





# United States Patent Office.

C. LEFFINGWELL, OF ZANESVILLE, OHIO, ASSIGNOR TO HIMSELF, H. BLANDY, AND F. BLANDY, OF SAME PLACE.

Letters Patent No. 97,302, dated November 30, 1869.

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

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

*To all whom it may concern:*

Be it known that I, C. LEFFINGWELL, of Zanesville, in the county of Muskingum, and State of Ohio, have invented a new and useful Improvement in Saw-Mill Head-Blocks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This improvement consists in the arrangement of the three levers, in combination with the two double-faced ratchet-wheels, with their respective pawls, so arranged that the operator, without changing position, can set either block separately, or both blocks together, without throwing anything in or out of gear.

In the accompanying plate of drawings—

Figure 1 represents a plan view of the head-block, arranged on the mill-carriage, as when in use, but shown partly in section.

Figure 2 is a vertical cross-section of fig. 1, through the line *x x*.

Similar letters of reference indicate corresponding parts.

A is the carriage, and B B' represent the head-blocks, which slide freely thereon, so that they may be adjusted to logs of different length.

C represents a vertical stand upon each head-block, connected with and forming part of a horizontal slide, D, which is connected with the head-block by means of grooves and tongues, and slides back and forth freely thereon.

Upon the under side of the horizontal part D there is a rack, E, running its whole length, as seen in fig. 2.

F F' represent shafts, on each of which there is a pinion, G, which works in the racks E.

In fig. 1, the slide D is broken away in the drawing, to show one of these pinions, G.

The shafts F F' pass through the head-blocks, and are supported thereby.

Their inner ends are supported by stands attached to the carriage.

There is a groove in each shaft, and a feather in each of the pinions G, which engage with the grooves, and allow the shafts to slide through the pinions, so that the head-blocks may be moved nearer together or further apart, according to the length of the logs to be sawed.

H H represent ratchet-wheels on the shafts F F'.

Each ratchet has a lever, I, and pawl J, by which its shaft may be revolved independently of the other, which would, of course, allow either end of the log to be moved, while the other end remained stationary.

K is a central lever, with two pawls, L L, one of which engages with each ratchet, by which the two shafts are revolved simultaneously.

The inner ends of the two shafts meet in the eye

or hub of the central lever K, which hub forms a loose collar, in which the shafts easily turn.

The number of teeth on the ratchet-wheel H H exactly corresponds with the number of eighths of an inch in the circumference of the rack-pinions G, thereby causing each tooth to throw or move the stands C and the log one-eighth of an inch, so that eight teeth on the ratchet make exactly one inch on the face of the head-block.

The ends of the levers I I form loose collars through which their respective shafts pass.

By the arrangement described, either or both ends of the log may be moved by a single motion, without the trouble of connecting, or disconnecting, or throwing anything into or out of gear, or dropping or lifting any pawls.

The movement of the pawl-levers I I and K, or of either of them, is regulated by the curved guides N, one to each lever, an elevation of which is seen in fig. 2.

O is an adjustable forward stop on each of the guides N.

P represents movable backward stops, so arranged that each one corresponds exactly to one tooth of the ratchet-wheels, and one-eighth of an inch on the head-block.

The drop-pawls J' are so adjusted, as to length, as to drop exactly against a tooth in the ratchet-wheel, when the lever is brought against the forward stop O, which entirely prevents any back motion in the stands C.

The stops P are so adjusted that when the lever is thrown back the distance required for the thickness of the lumber being sawed, the lever-pawls, J, will rest on about the middle of the tooth next back of the tooth engaged by the pawl J', thereby preventing danger of ever missing a tooth on the ratchet.

This arrangement of the pawls is secured by the adjustable forward stop O, by which the distance between it and the back stops may be increased or diminished.

When the levers are all brought forward against the stops O, the lever-pawls are so constructed and adjusted that they stand in line with each other.

The drop-pawls J' also stand in the same position as regards each other.

I am aware of the patent granted to T. S. Clark, March 10, 1868, and that to J. F. Cook, December 15, 1868, for improvements in head-blocks, but I do not desire to claim anything shown therein; but

What I do esteem to be my invention, and desire to secure by Letters Patent, is—

The arrangement of the levers I I K, double-faced ratchet-wheels H, and pawls J, in the manner shown and described, and for the purpose specified.

C. LEFFINGWELL.

Witnesses:

E. BALLOU,

JOHN J. ASTEN.