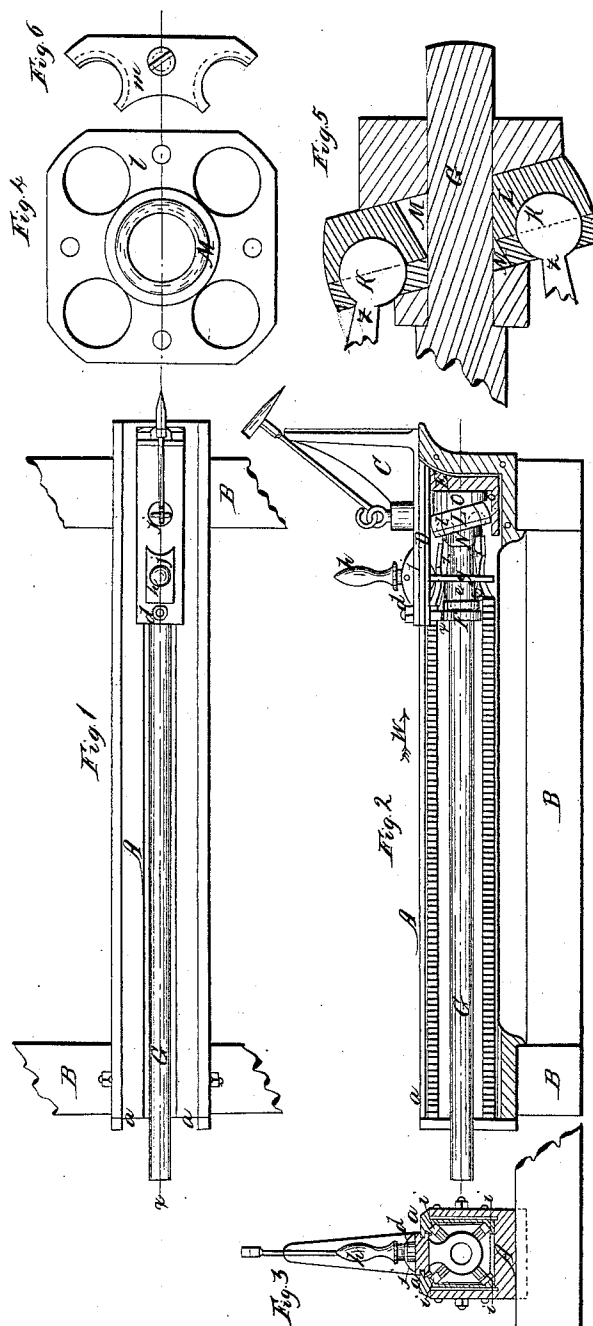


Martin & Ritchie,
Saw-Mill Head-Block.
No 83,982. *Patented Nov. 10, 1868.*



Witnesses
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Letters Patent No. 83,982, dated November 10, 1868.

IMPROVEMENT IN HEAD-BLOCKS.

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

To all whom it may concern:

Be it known that we, ALEXANDER C. MARTIN and WILLIAM RITCHIE, of Hamilton, in Butler county, Ohio, have invented certain new and useful Improvements in Feeding-Mechanism, Applicable to Head-Blocks of Saw-Mills and other like uses; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 represents a top or plan view of our mechanism.

Figure 2 is a vertical longitudinal section of the same.

Figure 3 is a transverse section of fig. 1.

Figure 4 represents the inner face of the anterior portion of the oscillating block.

Figure 5 is a longitudinal sectional view of the actuating-shaft and the oscillating block, with the bevelled rings forming its seat.

Figure 6 represents one of the four segments of the posterior portion of the oscillating block.

The nature of our invention consists in the organization of a mechanism, operated by bevelled rings or their equivalents, whereby a feeding-movement is obtained, by the rotation, or partial rotation, of a shaft (upon which the rings are secured) in either direction.

In the present instance, we have applied our invention to the head-block of saw-mills, to be used to feed the log to be sawed, laterally, any distance equal to the thickness of the lumber being sawed.

The head-block A is secured to the carriage B, and supports the knee C, which has a grooved base-plate, D, and pendent lug, E.

The base-plate D of knee C is grooved in its edges, and works freely between the two ledges *a a* of the head-block, which are embraced by the groove of the plate D.

The head-block is also provided with four rack-bars, *i*, secured in its inner corners, as represented in figs. 2 and 3, and the upper surface of the ledges *a a* may have a scale of inches, or fractions of inches, marked thereon.

The shaft G is journaled in the lugs E and F, the latter being connected with the base-plate D by means of its screw-shank and nut, *d*.

A ferrule, *e*, fits loosely on the shaft G, and around one end of this ferrule there is a ring, which secures, in their proper positions, four springs, *x x*, which press outwardly against the pawls *z*.

The ferrule *e* has secured to it the square plate *g*, having four holes near its four corners, through which the pawls *z* and springs *x* pass.

The stud or handle *h* passes through the sliding block *j*, and through a slot in the base-plate D, and is

secured to the plate *g*, so that the movement of the handle longitudinally will cause the ferrule *e*, with its springs *x x*, and plate *g*, to move along the shaft G.

The four pawls *z* are formed with balls, *k*, which occupy sockets in the oscillating block L.

The block L has a central orifice, M, through which the shaft passes, and consists of the anterior part *l*, and of the four segmental or posterior parts *m*.

The ball-and-socket joints of the pawls *z* allow free action to the pawls, as the shaft is revolved, within the aperture of the block L, the latter having imparted to it an oscillating movement by means of the bevelled rings N O, which are fastened to the shaft G, and their bevelled ends, forming parallel planes, act upon the oscillating block L, and give to it a rocking or oscillating motion, which motion causes the pawls to act, in regular rotation, upon the rack-teeth in the four corners of the head-block A.

When the knee C, with its actuating-mechanism, and shaft G, have traversed the entire length of the head-block, these parts may be returned to the open end of the block A. In order to move them backwards towards the open end of the head block, the handle *h* will be first moved towards the vertical knee C, thereby causing the ring *e*, with its plate *g*, to slide along the shaft G, and, as the pawls have a curved outer surface, and the apertures in the plate *g* embrace the pawls, the pawls will be thrown out of contact with the rack-teeth by thus moving the handle *h*; in other words, this movement of the handle *h* will contract the pawls, and hold them in nearer relation to the shaft G, and out of contact with the rack-teeth, and a reverse movement of the handle *h* will release the pawls, and their springs *x* will throw or press them against the racks.

The segmental portions *m* of the oscillating block are secured to the anterior portion *l* thereof by screws, which are properly countersunk.

From the foregoing description, it will be seen that the knee C will be caused to travel in the direction indicated by the arrow *w*, by the rotation, or partial reciprocating rotation, of shaft G. The bevelled rings N O actuate the block L, in which the pawls *z* are jointed, and the pawls (being released from the shipping-mechanism, consisting of the plate *g* and its handle *h*) will, in regular succession, act against the teeth of the racks *i*, thus driving the knee C, with its base-plate D, shaft G, and the mechanism connected with it, in the direction indicated by the arrow *w*, as above stated. The extent of this travelling movement may be governed with the greatest nicety, to determine the width of the lumber to be sawed.

We deem our improved feed-mechanism to be of great utility, on account of its certainty of operation, its speed, and accuracy. Besides, the pawls, racks,

and actuating-mechanism are so arranged and placed that they are not liable to be obstructed by dust or other accumulating obstructions.

The oscillating block L will not rotate with the shaft G, because of its close proximity to the under side of the base-plate D, which prevents it from revolving with the shaft, yet there is sufficient space between the block L and the plate D to admit of the free rocking motion imparted to the block L by the shaft G and its fixed bevelled rings N and O.

Having fully described our invention,

We claim, and desire to secure by Letters Patent—

1. The arrangement of the block L loosely on the shaft G, between the bevelled rings N O, to produce a traversing or feeding-movement, substantially as and for the purpose described.

2. The combination of the four segmental portions

m and the portion l of block L with the shaft G, substantially as and for the purpose specified.

3. One or more pawls, with an oscillating block, in combination with the rotary shaft G, substantially as and for the purpose described.

4. The pawl-shipping mechanism, consisting of the ferrule e and plate g, in combination with the pawls z, operating in the manner and for the purpose described.

5. The ring or ferrule e, springs z, and plate g, in combination with pawls z, in the manner and for the purpose described.

In testimony whereof, we have hereunto set our hands, this 2d day of November, A. D. 1867.

ALEXANDER C. MARTIN.

Witnesses: WILLIAM RITCHIE.

H. P. K. PECK,
JAMES BOWMAN.