2 Sheets--Sheet 1.

F. N. WHITCOMB.

Head-Block for Saw-Mills.

No. 160,983. Patented March 16, 1875.

Fig 4.

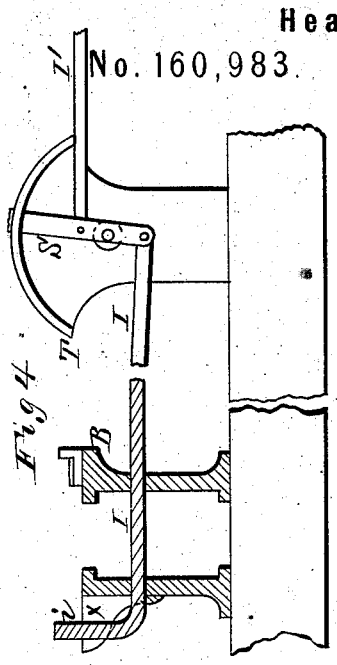
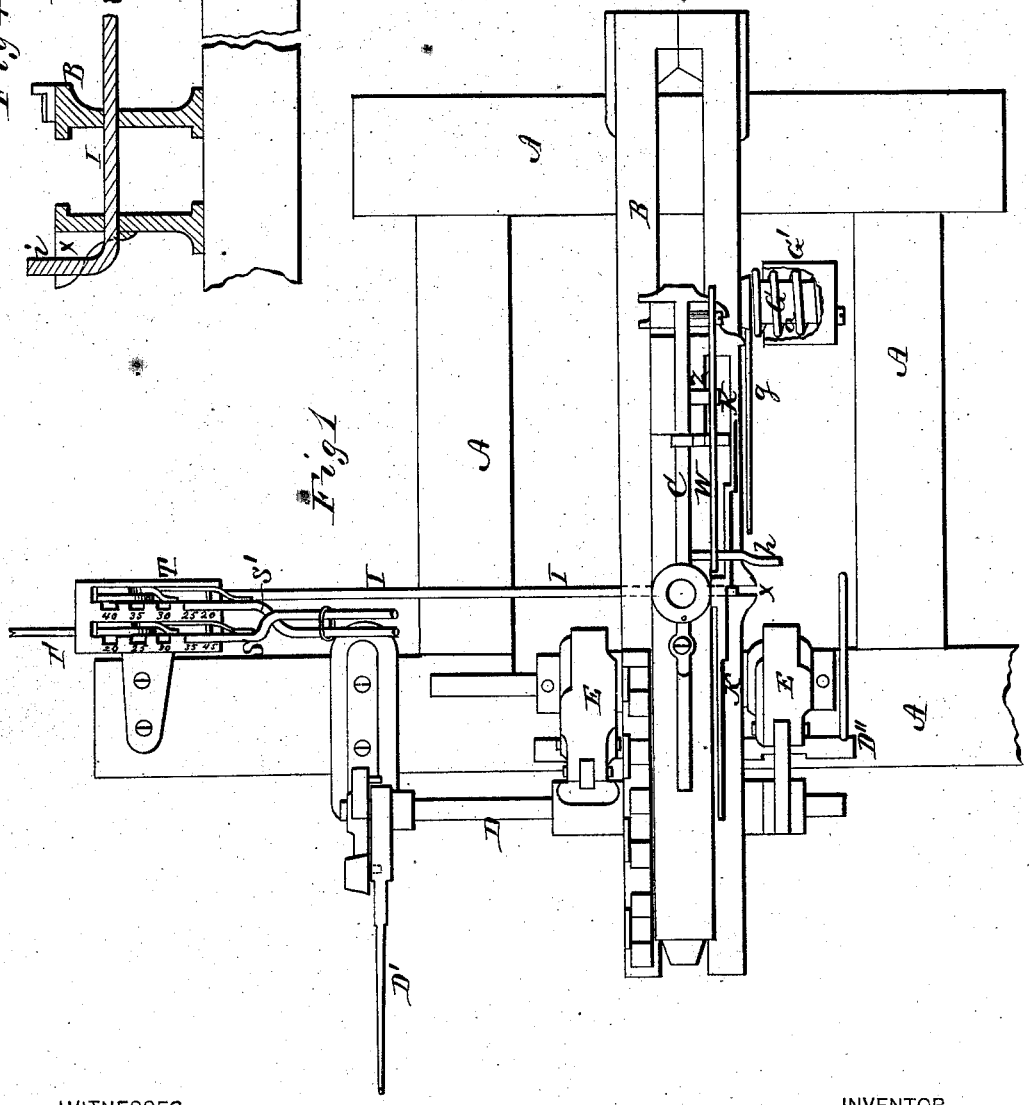


Fig 1.



WITNESSES

F. L. Durand

C. L. Emerson

INVENTOR

Francis N. Whitcomb

per Munn & Mason

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

2 Sheets--Sheet 2.

F. N. WHITCOMB.

Head-Block for Saw-Mills.

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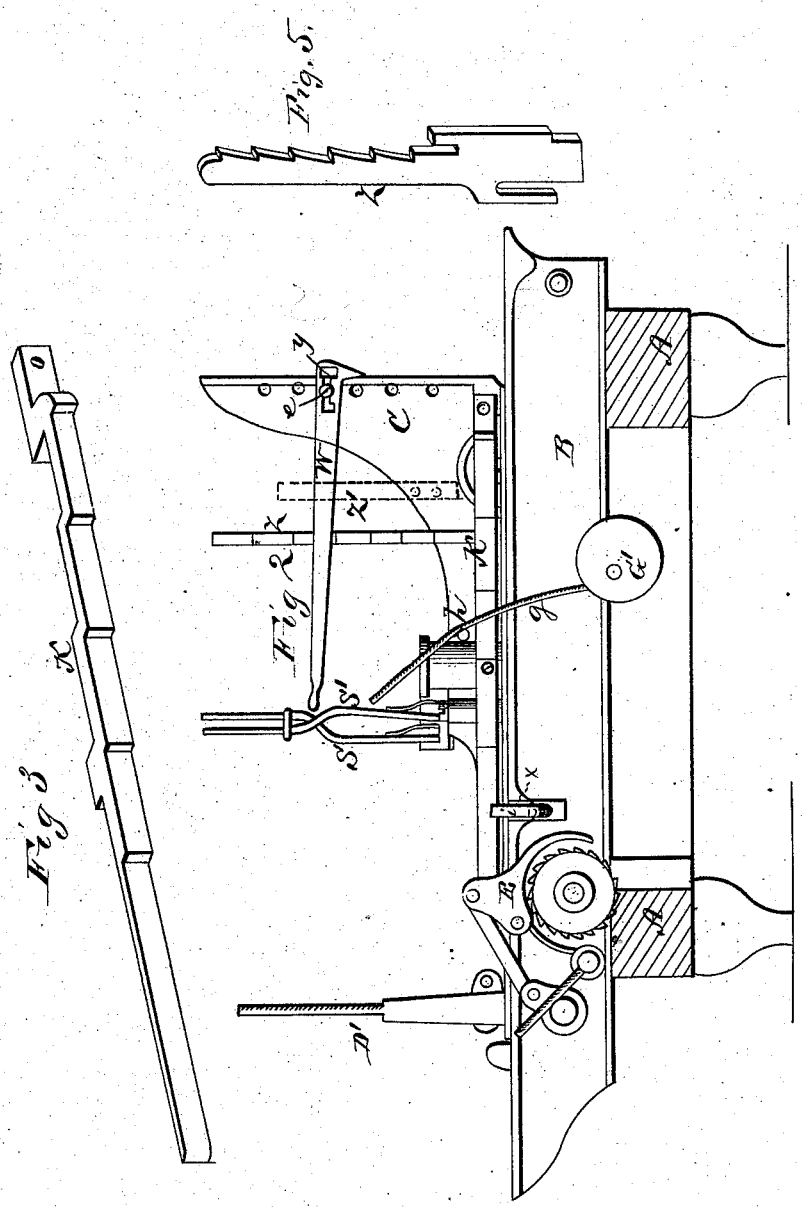

WITNESSES

F. L. Durand

C. L. Emmons

INVENTOR

Francis N. Whitcomb.

per Munn & Thacher

ATTORNEYS

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

FRANCIS N. WHITCOMB, OF AMITY, NEW YORK.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. **160,983**, dated March 16, 1875; application filed December 14, 1874.

CASE B.

To all whom it may concern:

Be it known that I, FRANCIS N. WHITCOMB, of Amity, in the county of Orange and in the State of New York, have invented certain new and useful Improvements in Head-Blocks for Saw-Mills; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to an improvement in head-blocks for saw-mills; and it consists, first, in retracting the knee by means of an arm extended from a coiled spring inclosed in a casing attached to the head-block, which arm acts against a stationary bar on the knee; second, in combining with the knee a longitudinal bar notched on its outer face, against which catches the bent end of a lever, which passes through a slot in the head-block adjacent to the notched bar.

To enable others to construct my invention, I will proceed to more fully describe the same, referring to the annexed drawings, in which—

Figure 1 represents a plan view; Fig. 2, a side elevation; Fig. 3, a perspective view of the notched bar, which is secured to the side of the knee; Fig. 4, a sectional view of the head-block, showing the passage of the connecting-rod, which acts against the notched bar, and the graduated arc and hand-lever; and Fig. 5, a perspective view of the vertical notched bar which holds the dog in position.

In the accompanying drawings, A represents the head-block carriage, upon which a head-block, B, is secured. C represents the knee, which may be fed forward by any suitable means that will allow of its being automatically retracted. In the present instance, for sake of illustration, I have shown a shaft, D, having a lever, D′, and connected to said shaft are connecting-links and wheels E E, having pawls, which engage into ratchets on a shaft having a pinion, which gears into a rack-bar on the under part of the knee so that as the lever D′ is rocked back and forth the pawls will take into the ratchets, and the ratchets (being on the same shaft as the pinion) will cause the forward movement of the knee.

In an application bearing even date with this I have set forth the fact that it is desirable to allow the knee to be fed far forward before the knee, in its forward movement, will cause a spring to be coiled, which spring, at a proper time, will recoil and automatically retract the knee.

In the present application I accomplish the same result and obviate the difficulties therein set forth by means different in construction from those specified in the application alluded to. To this end I attach a short shaft, *a*, to one side of the forward part of the head-block, around which is coiled a spiral spring, G, one end of which is stationed upon the outer end of the shaft. The other end is extended upward to the side of the knee and forms a spring-arm, *g*. Extending outward from the knee is a stationary bar, *h*, which, when the knee is fed far enough forward, will bear against the spring-arm *g*. Secured rigidly to the knee, along its horizontal portion and parallel therewith, on one side of the same, is a notched bar, K, as clearly seen in Fig. 3. The notches or steps in this bar are on its outer face, the notch farthest outward being nearest the front of the knee and those following gradually decreasing inward to the end of the bar. Upon the same side of the head-block that this bar is situated is a notch, *x*, into which works the upward-bent end *i* of a connecting-rod, which passes through the head-block, and is pivoted to the lower end of a hand-lever, S, which lever is pivoted to a casting having a graduated arc, T. The notches in the arc T are numbered for the lever to be set into any one of them desired, so that the bent end *i* of said lever will be out or in just far enough to take into any of the notches on the bar K as the knee is receded, for the purpose of checking the backward movement thereof at any point necessary.

It being understood that two or more head-blocks are placed upon a carriage, I have provided two hand-levers, S S′, within two graduated arcs, these levers being connected to two connecting-rods, I and I′, so that the backward movement of the knees of the two head-blocks may be adjusted separately or together. The levers are so bent at the top that they may

be connected together and moved for simultaneously operating the two rods I I′. Upon either side of the upright portion of the knee C is a stud, E. W represents a dog, which has a slot, *y*, at its forward end, which slot is enlarged at both ends thereof, as shown in Fig. 2. The stud *e* secures this dog to the knee by passing through this slot, but in a manner to allow the dog to be moved back and forth the length of the slot in the same. Extending upward from the knee C is a standard, Z, having notches on one edge, into which the handle portion of the dog is caught and held at any position required. A flat spring, Z′, may extend from the knee upward to bear against the side of the dog-handle, to hold it in the notches of the standard Z. In operation, the dog is forced forward as far as the slot will allow it and the point of the dog driven into the log, while its rear or handle portion is held in any one of the notches on the standard Z. When the dog is released from the log it is moved rearward and allowed to hang on the knee out of the way of the saws.

To operate the machine, the hand-lever S is first set in a notch in the arc T, to allow the knee to be stopped at any number of inches desired. This adjustment of the lever is made so that the rod I will move a certain distance out or in for the bent portion *i* thereof to catch into any one of the notches on the bar K and stop the knee. As the knee is fed forward the bar *h*, after it strikes the arm *g*, will wind the spring G—the pawls and ratchets will hold the knee in the place it is outwardly fed until the ratchets are released by a camshaft with lever D″—when the recoil of the spring will cause the arm *g*, acting against the bar *h*, to throw the knee back until stopped at a given notch in the bar K by the bent end *i* of the shaft I catching into the notch set for it to come in contact.

It will be seen that the upright part of the knee is perforated so that the dog W may be adjusted up and down thereon, by removing and replacing the stud *e*, so that the dog may be set to accommodate the size of the log to be held.

I am aware that it is not new to cause the head-block knee to be retracted by means of a spring; hence I do not, broadly, claim such as my invention.

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

1. In combination with a head-block, B, and knee C, the short shaft *a*, casing G′, and coiled spring G, extending up to the side of the knee, and the bar *h* projecting from said knee, all substantially as and for the purposes herein set forth.

2. The combination of the stationary bar K with notches on its outer face, with bent portion *i* of the connecting-rod I, and the notch *x* in the head-block, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of December, 1874.

F. N. WHITCOMB.

Witnesses:
J. M. MASON,
H. A. HALL.