United States Patent [19]

Hartzell et al.

[11] **3,872,758**

[45]* **Mar. 25, 1975**

[54] **SAWMILL**

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[73] Assignee: **Hertzell Industries, Inc.,** Piqua, Ohio

[*] Notice: The portion of the term of this patent subsequent to July 24, 1990, has been disclaimed.

[22] Filed: **Jan. 10, 1973**

[21] Appl. No.: **322,537**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 152,751, June 14, 1971, Pat. No. 3,747,455.

[52] **U.S. Cl.** **83/708,** 83/435.1, 83/409, 105/160.5, 83/425.3

[51] **Int. Cl.** **B27b 7/00,** B27b 29/08

[58] **Field of Search** 83/403.1, 404.4, 435.1, 83/409, 708, 425.2, 704; 105/160.5

[56] **References Cited**

UNITED STATES PATENTS

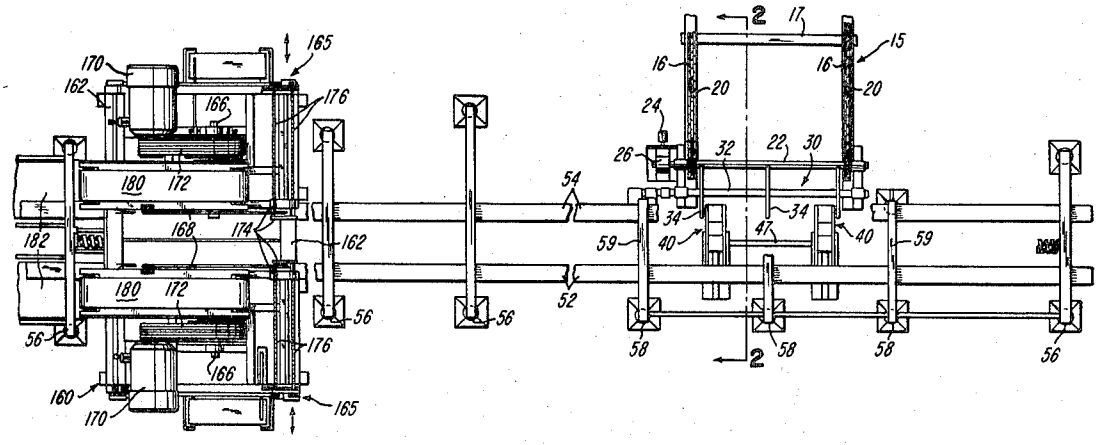
1,093,680	4/1914	Beck et al.	83/435.1
2,741,278	4/1956	McMurtrie	83/708
2,803,272	8/1957	Crosby	83/404.4
3,129,733	4/1964	Dargan et al.	83/409
3,600,833	8/1971	Hartzell	105/160.5 X
3,747,455	7/1973	Hartzell et al.	83/708

Primary Examiner—Donald R. Schran
Attorney, Agent, or Firm—Jacox & Meckstroth

[57] **ABSTRACT**

A set of log support carriage units are supported for horizontal movement by a set of parallel spaced tubular tracks and are connected by an elongated hydraulic cylinder. The carriage units include depending plate-like brackets which support corresponding dog members for engaging the opposite ends of a log when the connecting cylinder is retracted. The main carriage unit includes a variable speed hydraulically driven resilient wheel. The wheel engages the bottom surface of one of the tracks and is effective to move both of the carriage units along the tracks for feeding the log into a pair of rotary saws of a corresponding set of laterally adjustable saw husks. The dog member of the main carriage unit is mounted on one end of an elongated horizontal shaft rotatably supported by the corresponding bracket. The opposite end of the shaft connects with a hydraulic motor which is also supported by the bracket and is controlled by valves positioned adjacent a rotary actuator driven by the shaft through an electrically actuated clutch. The log is rotated to a selected position for the initial cutting operation and is then automatically indexed by precisely 90° from the initial cutting position.

9 Claims, 7 Drawing Figures



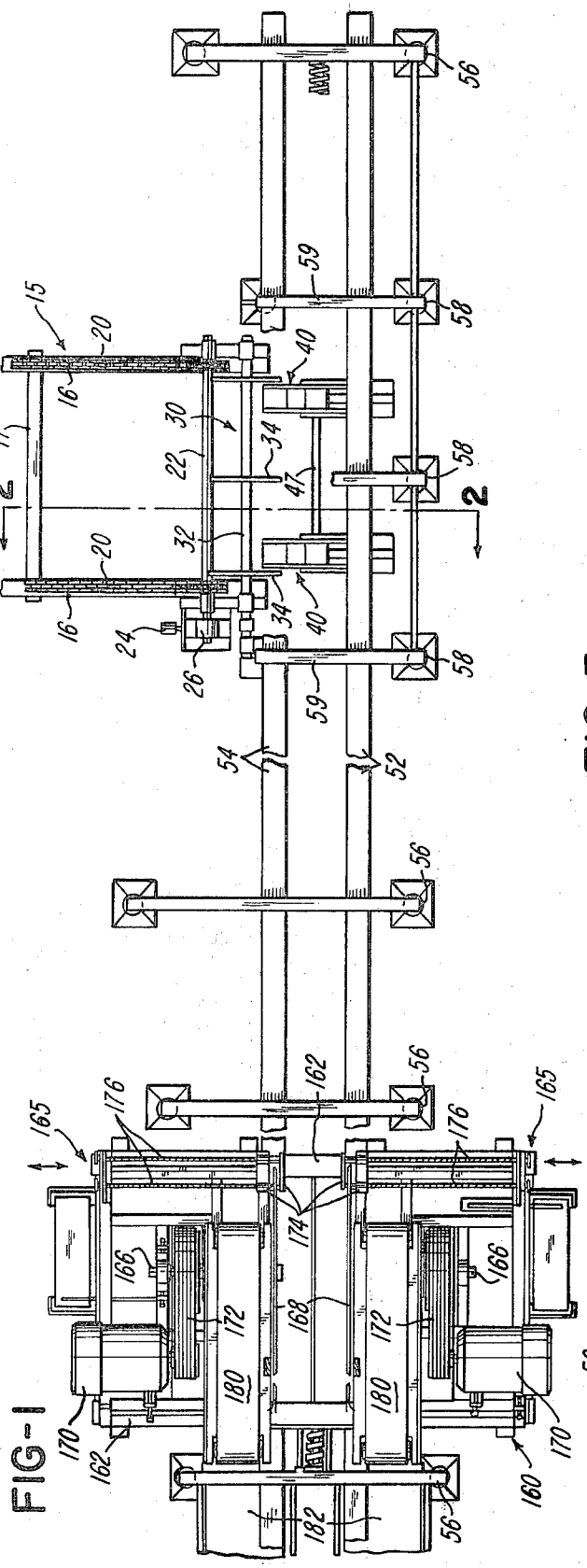


FIG-1

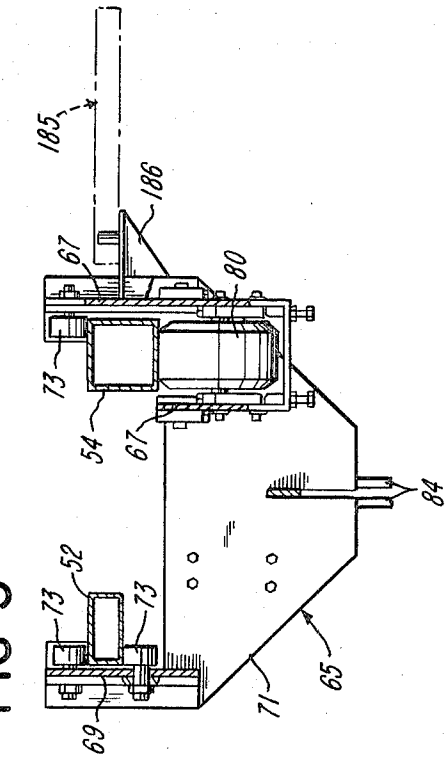


FIG-3

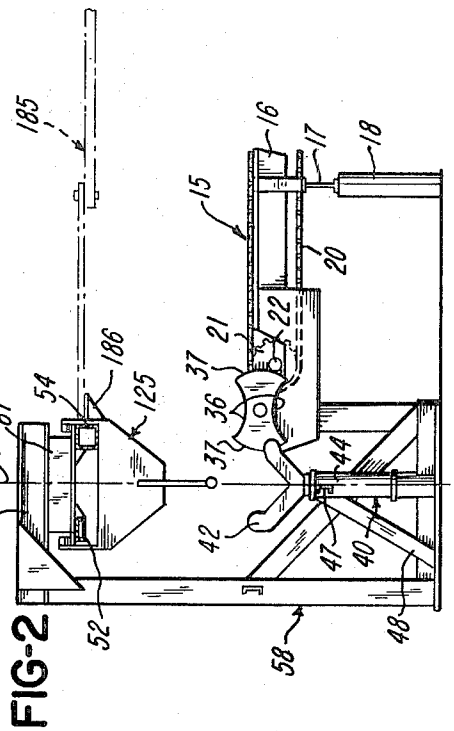


FIG-2

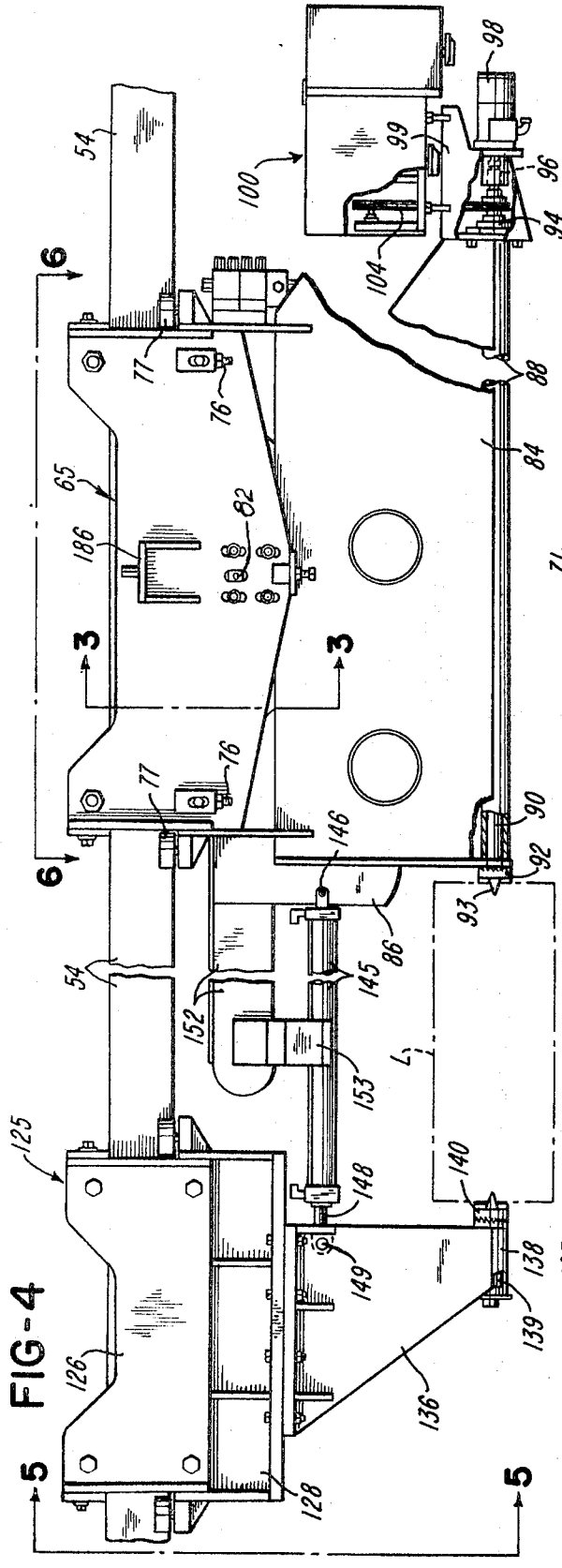


FIG-4

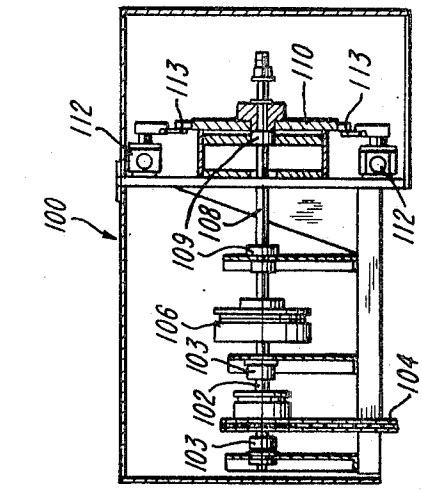


FIG-7

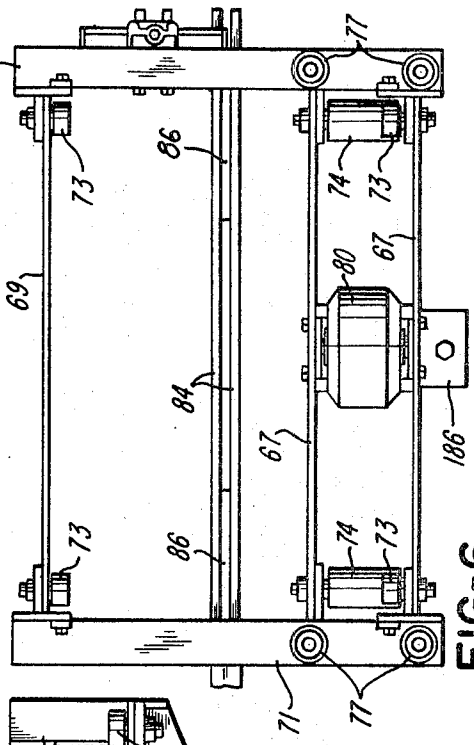


FIG-6

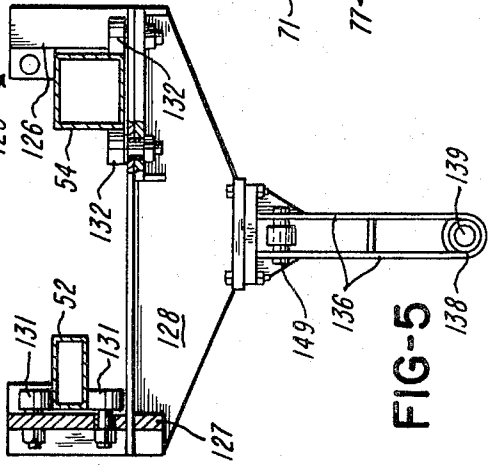


FIG-5

SAWMILL

RELATED APPLICATION

This application is a continuation-in-part of Ser. No. 152,751, filed June 14, 1971, now issued as U.S. Pat. No. 3,747,455.

BACKGROUND OF THE INVENTION

In a sawmill for successively cutting or sawing a supply of logs, it has been found desirable to provide a carriage system which grips or engages opposite ends of each log and feeds the log at a controllable rate through a set of power driven saws. The saws are laterally adjustable for selecting the cross-sectional dimensions of the center cant or lumber which is cut from the log. This general form of sawmill is disclosed in U.S. Pat. Nos. 1,093,680 and No. 2,803,272.

It has also been found desirable for the sawmill, and particularly the log support carriage, to be extremely rigid and stable and be conveniently adjustable for accommodating logs of various lengths, such as from four feet to fifteen feet and logs of non-uniform diameter. In addition, the sawmill should provide for efficiently and rapidly loading the logs into the log supporting carriage in a successive manner and for rotating each log on the carriage to select the position where the initial parallel cuts are to be made through the log. After the initial cuts are made, it has also been found desirable to provide for rotating or indexing the log by precisely 90° for cutting another set of parallel faces located at right angles to the pair of parallel faces produced by the initial cuts. It is apparent from a study of the sawmill assemblies disclosed in the above patents, that each of these assemblies is lacking in providing one or more of the above desirable features.

SUMMARY OF THE INVENTION

The present invention is directed to further improvements of a sawmill constructed in accordance with the disclosure of the above identified application and which provides all of the desirable features referred to above in order to provide for successively cutting or sawing a supply of logs with maximum efficiency in production. In addition, the improved sawmill of the invention has substantial rigidity, stability and flexibility for accommodating logs of varying lengths and sizes and for cutting each log to result in a relatively thin center portion of only a few inches.

The above features and advantages are provided by a sawmill stucture which generally includes a set of log support carriages mounted on a pair of parallel spaced tubular tracks and connected by an elongated fluid cylinder. The carriage units are driven along the rails by a hydraulically driven resilient wheel mounted on the main carriage unit and engaging one of the tracks. Both of the carriage units include depending brackets which support corresponding rotatable dog members for engaging opposite ends of a log. The dog member supported by the main carriage unit, is mounted on one end of an elongated shaft which extends parallel to the tracks and has an opposite end coupled directly to the shaft of a hydraulic motor supported by the corresponding bracket. The motor driven shaft is also connected through an electrically actuated clutch to a parallel spaced control shaft which supports an actuating member positioned to operate a plurality of circumferentially spaced valves for controlling the motor.

Other features and advantages of the invention will be apparent from the following description, the accompanying drawings and the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a fragmentary plan view of a sawmill constructed in accordance with the invention and with the log support carriage removed and portions of the carriage support track broken away;

FIG. 2 is a fragmentary section taken generally on the line 2—2 of FIG. 1;

FIG. 3 is a section of the main log support carriage unit as taken generally on the line 3—3 of FIG. 4;

FIG. 4 is an elevational view of the log support carriage units, with portions broken away;

FIG. 5 is a section showing the secondary log support carriage unit taken generally on the line 5—5 of FIG. 4;

FIG. 6 is a plan view of the main carriage unit as taken generally on the line 6—6 of FIG. 4; and

FIG. 7 is an enlarged vertical section of the log indexing control system shown in elevation in FIG. 4.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The sawmill system shown in FIGS. 1 and 2, is generally similar to the sawmill structure disclosed in the above identified patent application Ser. No. 152,751, but incorporates further improvements refined since the above application was filed. In general, a supply of logs are received by the sawmill on a horizontally extending deck conveyor 15 including parallel spaced horizontal rails 16 supported at longitudinal space intervals by a series of cross beams 17 (FIGS. 1 and 2) and corresponding sets of vertical columns 18 which rest on the floor. A pair of endless conveyor chains 20 have upper runs extending along the rails 16 and are directed around a corresponding set of sprockets 21 mounted on corresponding cross shafts 22 located at opposite ends of the rails 16. The shaft 22 (FIG. 2), is driven by a hydraulic motor 24 (FIG. 1) through a gear reduction unit 26 so that the supply of logs are successively fed laterally along the top of the rails 16.

A log transfer rotor 30 is positioned adjacent the inner end of the deck conveyor 15 and includes a rotary shaft 32 which extends parallel to the shaft 22 and supports a plurality of axially spaced transfer plates or elements 34. As shown in FIG. 2, each of the transfer elements 34 has a pair of diametrically concave surfaces 36 arranged at right angles to a pair of convex surfaces 37. Each set of axially aligned concave surfaces 36 of the rotor 30 define a recess or cavity for receiving a log from the deck conveyor 15. The log transfer rotor 30 is automatically operated in intermittent timed relation with the deck conveyor 15 so that the logs on the deck conveyor 15 are successively transferred to a pair of log loading units 40 (FIGS. 1 and 2).

Each of the units 40 includes a generally V-shaped cradle member 42 positioned so that the axis or geometric centerline of each log is disposed substantially in a vertical center plane P. Each of the cradle members 42 is supported by a set of vertical telescopic tubes 44 which encloses a vertical hydraulic cylinder (not shown) for elevating the corresponding cradle member 42 when the cylinder is actuated. The outer stationary tubes 44 of the units 40 are rigidly connected by a horizontal beam 47 and are reinforced by a sloping brace

member **48.** The detail construction and operation of the deck conveyor **15,** the log transfer rotor **30** and the log loading units **40** is set forth in copending U.S. patent application Ser. No. 301,992 filed Oct. 30, 1972, now U.S. Pat. No. 3,835,978, and assigned to the assignee of the present invention.

As also shown in FIGS. **1** and **2,** a set of elongated parallel spaced tubular tracks **52** and **54** extend horizontally above the log loading units **40** and are supported by a series of longitudinally spaced inverted U-shaped frame members **56** and a series of generally C-shaped frame members **58.** The tubular track **52** (FIG. **3**) has a rectangular cross-sectional configuration, and the tubular track **54** has substantially a square cross-sectional configuration. Each of the frame members **56** and **58** is fabricated by welding steel beams and includes an upper head member **59** (FIG. **2**) which supports a depending bracket **61** rigidly secured to the upper surfaces of the tracks **52** and **54** for supporting tracks in their horizontal parallel spaced relation. The parallel frame members **58** are used only in the log loading zone or area adjacent the deck conveyor **15** and the log loading units **40,** and the corresponding head members **59** project in a cantilevered manner to support the tracks **52** and **54.**

Referring to FIGS. **3** and **6,** the tracks **52** and **54** support a primary or main log support carriage unit **65** which includes a set of parallel spaced longitudinal frame members **67** and **69** (FIG. **6**) rigidly connected by a set of end cross-frame members **71.** The frame members **67** support an upper set of rollers **73** (FIG. **6**) which engage the upper flat surface of the track **54** and a lower set of rollers **74** which engage the bottom side of the track **54.** The lower set of rollers **74** are vertically adjustable by adjusting corresponding adjustment screw **76** (FIG. **4**) to assure that the upper set of rollers **73** are held in firm contact with the upper surface of the track **54.** Another set of rollers **77** (FIG. **6**) are supported by each end frame member **71** and are eccentrically adjustable for firmly engaging the opposite sides of the track **54.**

On the other side of the carriage unit **65,** another set of upper and lower rollers **73** (FIG. **3**) are supported by the side frame member **69** and engage the upper and lower flat surfaces of the track **52.** The lower set of rollers **73** are also supported by eccentrically adjustable shafts to assure firm engagement of the upper set of rollers **73** against the track **52** so that all of the rollers cooperate to provide the carriage unit **65** with rigid lateral and vertical stability relative to the tracks **52** and **54.** A resilient drive wheel **80** (FIGS. **3** and **6**) is supported between the carriage frame members **67** and is positioned to engage the bottom side of the track **54** between the rollers **74.** The drive wheel **80** encloses a rotary hydraulic motor which has a shaft **82** (FIG. **4**) through which hydraulic fluid is supplied to drive the wheel **80.** The drive wheel **80** is vertically adjustable (FIG. **4**) to provide for urging the wheel **80** against the bottom surface of the track **54** with a predetermined pressure.

A pair of closely spaced elongated plates **84** (FIG. **4**) project vertically downwardly from the end frame members **71** of the carriage unit **65** and are rigidly secured to the frame members **71** by a set of plates **86** sandwiched between the plates **84.** The lower edges of the plates **84** are rigidly connected by an elongated horizontal tube **88** (FIG. **4**) which encloses an elongated horizontal shaft **90** rotatably supported with its axis extending within the reference plane P. The forward end of the shaft **90** supports a circular dog member **92** incorporating a center point **93** surrounded by a set of radial wedge knives for engaging the center portion of one end of a log L, as will be explained later. The opposite or rearward end portion of the shaft **90** extends through a bearing **94** and is connected by a coupling **96** directly to the output shaft of a hydraulic motor **98** supported by a bracket **99** secured to the rearward end portions of the plates **84.** The bracket **99** also supports a control unit **100** which controls the supply of hydraulic fluid to the motor **98.**

Referring to FIG. **7,** the control unit **100** includes a shaft **102** which is supported by bearings **103** and is driven by the shaft **90** through a chain drive **104.** An electromagnetic clutch **106** connects the shaft **102** to a shaft **108** rotatably supported by a set of bearings **109.** A disc-like cam actuator **110** is mounted on the outer end portion of the shaft **108** and is adapted to actuate sequentially a series of peripherally spaced fluid control valves **112** each having a finely adjustable actuating arm supporting a roller **113** engaging the outer peripheral surface of the cam actuator **110.** The valves **112** are connected to control the flow of hydraulic fluid through the motor **98** for rotating the shaft **90** and the log L, and for positively locking the motor **98,** as will be explained later.

As illustrated in FIG. **4** and FIG. **5,** a secondary log support carriage unit **125** is also supported by the tracks **52** and **54** for longitudinal movement and includes a set of side walls or frame members **126** and **127** which are rigidly connected by a base-type cross-frame member **128** extending below the tracks **52** and **54.** Each end portion of each side frame member **126** and **127** supports a set of upper and lower eccentrically adjustable rollers **131** which engage the upper and lower surfaces of the corresponding track. Another set of rollers **132** are mounted on each end portion of the cross-frame **128,** also by eccentrically adjustable shafts, and are positioned to engage the opposite side surfaces of the track **54.** The rollers **131** and **132** provide for precision rolling movement of the carriage unit **125** along the tracks **52** and **54** without any lateral and vertical play.

A pair of generally triangular plates **136** (FIGS. **4** and **5**) depend downwardly from the cross frame member **128** of the carriage unit **125** in parallel spaced relation. The lower edges of the plates **136** are rigidly connected by a tube **138** which confines bearings for rotatably supporting a shaft **139.** A dog member **140** is mounted on the inner end portion of the shaft **139** and is constructed similar to the dog member **92,** for engaging the opposite end surface of the log L, as illustrated in FIG. **4.**

The main carriage unit **65** is connected to the carriage unit **125** by an elongated hydraulic cylinder **145** which has one end portion connected to the plate **86** of the carriage **65** by a pin **146.** The cylinder **145** includes a piston rod **148** having an outer end portion connected to the depending plates **136** of the carriage unit **125** by a cross-pin **149.** An elongated cantilevered arm **152** projects from the carriage unit **165** towards the carriage unit **125,** and a bracket **153** connects the outer end portion of the arm **152** to the hydraulic cylinder **145.** The bracket **153** supports the cylinder **145** in a horizontal position, and is especially helpful when the

piston rod 148 is extended substantially to separate the carriage units 65 and 125 for receiving a log of substantial length.

Referring again to FIG. 1, a generally rectangular frame 160 is positioned below the carriage support tracks 52 and 54 and includes a pair of parallel spaced rails 162 which extend laterally in relation to the tracks 52 and 54. A pair of opposing saw husks 165 are mounted for individual traversing movement on the rails 162 and each saw husk 165 includes a main shaft 166 which has an inner end portion supporting a circular cutter or saw 168. The opposite or outer end portion of each shaft 166 is driven by a corresponding electrical motor 170 through a multiple V-belt drive 172.

The motor 170 is supported by the frame of the saw husk for lateral adjustment with the saw 168 as a unit relative to the overhead carriage support tracks 52 and 54. The lower leading edge portion of each saw 168 is confined between a set of stabilizing pads 174 each of which is precisely adjustable by rotation of a corresponding adjustment rod 176. Each of the saw husks 165 also incorporates an endless belt conveyor 180 which extends parallel to the corresponding saw 168 for delivering slabs or boards cut from a log to another corresponding endless belt conveyor 182 positioned to deliver the slabs or boards longitudinally to the discharge end of the sawmill.

As diagrammatically illustrated in FIGS. 2 and 3, electrical and hydraulic fluid supply lines (not shown) extend to the main carriage unit 65 and are supported by an articulated pantograph linkage system 185 which has one end pivotally connected to the carriage unit 65 by a bracket 186 projected outwardly from one side of the carriage unit. These electrical and fluid control lines provide for controlling the operation of the hydraulic motor within the carriage drive wheel 80, the log rotation motor 98, the cylinder 145 and the clutch 106 from a control console located at a remote operator's or sawyer's platform.

The embodiment of the sawmill system illustrated in the drawings, operates in the following manner. A log is transferred by the log transfer rotor 30 into the cradle members 42 of the log loading units 40 by rotating the rotor 30 through 180°. The carriage units 65 and 125 are positioned at the log receiving station above the loading units 40, and the cradle members 42 are simultaneously elevated to positions where the geometric axis of the log is substantially aligned with the axis defined by the rotatable dog members 92 and 140 on the respective carriage units 65 and 125. The hydraulic cylinder 145 is then actuated to retract the piston rod 148 so that the dog members 92 and 140 are pressed or forced into the corresponding end surfaces of the log and firmly engage the log. With the magnetic clutch 106 disengaged, the hydraulic motor 98 is actuated to rotate the log L, through 360° if necessary, for selecting the initial cutting position. The motor 98 is then hydraulically locked by closing of the fluid supply and sischarge lines with the valves 112, and the magnetic clutch 106 is energized to couple the shaft 102 to the shaft 108. The drive wheel 80 is driven so that the carriage units 65 and 125 move along the tracks 52 and 54 at a controlled speed for feeding the log L into the pair of rotating saws 168 which are prepositioned according to the size of the log and the desired location for the cuts through the log.

After one pass of the log through the saws 168, the carriage units and log are returned to a position forward of the saw husks 165. The hydraulic motor 98 is then actuated with hydraulic fluid supplied through the control valves 112. After the log rotating shaft 90 and the control shaft 108 rotate precisely 90°, the cam actuator 110 closes the control valves 112 so that the motor 98 is deenergized and hydraulically locked to secure the log in its 90° indexed position. The log is then fed again into the saws 168 for removing another set of slabs from the log and to produce a square cant which remains supported by the dog members 92 and 140. If it is desired to cut boards from the cant, the carriage units are retracted, and the saw husks 165 are simultaneously adjusted inwardly, after which the cant is fed into the saws 168 to form a board from each side of the cant. As disclosed in the above application, vertically disposed edger saws may be supported by each of the saw husks 165 to provide for producing boards from each log with fewer passes.

From the drawings and the above description, it is apparent that a sawmill system constructed in accordance with the present invention, provides desirable features and advantages. For example, the system provides for efficiently handling a supply of logs so that a high production rate is obtained. That is, while one log is being fed into the saws 168 by the carriage units 65 and 125, the next successive log is automatically transferred into the cradle members 42 of the log loading units 40. Thus after sawing of the log supported by the carriage units is completed, and the center cant or board is released from the carriage units at the discharge end of the sawmill, the carriage units are returned to the log loading position. The next log quickly is loaded into the carriage units by elevating the cradle members 42 until the axis of the log aligns with the axis of the dog members 92 and 140. As mentioned above, the log loading units 40 are adapted to be individually operated to compensate for tapering logs by increasing the elevation of the cradle member supporting the smaller end portion of the log.

Other important features are provided by the construction and support of the main carriage unit 65 and the slave or secondary carriage unit 125. That is, the mounting of the carriage units on the rigid tracks 52 and 54 provide each carriage unit with substantial vertical and horizontal rigidity and stability thereby assuring that the carriage units and the supported log move in a precise linear path without any chatter or rocking movement. The connection of the carriage units with the hydraulic cylinder 145 also provides for gripping each log with a preselected force and for quickly accommodating logs of varying length. Furthermore, the cylinder 145 may be conveniently replaced by another cylinder of lesser or greater length for accommodating logs of substantially longer or shorter length. The cylinder 145 also provides for reducing the force exerted axially on a log by the dog members 92 and 140 as the remaining portion of the log becomes thinner so that the force does not produce bowing of this remaining portion of the log. In addition, the construction and support of the dog members 92 and 140 by the depending plates 84 and 136, respectively provide for progressively cutting a log with multiple passes through the saw husks 165 until the thickness of the remaining center portion of the log is minimized to only a few inches.

This enables each log to be efficiently converted into usable lumber.

Another important advantage is provided by the motor control actuator **110** (FIG. 7) which is driven from the log rotating shaft **90** through the clutch **106.** As indicated above, with the clutch **106** disengaged, the operator or sawyer manually actuates the hydraulic motor **98** to rotate the log for selecting the initial cutting position which provides the most effective cutting of the log. After the initial cutting position is selected, the clutch **106** is engaged. Thus after the initial pass of the log through the saws **168,** and the motor **98** is again actuated, the actuator **110** rotates with the shaft **90** and the log. When the log and shafts have rotated precisely 90°, the flow of hyraulic fluid through the motor **98** is stopped by automatic closing of the valves **112** by the actuator **110.** When the valves **112** close, the motor **98** is hydraulically locked so that it prevents rotation or oscillation of the shaft **90** and log while the log is being fed into the rotating saws **168.**

While the form of sawmill herein described constitutes a preferred embodiment of the invention, it is to be understood that the invention is not limited to this precise form of sawmill, and that changes may be made therein without departing from the scope and spirit of the invention.

The invention having thus been described, the following is claimed:

1. An improved sawmill adapted for efficiently cutting a successive supply of logs, comprising a set of elongated parallel spaced tracks, frame means supporting said tracks in horizontally spaced positions, a first carriage unit, said first carriage unit including a first set of wheels spaced longitudinally relative to said tracks and engaging said tracks in longitudinally spaced relation to provide said first carriage unit with both lateral and longitudinal stability, said first set of wheels supporting said first carriage unit for independent longitudinal linear movement on said tracks, a second carriage unit, said second carriage unit including a second set of wheels spaced longitudinally relative to said tracks and also engaging said tracks in longitudinally spaced relation to provide said second carriage unit with both lateral and longitudinal stability, said second set of wheels supporting said second carriage unit for longitudinal linear movement along said tracks independent of said first carriage unit, means connecting said first and second carriage units and providing for adjusting the space between said carriage units relative to said tracks, said carriage units including means supporting a set of horizontally disposed opposing dog members adapted to engage opposite ends of each log, means associated with at least one of said carriage units for moving said carriage units along said tracks, laterally adjustable cutting means positioned adjacent the path of said carriage for cutting the log, drive means on at least one of said carriage units for rotating the corresponding said dog member through 360° for positioning the log at an initial cutting position, and control means for actuating said drive means to produce precisely 90° rotation of the log from said initial cutting position.

2. A sawmill as defined in claim **1** wherein at least one of said tracks includes flat parallel upper and lower surfaces, and said means for moving said carriage units comprises a power driven wheel having a resilient outer surface engaging said lower surface of said one track.

3. A sawmill as defined in claim **1** wherein at least one of said tracks is tubular and includes parallel flat opposite side surfaces, and each of said carriage units includes roller means engaging said side surfaces of said track to assure positive lateral stability.

4. A sawmill as defined in claim **1** wherein said means for rotating said dog member and the log, comprise an elongated substantially horizontal shaft, one of said carriage units includes means for rotatably supporting said shaft, and motor means supported by said one carriage unit and connected to rotate said shaft through 360°.

5. A sawmill as defined in claim **1** wherein said means connecting said carriage units comprise a generally horizontally disposed elongated fluid cylinder, and means for actuating said cylinder to effect movement of one of said carriage units on said tracks relative to the other said carriage unit.

6. A sawmill as defined in claim **5** including means projecting cantileveredly from one of said carriage units and supporting said fluid cylinder in a horizontal position.

7. A sawmill as defined in claim **1** wherein said control means comprise a rotary actuating member connected to be driven by said drive means through a clutch, a control unit positioned to be actuated by rotation of said actuating member, and means for actuating said clutch to effect positive rotation of said actuating member with the log from the initial cutting position.

8. An improved sawmill adapted for efficiently cutting a successive supply of logs, comprising a set of elongated parallel spaced tracks, frame means supporting said tracks in horizontally spaced positions, a first carriage unit including a first set of wheels engaging said tracks in longitudinally spaced relation, said first set of wheels providing for independent longitudinal linear movement of said first carriage unit on said tracks, a second carriage unit including a second set of wheels also engaging said tracks in longitudinally spaced relation, said second set of wheels providing for longitudinal linear movement of said second carriage unit along said tracks independent of said first carriage unit, a fluid cylinder connecting said first and second carriage units and providing for adjusting the space between said carriage units relative to said tracks, said carriage units including means supporting a set of horizontally disposed opposing dog members adapted to engage opposite ends of each log, a first rotary fluid motor associated with one of said wheels on one of said carriage units for moving said carriage units along said tracks, laterally adjustable saw means positioned adjacent the path of said carriage for cutting the log, a second rotary fluid motor on at least one of said carriage units for rotating the corresponding said dog member through 360° for positioning the log at an initial cutting position, and fluid control means on said one carriage unit for actuating said second fluid motor to produce precise 90° rotation of the log from said initial cutting position.

9. A sawmill adapted for efficiently cutting a successive supply of logs, comprising a set of elongated parallel spaced tracks, frame means supporting said tracks in substantially horizontal positions, carriage means mounted on said tracks for longitudinal movement and supported by a plurality of rollers engaging said tracks, said carriage means including brackets supporting a set of horizontally disposed opposing dog members

adapted to engage opposite ends of each log, means for moving said carriage means along said tracks, a rotary fluid motor mounted on at least one of said brackets for rotating the corresponding dog member through 360° to effect corresponding rotation of the log supported by said dog members, valve means for controlling said rotary fluid motor, a rotary actuator for operating said valve means, drive means including a remotely controllable clutch for rotating said actuator in response to rotation of the log, and saw means supported for lateral adjustment relative the path of said carriage means.

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