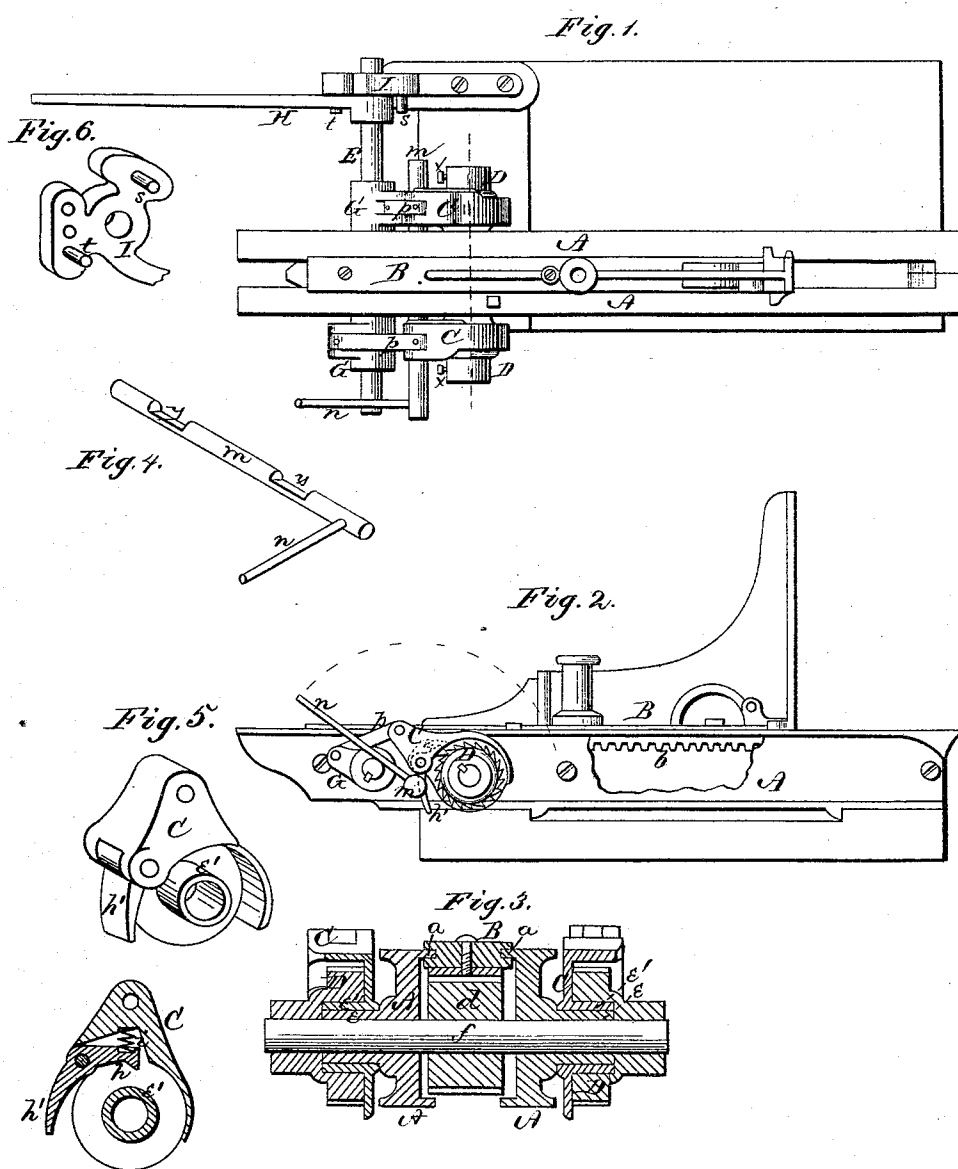


F. N. WHITCOMB & D. RAWSON.
W. E. DAVIS & MARY J. RAWSON, Admr's. of D. RAWSON, dec'd.

Head-Blocks for Saw-Mills.

No. 159,236.

Patented Jan. 26, 1875.



WITNESSES

Henry N. Miller
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UNITED STATES PATENT OFFICE.

FRANCIS N. WHITCOMB, OF BELMONT, NEW YORK, FOR HIMSELF, AND W. ELLERY DAVIS AND MARY JANE RAWSON, ADMINISTRATORS OF DAVID RAWSON, DECEASED.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. **159,236**, dated January 26, 1875; application filed December 7, 1874.

To all whom it may concern:

Be it known that FRANCIS N. WHITCOMB, of Belmont, in the county of Alleghany and State of New York, and DAVID RAWSON, deceased, of same place, did invent certain new and useful Improvements in Head-Blocks for Saw-Mills; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

The nature of this invention consists in the construction and arrangement of a rack-and-pinion head-block for saw-mills, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which this invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a plan view of the improved head-block. Fig. 2 is a side elevation of the same. Fig. 3 is an enlarged transverse vertical section through the ratchet mechanism. Figs. 4, 5, and 6 are detached views of certain parts thereof.

The head-block is composed of two parallel bars, A A, fastened together by bolts, said bars having suitable flanges cast on their inner sides to hold them at the proper distances apart. Along the upper edges of these bars are inward-projecting flanges, a a, which fit in longitudinal grooves in the sides of the horizontal part of the knee B, which is allowed to slide back and forth thereon. On the under side of the knee is secured a rack-bar, b, running the entire length thereof. This rack-bar gears with a pinion, d, secured on a shaft, f, between the two bars A A, said shaft passing transversely through said bars, and has its bearings in hubs e e projecting from the outer sides of the bars A A. On each of these hubs is placed a shell, C, constructed as shown in Fig. 5, and provided with a hub, e', which extends out flush with the end of the hub e, as seen in Fig. 3. On the hub or trunnion e', within the shell C, is placed a ratchet-wheel,

D, the hub of which fits on the end of the shaft f, and is secured thereto by a set-screw, x. It will readily be seen that the sleeves C will turn freely on the hubs or trunnions e without interfering with the ratchet-wheels D, and the shaft f with the ratchet-wheels may turn without interfering with the shells. Within each shell is pivoted a pawl, h, to take into the ratchet-wheel D, said pawl being held down against the wheel by means of a spring, i. The pawl h has an arm, h', extending downward from its pivot-point, which arm fits in a notch, y, cut in a shaft, m, as shown in Fig. 4. This shaft is provided with an arm or lever, n, by means of which the shaft may be turned in its bearings in the bars A, so as to bring the uncut portion thereof against the arms h', thereby throwing the pawls h up out of the ratchet-wheels D D, when the knee may be moved back and forth by hand, the shaft f with pinion d and ratchet-wheels D D revolving freely in either direction. The two shells C C are, by means of the links p p, connected with collars G G, fastened to a shaft, E, which passes through and has its bearings in the bars A A. The collars G and links p are so arranged that when the shaft E is turned in one direction one of the shells C will be turned forward and the other backward, and when the shaft is turned in the opposite direction the motion of the shells is reversed, and the shell that moves forward will, by means of its pawl h and ratchet-wheel D, turn the shaft f so as to move the knee B forward through the medium of the pinion d and rack-bar b. The shaft E is provided with a lever, H, close to a bearing, I, through which the shaft passes, and on said bearing is one stationary pin, s, and one adjustable pin, t, (or both pins may be adjustable,) to form stops for the backward and forward movement of the lever. By adjusting the pin or pins in the bearing I the extent of the throw of the lever is regulated, and thereby also the movement of the knee. The shafts m and E are to run through all the head-blocks, so that all the knees may be operated at once. It will be noticed that the knees move forward both by the backward

and forward movement of the lever H. By means of the shaft *m* the ratchet movements are thrown out of gear, so as to run the knees back or set one ahead of the other.

Having thus fully described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. The combination of the ratchet-wheels D D on shaft *f*, shells C C, pawls *h h*, springs *i i*, links *p p*, collars G G, and shaft E, all constructed and arranged to operate substantially as and for the purposes herein set forth.

2. The combination of the shells C C, hav-

ing spring-pawls *h* and arms *h'* cast in one piece, and the shaft *m*, having notches *y y* and lever *u*, all substantially as set forth.

In testimony whereof we hereunto set our hands this 28th day of October, 1874.

F. N. WHITCOMB.

W. ELLERY DAVIS,

MARY JANE RAWSON,

Administrators.

Witnesses:

C. L. EVERT,

H. A. HALL.