

(No Model.)

H. O. LANGE.
LOG TURNER FOR SAW MILLS.

No. 463,334.

Patented Nov. 17, 1891.

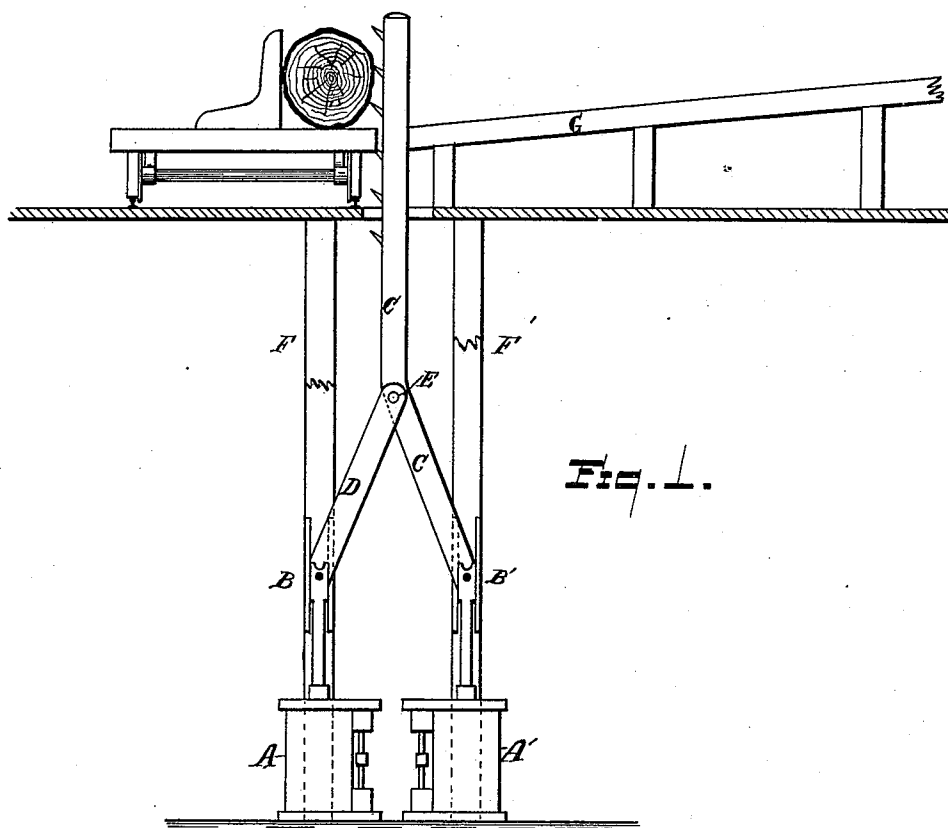


Fig. 1.

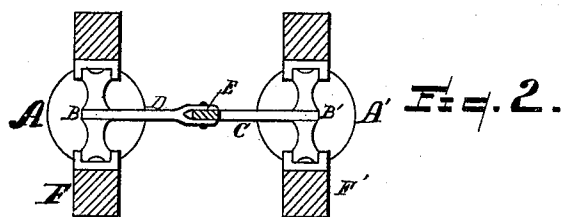


Fig. 2.

WITNESSES
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UNITED STATES PATENT OFFICE.

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LOG-TURNER FOR SAW-MILLS.

SPECIFICATION forming part of Letters Patent No. 463,334, dated November 17, 1891.

Application filed December 1, 1890. Serial No. 373,184. (No model.)

To all whom it may concern:

Be it known that I, HERMAN O. LANGE, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented a new and useful Improvement in Log-Turners for Saw-Mills, of which the following is a specification.

This invention relates to log-turners for saw-mills, and has for its object a log-turner of the tooth-bar pattern, in which the movement of the tooth-bar is controlled by the movement of the pistons in two fixed cylinders.

In the tooth-bar log-turners of the ordinary pattern there are one or more oscillating cylinders, of which the pistons are connected either mediately or immediately to the stem of the tooth-bar, and the structure is such that as the tooth-bar moves in performing its work, either in rolling the log on the log-carriage or in rolling the log on the log-deck, the cylinders necessarily move on their trunnions. There is another variety of steam-impelled tooth-bar log-turner in which the cylinders are fixed; but in these structures there is in some part of the connection between the cylinder and the tooth-bar a sliding joint, around which one of the parts both turns and slides.

The invention described herein consists in substituting for the sliding joint a pivoted link and guides which counteract the side-thrust due to the angular position of the link connecting the toothed bar and piston-rod, as hereinafter more fully described and shown.

Figure 1 shows an upright elevation of the structure. Fig. 2 shows a view from above.

On a firm foundation, below the floor of the mill, I place two fixed cylinders, of which the piston-rods move in vertical lines, the upper end of the piston being guided in the vertical ways B B'. To the upper end of the piston B' is hinged the lower end of the tooth-bar C. The tooth-bar C is bent, so that while its upper portion stands vertical and midway between the lines of travel of the piston-rods B

B' its lower end extends out to the piston-rod B'. At the angle of the bend of the tooth-bar C is hinged a link D, which extends to and is hinged to the upper end of the piston-rod B. The upper portion of the bar C is fitted with teeth of any approved pattern and extends upward through the floor of the mill and to or through the log-deck G.

The cylinders A A' are double-acting cylinders of the ordinary kind. They are usually constructed of small bars and long stroke.

In operation the upward motion of the piston in the cylinder A throws the upper end of the tooth-bar backward toward the outer end of the log-deck and the upward motion of the piston in the cylinder A' throws the upper end of the tooth-bar forward toward the carriage, and the upward motion of both at the same time pushes the tooth-bar straight up. The path of the piston-rods is fixed and unvarying, and all strain upon the cylinders is removed, the lateral strain being sustained entirely by the ways in which the pistons move.

Having thus described my invention, what I claim as novel, and desire secured to me by Letters Patent, is—

1. In a steam log-turner, the combination of two fixed cylinders and their piston-rods, a toothed bar hinged to one of said piston-rods, and a link pivoted to the other piston-rod at one end and to the toothed bar at the other end, substantially as described.

2. In a steam log-turner, the combination of two fixed cylinders, their pistons and piston-rods, guides or ways adapted to control the movement of the other ends of said piston-rods, a toothed bar pivoted to one of said piston-rods, and a link pivotally attached, one end to said toothed bar and the other end to the other piston-rod, substantially as shown and described.

HERMAN O. LANGE.

Witnesses:

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E. J. FLEMMING.