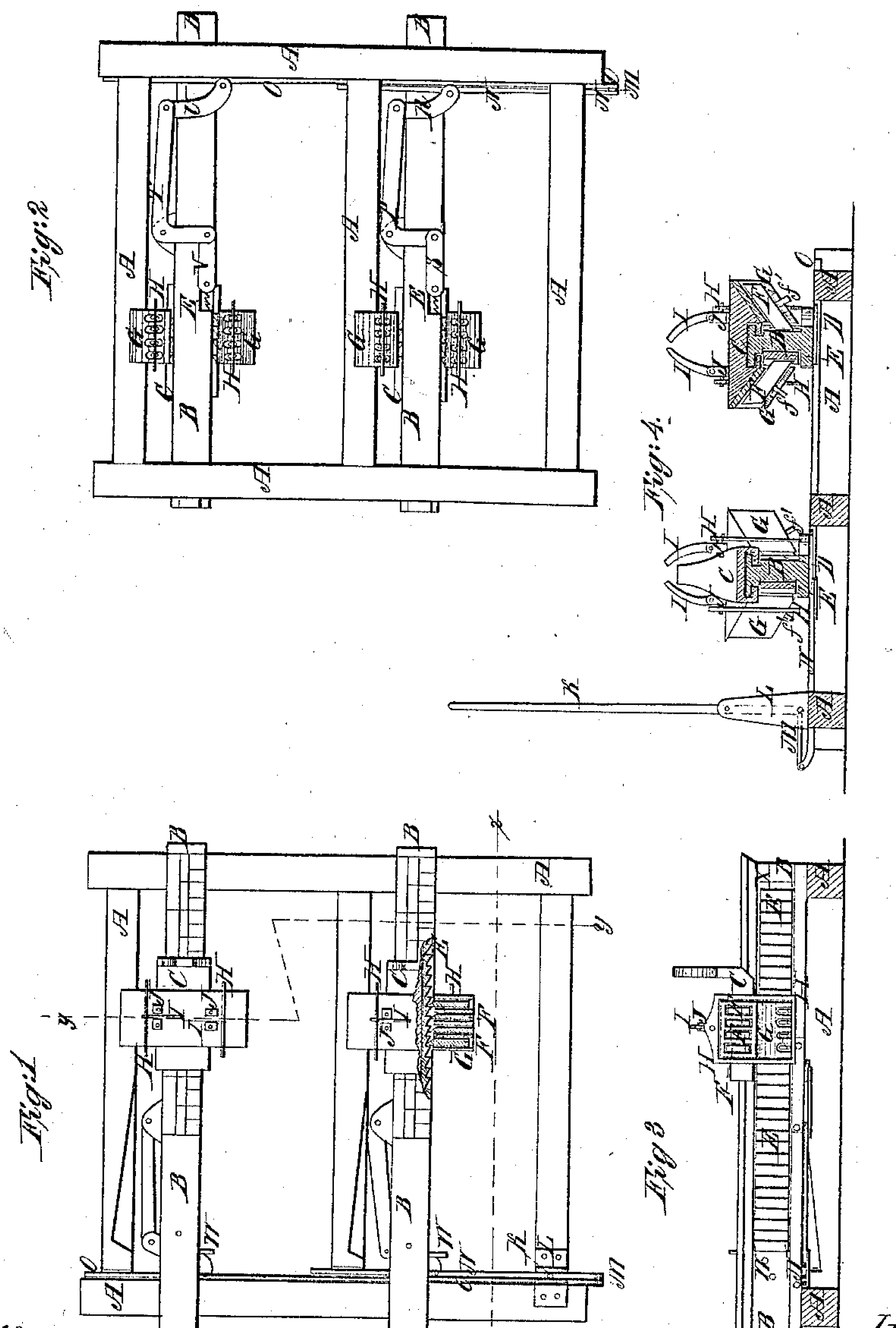
C. Leffingwell,

Saw-Mill Head-Block.

No. 56,145. Patented July 3, 1866.



Witnesses:

Jas. A. Service

[illegible]

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UNITED STATES PATENT OFFICE.

C. LEFFINGWELL, OF CLARKSBURG, ASSIGNOR TO HIMSELF, H. BLANDY, AND F. J. L. BLANDY, OF ZANESVILLE, OHIO.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. **56,145,** dated July 3, 1866.

To all whom it may concern:

Be it known that I, C. LEFFINGWELL, of Clarksburg, in the county of Ross and State of Ohio, have invented a new and Improved Head-Block; 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, in which—

Figure 1 is a top or plan view of my improved head-block, part being broken away to show the construction. Fig. 2 is an under-side view of the same. Fig. 3 is a vertical section taken through the line *x x*, Fig. 1. Fig. 4 is a vertical sectional view taken through the line *y y*, Fig. 1.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improved head-block for saw-mills so constructed that the timber may be moved quickly and accurately, however short the required distance may be; and it consists, first, in the construction and arrangement of the pawl-blocks; and, second, in the combination of the rods, levers, and racks, by means of which the knees of the head-blocks are worked, with each other and with the movable pawls, as hereinafter more fully described.

A is the frame of the machine. B are the slides upon which the head-blocks C slide. These slides B are grooved upon both sides, and in the grooves thus formed are placed racks D and E. The racks D are immovably attached to the slides B, or they may be made solid therewith, as represented in the drawings. The other rack, E, is movable, and slides back and forth in the groove in which it is placed.

To the sides of the head-block C are attached the pawls F, which act upon the rack in the manner hereinafter described. These pawls are rhomboidal in form, as shown in Fig. 1, and they slide up and down in inclined channels in frames G, in which they are placed. The pawls F are kept in their places in the frames G by pins *f'* attached to said pawls and projecting downward through slots formed in the under side of said frame, as shown in Figs. 2, 3, and 4. The pawls are raised, when required, by means of a stirrup, H, which passes around the frame G below the pins *f'*, and is pivoted at its upper side to the end of a lever, I. This lever is pivoted to a support, J, on the upper side of the block C. By depressing the free ends of the levers I the pawls F are lifted away from the racks E and D, and the blocks C may be moved back to their former position.

K is a lever pivoted to a support, L, attached to one side of the frame A. The lower end of this lever is connected by a rod, M, to the ends of two rods, N and O, which slide in guides in the side of the frame A.

P is a bent lever, the long arm of which is connected to the rod or bar N by the connecting-rod R, and its other end is connected by the connecting-rod S to the movable rack E. The bent lever T is connected to the rod O by the rod U, and to the movable rack E by the rod V.

In using the machine, by moving the upper end of the lever K to the right in Fig. 4 the motion is communicated through the rods and levers to the movable rack E, moving it forward until the forward end of the rack E comes in contact with the stop X, leaving the timber in the proper position to be sawed. This forward movement of the racks E carries the head-block C forward with said racks, the pawls F sliding over the teeth of the stationary rack D. By moving the lever K to the left the racks E are drawn back a distance regulated by the adjustable stops W. The stops W are pins, against which the rear ends of the racks E strike as they are moved back. These pins W are set in holes formed in the sides of the slides B, and so arranged that by moving these stops from one hole to another the racks E may be made to advance at each forward movement the exact distance required. If only one pawl F is used, the length of each advance of the racks E would necessarily equal the distance apart of the teeth of the said rack E, or some multiple of that distance; but by increasing the number of the pawls and making the distance between the bearing-surfaces of the pawls vary from the distance apart of the teeth of the movable rack, and by graduating the holes for the stops W according to this

variation, the forward movement of the head-blocks C may be made equal to the distance apart of the teeth of the rack E and the distance apart of the pawls F, or equal to any multiple of that distance.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The pawl-blocks C G F H I, when constructed and arranged substantially as herein described, and for the purpose set forth.

2. The combination of the lever K, rod M, rods N and O, rods R and U, levers P and T, rods S and V, and movable racks E, by means of which the knees of the head-blocks are worked with each other and with the movable pawls F, substantially as described, and for the purpose set forth.

The above specification of my invention signed by me this 31st day of March, 1866.

C. LEFFINGWELL. [L. S.]

Witnesses:

WM. H. BETTS,

G. W. SMITH.