshing with the bevel gear 132 on the shaft 130, causes the shaft 130 to be rotated, lifting the cross bars 129—129' to the dotted position in Fig. 13, so that the block will be skidded therefrom into a truck or conveyor.

This machine may be embodied in various forms of construction without departing from the spirit of the invention. Therefore it is intended that the appended claims be given an interpretation commensurate with the invention herein disclosed.

Having thus described our invention, what we claim as new therein and desire to secure by Letters Patent is—

1. In a machine of the character described, the combination of a driven wood working tool, a movable frame, and a pair of clamps on the frame for engaging the ends of a cant to support it for operation thereon by the tool, of a pair of rolls arranged below the cant and adjacent its opposite ends, arms supporting said rolls, means operatively connecting the arms for oscillation in unison for lifting to or lowering a cant from the clamps, a pair of lever arms disposed transversely of and beneath the opposite end portions of the cant to receive the latter thereon when released from the clamps, and means operable in connection with the means for lowering the cant for actuating the arms to an inclined position to skid the cant from the frame.

2. A machine as recited in claim 1 wherein the actuating means for the rolls and lever arms comprises a hydraulic cylinder, a piston and a piston rod extended from opposite ends of the cylinder and having operative connection at its opposite ends with the rolls and lever arms, and means for controlling the direction and extent of activation of the piston to selectively actuate the rolls or lever arms.

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