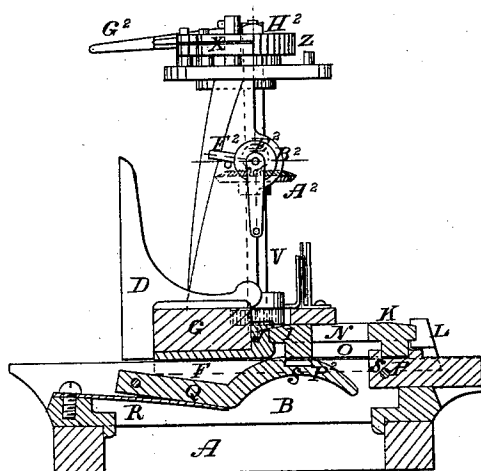
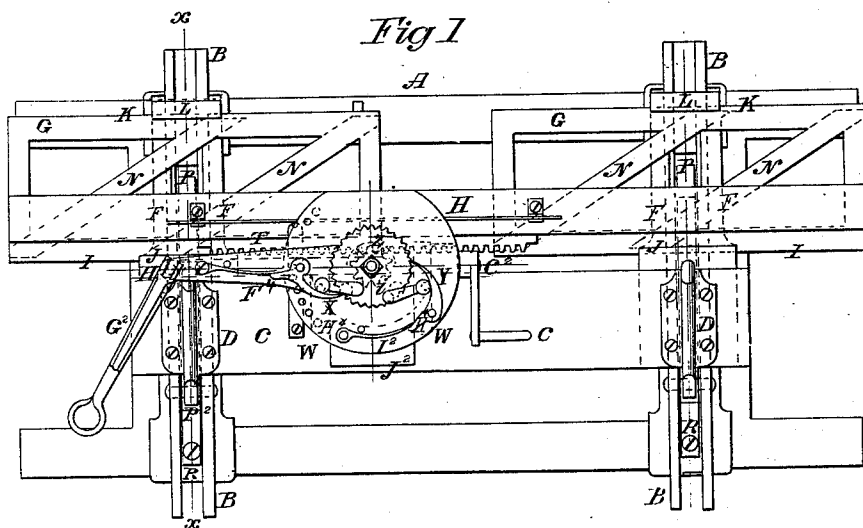


*D. Lane,*  
*Saw-Mill Head-Block.*  
*No 80,491.      Patented July 28, 1868.*

*Fig 2*



*Fig 1*



*Witnesses:*

*Jacob H. Gurney,*  
*Louis Brothman,*

*Inventor:*

*Dennis Lane*

# United States Patent Office.

DENNIS LANE, OF MONTPELIER, VERMONT.

Letters Patent No. 80,491, dated July 28, 1868.

## IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, DENNIS LANE, of Montpelier, in the county of Washington, and State of Vermont, have invented certain new and useful "Improvements in Saw-Mill Carriages;" and that the following description, taken in connection with the accompanying plate of drawings, hereinafter referred to, forms a full and exact specification of the same, whereby my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The present invention relates to saw-mill carriages, in which the slide or bar carrying the upright-supports is moved across and upon the head-blocks by the action of inclines fixed to a rack-bar that is susceptible of being run along across the head-blocks in the direction of the length of the carriage; and the invention consists—

First, in parallel inclines, attached to the said traversing rack-bar, in combination with projecting pieces or grooved ways, located within the head-blocks, and peculiarly arranged and combined therein, whereby, as the said inclines, by and through their rack-bar, are moved either forward or backward in the direction of the length of the carriage across the head-blocks, they will, at the same time, move in a direction along the length of the same, either forward or backward, as the case may be, and thus, by confining the slide-bar to such inclines, carry such bar in a corresponding direction, that is, either forward or backward, as the case may be, upon the head-blocks.

Second, in a peculiar-formed and constructed strap, for confining the travelling rack-bar and inclines to the slide-bar, whereby rigidity and firmness of motion are obtained, and a firm bearing for the log secured.

Third, in so hinging or swivelling the handle, by means of which the inclines are operated to feed the slide-bar forward to the saw, that it can be adjusted in position for being used either upon the front or rear side of the carriage or saw-mill, and to enable power to be applied to the handle in the most effective and convenient manner for the operator.

And the invention consists in further improvements in the details of the saw-mill, which improvements will be hereinafter more particularly referred to, whereby many important advantages are secured.

In the accompanying plate of drawings my "improvements in saw-mill carriages" are illustrated—

Figure 1 being a plan or top view of the carriage with my improvements applied, and

Figure 2 a transverse vertical section taken in the plane of the line *x x*, fig. 1.

A, in the drawings, represents the carriage to a saw-mill, which carriage may be of any of the usual forms and constructions.

B, head-blocks fixed upon carriage A, across from one side-bar or rail to the other.

C, the slide-bar, having upright supports D secured to it at suitable points, these supports forming bearings against which the log being sawed rests. This slide-bar C has plates E secured to its under side, which plates have parallel lips or flanges F, of suitable shape, in transverse section, to fit and run in grooves made along the side-faces of the head-blocks, from one end to the other, as the slide-bar is moved forward or backward thereon, thus guiding and steadying it in such motion.

G, two frames joined together by a connecting-bar or rail, H. These frames G, with their connecting-bar H, are placed upon the head-blocks to the rear side of the slide-bar C, and to this bar they are confined by means, upon their front edges I, of the upright lips or flanges J, to the plates E, hereinbefore referred to, and upon their back or rear edges, K, by means of the upright arms or flanges L, to the portions, M, of the flanges F of said plates E, that are extended back of the slide-bar along the side of the head-blocks. Between these flanges J and upright arms L, the said frames move and run, when operated, as will be hereinbelow described.

Each of these frames G is provided with two incline-bars, N, that are fixed in planes parallel to each other, extending from rear to front rail of frame. These bars N, by flanges O, project below and to the top, or nearly so, of the head-blocks, which flanges extend in planes corresponding to that of the inclines.

P P<sup>2</sup>, pieces or blocks arranged in each of the head-blocks, of which blocks there are two to each head-block, corresponding to the number of inclines N. These pieces P P<sup>2</sup> project above the surface of the head-

blocks, and in each head-block one, P, which is the rear or hind one, is fixed, and the other, P<sup>2</sup>, by an extension-piece, Q, fixed to a bent spring, R, by means of which it is susceptible of being depressed, as the frame with the inclines rides or passes over it, both blocks, P P<sup>2</sup>, however, being provided, in their projecting portions above the head-blocks, with a groove or way, S, of a similar inclination and direction to that of the inclines.

With these grooves or ways of the projecting blocks P P<sup>2</sup>, the inclines of the frames G G become engaged, when such frames are moved forward and backward across the head-blocks in the direction of the length of the carriage, and thus, as such inclines move through them, the one incline within the other, and then, after that, the other incline in the other, (they being relatively so situated that the inclines, the one after the other, will so take them,) give a forward-and-backward motion to the said frames along the length of the head-block to the said frames, and, as the slide-bar C is confined to it, a corresponding motion thereto, the inner one of the projecting blocks or grooved ways, by its arrangement through a spring, being depressed by the slide-bar, so that it can pass over the same, in its forward and backward movement.

For moving the inclines along the length of the carriage, the connecting-bar or rail H is provided, along its edge, S, toward the slide-bar C, with a toothed rack, T, with which engages a pinion-wheel, U, at the lower end of an upright shaft, V, turning in bearings of the upright post or standard W of the slide-bar C, so that, by the turning of the said shaft, the said bar H, with the inclines, will be moved forward or backward upon the carriage, as the case may be.

For operating the incline frames in the direction that would throw or move the slide-bar forward toward the saw, an arrangement of operating and holding-pawls X Y, respectively, is provided for operation upon the ratchet-wheel Z, attached to the vertical shaft V, but, as this arrangement of mechanism forms no part of the present invention, I do not deem it necessary to herein more particularly describe it.

To move the inclines in a direction to carry the slide-bar back, a gear-wheel, A<sup>2</sup>, is fixed to the vertical shaft V, within the post or upright, which post, for the purpose of receiving the same, is made hollow. With this gear-wheel A<sup>2</sup>, a pinion-wheel, B<sup>2</sup>, of a horizontal shaft, C<sup>2</sup>, of the side of the post is arranged to engage, the said shaft C<sup>2</sup> being provided with a handle, by which it can be turned. This shaft C<sup>2</sup> is hung by a sleeve or collar, E<sup>2</sup>, eccentric therewith, within the post, so that, by turning such collar, with its handle F<sup>2</sup>, in the post, the pinion-wheel B<sup>2</sup> can be thrown into or out of connection with the main gear A<sup>2</sup> of the vertical shaft.

The operating-pawls X, hereinbefore referred to, are carried by an arm, F<sup>4</sup>, that, for being operated, has at its outer end a handle-lever, G<sup>2</sup>. This handle-lever G<sup>2</sup> is hinged to a block, H<sup>2</sup>, swivelled in the arm F<sup>4</sup>, whereby it not only admits of being swung around, for being used either upon the front or rear side of the carriage, as may be desired, but also allows the handle to have a swinging motion upon the arm F<sup>4</sup>, to which it is hung, as such arm moves toward the operator, the convenience and effectiveness of which to the operator is obvious.

The post W consists of two parallel-side uprights, H<sup>4</sup>, connected at their upper end by a plate or disk, I<sup>2</sup>, over which the operating parts for the vertical shaft are arranged, and at their lower ends by a plate, J<sup>2</sup>, that is a part of the same, which plate is fastened to the top of the slide-bar.

By this construction of the post W, while room is afforded for the gear-wheel A<sup>2</sup>, the sides of the post are braced and stiffened, to secure the requisite firmness to the said post for the action of the operating parts carried by it.

Having thus described my improvements, I shall state my claims, as follows:

What I claim as my invention, and desire to have secured to me by Letters Patent, is—

1. The grooved block P and the yielding grooved block P<sup>2</sup>, arranged in line in the same head-block, and successively acted upon by each of the incline-bars N, arranged parallel in the reciprocating frame G, whereby the head-block is made to advance or recede, as desired, all constructed and operating substantially as described.
2. The sleeve E<sup>2</sup>, forming an eccentric bushing in the post W for the pinion-wheel B<sup>2</sup>, by which the pinion-wheel B<sup>2</sup> is thrown in or out of gear with the bevel-wheel A<sup>2</sup>, for the purpose of advancing or retracting the carriage, constructed and operating substantially as described.

DENNIS LANE.

Witnesses:

JACOB HENRY,  
LOUIS BRODHEAD.