

C. D. Wright,
Saw-Mill Head-Block.
N^o 5,537. Patented Apr. 25, 1848.

Fig: 1

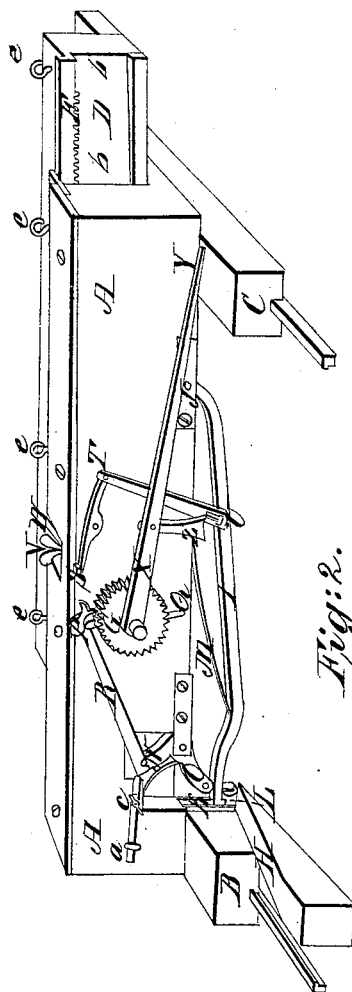
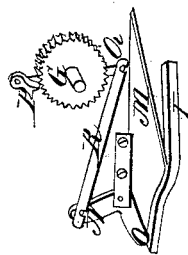


Fig: 2.



UNITED STATES PATENT OFFICE.

CHARLES D. WRIGHT, OF EAST HADDAM, CONNECTICUT.

TAIL-BLOCK OF SAWMILLS.

Specification of Letters Patent No. 5,537, dated April 25, 1848.

To all whom it may concern:

Be it known that I, CHARLES D. WRIGHT, of East Haddam, in the county of Middlesex and State of Connecticut, have invented
5 a new and useful Improvement in the Tail-Blocks of Sawmills; and I do hereby declare that the following is a full and exact description of the construction and operation of said improvement, reference being
10 had to the annexed drawings, making part of this specification, of which—

Figure 1, is a rear perspective view, and Fig. 2, a sectional representation of the ratchet wheel, dog and lever in the position
15 described for reversing the motion of the slide.

The general form and position of this block are similar to those in common use; and the improvement consists of certain
20 mechanical appendages, whereby the log or timber resting upon this tail-block, and in the process of being sawed, is by the running back of the carriage at the termination of each run of the saw, removed laterally
25 any required distance, either to the right or left, and amply secured in its new position, without the aid of the sawyer or attendant.

The block A, is of ordinary size, and secured upon the ends of the carriage beams
30 B, C, in the ordinary manner. In front of the block is a large rabbet occupying a space equal to one third of the block, and within this rabbet is a slide D, in the upper part of which is another rabbet to receive the end
35 of the log to be sawed; the end of the log resting upon the projecting section of the lower part of the slide. The log is secured to this slide by dogs attached to the eyes or staples *e, e, e, e*. A horizontal rack F,
40 is attached to the slide, and the teeth of the rack take to those of any ordinary pinion below (not represented) which is mounted on the axle shaft of the ratchet G, so that by the rotary motion of the ratchet, the slide
45 is moved to the right or left. A wedge-shaped chock, or inclined plane H, is attached to the floor near the rail which supports the carriage beam B, and is temporarily secured by bolts or otherwise, but
50 may be removed forward or back as occasion requires, to correspond with the length of the log being sawed. A horizontal lever I, called the elevator, is connected to the block A, by a pivot joint at J, and extends thence
55 nearly parallel to the block, to a vertical groove K, in the side of the beam B, and

terminates within the groove in which it moves up and down freely, being supported by a small friction pulley L near the end; so that when the carriage passes back the
60 pulley rolls up the inclined plane, whereby the elevator becomes elevated though ordinarily pressed down by the spring M. A knee-lever N, O, is connected to the block by a pivot through the angle, and in such a
65 position that one branch or prong O, rests on the elevator, while the other prong N rises nearly perpendicular, and near the upper end has a pin projecting horizontally and parallel to its axle pivot. A short
70 vertical pawl lever P, Q, is mounted centrally on the ratchet axle, the lever passing between the ratchet and the block; and to the head of this lever is attached a forked pawl P, which takes to the teeth of the
75 ratchet G. This pawl has two points for the purpose of being made to operate the wheel in either direction. Two pins project horizontally from the pawl lever, one immediately under the pawl and the other at Q,
80 and a connecting rod R, having a hole or notch at each end, is made to connect the two levers by the pins near N, and P, so that when the elevator passes up in the inclined plane H, the connecting rod and pawl
85 are moved to the right, moving the ratchet, pinion and slide to the right. To the right of the ratchet a balance lever S, T, is attached to the block by a horizontal central pivot, and the right end T, of this lever is
90 connected to the elevator at U, by a vertical connecting rod T, U. The connection of this rod to the elevator is effected by means of a horizontal pin projecting from the elevator and passing through a vertical slot in
95 the rod. The left end of the balance lever is connected to, or passes under the rear end of a horizontal bar S, W, placed longitudinally or parallel with the carriage, and which passes through the block, and the forward
100 end rests upon the top of the rack at W. This bar or gage (as it is called,) is secured in its place by a vertical thumb-screw V, which passes down through the center thereof. The weight of the elevator
105 is sustained ordinarily by the rod T, U, and consequently a corresponding pressure upward is sustained by the S, end of the gage-lever while with a corresponding force, the forward end of this gage-lever presses upon
110 the ratchet; thus the ordinary position of the elevator, and consequently the limits of its

vertical motion, (and the lateral motion of the slide and log) are governed by the vertical screw V. The lateral motion of the slide and log is more accurately gaged or
5 limited, however, by means of the gage stop *a, c*, on the face of the block, and which is held fast in any required position by a thumb-screw at *c*, and stops the motion of the connecting rod R. And when the ele-
10 vator is raised by passing up the inclined plane, the rack is relieved from the pressure of the gage-lever, and the slide is moved as above described. When the slide and log are to be moved to the left, the connecting
15 rod R, is applied to connect the pins N and Q, and the pawl P, is reversed so as to impinge upon the ratchet in the opposite direction, as shown in Fig. 2. The hand lever X, Y, with the dog Z, connected, are not
20 permanently attached to the tail-block, but are used occasionally to turn the ratchet, the end of the dog being made to apply to the teeth thereof.

The rack F, which is made of iron or
25 brass, may be made large enough to consti-

tute the entire back *b, b*, of the slide, or may have plates attached (embraced in the same casting) which may extend vertically to the bottom of the slide, and horizontally over the top thereof. This rack may be placed
30 near the bottom of the slide, and with the teeth thereof pointing upward, so as to take to the under side of the pinion instead of the upper side as above described. The block may also be surmounted with a plate
35 of iron.

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

The arrangement of the elevator I, the knee-lever N, O, the pawl-lever P, Q, the
40 pawl P, the connecting rod R, the balance-lever S, T, the vertical connecting rod T, U, the gage-lever S, W, the iron back *b, b*, and the regulating screw V, in combination with the tail-block, slide, rack, and ratchet as
45 herein described.

CHARLES D. WRIGHT.

Witnesses:

F. W. JOHNSON,
RUFUS PORTER.