

No. 684,795.

Patented Oct. 22, 1901.

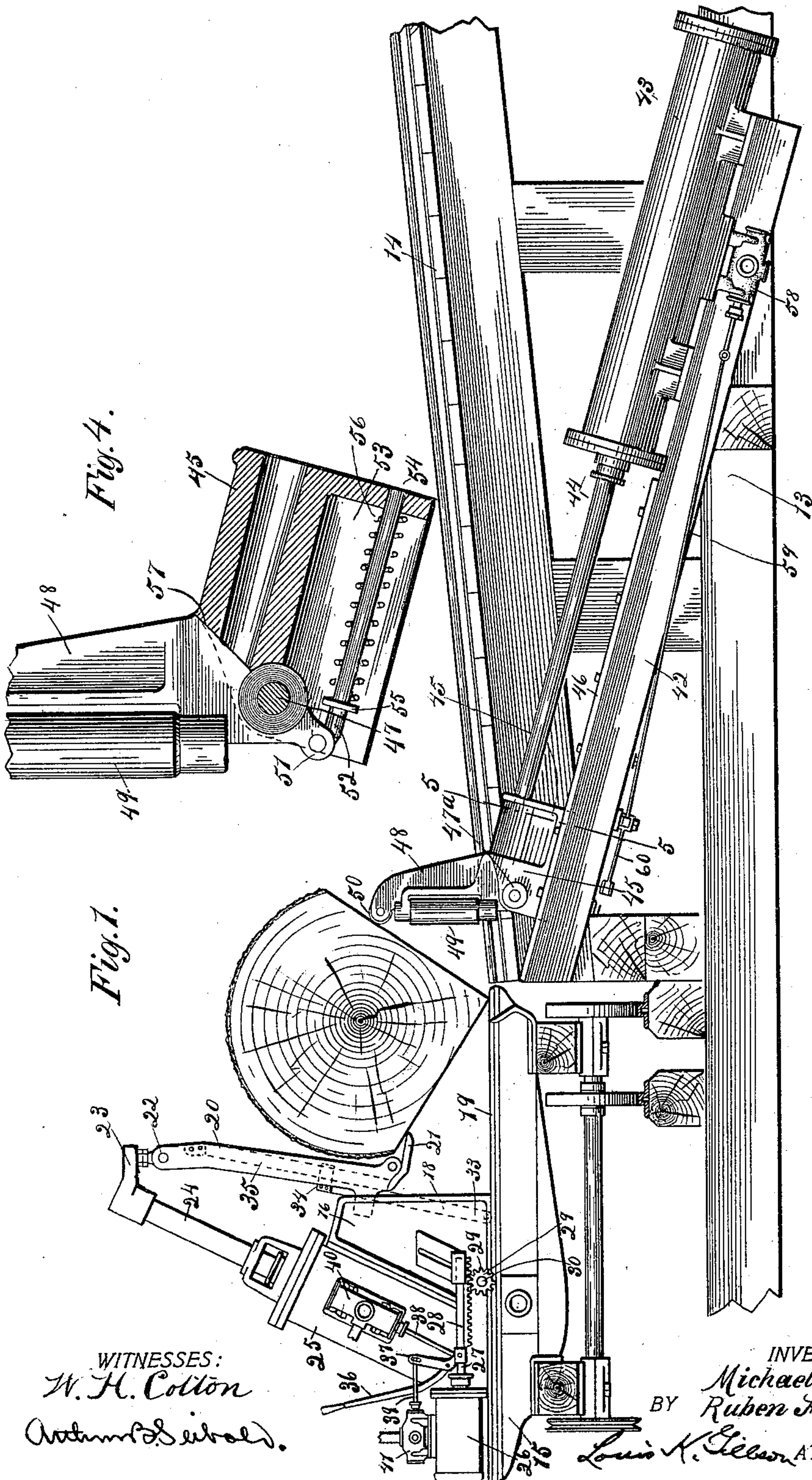
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LOG TURNER.

(Application filed May 29, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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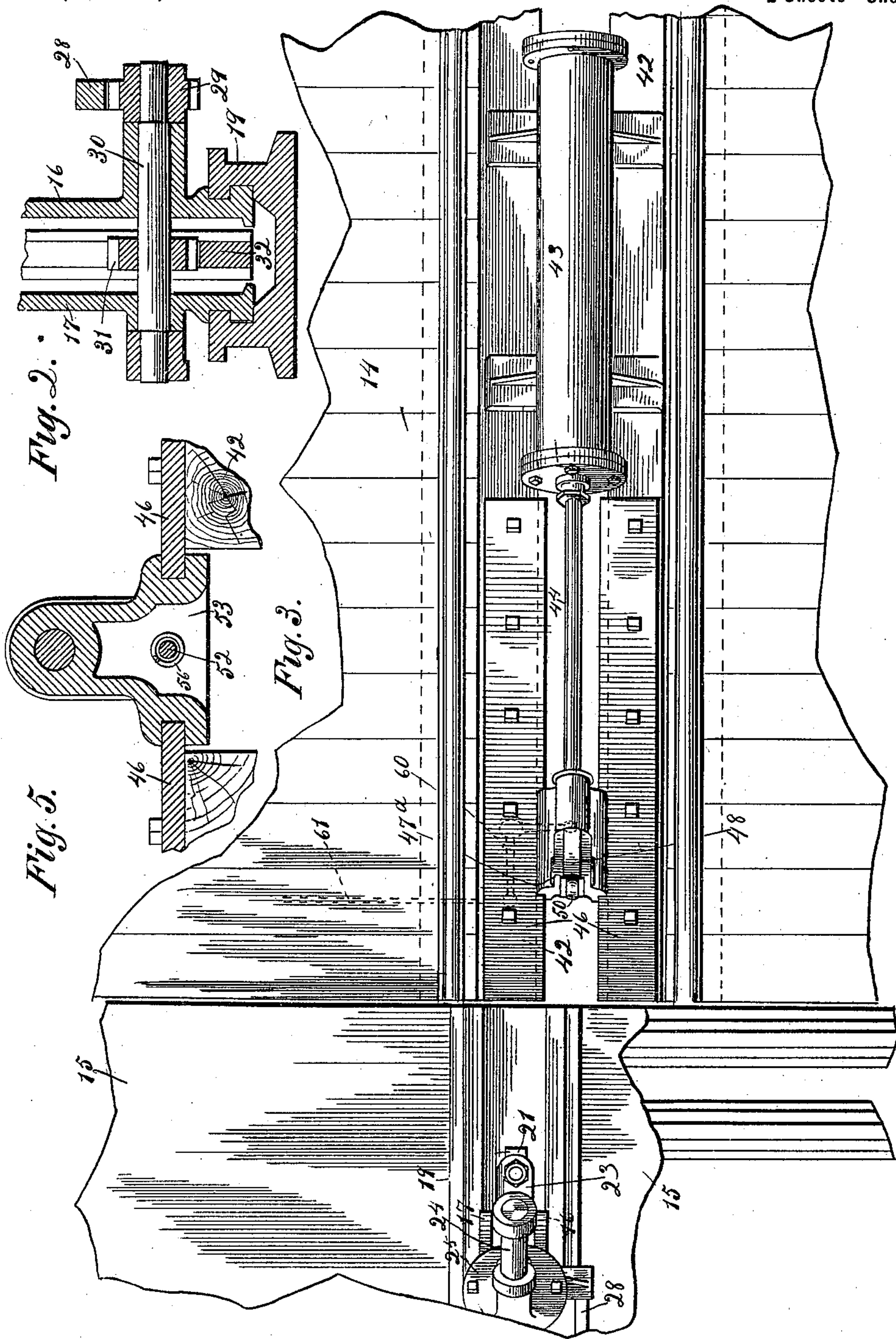


Fig. 1.

Fig. 2.

Fig. 3.

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MICHAEL CORRY AND RUBEN F. BARKER, OF MARINETTE, WISCONSIN.

LOG-TURNER.

SPECIFICATION forming part of Letters Patent No. 684,795, dated October 22, 1901.

Application filed May 29, 1901. Serial No. 62,384. (No model.)

To all whom it may concern:

Be it known that we, MICHAEL CORRY and RUBEN F. BARKER, citizens of the United States, and residents of Marinette, county of Marinette, and State of Wisconsin, have invented certain new and useful Improvements in Log-Turners, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

Our invention relates to improvements in log-turners for sawmills, and has for its primary object to provide means for turning a log while the carriage is in motion, thereby avoiding the delay incident to arresting the carriage between each reciprocation thereof while the log or cant is being turned for the succeeding cut.

The invention comprises, generally, a reciprocating carriage provided with means mounted thereon for turning a log supported upon the carriage and means mounted upon the framing of the log-deck or skidway of the sawmill for holding the log as it is turned and upon which the log may slide longitudinally during the movement of the carriage after passing the saw from one cut and while returning thereto for the next.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the mechanism for turning a log. Fig. 2 is a detail thereof. Fig. 3 is a plan of the pusher mechanism. Fig. 4 is a detail, partly in section, of the folding pusher; and Fig. 5 is a section on the line 5 5 of Fig. 1.

Referring to the drawings, 13 designates the frame of a sawmill supporting the inclined log-deck or skidway 14, and 15 the carriage. Suitable mechanism mounted upon the sawmill-carriage is provided for turning the log, and preferably we employ the mechanism shown and described in an application filed by us December 29, 1900, Serial No. 41,519, and which may be briefly described as follows: A lifting-bar 20, provided at its lower end with a hook 21, pivoted thereto, swings between the cheek-plates 16 17 of a hollow knee 18 and is normally housed between them, so as to allow the knee to receive the log in the usual manner, the knee being mounted upon the head-block 19, so as to reciprocate

transversely as to the carriage. The bar is hinged to an eyebolt 22, carried by an arm 23, fixed to the end of a piston-rod 24, working in the power-cylinder 25, which is in an inclined position, its upper end projecting forwardly, so that when the piston thereof is moved to the upper end of the cylinder the lifting-bar 20 is moved simultaneously forward and upward.

26 designates a power-cylinder mounted horizontally on the carriage and the piston-rod 27 of which is pivotally connected to a rack-bar 28, which actuates a pinion 29, fixed upon a shaft 30, journaled in the cheek-plates 16 17 of the knee, and keyed to the shaft 30 between the cheek-plates is a pinion 31, adapted to cooperate with a rack-bar 32, pivotally connected to the lower end of a bar 33, engaging the bar 20 and secured thereto by means of a loop 34, traveling upon a guide-strip 35, secured at its ends to the bar 20.

The cylinders 25 and 26 are both controlled by the same hand-lever 36, which is suitably pivoted to the frame of the knee and rigidly attached to a bell-crank lever 37, one arm of which is connected to the valve-stem 38 of the power-cylinder 25, the other arm being connected to the valve-stem 39 of the cylinder 26. The cylinders 25 and 26 are provided with steam-chests 40 and 41, having proper inlet and exhaust ports, and within each of which there is mounted a suitable valve for controlling the delivery of pressure to the cylinder-chambers. The valves (not shown) of the steam-cylinders 25 and 26 are so related that when the pistons 24 and 27 are in such position that the lifting-bar 20 is retracted the reverse movement of the hand-lever 36 for operating the valves causes the lifting-bar, through the medium of the rack-bars and pinions, to be swung forwardly in order to bring its hook 21 under a log resting upon the head-block of the carriage before the piston 24 begins to move to raise the lifting-bar. The function of the power-cylinder 26 is simply to swing the lifting-bar forwardly and hold it against the log, and the movement of its piston is checked as soon as the bar 20 comes in contact with the log.

The mechanism for holding the log as it is turned and upon which the log may slide longitudinally during the movement of the car-

riage is supported by beams 42 of the log-deck frame, which beams are inclined upward toward the sawmill-carriage and carry a cylinder 43, the piston 44 of which has fixed to it a cross-head 45, traveling on guides or tracks 46, secured to the beams 42.

Hinged to the forward end of the cross-head 45, as at 47, between the ears 47^a thereof, is a folding pusher, which is so constructed as to offer a minimum of resistance to the log when the carriage is in motion during the turning operation, and to this end the pusher comprises, preferably, a vertical yoke 48, carrying between its arms an antifriction-roller 49, against which the log slides, the upper arm of the yoke being bifurcated to receive a roller 50, which may be of barrel shape, as illustrated, and on which the log will roll while turning.

The yoke 48 is provided with an extension 51 at its lower end, to which is pivoted a stem 52, located within a chamber 53 of the cross-head and adapted to slide through an aperture 54 in the back wall of the cross-head. Reacting between this wall and a collar 55 on the stem 52 is an expansion-spring 56, designed to return the pusher to its vertical or normal position after it has been thrown down by a log passing from the log-deck to the carriage. The cross-head is provided between the ears 47^a with an inclined seat, as illustrated in Fig. 4, against which the inclined abutment 57 of the pusher rests when the latter is in its normal position.

Before a log is rolled upon the carriage the lifting-bar 20 is lowered and the pusher retracted, so that the cross-head does not extend above the floor of the log-deck. A log being then rolled down the log-deck the pusher is thrown down on its pivot by the log, but is immediately returned to its vertical position after the passage of the log by the spring 56. Steam is now admitted to the cylinder 43 and the pusher thereby forced against the log, moving the latter into its proper position against the knee of the carriage. When the carriage is returned, after the removal of the first slab, to the position opposite the pusher mechanism, the pusher is moved up against the log and steam admitted to the cylinders 25 and 26 to operate the turning-bar 20. As the log is turned it is held on the carriage by the pusher 48, the lower arm of the yoke 48 overhanging the head-block 19, as illustrated in Fig. 1, in order to prevent the log from coming in contact with the log-deck or skidway, and the log in turning rolls on the roller 50 at the top of the pusher. The steam-chest 58 of the cylinder 43 is preferably provided with a cushioning-valve in order that the pusher may yieldingly resist the pressure of the log while being turned. Suitable connections—such as the rod 59, bell-crank lever 60, and rod 61, leading to a hand-lever (not shown)—are provided for operating the valve of the cylinder 43.

While we have shown and described the log-turner of the pending application heretofore referred to, it will be obvious that any mechanism for turning a log and which is mounted upon a sawmill-carriage and capable of coacting with the pusher mechanism shown or other suitable pusher mechanism will come within the scope of our invention.

It will also be readily understood that both or either of the rollers 49 and 50 may be dispensed with and the same results attained by providing the front face and upper end of the pusher with a smooth and rounded surface, the object being to offer the least possible resistance to the log or board and to avoid scratching or injuring the same during the turning operation.

We claim as our invention—

1. In a log-turning mechanism, in combination, a stationary deck, a reciprocating carriage, means mounted upon the carriage for turning a log, a pusher reciprocating transversely as to the carriage movement and having a rounded face to permit a log mounted upon the carriage to slide across the same, whereby the log may be turned as the carriage travels.

2. In a log-turning mechanism, in combination, a stationary deck, a reciprocating carriage, means mounted upon the carriage for turning a log supported upon the carriage, and a pusher reciprocating transversely as to the carriage movement and having its face so formed as to permit a log mounted upon the carriage to slide across the same, whereby the log may be turned as the carriage travels.

3. In a log-turning mechanism, in combination, a stationary deck, a reciprocating carriage, means mounted upon the carriage for turning a log supported upon the carriage, and means projecting from the deck for yieldingly receiving the log as turned and upon which the log may slide longitudinally, whereby the log may be turned as the carriage travels.

4. In a log-turning mechanism, in combination, a stationary deck, a reciprocating carriage, means mounted upon the carriage for turning a log supported upon the carriage, and a pusher projecting from the deck and reciprocating transversely as to the carriage movement for receiving the log as turned and upon which the log may slide longitudinally, whereby the log may be turned as the carriage travels.

5. In a log-turning mechanism, in combination, a sawmill-carriage, an adjustable knee mounted thereon, a log-turner supported by the knee, a power-operated pusher, a vertical roller carried by the pusher, and a transverse roller also carried by the pusher and located above the vertical roller.

6. In a log-turning mechanism, in combination, a stationary deck, a reciprocating carriage, means mounted upon the carriage for turning a log supported upon the carriage, an inclined power-cylinder, a piston-rod there-

for, a cross-head fixed to the piston, and a pusher pivoted to the cross-head, and having a rounded face across which the log may slide longitudinally while being turned.

5 7. In a log-turning mechanism, in combination, a stationary deck, a reciprocating carriage, means mounted upon the carriage for turning a log supported upon the carriage, an inclined power-cylinder, a piston-rod there-
10 for, a cross-head fixed to the piston, a pusher pivoted to the cross-head, a vertical roller carried by the pusher, and a transverse barrel-shaped roller also carried by the pusher and located above the vertical roller.

15 8. In a pusher mechanism, in combination, a reciprocating cross-head, means for reciprocating the cross-head, a pusher pivoted to the cross-head, a vertical roller carried by the

pusher, a transverse roller also carried by the pusher and located above the vertical roller, 20 and means for returning the pusher to its normal position when thrown down by a log.

9. In a pusher mechanism, in combination, a power-cylinder, a piston-rod therefor, a cross-head fixed to the piston, a pusher piv- 25 oted to the cross-head, a vertical roller carried by the pusher, a transverse roller also carried by the pusher and located above the vertical roller, and a spring for returning the pusher to its normal position when thrown 30 down by a log.

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