

D. LANE.

Improvement in Circular-Saw Mills.

No. 132,841.

Patented Nov. 5, 1872.

Fig. 1.

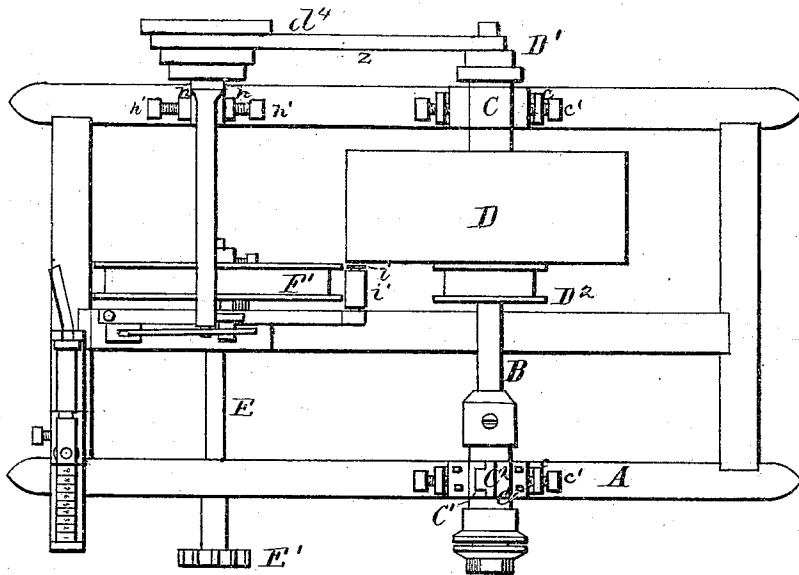


Fig. 2.

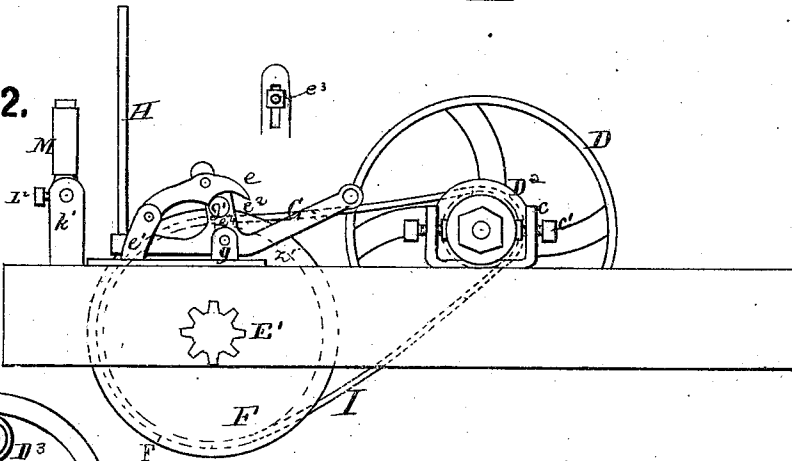


Fig. 4.

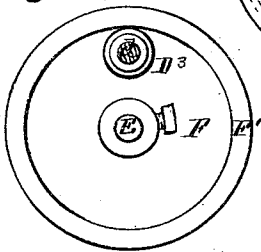
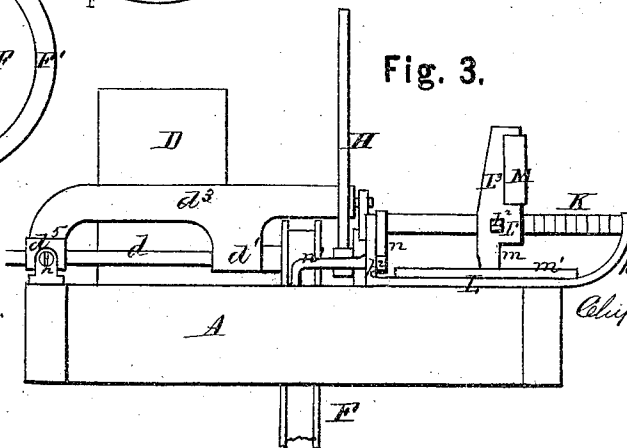


Fig. 3.



WITNESSES.

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DENNIS LANE, OF MONTPELIER, VERMONT, ASSIGNOR TO LANE, PITKIN,
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IMPROVEMENT IN CIRCULAR-SAW MILLS.

Specification forming part of Letters Patent No. 132,841, dated November 5, 1872.

To all whom it may concern:

Be it known that I, DENNIS LANE, of Montpelier, in the county of Washington and State of Vermont, have invented a new and valuable Improvement in Circular-Saw Mills; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a plan view of my invention. Fig. 2 is a side view of my invention. Fig. 3 is an end view of my invention. Fig. 4 is a detail view of my invention.

My invention has relation to saw-mills; and it consists in the construction and novel arrangement of, first, the devices for regulating the feed and gig of the log-carriage; second, the devices for gaging the log, all as hereinafter fully described.

Referring to the accompanying drawing, A designates the saw-frame supporting the saw-shaft B, arranged transversely, and having its bearings in the boxes C C¹. To this shaft are attached the main belt-pulley D, the cone-pulley D¹, and the grooved belt-pulley D². E designates the pinion-shaft, holding the pinion E', through which motion is conveyed to the saw-carriage. Upon the inner end of this shaft is placed a large-sized belt-wheel, F, constructed with a projecting rim, F', the outer surface of which is grooved, and receives a belt connecting said wheel to the pulley D², while the inner surface is designed to engage with a friction roller or pinion, D³, secured on the end of a shaft, d. The shaft d has its bearings in boxes d¹ d², formed on a yoke or bracket, d³, and holds on its outer end a cone-pulley, d⁴, coupled by means of a crossed belt, Z, to the pulley D¹. To the inner end of the yoke d³ is pivoted a cam-plate, e, which is also pivoted to a rigid standard, e¹. G designates a bent rocker, pivoted midway between its ends to a rigid post, g. This rocker is armed, at a point directly over its bearing, with a grooved stud, g', which supports the free end of the cam-plate e, in the under part of which is formed a concave recess, e². The surface of this concavity lies in contact with the grooved part of

the stud g', the sides of which serve as guides to the cam-plate. The shank of said stud is adjustable vertically through a slot formed in the lug e⁴, and is secured in position by means of a nut, e³, the shank being screw-form or threaded to receive said nut. The rocker G is actuated by means of a handle, H, and when the end to which said handle is attached is lowered the stud g' raises the cam-plate, and with it the adjacent end of the yoke d³. As the yoke supports the shaft d, the latter is necessarily raised in the above-described operation, thereby bringing the friction-roller into contact with the interior surface of the rim F'. When the handle H is raised the movement of the devices connected therewith is reversed and the friction-roller relieved from contact with the rim F'. If, when the roller is brought into contact with the rim F', the shaft d is properly rotating, the wheel F, with its shaft and attached pinion, will be caused to turn in the right direction for feeding or propelling forward the saw-carriage. I represents a loose belt connecting the wheels D² and F. During the forward movement of the carriage this belt has no operative function. But when the friction-roller is lowered, this belt is tightened by means of an arm, i, on the end of the rocker, holding an anti-friction sleeve, i', and communicates from the shaft B a reverse motion to the wheel F, thereby gigging or moving back the saw-carriage. In order to allow the yoke d³ and shaft d the necessary adjustment, the box d⁵ is pivoted between the arms h of a U-shaped plate or yoke, by means of set-screws h', the ends of which enter recesses in the sides of said box. The tension of these screws may be regulated at the will of the operator. The boxes C C¹ supporting the shaft B are hung in a like manner, c c' being, respectively, the yokes and set-screws. The purpose of having these devices applied to the shaft B is to enable the latter to be adjusted, or to adapt itself to inaccuracies or faults in the setting of the parts of the mill, and to compensate for strain caused by the weight of logs or from other circumstances. The board while being cut passes over the top of the box C¹, which is therefore constructed with a projection, C², to hold said board. The outer portion of the log travels over a shaft,

K, arranged transversely at one end of the frame and supported by the standards $k^1 k^2$ formed on the ends of a bar, L. The shaft K is graduated to regulate or gage the thickness of boards, and is provided with an adjustable collar, L^1 , secured in position by a set-screw, L^2 , and constructed with an L-shaped arm, L^3 , between the outer end of which and the collar is journaled an anti-friction roller, M, against which the surface of the log is placed, and in contact with which it moves. Whenever a board is cut the log is moved up against the roller M. The collar L^1 is also provided with a stud, m , projecting downward, and designed in connection with the rib m' to prevent the arm L^3 from falling over toward the saw. Near the inner end of the shaft K and projecting obliquely downward therefrom is an arm or catch, n . An L-shaped latch, n' , pivoted between the sides of a slot formed in the inner standard k^2 , is used in connection with the catch n , to prevent the shaft K from turning, and the arm L^3 from falling toward the adjacent end of the frame. By lifting this latch, however, the arm L^3 may be allowed to turn over out of the way when desired. The shape of the latch n' causes it to remain in the proper position when lowered, as its end rests on the

cross-beam of the frame. The standards $e' g$ are secured to an adjustable plate, Z' .

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a saw-mill, the combination, with a belt-pulley, F, having a flanged rim, F' , with inner and outer bearing-surfaces, of the gigging-shaft E, the saw-shaft and pulley D^2 , the shaft d , roller D^3 , endless band I, adjustable yoke d^3 , and rocking lever G, arranged to bear in reverse direction upon either said yoke or said band, substantially as specified.

2. The rocker G having the arm i and stud g' , in combination with the loose belt I, belt-wheels $D^2 F$, pivoted cam-plate e , yoke d^3 , shaft d , and roller D^3 , substantially as specified.

3. The combination of graduated roller K, adjustable arm L^3 , roller M, stud m , rib m' , standard $k^1 k^2$, lug n , and latch n' , substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DENNIS LANE.

Witnesses:

MAHLON TAPLIN,
CARROLL P. PITKIN.