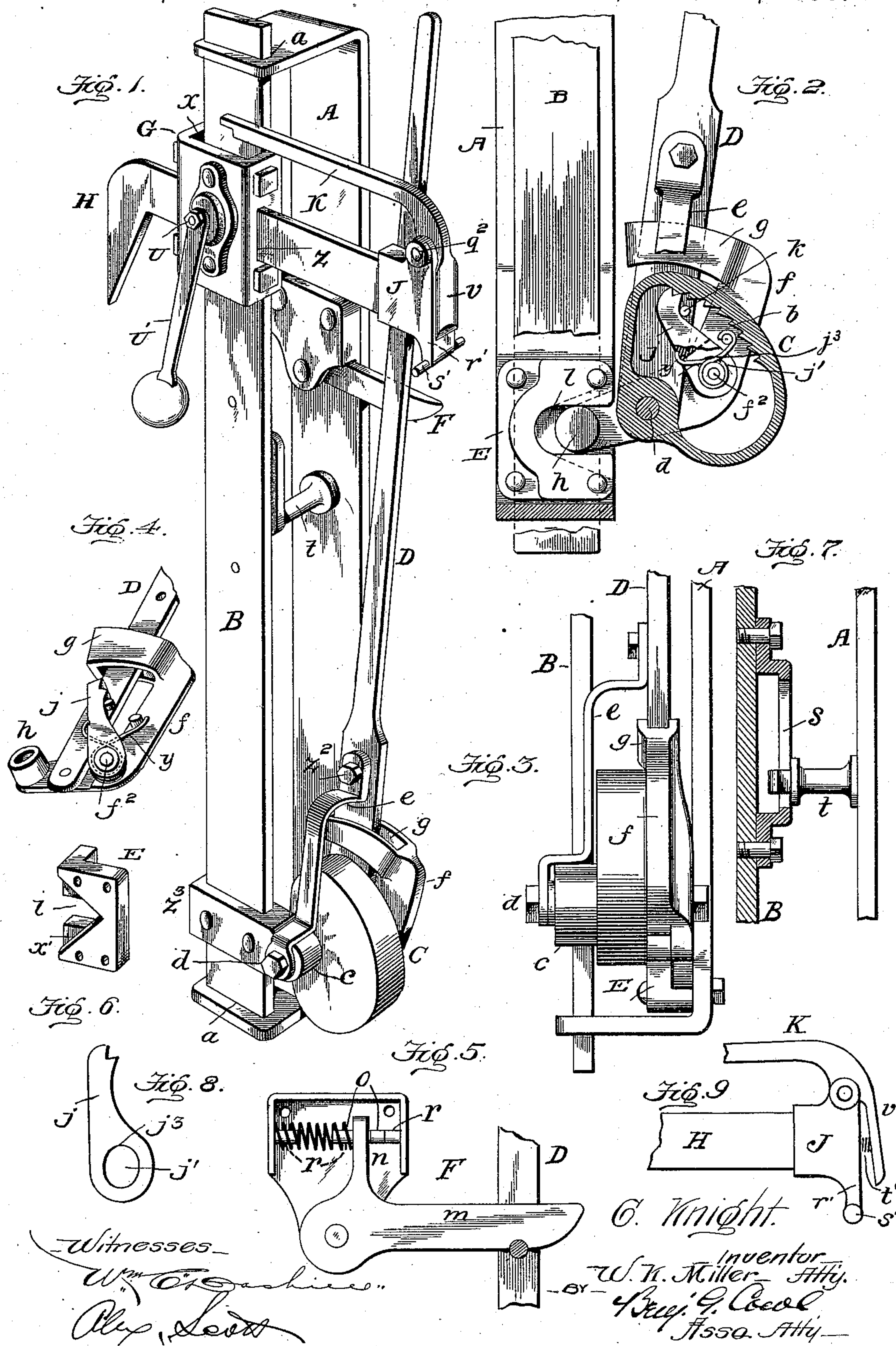


(No Model.)

C. KNIGHT.
SAWMILL DOG.

No. 548,832.

Patented Oct. 29, 1895.



UNITED STATES PATENT OFFICE.

CHARLES KNIGHT, OF CANTON, OHIO.

SAWMILL-DOG.

SPECIFICATION forming part of Letters Patent No. 548,832, dated October 29, 1895.

Application filed December 3, 1894. Serial No. 530,630. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KNIGHT, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Sawmill-Dogs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in sawmill-dogs; and it consists of features of construction and combination of parts, as will be hereinafter described and claimed.

Figure 1 of the accompanying drawings is a view in perspective illustrating my invention. Fig. 2 is a sectional side view illustrating the lower end portion of the device. Fig. 3 is an edge view of the lower part of the device. Fig. 4 illustrates in perspective the lower end of the actuating-lever and spring-pawl. Fig. 5 is a side view of the lever-holding latch. Fig. 6 is a perspective view of a fulcrum-block. Fig. 7 is a section through the middle portion of the device, showing the manner of securing the vertical bars from spreading. Fig. 8 is a side view of the pawl. Fig. 9 illustrates a latch connected with the dog.

A represents a vertical wrought-metal bar, which is secured to the knee portion of the mill and forms a support for the movable parts of the dogs. The end portions of the bar A are bent at right angles to the body and have provided therein elongated transverse apertures *a*, in which the bar B is secured in a sliding relation. At the lower end portion of the bar B is secured a circular rack C, having internal teeth *b* and a raised boss or sleeve *c*, in which is secured the bolt *d*, to which a prong *e* of the actuating-lever D is pivotally secured.

The actuating-lever is composed of three parts, the handle D, the end portion or foot-piece *f*, pivotally secured to the lower end of the handle by the bolt *d*, and the branch or prong *e*, secured to the handle above the part *f* by a bolt or rivet *z*² and at the lower end by said bolt *d*, which is passed through the boss *c* of the rack, the said rack being secured to the vertical bar B by a clip *z*³. Thus the bolt *d* forms a pivotal support for the parts D, *e*, and *f*. At the upper end of that portion of the lever designated as *f* is provided an

elongated loop *g* and at the lower end a side projected stud *h*. At the side of the end piece *f* is pivotally secured a spring-pawl *j*, as shown in Fig. 2, one end of the spring resting on the back of the pawl, the other on a pin on the side of piece *f*, which serves to hold the pawl in engagement with the rack-teeth *b*, and to release or draw the pawl out of engagement with the teeth a pin *k* is placed in the lever D, that will, when the lever is on the back or reverse movement, engage the pawl and draw it from the rack. At the lower end portion of the supporting-bar A is secured a fulcrum-block E, having an elongated U-shaped slot *l*, adapted to receive the stud *h* at the end of the lever-piece *f*.

To place the lever D in operative position, the stud *h* is passed into the U-shaped slot *l* and the lower end of the lever D and the arm portion of the piece *f* in the space *x'* between slot *l* and the side of the bar A.

To secure the lever-handle D in a vertical and inoperative position, a latch, as F, is provided with a notched horizontal latch-bar *m*, having a vertically-inclined spring-bar *n*, provided with lateral studs *o* to support the ends of the spring *p*, and inclosing case *q*, having inwardly-projected studs *r*, that register with the studs *o*, by which the spring *p* is held in position. It will be noticed that the latch *m* may be placed or turned from either side to form a latch for either a right or left hand dog.

To prevent the bars A and B from spreading, a tie, as shown in Fig. 6, is provided, consisting of a plate *q*², having an elongated aperture *s* therein secured to the bar B, and a T-headed bolt *t*, secured in the bar A, the head of the bolt to rest across the aperture *s*, which will allow the bar B to be moved vertically and at the same time be held parallel with the bar A.

G indicates the dog-head, having internal cross-grooves *x* and *z* to receive the horizontal dog H and the vertical bar B, which extend through the head, as shown. The inner end of the dog H is provided with a head J, having upwardly-projecting lugs *q*², to which a latch K is pivoted, and a downwardly-projected portion *r'*, terminating in a handle *s'*. The head J will arrest the outward movement of the dog at its limit, and when the dog

is drawn back the latch K will drop down against the side of the head, in which position it will be held by a spring t' . (See Fig. 9.) The head G, with the dog H, is held against vertical movement independent of the bar B by means of a screw-clamp U, provided with an arm U' , by which the screw may be turned so as to clamp the head G to the bar B. The latch K is provided with a handle or finger piece v , which is turned down at the end of the dog, and a spring t' , which serves to keep the latch closed against the head G, and to move the dog forward the workman presses against the finger-piece, thus raising the latch from the head, and also moving the dog. The head G may be moved vertically on the bar B, or it may be moved with said bar when secured thereto by the screw-clamp.

In operation the dog is dropped on the log, the bit of the dog penetrating a distance. The dog is then secured to the bar B, as stated, and to further drive or draw the bit into the log the bar B is drawn down by the lever D, and to lock the bar B down the pawl j will engage the rack-teeth b in the rack C. To slightly release the dog H, and thereby the pressure of the knee on the slides, the aperture j' in the pawl j is slightly elongated longitudinally therewith, so that when the pressure of the lever D is removed from the part f , the part f will, from the relaxation of the parts and by the action of the spring y against the pivotal pin f^2 , be slightly raised, and said pin will be moved to the upper end j^3 of the aperture j' in the pawl j , thereby relaxing slightly the grip on the log and the pressure of the knee, and to release the parts the lever D is brought against the upper end of the slot g . In so doing the pin k in lever D will draw the pawl out of engagement with the rack, thus doing away with a lever-handle and link connection with the pawl, it being operated by the spring y and the lever D. When the lever is moved to draw down the bar B, the pin k is moved away from the pawl, leaving it free to be thrown by the spring into engagement with the rack. To lock the bar B down, the reverse movement of the pin k will lift the pawl out of the rack before the lever strikes the upper end of the groove g to raise the bar B and the dog.

Having thus fully described the nature and the object of my invention, what I claim is—

1. The combination, in a saw-mill dog, of a stationary bar, A, a vertically movable bar, B, a head which is movable on bar, B, a dog, loosely mounted in said head, a latch pivotally mounted on said dog and provided with a finger piece, v , which is turned down at one end of the dog, and a spring located between said finger piece and the dog, substantially as described for the purposes set forth.

2. The combination with stationary bar, A, and movable bar, B, of a curved rack carried by bar, B, a lever comprising the parts, D f , and pin, k , and a spring pawl, and a fulcrum

block in position to engage a foot piece of said lever, substantially as and for the purposes described.

3. The combination, in a saw-mill dog, of a curved rack, a lever pivotally connected therewith, a pawl and a spring adapted to keep said pawl in connection with said rack when said lever is moved in one direction, and a fixed pin on said lever adapted to move said pawl from said rack when said lever is moved in the opposite direction, substantially as and for the purposes described.

4. In a saw-mill dog, the combination with the bars, A and B, and dog, H, of a rack, a lever provided with a foot piece, a spring pawl connected with said foot piece and adapted to connect with said rack, and a pin carried by said lever and adapted to disconnect said pawl from said rack, whereby said pawl is in connection with said rack when the lever is moved in one direction and is disconnected when said lever is moved in the opposite direction, substantially as described for the purpose set forth.

5. The combination, in a saw-mill dog, of the bars, A and B, and rack, C, a fulcrum, E, and a lever comprising a handle portion, D, and a foot piece, f , provided with a stud, h , a spring pawl pivotally secured to the foot piece to be carried into engagement with the rack on the downward movement of the lever and to be released by the upward movement of said lever, substantially as described for the purposes set forth.

6. The combination in a saw mill dog, of a stationary supporting bar A, a slidable bar B, dog H and a fulcrum secured to the bar A, a rack C, secured to the bar B, and an actuating lever pivotally secured to the bar B, comprising a handle D, and a foot piece f , having therein an elongated aperture g , stud h , pawl j , pivotally secured to the foot piece, the handle portion pivotally secured to the foot, to swing in the slot in advance of the movement of the foot, substantially as described and for the purpose set forth.

7. The combination with the bars A, B, and actuating lever of the latch F, comprising a latch bar m , having a spring bar n , having laterally projected stud pins o , the inclosing case having inwardly projected stud pins r , and the spring p , substantially as described and for the purpose set forth.

8. The combination in a saw mill dog as herein described, of the lever D, the foot piece f , rack C, and spring pawl j , having an elongated aperture, substantially as described and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 10th day of November, A. D. 1894.

CHARLES KNIGHT.

Witnesses:

W. K. MILLER,
CHAS. R. MILLER.