(12) **United States Patent**
Kirk

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(54) **SAW MILLS**

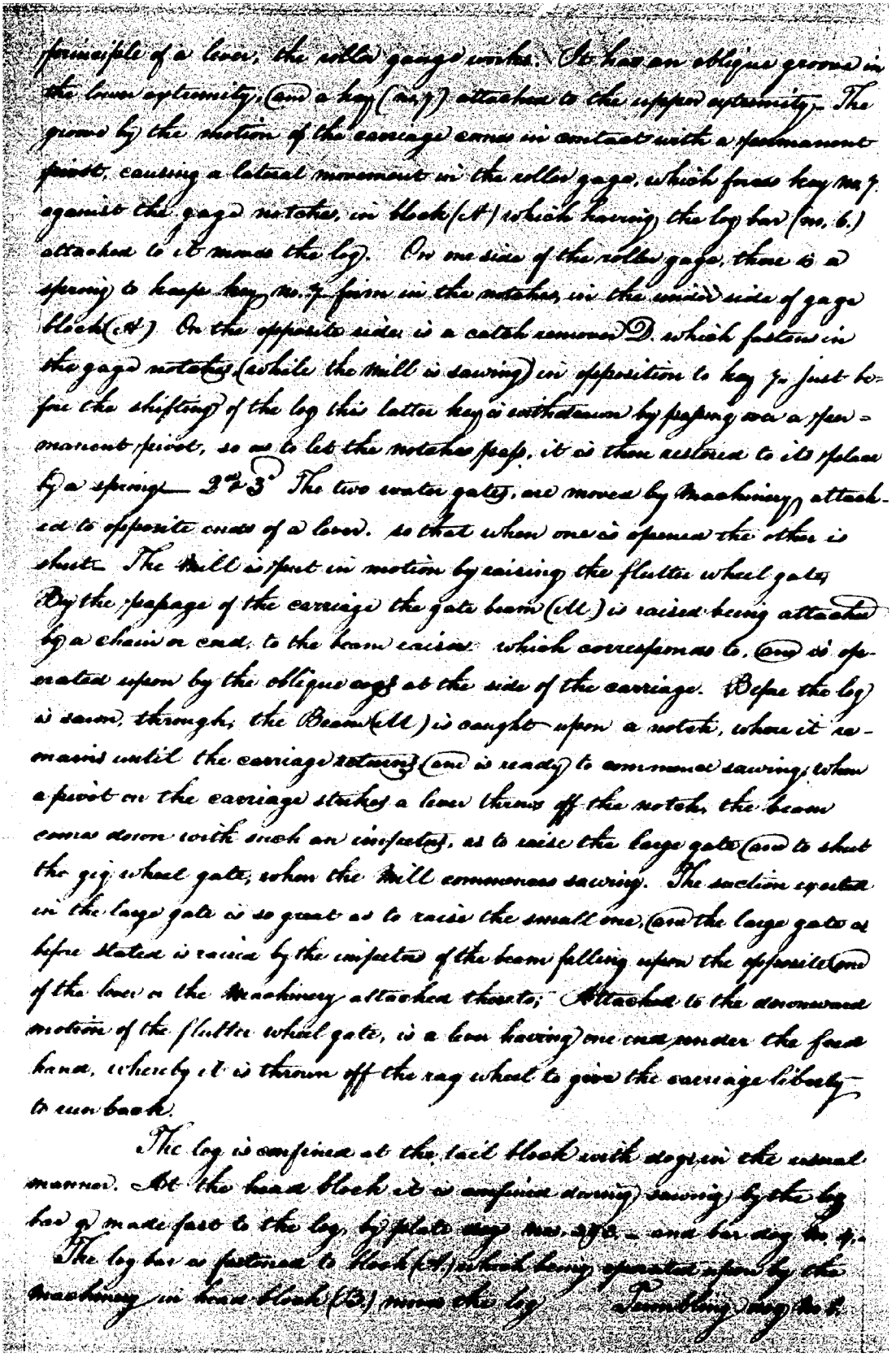
(76) Inventor: **Nathan Kirk**

Nathan Kirk
Letter Patent

The Schedule referred to in these Letters Patent (and making part of the same containing a description in the words of the said Nathan Kirk, himself of his improvement) is—

To all to whom these Presents shall come—

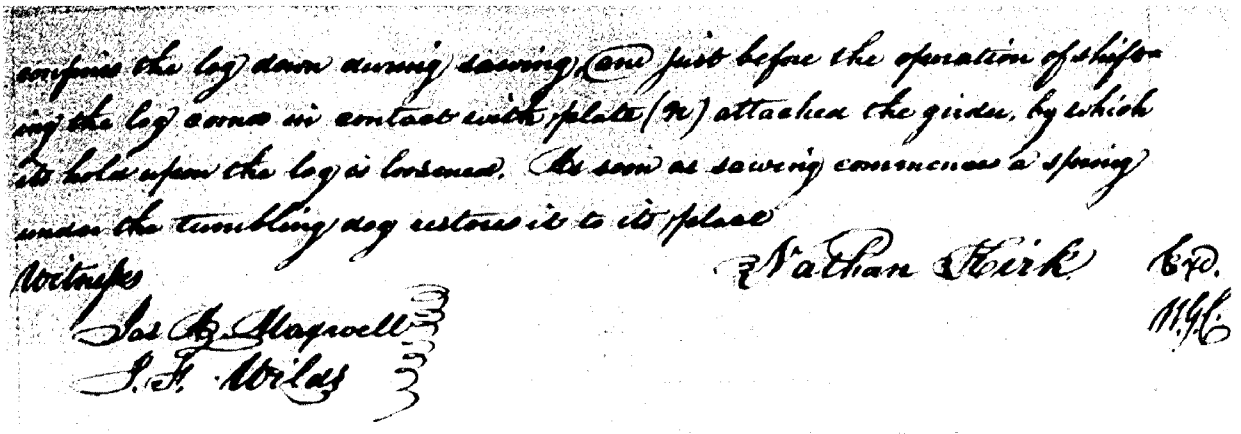
Be it known that I Nathan Kirk of the County of Clinton (and State of Indiana have invented a new (and useful improvement in the construction (and principle of common saw Mills (and that the following is an exact description of the construction (and operation of said Machine as invented (and improved by me. The invention consists in the improvement of common saw-mills, so that by the mere operation of Machinery, boards (and scantling, &c may be sawed to any given gauge without the assistance of human power, after the log has been slabbed (and properly secured. The process is to secure a log upon the carriage, having been slabbed, start the Mill by raising the flutter wheel gate, the log is sawn through; the same movement lifts the feed arm or hand shuts the flutter wheel gate, (and raises the gig wheel gate,— the carriage is run back until the saw leaves the log when by the operation of the Machinery in the head block (and tail block the log is moved the width of the plank intended, the log is again secured at the head block, the gig wheel gate is shut, the flutter wheel gate, is raised (and the saw commences cutting again (and so on until the whole log is sawn up, when a spout on the carriage touches a lever which stops the whole mill. The effect is shown in the process or operation. There are three principle operations of the improvement. To wit; 1. the shifting of the log by means of Machinery attached to the head block and tail block. 2nd. the working of the flutter wheel gate, and the gig wheel gate— 3. the running the carriage backward (and forward which two last are compounded, with each other, 4th The Machinery in the head (and tail Blocks is substantially the same as those will only be attempted to be described. In the middle of the head Block, (and on the



principle of a lever, the roller gauge works. It has an oblique groove in the lower extremity, (and a key (no. 5) attached to the upper extremity. The groove by the motion of the carriage comes in contact with a permanent pivot, causing a lateral movement in the roller gage, which forces key no. 5 against the gage notches in block (A) which having the log bar (no. 6.) attached to it moves the log. On one side of the roller gage, there is a spring to keep key no. 5 firm in the notches in the united side of gage block (A) On the opposite side is a catch removed D. which fastens in the gage notches (while the Mill is sawing) in opposition to key 5. just before the shifting of the log this latter key is withdrawn by passing on a permanent pivot, so as to let the notches pass, it is then returned to its place by a spring 2nd 3d The two water gates, are moved by Machinery attached to opposite ends of a lever. so that when one is opened the other is shut. The Mill is put in motion by raising the flutter wheel gate By the passage of the carriage the gate beam (ll) is raised being attached by a chain or cord, to the beam raiser which corresponds to, (and is operated upon by the oblique cogs at the side of the carriage. Before the log is sawn through, the Beam (ll) is caught upon a notch, where it remains until the carriage returns (and is ready to commence sawing, when a pivot on the carriage strikes a lever throws off the notch, the beam comes down with such an impetus, as to raise the large gate (and to shut the jog wheel gate, when the Mill commences sawing. The suction equator in the large gate is so great as to raise the small one, (as the large gate as before stated is raised by the impetus of the beam falling upon the opposite end of the lever to the Machinery attached thereto; Attached to the downward motion of the flutter wheel gate, is a bow having one end under the foot board, whereby it is thrown off the cog wheel to give the carriage liberty to run back.

The log is confined at the head block with dogs in the usual manner. At the beam block it is confined during sawing by the log bar (g made fast to the log, by plate dogs nos. 3 & 4.

The log bar is fastened to block (A) which being operated upon by the Machinery in beam block (B) moves the log Tuesday May the 4.



confines the log down during sawing, and just before the operation of shifting the log comes in contact with plate (R) attached the guides, by which its hold upon the log is loosened. As soon as sawing commences a spring under the tumbling dog restores it to its place

Nathan Kirk Jr.

Witnesses

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(938 words)