E. H. Hull,

2. Sheets, Sheet. 1.

Head Block.

No. 101,465. Patented Apr. 5. 1870.

Fig. 1.

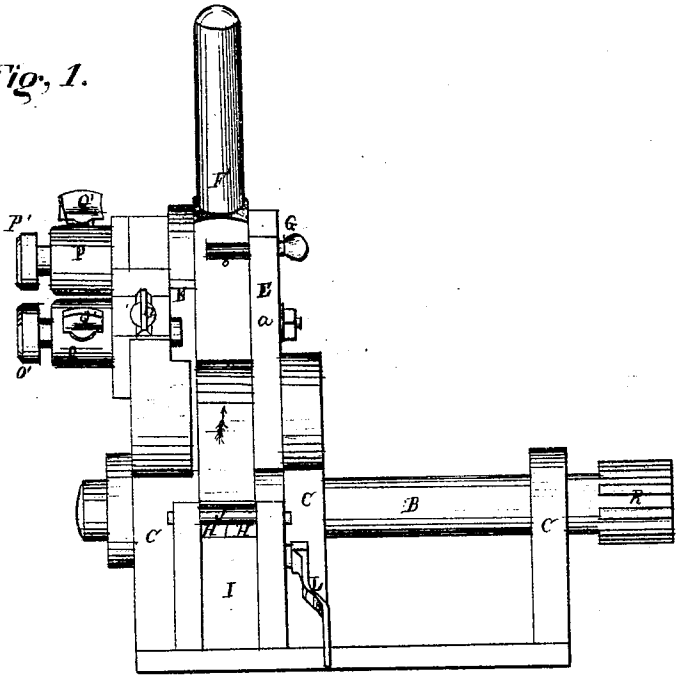
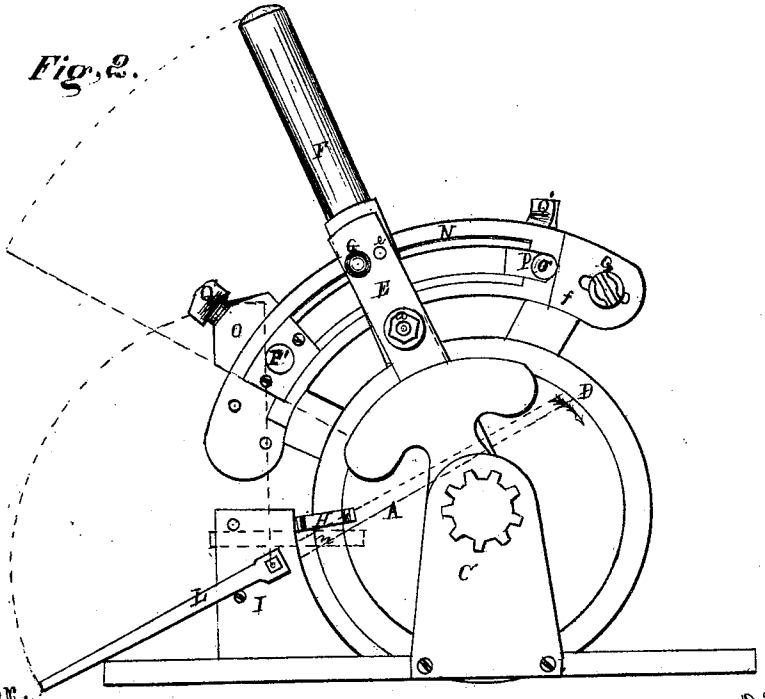


Fig. 2.



Witnesses.

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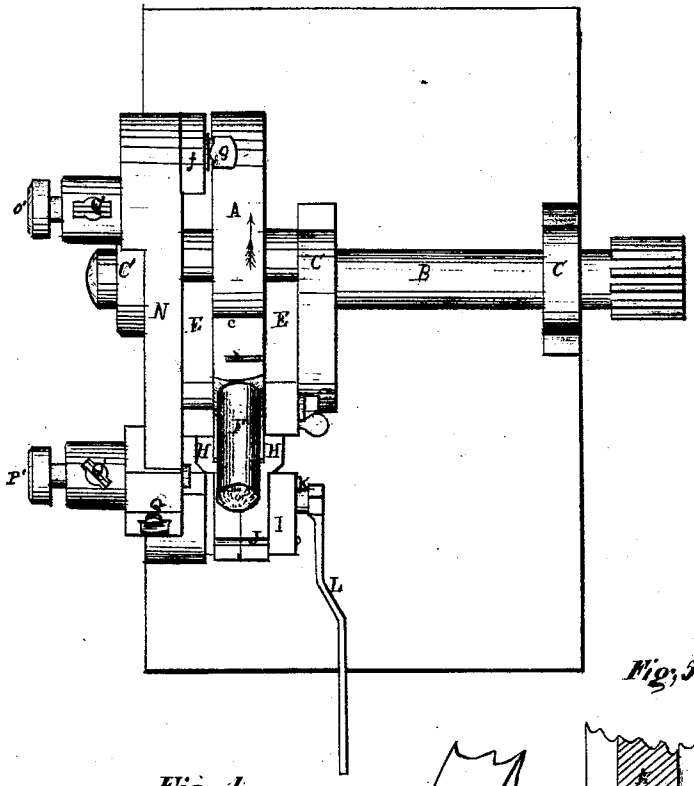
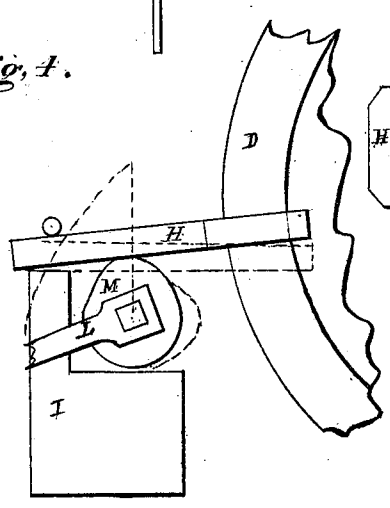
No. 101,465. Patented Apr. 5. 1870.

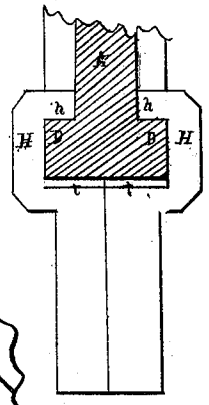
Fig, 3



Fig, 4.



Fig, 5.



Inventor.
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UNITED STATES PATENT OFFICE.

ELIAS H. HULL, OF WARREN, OHIO.

IMPROVEMENT IN SAW-MILLS.

Specification forming part of Letters Patent No. **101,465**, dated April 5, 1870.

To all whom it may concern:

Be it known that I, ELIAS H. HULL, of Warren, in the county of Trumbull and State of Ohio, have invented a certain new and Improved Saw-Mill Log-Set; and I do hereby declare that the following is a full, clear, and complete description of the same, reference being had to the accompanying drawings, making part of this specification, in which drawings—

Figure 1 is a side view of the set; Fig. 2, a front view; Fig. 3, a view of the top; Figs. 4 and 5, detached sections.

Like letters of reference refer to like parts in the several views.

Objective.

This invention has for its object the setting of a log on the carriage of a saw-mill by means of a wheel operated by a lever in contact with the periphery of said wheel, as hereinafter more fully set forth.

It also relates to certain clamps made to engage the flanges of the above-said wheel, whereby it is held securely from slipping, in the manner as will be hereinafter more fully described.

Description.

In Fig. 2, A represents the set-wheel secured to one end of the shaft B, Fig. 1, paralleled in the standard C. Said wheel has a smooth uniform surface, and from each side project peripheral flanges D, the purpose of which will presently be shown.

E is a pair of arms, attached loosely to the shaft, one on each side of the wheel, as shown in Fig. 2. Between the upper ends of said arms is pivoted a lever, F, at the point *a*, so that the lower end, the minor arm thereof, is in close relation to the face of the wheel, but not in contact therewith, when the lever is in exact radial line with the wheel, or in a right line with the arms E.

It will be obvious that the lever thus pivoted will have a vibratory movement in direction of the rotary movement of the wheel.

The degree of vibration is governed by a pin, G, penetrating the upper end of the arm and entering the side of the lever, a groove, *b*, Fig. 3, being cut in the side thereof for its admission.

It will be observed that there is a groove on each side of the lever, immediately opposite each other, and a hole in the arm, for the admission of the pin referred to, corresponding to each groove.

H, Fig. 2, (a detached view of which is shown in Fig. 5,) is a pair of hook-clamps, the outer end of which is secured loosely in and upon the standard I by means of a pin or bolt, J, under which the ends are confined in contact with the standard.

The inner end of said clamps is formed into a right-angled hook, whereby it is made to embrace the inner side of the flange D of the wheel, as shown in Fig. 5, in which it will be seen that the face sides and inner edge or side of the peripheral flange are inclosed by the clamp.

K, Fig. 2, is a shaft, journaled in the standard, to the outer end of which is fixed a lever, L, whereas to the middle thereof, immediately under the clamps, is secured a cam, M, Fig. 4, whereby said clamps are raised upward, so as to clasp the flange of the wheel.

N, Fig. 2, is a segment concentric with the wheel. In the slot of said segment is fitted sliding stops O P, which may be adjusted in any part of the segment by the set-screws Q. Said stops are for the purpose of gaging the thickness of the boards, a scale of thickness being marked upon its face, by which the setting of the log is determined in view of the thickness of the board to be cut therefrom. Each stop is provided with a movable pin, O′ P′, against which the arms E rest in gaging the thickness of the lumber to be sawed. These pins are held in place by the screws Q′.

By drawing back the said pins O′ P′, so as not to arrest the sweep of the arms E, much thicker boards or planks may be gaged and cut. The adjustable stop *f* is also arranged for this purpose.

Operation.

The practical operation of this set is as follows: This set is so located that the pinion-arm, Fig. 1, shall engage the pinion of the screw operating the dogs for moving the log on the carriage. If it is required to turn the wheel in the direction of the arrow, and therefore move the log in a corresponding direction, the operator grasps the end of the lever F and

pushes it from him, the result of which will be to throw the upper end of the lever forward from a right line with the arms E, thereby bringing the lower edge of the lever *c*, Fig. 1, down upon the face of the wheel and forced in contact therewith, and push around the wheel. The relative position of the lever when thus actuating is shown in Fig. 2, in which it will be seen that the lever is slightly deflected from a right line with the arms. Now, on a reverse movement of the lever, it will move back without contact with the wheel, the pin G preventing it from vibrating beyond the arms E. On again pushing the lever forward, the lower end thereof will engage the wheel, as before, and rotate it, and again be disengaged on putting it back. In this manner the wheel can be moved around, more or less, as the thickness of the boards to be sawed may require, the distance being gaged by the scale and controlled by the stops.

When required to move the wheel in the reverse direction of that above indicated, the pin G is removed and inserted in the hole *e*, thereby preventing the lever from vibrating beyond the arms in that direction, but allowing it to vibrate beyond in the opposite direction, or the reverse of that above described. Now, on operating the lever, the wheel will be made to turn thereby in the same way, but in the opposite direction. To prevent the wheel from slipping after being turned to the required distance, and during the returning of the lever for repeating the forward movement of the wheel, is the purpose of the clamp H, above described, which, when in a horizontal position, as indicated by the dotted lines *n*, is below a horizontal radial line of the wheel, so that when the wheel rotates in the direction of the arrow the clamp will allow the wheel to rotate without cramping, as the tendency of the clamp is to move upward with the wheel; but, on reversing the movement, the tendency of the clamp will be with the reverse direction of the wheel downward, the result of which will be to draw the shoulders *t* of the clamp hard upon the face of the wheel and the rectangular hook *h* against the inner side of the flanges, thereby locking the wheel in the most secure manner, so that there can be no reaction of the wheel in consequence of drawing back the lever to repeat the forward rotation of the wheel, or from any other cause.

It will be obvious that by this device the log on the carriage can be easily and readily set to any degree that may be desired for the thickness of the stuff to be sawed; and when once set it is securely held from reaction by the clamp; hence no displacement can occur to the log while being sawed.

Claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The clamp or clamps H, cam M, and wheel A, constructed and arranged in the manner substantially as and for the purpose set forth.

2. The arrangement of the pivoted arms E upon the shaft, lever F, and stay-pin G, in combination with the wheel A and clamp H, substantially as and for the purpose set forth.

3. The stops O P, constructed as described, and segment N, in combination with the arms E and lever F, substantially as and for the purpose set forth.

E. H. HULL.

Witnesses:
W. H. BURRIDGE,
J. H. BURRIDGE.