Feb. 19, 1952 E. C. SHAW 2,586,727

OSCILLATABLE BARK-REMOVING JET HAVING VARIABLE AMPLITUDE OF OSCILLATION

Filed May 22, 1950 2 SHEETS--SHEET 1

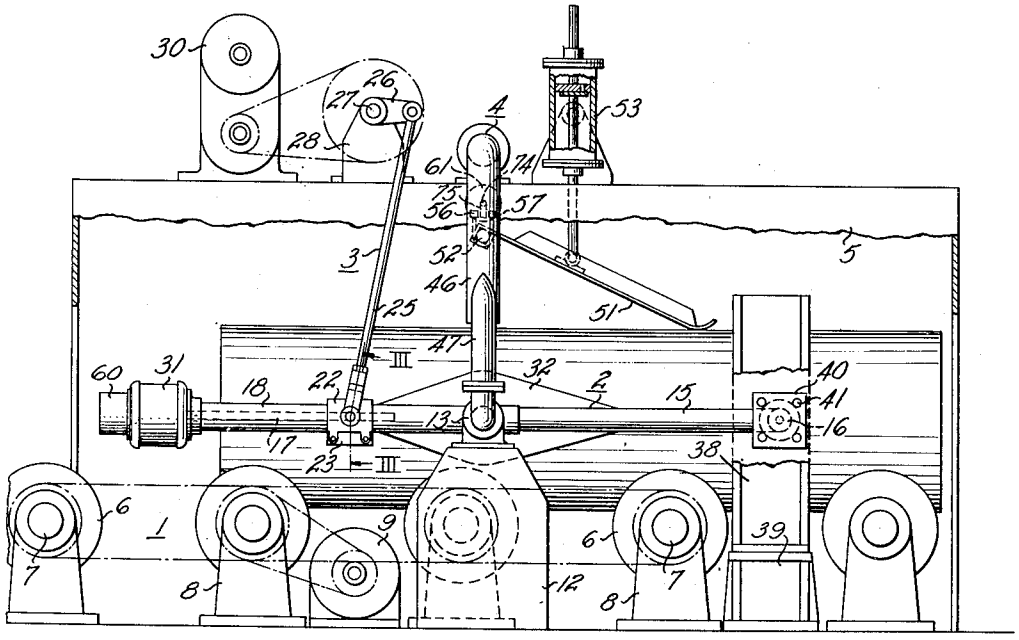


Fig. 1

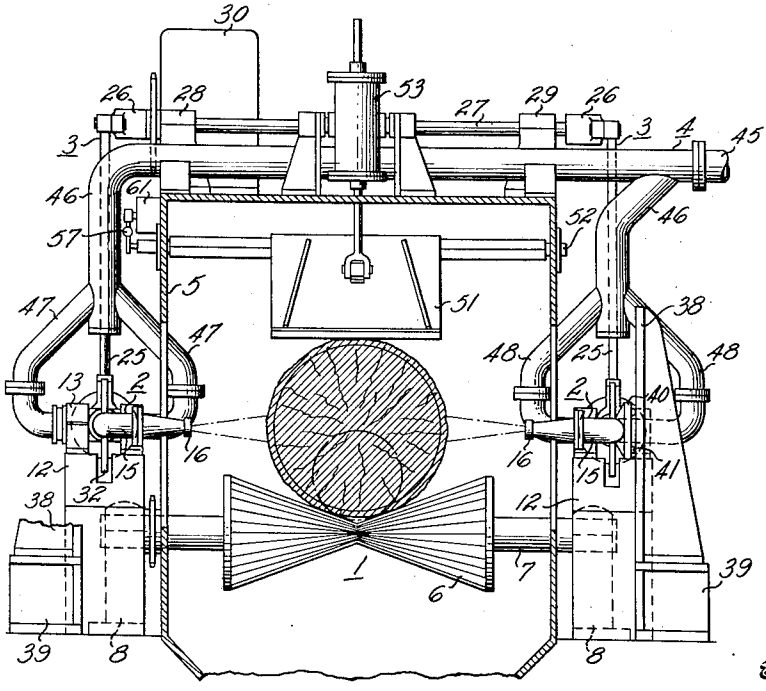


Fig. 2

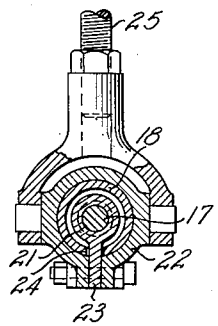


Fig. 3

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OSCILLATABLE BARK-REMOVING JET HAVING VARIABLE AMPLITUDE OF OSCILLATION

Filed May 22, 1950 2 SHEETS—SHEET 2

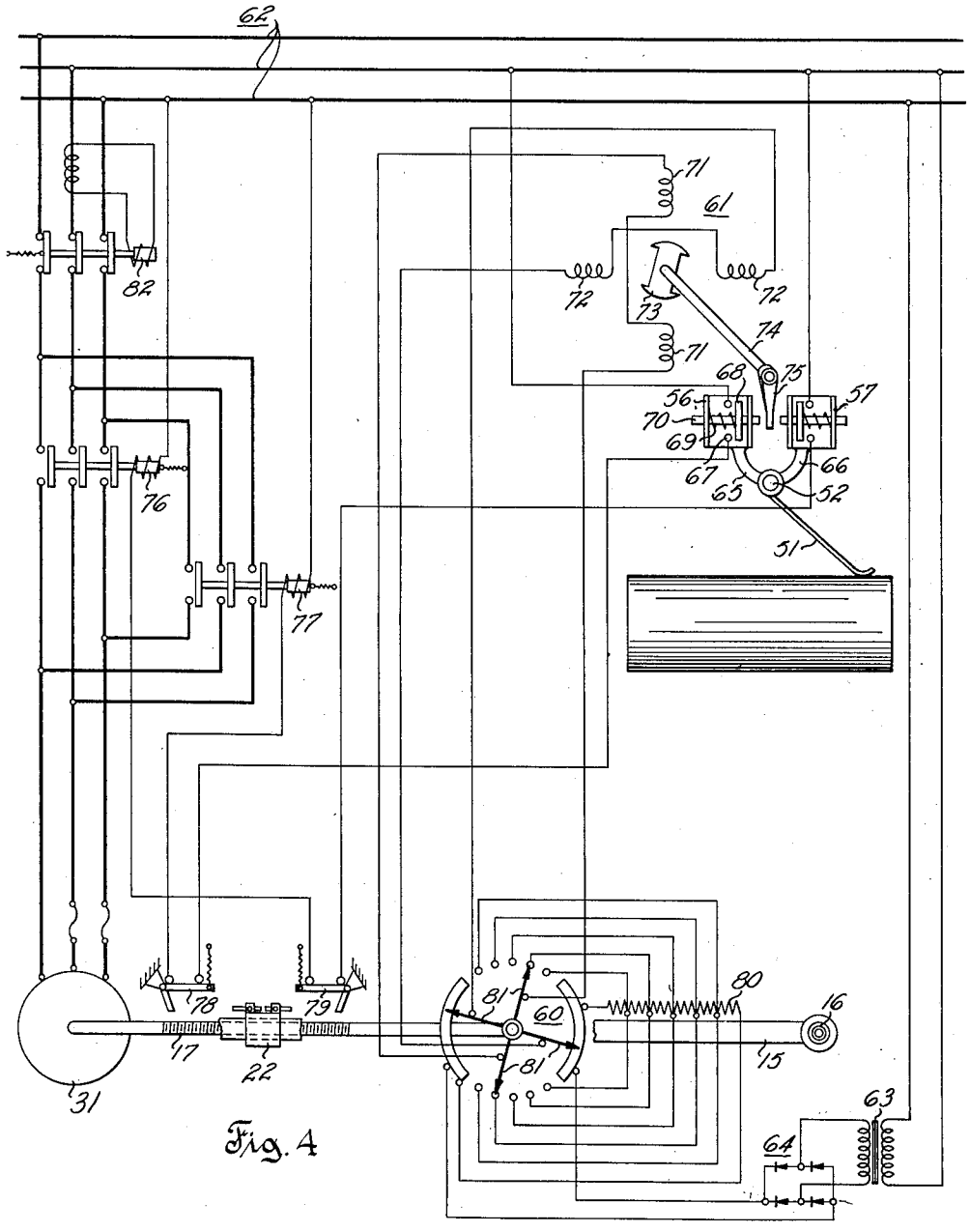


Fig. 4

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OSCILLATABLE BARK-REMOVING JET HAVING VARIABLE AMPLITUDE OF OSCILLATION

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Application May 22, 1950, Serial No. 163,493

17 Claims. (Cl. 144—208)

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This invention relates to devices for cleaning and removing bark from timber by means of a high pressure hydraulic jet. More specifically, this invention relates to that type of hydraulic barker in which an oscillating motion is imparted to the barking jet as timber is conveyed through the machine. The principal object of the invention is the provision of new and improved barking devices.

To be economically successful a hydraulic barking machine must remove the bark and foreign material from the surface of the log effectively, economically, and at high speed. The oscillating nozzle type barker was developed to achieve faster barking. In the usual barker of this type the nozzle oscillated about an axis in a plane parallel to the longitudinal axis of the log being barked with the nozzle jet axis oscillating in a plane perpendicular to the axis of oscillation. The effectiveness of this type of nozzle however was rather limited since a jet from such a nozzle will glance off the log and will not be able to contact the entire 180° of the log's circumference exposed to a single nozzle. It was therefore necessary to either provide an undesirable number of nozzles spaced about the log or to rotate the log, in order that the jets be brought to bear on the entire peripheral surface of the log. A further development was the nozzle structure in which the nozzle oscillates about an axis parallel to the nozzle jet axis, with the axis of oscillation in a plane perpendicular to the surface of the log being barked. This type of barking device is described and claimed in the pending application of Fred V. Sams, S. N. 153,702. This development added greater effectiveness to the high speed achieved by the oscillation of the nozzle in that a single nozzle could reach 180° of the peripheral surface of a log thus making it possible to bark the entire surface of a nonrotating log by using only two nozzles. It is the nature of the present invention to provide novel means for adjusting the amplitude of oscillation of either of the above mentioned types of oscillating nozzles, to increase the economy of operation by limiting nozzle oscillation to the effective angle and reduce the waste of energy that occurs by the jet traveling beyond the edge or over the top of the logs being barked.

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Accordingly, it is a primary object of this invention to provide a machine that will result in greater speed, effectiveness and economy in utilizing a hydraulic jet to remove bark and all foreign matter from timber in the preparation for further processing as lumber or pulp.

Another object of this invention is to provide a machine in which the amplitude of an oscillating hydraulic jet may be adjusted, while the machine is in operation, to reduce overthrow of water beyond the edge or over the top of logs of varying diameter.

Still another object of this invention is to provide a machine in which the amplitude of an oscillating hydraulic jet may be automatically adjusted, while the machine is in operation.

Objects and advantages other than those above set forth will be apparent as the description of the invention proceeds.

The novel features of the invention and how the objects are attained will appear from the specification and the accompanying drawings showing an embodiment of the invention and forming a part of this application, and all of these novel features are intended to be pointed out in the claims.

In the drawings:

Fig. 1 is a side view of a barking machine according to the present invention with part of the covering structure cut away to more clearly disclose the various mechanisms included in the machine;

Fig. 2 is an end view of the barking machine from the discharge end of the machine, with the end covering structure removed;

Fig. 3 is a cross sectional view taken on plane III—III of Fig. 1; and

Fig. 4 is a schematic diagram of an automatic control system for the barking machine of Figs. 1, 2 and 3.

Referring more particularly to Fig. 1 and Fig. 2, the barking machine comprises conveying means 1 for receiving and carrying a log endwise through the machine, nozzle assemblies 2, reciprocating driving means 3 for imparting an oscillating motion to the nozzle assemblies 2, and fluid supply means 4 for supplying hydraulic fluid under pressure to the nozzle assemblies. A casing 5 encloses the machine to prevent water

and chips of bark escaping to the surrounding atmosphere and also to support elements suspended above the conveying means 1.

The conveying means 1 are herein shown as comprising V type log carrying rolls 6 with a shaft 7 extending from each side of the rolls 6 and supported by brackets 8. The rolls 6 may be driven by any suitable means, here shown as the motor 9, in any combination of driven and idler rolls desired, to transport the logs through the machine. The nozzle assemblies 2 are shown mounted on a base member 12 on each side of the rolls 6. The nozzle assemblies 2 include flexible fluid transfer means here shown as the flexible fluid couplings 13. The couplings 13 are mounted on the base members 12 with their turning axis in a plane that is perpendicular to the longitudinal axis of a log on the rolls 6. Jet issuing means, here shown as a conduit member 15 with a nozzle 16 attached thereto, are connected to the movable portion of each of the flexible fluid couplings 13. The couplings 13 serve the nozzle assemblies 2 both as fluid supply fittings and as the fulcrum for the oscillating motion imparted to the conduit members 15 by the reciprocating driving means 3 as will more fully appear as the description of the invention proceeds. The conduit 15 and nozzle 16 form an L-shaped structure which, if stationary, would direct a barking jet toward the log and along an axis parallel to the turning axis of the coupling 13, that is, the nozzle jet axis of each of the nozzles 16 parallels the axis of oscillation at any position on the arcuate path traveled by each oscillating nozzle. This type of oscillating nozzle assembly is more fully described and claimed in the copending Sams application, S. N. 153,702.

The means provided to oscillate each of the conduit members 15 about the turning axis of their respective couplings 13, includes an externally screw threaded shaft member 17 connected to the nozzle assembly 2 by means of a cylindrical arm 18 attached to the movable portion of the coupling 13. Referring now also to Fig. 3, the externally screw threaded shaft 17 is mounted concentrically within the cylindrical arm 18. An internally screw threaded member 21 is mounted concentrically about the externally screw threaded shaft 17. A crosshead member 22 is slidably mounted about the cylindrical arm 18 and is bolted to a flange 23 of the internally screw threaded member 21 that extends through a slot 24 in the cylindrical arm 18. A connecting arm 25 is attached on one end to the crosshead member 22. The other end of the connecting arm 25 is attached to a crank arm 26 which is mounted on an adjacent end of a shaft 27 that extends across the top of the casing 5 and is supported by the brackets 28, 29 mounted on top of the casing 5. The shaft 27 and crank arms 26 attached thereto are shown as being rotated by an electric motor 30 also mounted on top of the casing 5. The rotational motion of the shaft 27 is thereby converted to the reciprocating motion of the connecting arms 25 which, being connected to the cylindrical arms 18, cause the flexible couplings 13 to oscillate and the barking jets to oscillate transversely across each side of the log. A teleoperated reversible electric motor 31 is mounted on each of the cylindrical arms 18 to rotate the externally screw threaded shaft 17 mounted within the cylindrical arm 18. Rotating the externally screw threaded shafts 17 will move the internally screw threaded members 21 and the crosshead members 22 either toward or away from the turning axes of the couplings 13, thereby changing the effective length of the cylindrical arms 18 in the linkage from the crank arms 26 and thus changing the angle through which the couplings 13 will oscillate. A stiffening web 32 is attached and made integral, by some means such as welding, to each of the cylindrical arms 18, flexible couplings 13, and conduit members 15, to make a stronger and more rigid structure.

Barking jets issuing under high pressure from the structure described, that is, at a 90° angle to the conduit members 15, will result in a considerable reaction to the force of the jets which would tend to bend the conduit members away from the log being barked. This would result in breaking the conduit members 15 or at least cause the jets to strike the log at a less effective angle. Bracing means are therefore provided to eliminate the possibility of the conduit members 15 breaking or bending away from the log. The bracing means are shown as a brace plate 38 mounted on a base 39. A shoe 40 with bearings 41 is attached to each conduit member 15 to ride on the brace plates 38 and thereby brace the conduit members 15 against the reaction of the jets with a minimum of frictional resistance between the shoes 40 and the brace plates 38.

The fluid supply means 4 for delivering high pressure fluid to the nozzle assemblies 2 comprises a fluid supply pipe 45 with headers 46 extending to each side of the conveying means 1. Delivery tubes 47, 48 transmit the fluid from the headers 46 to the nozzle assemblies 2. The tubes 47, 48 deliver hydraulic fluid to both sides of the flexible fluid couplings 13 to balance the forces on the couplings and thereby enable them to oscillate without binding or causing excessive wear.

In the operation of the barking machine as hereinbefore described, logs of varying diameter are received and carried in the crotch of the rolls 6. Small logs will ride a little deeper in the crotch of the rolls than large logs, but this variation will be slight. The principal variation will be in the level of the top of the logs above the supporting rolls. The described oscillating mechanism may be adjusted to change the upper limit of the nozzle travel while leaving the lower limit of travel substantially unaffected. That is, the externally screw threaded shafts 17 may be rotated by the reversible motors 31 to move the crosshead members 22 closer to the turning axis of the couplings 13, to thereby reduce the effective length of the cylindrical arms 18 in the linkage from the driven crank arms 26 and thereby raise the upper limit of nozzle 16 travel. Similarly, rotating the externally screw threaded shafts 17 in the opposite direction will move the crosshead members 22 farther away from the turning axis of the couplings 13 thus increasing the effective length of the cylindrical arms 18 in the linkage from the driven crank arms 26, so as to lower the upper limit of nozzle travel. The aforesaid adjustment may be made without stopping the machine. Energization of the motors 31 may be controlled by an operator from a remote position that enables him to observe the effective limit of nozzle travel so that he may keep the overthrow of water over the top of the logs to a minimum and yet allow the jets to completely cover the log being barked.

It is desirable, however, to keep the number of operating personnel to a minimum. Means are therefore provided for complete automatic

control of the amplitude of travel of the nozzles 16. The automatic control means include feeler means for determining the size of a log in barking position upon the rolls 6, and control means responsive to the position of the feeler means to energize the teleoperated motors 31 to adjust the amplitude of oscillation of the barking jets in accordance with the size of the log being barked.

As shown in Fig. 1 and Fig. 2 the feeler means comprise a feeler member 51 mounted above the rolls 6, on a rotatable shaft 52 extending through both sides of the casing 5. The free swinging end of the feeler member 51 will, due to its own unbalanced weight, ride upon the top of a log as the log passes beneath the feeler member. As the feeler member 51 drops from a large log to a smaller log or is pushed up by a log larger than the one preceding it, the swinging motion of the feeler member will rotate the shaft 52. A dashpot 53 is mounted on top of the casing 5 and is connected to the feeler member 51 to prevent the feeler member dropping with a force sufficient to cause damage to the feeler means. Circuit completing means here shown as a pair of normally open switches 56, 57, are attached to one end of the shaft 52 and are operated in a manner hereinafter described in greater detail with reference to Fig. 4 to control the energization of the motors 31. It may be generally stated however that either of the switches 56, 57, when closed, will operate to energize the motors 31 to rotate the shafts 17, to thereby move the crosshead members 22 relative to the turning axis of the couplings 13. When the feeler member 51 is raised, switch 57 will be closed and the motors 31 will be energized to move the crosshead members 22 toward the couplings 13. Similarly, when the feeler member 51 is lowered, switch 56 will be closed, and the motors 31 will be energized to rotate in the opposite direction to move the crosshead members 22 away from the couplings 13. A followup system also described later in detail with reference to Fig. 4, allows the motors 31 to move the crosshead member to the position appropriate for the size of the log being barked, and then interrupts the circuit. The followup system includes a transmitter 60 mounted on one of the motors 31 and driven in any desirable manner to turn with the motors 31. A receiver 61, energized by the transmitter 60 is mounted on the casing 5 to cooperate with the switches 56, 57 to open the switch that has been closed by the movement of the feeler member 51, when motors 31 have moved the crosshead members to their new position.

The details and operation of the automatic control system may be more easily explained by referring to the schematic diagram shown in Fig. 4. A source of alternating current 62 is provided to energize the motors 31 to rotate the externally screw-threaded shafts 17 and position the crosshead members 22. A transformer 63 energized from source 62 supplies a rectifier 64 to provide direct current for energizing the transmitter 60. The switches 56, 57 are shown connected to the shaft 52 by arms 65, 66. Each of the switches 56, 57 comprises a pair of fixed contacts 67 and a bridging contact 68 held away from the fixed contacts 67 by a spring 69. The bridging contact is mounted on a shaft 70 that is slidably mounted within the switch and projects from either side of the switch. The receiver 61 includes pairs of stator field coils 71, 72 and a permanent magnet rotor 73. The rotor 73 of the receiver 61 is connected by a shaft 74 to a switch actuating arm 75 mounted between the switches 56, 57. A pair of normally open solenoid switches 76, 77 are provided to control the connection of motor 31 to source 62 for either forward or reverse operation of the motor. When switch 56 is closed switch 77 will close to rotate the motors 31 in one direction and when switch 57 is closed switch 76 will close to rotate the motors 31 in the opposite direction. A pair of limit switches 78, 79 are provided, limit switch 78 in series with switches 56 and 77, and limit switch 79 in series with switches 57 and 76 to limit the travel of the crosshead members 22 on the externally screw threaded shafts 17.

The transmitter 60 comprises a single resistor 80 having its terminals connected with the rectifier 64, and brushes 81 connected in any suitable manner to rotate upon rotation of the motors 31, engageable with different portions of the resistor 80 at selected positions. The brushes 81 are connected to the coils 71, 72 of the receiver 61 to thereby cause the rotor 73 of the receiver 61 to rotate with the brushes 81 of the transmitter 60.

In the operation of the described machine when a log of decreasing diameter or a log of smaller diameter than the log preceding it passes beneath the feeler member 51, the feeler member will swing in a downwardly direction and the shaft 52 will rotate clockwise. The clockwise rotation of the shaft 52 will also rotate the switches 56, 57 in a clockwise direction about the axis of the shaft 52. When the shaft 70 of the switch 56 comes in contact with the actuating arm 75 the spring 69 will be compressed and the contact member 68 will bridge the contacts 67 and complete the circuit through the limit switch 78 to close the solenoid switch 77. When the solenoid switch 77 is closed, the motors 31 will rotate the externally screw threaded shafts 17 to cause the crosshead members 22 to move away from the couplings 13, to the left as shown in Fig. 1 and Fig. 4, to lower the upper limit of oscillation about the couplings 13. As the motors 31 and shafts 17 rotate, the brushes 81 of the transmitter 60 will also rotate, counterclockwise as shown, and impress a voltage on the windings 71, 72 of the receiver 61 that will cause the rotor 73 of the receiver 61 to also rotate counterclockwise and move the arm 75 away from the switch 56. As long as the feeler member 51 continues to swing downwardly the switch 56 will follow the arm 75 keeping the spring 69 compressed and the switch 56 in a closed position. When the feeler member 51 stops swinging downwardly the arm 75 will move away from the switch 56 and the spring 69 will open the switch 56 stopping the motors 31 and the travel of the crosshead members 22. The rotation of the motors 31 and shafts 17 would also be stopped by the crosshead member 22 moving to open the limit switch 78. Similarly, if the diameter of the log being barked would be increasing or a log of larger diameter than the log preceding it would pass beneath the feeler member 51 the feeler member would swing upwardly and rotate the shaft 52 counterclockwise. The counterclockwise rotation of the shaft 52 would then rotate the switches 56, 57 in a counterclockwise direction about the shaft 52 and switch 57 would close. The solenoid switch 76 would then close and the motors 31 would rotate the shafts 17 to move the crosshead members 22 toward the couplings 13, to the right as shown in Fig. 1 and Fig. 4, to raise the upper

limit of oscillation about the couplings 13. The transmitter 60 would then cause the receiver 61 to rotate the arm 75 clockwise to allow the switch 57 to open as soon as the feeler member 51 stopped its upward swing, indicating that a length of the log of constant diameter was being barked. The limit switch 79 would prevent the crosshead members 22 being moved too close to the flexible couplings 13. An overload circuit breaker 82 may be provided to disconnect motor 31 from source 62 upon occurrence of excessive currents in the motor circuit.

If the operating personnel should desire to manually control the upper limit of the jet's travel, the feeler member 51 could be removed and the shaft 52 rotated manually by any means such as a handwheel. The automatic control system could also be immobilized without removing the feeler member 51 by merely providing switch means to interrupt the flow of current to the motors 31 from the source 62. The motors 31 could then be energized from any other source of current manually controlled in any manner desired.

From the foregoing, it will be apparent to those skilled in the art that the illustrated embodiment of the invention provides a new and improved hydraulic barking device flexible in the operation thereof to the particular needs and desires of the operating personnel and, accordingly, accomplishes the objects of the invention. On the other hand, it will also be obvious to those skilled in the art that the illustrated embodiment of the invention may be variously changed and modified, or features thereof, singly or collectively, embodied in other combinations than herein illustrated, without departing from the spirit of the invention, or sacrificing all of the advantages thereof, and that accordingly the disclosure herein is illustrative only, and the invention is not limited thereto.

It is claimed and desired to secure by Letters Patent:

1. A nozzle assembly for hydraulic log barkers, comprising: fluid supply means to deliver hydraulic fluid under pressure; fluid jet issuing means; means mounting said jet means for oscillation about a fixed axis; means for supplying said fluid jet means from said fluid supply means; a lever arm connected to said mounting means; means connected to said lever arm for oscillating said fluid jet mounting means about said fixed axis; and means for changing the effective length of said lever arm to adjust the amplitude of oscillation of said jet mounting means while said oscillating means is in operation.

2. A nozzle assembly for hydraulic log barkers, comprising: fluid supply means to deliver hydraulic fluid under pressure; fluid jet issuing means; means mounting said jet means for oscillation about a fixed axis parallel to its jet issuing axis; means for supplying said fluid jet means from said fluid supply means; means for oscillating said fluid jet mounting means about said fixed axis; and means for changing the amplitude of oscillation of said jet mounting means while said oscillating means is in operation.

3. A nozzle assembly for hydraulic log barkers comprising: fluid supply means to deliver hydraulic fluid under pressure; flexible fluid transfer means connected to said fluid supply means; jet issuing means attached to said flexible fluid transfer means; an externally screw threaded member connected to said jet issuing means; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said jet issuing means about a fixed axis; and means to rotate said externally screw threaded member to move said internally screw threaded member relative to said fixed axis about which said jet issuing means oscillates, to adjust the amplitude of oscillation of said jet issuing means.

4. A nozzle assembly for hydraulic log barkers comprising: fluid supply means to deliver hydraulic fluid under pressure; flexible fluid transfer means connected to said fluid supply means; jet issuing means attached to said flexible fluid transfer means; an externally screw threaded member connected to said jet issuing means; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said jet issuing means about a fixed axis; an electric motor mounted to rotate said externally screw threaded member; and means controlling the energization of said electric motor to rotate said internally screw threaded member and move said internally screw threaded member relative to said fixed axis about which said jet issuing means oscillates, to adjust the amplitude of oscillation of said jet issuing means.

5. A nozzle assembly for hydraulic log barking machines comprising: fluid supply means to deliver hydraulic fluid under pressure; flexible fluid transfer means connected to said fluid supply means; jet issuing means attached to said flexible fluid transfer means; an externally screw threaded member connected to said jet issuing means; an internally threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said jet issuing means about a fixed axis parallel to its jet issuing axis; and means to rotate said externally threaded member and move said internally threaded member relative to said fixed axis about which said jet issuing means oscillates, to adjust the amplitude of oscillation of said jet issuing means.

6. A hydraulic log barker comprising: fluid supply means to deliver hydraulic fluid under pressure; conveying means for receiving and carrying a log through said machine; fluid jet issuing means; means mounting said jet means in spaced relation about said conveying means for oscillation about a fixed axis; means for supplying said fluid jet means from said fluid supply means; a lever arm connected to said mounting means; means connected to said lever arm for oscillating said fluid jet mounting means about said fixed axis; and means having a log diameter sensitive feeler element operably connected with said lever arm and responsive to changes in log diameter for changing the effective length of said lever arm in proportion to the diameter changes sensed, to adjust the amplitude of oscillation of said jet mounting means while said oscillating means is in operation.

7. In a hydraulic log barking machine; conveying means for receiving and carrying logs through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a conduit member attached to said fluid supply means to direct a barking jet of hydraulic fluid upon a log passing through said machine on said conveying means; an externally screw threaded mem-

ber mounted concentric to said conduit member; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said conduit member about a fixed axis; and means to rotate said externally screw threaded member to thereby make adjustable the length of the lever arm between said internally screw threaded member and the fixed axis about which said conduit member oscillates.

8. In a hydraulic log barking machine: conveying means for receiving and carrying a log through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a conduit member attached to said fluid supply means to direct a barking jet of hydraulic fluid upon a log passing through said machine on said conveying means; an externally screw threaded member mounted concentric to said conduit member; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said conduit member about a fixed axis; feeler means mounted in spaced relation to said conveying means and movable to contact the peripheral top surface of the log passing through said machine on said conveying means; and means responsive to the position of said feeler means to rotate said externally threaded member to move the internally screw threaded member relative to said fixed axis of oscillation and adjust the amplitude of oscillation of the barking jet.

9. In a hydraulic log barking machine: conveying means for receiving and carrying logs through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a conduit member attached to said fluid supply means to direct a barking jet of hydraulic fluid upon a log passing through said machine on said conveying means; an externally screw threaded member mounted concentric to said conduit member; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said conduit member about a fixed axis; an electric motor mounted to rotate said externally screw threaded member; and means controlling the energization of said electric motor to rotate said externally screw threaded member to move said internally screw threaded member relative to said fixed axis to control the amplitude of oscillation of the barking jet.

10. In a hydraulic log barking machine: conveying means for receiving and carrying a log through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a conduit member attached to said fluid supply means to direct a barking jet of hydraulic fluid upon a log passing through said machine on said conveying means; an externally screw threaded member mounted concentric to said conduit member; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said conduit member about a fixed axis; an electric motor mounted to rotate said externally threaded member; feeler means mounted in spaced relation to said conveying means and movable to contact the peripheral top surface of a log passing through said machine on said conveying means; and means responsive to the position of said feeler means to energize said electric motor to rotate said externally screw threaded member to move said internally screw threaded member relative to said fixed axis to adjust the amplitude of oscillation of the barking jet in accordance with the size of the log being barked as determined by the position of said feeler means.

11. In a hydraulic log barking machine: conveying means for receiving and carrying a log through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a conduit member attached to said fluid supply means to direct a barking jet of hydraulic fluid upon a log passing through said machine on said conveying means; an externally screw threaded member mounted concentric to said conduit member; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said conduit member about a fixed axis; a teleoperated motor mounted to rotate said externally threaded member; a normally open electrical circuit for energizing said motor; feeler means mounted in spaced relation to said conveying means and movable to contact the peripheral top surface of the log passing through said machine on said conveying means; and energizing circuit completing means connected to said feeler means responsive to the position of said feeler means to energize said teleoperated motor to rotate said externally threaded member and move said internally threaded member relative to said fixed axis of oscillation to adjust the amplitude of oscillation of the barking jet in accordance with the size of the log being barked as indicated by the position of said feeler means.

12. In a hydraulic log barking machine: conveying means for receiving and carrying logs through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; flexible fluid transfer means connected to said fluid supply means; jet issuing means attached to said flexible fluid transfer means to direct a barking jet of the hydraulic fluid upon a log passing through said machine upon said conveying means; reciprocating driving means connected to said jet issuing means to oscillate a portion of said jet issuing means in a plane parallel to the longitudinal axis of the log passing through said machine upon said conveying means; feeler means mounted in spaced relation to said conveying means movable to contact the peripheral top surface of the log passing through said machine upon said conveying means; and means responsive to the position of said feeler means to adjust said reciprocating means to limit the amplitude through which the jet issuing means oscillates.

13. In a hydraulic log barking machine: conveying means for receiving and carrying a log through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a conduit member attached to said fluid supply means to direct a barking jet of hydraulic fluid upon a log passing through said machine on said con-

veying means; an externally screw threaded member mounted concentric to said conduit member; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said conduit member about a fixed axis; a teleoperated motor mounted to rotate said externally threaded member and move said internally threaded member relative to said fixed axis of oscillation to adjust the amplitude of oscillation of the barking jet; a normally open electrical circuit for energizing said motor; feeler means mounted in spaced relation to said conveying means and movable to contact the peripheral top surface of the log passing through said machine on said conveying means; energizing circuit completing means connected to said feeler means to close said energizing circuit upon movement of said feeler means; and follow up means responsive to the rotation of said motor to keep said circuit completing means closed only as long as said feeler member continues to move.

14. In a hydraulic log barking machine; conveying means for receiving and carrying a log through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a conduit member attached to said fluid supply means to direct a barking jet of hydraulic fluid upon a log passing through said machine on said conveying means; an externally screw threaded member mounted concentric to said conduit member; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally screw threaded member to oscillate said conduit member about a fixed axis; a teleoperated motor mounted to rotate said externally threaded member and move said internally threaded member relative to said fixed axis of oscillation to adjust the amplitude of oscillation of the barking jet; a normally open electrical circuit for energizing said motor; feeler means mounted in spaced relation to said conveying means and movable to contact the peripheral top surface of the log passing through said machine on said conveying means; energizing circuit completing means connected to said feeler means to close said energizing circuit upon movement of said feeler means; a transmitter operated by said motor; a receiver connected to said circuit completing means and energized by said transmitter to keep said circuit completing means closed only as long as said feeler member continues to move.

15. In a hydraulic log barking machine: conveying means for receiving and carrying logs through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a flexible fluid coupling attached to said fluid supply means with the turning axis of said coupling being fixed in a plane perpendicular to the longitudinal axis of a log passing through said machine upon said conveying means; jet issuing means attached to said flexible coupling to direct a barking jet of hydraulic fluid upon the log as it passes through said machine, the issuing axis of said jet means being parallel to said turning axis; an externally screw threaded member connected to the movable portion of said flexible coupling; an internally screw threaded member mounted concentrically about said internally screw threaded member; reciprocating driving means connected to said internally threaded member to oscillate said jet issuing means about said turning axis of said flexible coupling; and means to rotate said externally threaded member and move said internally threaded member relative to said turning axis of said flexible coupling, to adjust the amplitude of oscillation of said jet issuing means.

16. In a hydraulic log barking machine: conveying means for receiving and carrying logs through said machine; fluid supply means mounted in spaced relation to said conveying means to deliver hydraulic fluid under pressure; a flexible fluid coupling attached to said fluid supply means with the turning axis of said coupling being fixed in a plane perpendicular to the longitudinal axis of a log passing through said machine upon said conveying means; jet issuing means attached to said flexible coupling to direct a barking jet of hydraulic fluid upon the log as it passes through said machine, the issuing axis of said jet means being parallel to said turning axis; an externally screw threaded member connected to the movable portion of said flexible coupling; an internally screw threaded member mounted concentrically about said externally screw threaded member; reciprocating driving means connected to said internally threaded member to oscillate said jet issuing means about said turning axis of said flexible coupling; a teleoperated motor mounted to rotate said externally threaded member; a normally open electrical circuit for energizing said motor; feeler means mounted in spaced relation to said conveying means and movable to contact the peripheral surface of the log passing through said machine on said conveying means; and energizing circuit completing means connected to said feeler means responsive to the position of said feeler means to energize said teleoperated motor to rotate said externally threaded member and move said internally threaded member relative to said turning axis of said flexible coupling to adjust the amplitude of oscillation of the barking jet to correspond to the diameter of the log being barked as indicated by the position of said feeler means.

17. In a hydraulic log barking machine: conveying means for receiving and carrying logs through said machine; a flexible fluid coupling mounted on each side of said conveying means with the turning axis thereof in a plane perpendicular to the longitudinal axis of a log passing through said machine upon said conveying means; fluid supply means connected to each of said flexible couplings; jet issuing means attached to each of said flexible couplings to direct a barking jet of hydraulic fluid upon a log as it passes through said machine upon said conveying means, the issuing axis of said jet means being parallel to said turning axis; an externally screw threaded member connected to the movable portion of each of said couplings; an internally screw threaded member mounted concentrically about each of said externally screw threaded members; reciprocating driving means connected to each of said internally screw threaded members to oscillate each of said jet issuing means about the turning axis of their respective couplings; a teleoperated motor mounted to rotate each of said externally threaded members; a normally open electrical circuit for energizing said motors; a feeler member swingably mounted above said conveying means to ride upon the top surface of a log passing through said machine upon said conveying means; and energizing circuit completing means mechanically connected to said

feeler member responsive to the position of said feeler member to energize said teleoperated motors to rotate said externally threaded members and move said internally threaded members relative to the turning axis of said flexible couplings to adjust the amplitude of oscillation of the barking jets to correspond to the diameter of the log being barked as indicated by the position of said feeler member riding on the top of the log.

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