

UNITED STATES PATENT OFFICE.

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LOG-TURNING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 778,522, dated December 27, 1904.

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To all whom it may concern:

Be it known that I, WILLIAM M. WILKIN, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Log-Turning Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

This invention relates to log-turning mechanism for sawmills, and has for its object the construction of a log-turner with an auxiliary mechanism for rolling a log from a logway to and upon a saw-carriage, which mechanism also operates not only to force the toothed turning-bar against the log during its upward traverse, but to move the tooth-bar back from the log when it is desired to move the tooth-bar downward, whereby the teeth of the tooth-bar can be withdrawn from the log in a direct line, and thereby prevented from unnecessarily mutilating it.

The features of my invention are hereinafter fully set forth and described, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view in elevation of a log-turning mechanism embodying my invention with sections of a logway and saw-carriage. Fig. 2 is a top or plan view of a portion of the log-turning mechanism. Fig. 3 is a front view in elevation of the same looking toward the logway. Fig. 4 is a vertical section of the part shown in Fig. 2 on the line *x x*.

In the accompanying drawings, illustrating this invention, A A' A² A³ represent a portion of the mill-frame, B a saw-carriage, B' the carriage-knees, and C a logway, all of the ordinary construction. The turning-bar cylinder D is mounted on the base A³ of the mill-frame and is provided with a valve mechanism *d* of the usual construction, and from the piston (not shown) in the cylinder D a piston-rod D' extends upward to and is pivoted to the offset lower end E of the toothed turning-bar E'.

On the upper end of the piston-rod D' there is a guide D², operating on a vertical slide F, secured to the head of the cylinder D and to the mill-frame, so as to resist the side thrust of the bar E' caused by the offset E therein.

On the part A of the mill-frame I secure a slotted plate or frame G, with its front end G' toward the saw-carriage B. This front end G' of the frame G is made of considerable width, so as to provide an adequate base therefor, and in this front end G', I pivot a bifurcated lever or crowding-bar H. This crowding-bar is provided on its pivoted end with cam-surfaces H' H', with a vertical opening *h* between them, and in the rear thereof the opening *h'* is the thickness of the cam-surfaces H' H' wider, so that the tooth-bar E will operate up and down therein with the front edges thereof in contact with the cam-surfaces H' H' and with the teeth *e* thereon passing up through the opening *h* between the cam-surfaces H' H'. The upper surfaces of the arms of the lever or crowding-bar H are preferably made with curved wings H² thereon, which curve downward over the upwardly-extending sides *g* of the frame G. The upper surfaces of the sides of the crowding-bar H are rounded from the inside faces of the opening *h'* therein to the lower edges of the wings *h²* thereon, as illustrated in Figs. 1, 2, and 3, so that when the crowding-bar H is forced against a log moving longitudinally on the saw-carriage B there is no surface on the crowding-bar to catch on a knot or other obstruction on the log, and thereby be forced sidewise and broken.

For operating the lever or crowding-bar H, I secure a cylinder I upon the base A³ of the mill-frame, provided with suitable valve mechanism *i* of the usual construction, and from a piston (not shown) in the cylinder I a piston-rod I' extends upward to and is pivoted to the lower end of a lever K, the opposite end of which is pivoted to the mill-frame. To the free end of the lever K, I pivot another link L, which extends to and is pivoted to the free end of the lever H, as illustrated in Figs. 1 and 4. This mechanism operates to raise and lower the free end of the lever or crowding-bar H, as desired. In operation the operator can operate the crowding-bar mechanism in—

dependently of the tooth-bar mechanism to roll a log from the logway C upon the carriage B and against the carriage-knees B' and hold it there, if desired, while the tooth-bar
 5 E is run upward to roll the log over, as desired, the cross-bar at the rear of the lever or crowding-bar H also operating when the tooth-bar is raised to press against the rear edge of the tooth-bar and retain the teeth thereof in
 10 contact with the log and prevent their tearing out therefrom, and when the crowding-bar H is moved back to its normal position the cam-surfaces H' thereon operate to move the tooth-bar back from the log in a direct line, so as to
 15 remove the teeth therefrom without unduly mutilating the log.

Having thus fully described my invention, so as to enable others to construct and operate the same, what I claim as new, and desire
 20 to secure by Letters Patent of the United States, is—

1. In a log-turning mechanism, the combination of a slotted plate or frame adapted to be secured to the mill-frame with its front end
 25 toward the front of a saw-carriage, a bifurcated crowding-bar pivoted in the end of said frame toward the saw-carriage, a tooth-bar movable up and down through the opening of said bifurcated lever, cam-shaped shoulders
 30 on the pivotal end of said bifurcated crowding-bar, adapted to engage the front edge of the tooth-bar at each side of the teeth thereon, means for moving the tooth-bar up and down, and means for raising and lowering the
 35 free end of said bifurcated lever, substantially as set forth.

2. In a log-turning mechanism, the combi-

nation of a slotted frame adapted to be secured to the mill-frame with its front end toward and in front of the saw-carriage, a bifurcated
 40 crowding-bar having its open end pivoted in the front end of said frame, a tooth-bar movable up and down through the opening in said bifurcated crowding-bar, cam-shaped shoulders on the pivotal end of said bifurcated
 45 crowding-bar adapted to engage the front edge of the tooth-bar at each side of the teeth therein when the free end of the crowding-bar is being lowered to its normal position, a surface on the rear or free end of said crowding-
 50 bar adapted to engage the rear edge of the tooth-bar when the crowding-bar is raised, cylinder, piston, and guide mechanism connected with and moving the tooth-bar up and down, and cylinder, link and lever mechanism con-
 55 nected with and operating the bifurcated crowding-bar mechanism, substantially as set forth.

3. In a log-turning mechanism, the combination of a slotted frame, adapted to be secured
 60 to a mill-frame floor in front of a saw-carriage, a bifurcated crowding-bar pivoted in the front end of said frame, curved and rounded upper edges on said crowding-bar, cam-surfaces on the inner faces of the pivoted end of said
 65 crowding-bar, and mechanism for operating said crowding-bar, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM M. WILKIN.

Witnesses:

RICHARD W. STOUTZ,
 IRVING VAUTROTT.