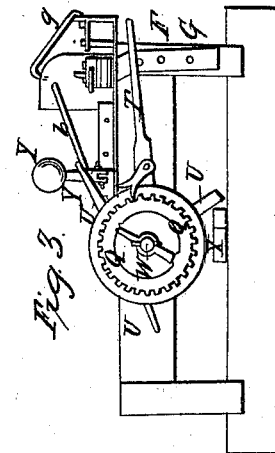
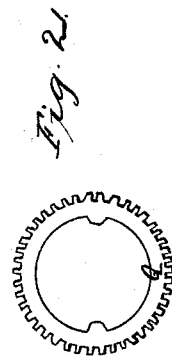
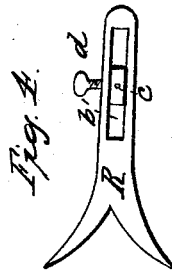
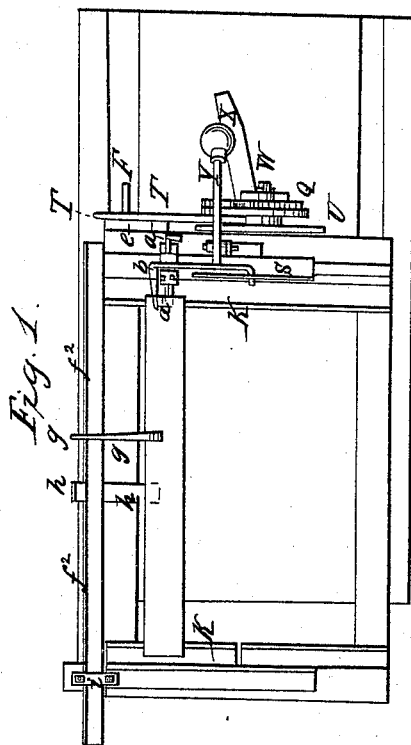


H. Stanton,
Saw-Mill Head-Block,
No. 3,669, Patented July 16, 1844.



UNITED STATES PATENT OFFICE.

HENRY STANTON, OF RICHFIELD, NEW YORK.

IMPROVEMENT IN SAW-MILL CARRIAGES FOR STEADYING THE LOGS THEREON.

Specification forming part of Letters Patent No. 3,669, dated July 16, 1844.

To all whom it may concern:

Be it known that I, HENRY STANTON, of Richfield, in the county of Otsego and State of New York, have invented a new and useful Improvement in Saw-Mills, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a top view; Fig. 2, one of the cogged circular plates or ratchet-wheels; Fig. 3, end view; Fig. 4, a view of the pawl and chuck, drawn to a larger scale than in Fig. 3.

These improvements are confined to the apparatus for holding the log firmly and for setting it on the head and tail blocks toward the saw the distance of the required thickness of boards to be cut.

As the rectangular sliding racks are liable to become loaded with sawdust, owing to their horizontal and exposed position, and thus interfere with the regularity of the cutting, I make use of a circular rack, Q, secured on the hub of a horizontal shaft, W, on which there is a pinion working into a horizontal rack on the under side of the slide S, to which the log is dogged, arranged in the usual manner, said circular rack being turned by a forked dog, R, reversible on its axle at pleasure for turning the ratchet-wheel to the right or left, said axle being attached to a lever, T, operated by a right-angled lever, U, perforated with a round aperture at its angle, through which the horizontal shaft W passes, on which the pinion is fixed that moves the rack, and on which the lever also turns loosely, one limb of said right-angled lever (when the carriage is at rest) standing in a vertical position and the other in a horizontal position, the vertical side or limb (as the carriage is gigged back) striking against an oblique bar, X, fastened to the floor of the mill, by which said lever is turned on the axle W, causing its horizontal side to lift a weighted lever, Y, from a spring-dog, or to move a wedge attached to the lever by a joint that holds the slide from moving, and when said spring-dog or wedge is thus liberated a shoulder on the vertical side of the right-angled lever U strikes against the under side of the lever T, to which the forked dog is attached, and this acting against the teeth of the ratchet-wheel Q, fastened to the horizontal axle W, which it turns, and with it the pinion fastened to said axle, and this latter, working into a rack

on the under side of the slide S, to which the log is dogged thereto, moves said slide toward the saw the required distance. The log is secured to the slide by means of a horizontal right-angled dog, a, driven into its end, and a hook-dog, b, attached to the slide, by which the log can be cut entirely up without leaving any stub-shot. The aforesaid horizontal dog a slides in an oblong mortise made in two plates bolted to the slide S, the said bolts passing vertically through said plates and blocks of wood placed between the lower of said plates and a right-angled clamp-plate placed upon the slide, and into said slide, the said clamp-plate being turned at right angles, forming a tongue that enters a corresponding groove in the head or tail block, by which the slide is held firmly down thereon. The hook-dog b reaches over from one side of the slide, which is turned up at right angles, and perforated for the insertion of the hook-dog.

The aforesaid circular rack or ratchet wheel is made in two parts, one part being a circular toothed plate, as Q', Fig. 2, fitted to a circular flange on a hub of the shaft W. The other part is the aforesaid circular flange on the hub of the shaft W.

The teeth of the ratchet-ring are of a size to correspond with the thickness of boards to be sawed. It has two or more cogs on its inner periphery, corresponding with cavities on the outer periphery of the hub, into which they are inserted for locking the said cogged ring to the flange of the hub to cause them to turn together. The circular racks or ratchets are of the same diameter and thickness, but the teeth are of various sizes, according to the various kinds of boards to be sawed, changeable at pleasure, all fitted to the same hub and plate. The aforesaid circular racks being placed in a vertical position or edgewise, and turning vertically, the teeth will be always kept discharged of any dust that might lodge against them and interfere with the correct action of the apparatus.

The sweep or movement of the dog, and consequently the distance of the movement of the log and thickness of boards to be cut, is determined by a segment-gage, G, perforated with round holes, into which a pin, F, is inserted, against which the lever T, to which the forked pole or arm is attached, strikes in its descent. In this modification of the appara-

tus it will be perceived that the spring-clamp is raised entirely from the slide or the wedge withdrawn when the latter is used before the slide commences to move from the action of the lever, forked dog, and circular cog rack or ratchet, or when the wedge is used before it is withdrawn from the slide, as stated.

To the outer extremities of the racked slide S, I attach a longitudinal perforated bar, f^2 , to which are attached dogs g h , for holding the log at the middle of its length to prevent it from vibrating or springing from the heat or sagging. One of the dogs, g , is a bar of iron, with a hook at each end, inserted into the perforated bar, and driven into the log. The other is a slide, h , and moves horizontally through an aperture in the longitudinal bar f^2 , passing under the log to prevent sagging. One end of said bar f^2 is attached firmly to the outer end of the tail-block slide. The other end slides through a square socket, i , attached to the head-block slide, by which the tail-block can be moved toward or from the head-block at pleasure, to suit various lengths.

To prevent the head and tail blocks separating from each other and letting the log fall between them, or changing their distance apart, I place a metallic plate, K, edgewise against the inner edge of the head and tail block, projecting above the surface of the same, for entering notches cut in the under side of the log, which prevents the head and tail block from moving from or toward each other.

The foregoing relates to the apparatus as adapted to the saw-mill for setting the tail-block slide. To adapt the same or a similar apparatus for setting the head-block slide suddenly when the saw is in the groove of the head-block, a weight must be added to the lever T sufficiently heavy to move the slide, with the end of the log thereon, the position of the pawl being reversed.

The operation is as follows: As the carriage is gigged back, the vertical limb of the right-angled lever U strikes against the side of the oblique bar fastened to the floor of the mill, and corresponding with the one at the tail end of the carriage, (marked X,) causing the shoulder thereon to lift the lever T, with the weight suspended thereto, and at the same time raising the pawl over the teeth of the ratchet-wheel, without turning it, until the said vertical limb passes by or slips over the end of the said oblique bar X, which takes place the moment the saw is entirely out of the log and in the groove, when the weight descends with the lever T, carrying with it the pawl attached thereto, which at the same time, engaging with the teeth of the ratchet-wheel, causes it to turn, and its axle W and the pinion meshing into the rack of the head-block slide, which moves the slide and log suddenly toward the saw, and thus sets the log without interfering with the saw.

b' , Fig. 4, shows a slot in the pawl. c is a sliding chuck placed in said slot b' , through which the bolt passes that connects the lever T to the pawl; d , a screw to hold the chuck.

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

1. The arrangement of the longitudinal bar f^2 and dogs g h , attached to the ends of the slides of the head and tail blocks for supporting the log at the middle in the manner described above.

2. The arrangement of the vertical plates k on the head and tail blocks, for entering notches made in the under side of the log to prevent it having any movement longitudinally while being sawed, as described.

HENRY STANTON.

Witnesses:

WM. P. ELLIOT,
ALBERT E. JOHNSON.