(No Model.)

2 Sheets—Sheet 1.

J. LITTLE.

SAW MILL DOG.

No. 264,089. Patented Sept. 12, 1882.

Fig. 1.

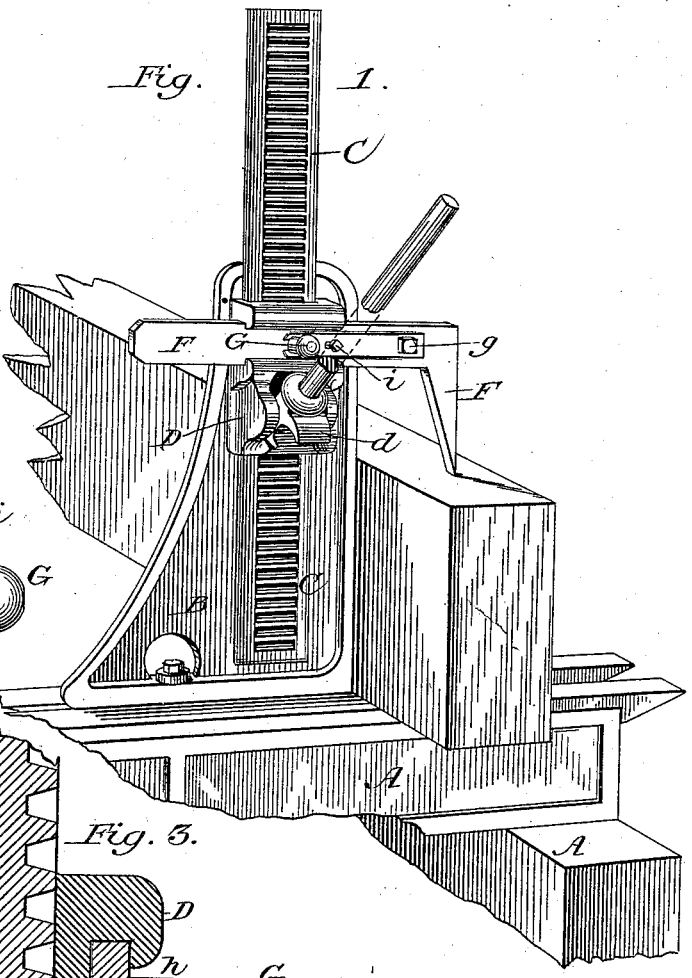


Fig. 2.

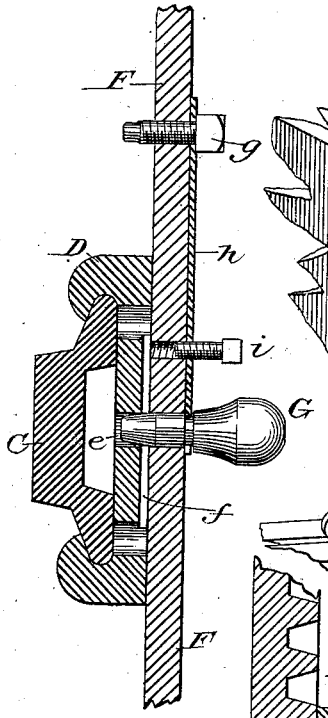


Fig. 3.

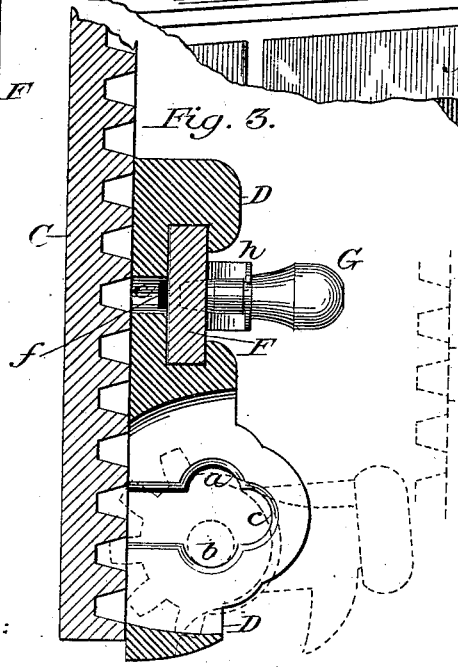
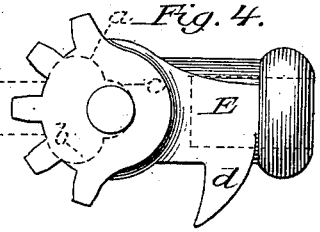


Fig. 4.



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Attorney.

(No Model.)

2 Sheets—Sheet 2.

J. LITTLE.

SAW MILL DOG.

No. 264,089

Patented Sept. 12, 1882.

Fig. 5.

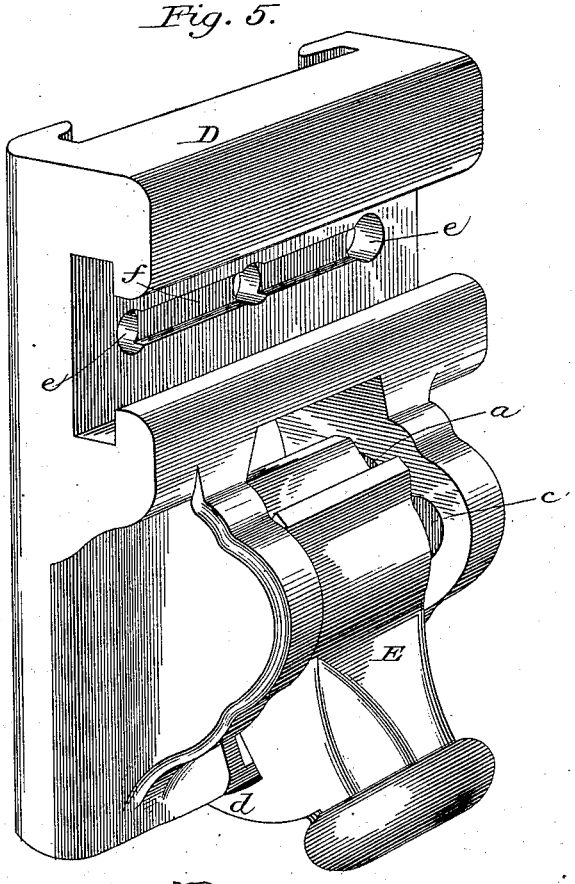
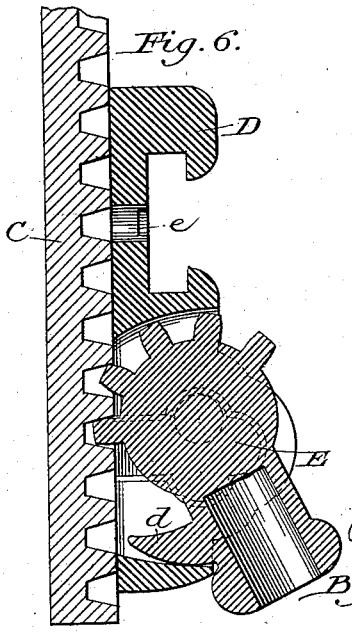


Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES LITTLE, OF EVANSVILLE, INDIANA, ASSIGNOR TO S. W. LITTLE, OF SAME PLACE.

SAW-MILL DOG.

SPECIFICATION forming part of Letters Patent No. 264,089, dated September 12, 1882.

Application filed October 17, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES LITTLE, a citizen of the United States, residing in Evansville, in the county of Vanderburg and State of Indiana, have invented a certain new and useful Improvement in Saw-Mill Dogs, of which the following is a specification.

My invention relates to saw-mill dogs in which the dog-bar is longitudinally adjustable in a vertically-sliding head carried by a rack-bar mounted upon a standard, in turn supported by and transversely adjustable of the traveling carriage carrying the log or timber to be sawed, and is an improvement upon a saw-mill dog for which Letters Patent No. 221,176 were granted to me November 4, 1879.

The objects of my invention are to provide the sliding head with a lever of novel construction, engaging with the rack-bar, and adapted to not only adjust the height of the head, but to rigidly lock the head at any height upon the rack-bar, or to be shifted free of the rack-bar to enable the head to be raised or lowered by a direct and continuous movement without the operator having to remove his hand from the lever; to provide for the longitudinal adjustment and locking of the dog upon the head by a simple and inexpensive means, not interfering with or impairing the direct sliding movement of the dog in the head when adjusting the dog; and, finally, to have the parts necessary for these adjustments so constructed as to render them capable of each being cast in one piece, and thereby reduce the labor and cheapen the cost of producing them. I attain these objects by devices illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of a mill-dog embodying my invention when in operation; Fig. 2, a section through the center of length of the dog, showing the engagement of the head with the rack-bar and dog-bar; Fig. 3, a section taken through the center of length of the rack-bar, with the spring-actuated stud of the dog released from the head; Fig. 4, a detail of the lever, with the bearings and rack indicated in dotted lines to show the disengagement of the lever from the rack; Fig. 5, a perspective of the head and lever with the dog-bar removed; and Fig. 6, a longitudinal section showing the lever locked to the head.

Similar letters of reference indicate the same parts in the several figures of the drawings.

A represents a portion of a saw-mill carriage, supporting a standard, B, transversely adjustable along the carriage by the usual means, and in turn supporting a vertical rack-bar, C, rigidly secured in place and extending from near the base of to some distance above the standard.

Overlapping and guided upon the rack-bar, as shown in Fig. 2, is a sliding head, B, slotted near its lower end to form parallel ears or lugs correspondingly recessed upon their opposing inner faces to form an upper bearing, *a*, lower bearing, *b*, and outer bearing, *c*, for a segment ratchet-lever, E, adapted to be engaged with the rack-bar to raise and lower the head, and to be locked to the same by a stud, *d*, forming a part of the lever. These several bearings are so arranged with reference to one another as to present the appearance of a trefoil, and they provide for shifting the fulcrum of the lever, enabling the lever to be released from or engaged with or locked to the rack, as will be presently explained. Vertically-sliding head D is provided near its upper end with a transverse T-shaped groove, forming a guideway for the dog-bar F, consisting of a flat bar provided with a tooth extending downwardly at a right angle and adapted to pierce and clamp the log or timber in the usual manner to the carriage and against the upright. The head is provided with a row of perforations in horizontal series, one of which is indicated at *e*, to receive a headed stop, G, passing through a perforation in the dog to lock the dog to the head. These perforations are connected by a groove, (shown at *f* in Fig. 5,) not extending to the sides of the head, but only connecting the series of perforations, to permit the stop to be released from the perforations and the dog shifted without a liability of accidentally shoving it entirely out of the head, or so far as to carry the stop beyond the limit of the perforations.

Secured on the face and toward the forward end of the dog by a screw, *g*, is a straight spring, *h*, the opposite end of which is slotted to embrace and hold the stop in and prevent accidental detachment from the perforation receiving it when the dog is adjusted. Slot-

ting the end of the spring not only renders it easy of attachment but enables it to have a longitudinal play and not pinch the stop and cause the stop to bind in the perforation, as would be the case if the spring were perforated to fit closely around the stop.

Passing through the spring intermediate its ends, and entering the dog, is a screw, *i*, which serves not only to limit the stroke to prevent such bending as would destroy the tension or break the spring, but to limit the play of the stop, so that it may not be lifted clear of the groove connecting the perforations in the head.

In operation the dog-bar is adjusted in the head by taking hold of and drawing out the stop, then pushing against the stop to slide the dog-bar in the head, the two movements being made with one hand and without the necessity of taking hold of the dog-bar. After the dog-bar is adjusted, with its point resting on the timber or log, and the operating-lever raised, as shown in Fig. 1, with its bearing at *b*, as shown in Fig. 3, the end of the lever is depressed, which results in drawing down the head and forcing the dog-bar in the timber to hold it in place. When the dog-bar is once set the lever is released from the rack-bar by slightly raising and shifting its fulcrum to bearing *c*, when, by raising the segment to shift the fulcrum of the lever to the bearing *a*, and at the same time engaging the segment with the rack-bar, the stud *d* will pass inside the head and lock the lever to the head, as clearly shown in Fig. 6, holding the dog rigidly in the timber until the locking-stud is released; but the principal object of this stud is to lock the head to the rack above the operative position of the head and dog-bar and out of the way when shifting the log, and this may be done when the head is depressed by shifting the fulcrum of the lever to the bearing *c* to free it from the rack, then elevating the head and shifting the fulcrum to the upper bearing, then by holding the lever in the bearing and depressing the end of the lever until the stud *d* enters the slot of the head, as shown. This locking-stud not only serves the purpose just described, but, by its contact with the head when operating the lever, limits the downward stroke of the lever to prevent its accidental detachment from the rack when depressing the dog-bar. The trefoil-bearing provides for shifting the fulcrum of the lever to three different positions relative to the rack-bar, and is a simple and efficient means for enabling the lever to perform the functions above described, and for dispensing with numerous and complicated devices for attaining the same result. As shown, the handle of the lever is separated for convenience in casting and shipping; but of course it may be cast in one piece.

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

1. The combination, with a rack-bar and a sliding head provided with several bearings, of an operating-lever having a shifting fulcrum to co-operate with the said bearings, substantially as described.

2. In a saw-mill dog, the combination, with a sliding head provided with several distinct bearings, of an operating-lever the fulcrum of which can be set in either of said bearings, substantially as described.

3. In a saw-mill dog, the combination, with a sliding head, of an operating-lever provided with the rigid locking lug or projections engaging with said head to lock the lever, substantially as described.

4. In a saw-mill dog, the combination, with a sliding head provided with several bearings, of an operating-lever adapted to be set in either of said bearings, and provided with the rigid locking lug or projection engaging with said head to lock the lever, substantially as described.

5. In a saw-mill dog, the combination, with a rack-bar and a sliding head, of an operating-lever having a segment-gear to engage with said rack, and provided with the rigid locking lug or projection engaging with said head, substantially as described.

6. In a saw-mill dog, the combination, with a dog-bar provided with a single hole and a stop or set pin, of a sliding head having a series of perforations to receive said pin, substantially as described.

7. In a saw-mill dog, the combination, with a sliding head having a series of perforations and a groove or channel connecting the same, of an adjustable dog-bar provided with a single hole, a stop-pin, and a retaining spring to hold said pin in place.

JAMES LITTLE.

Witnesses:
WM. H. MILLER,
JOHN H. MADDOCK.