(No Model.) 2 Sheets—Sheet 1.

W. P. SHERMAN.

LOG TURNER.

No. 386,853. Patented July 31, 1888.

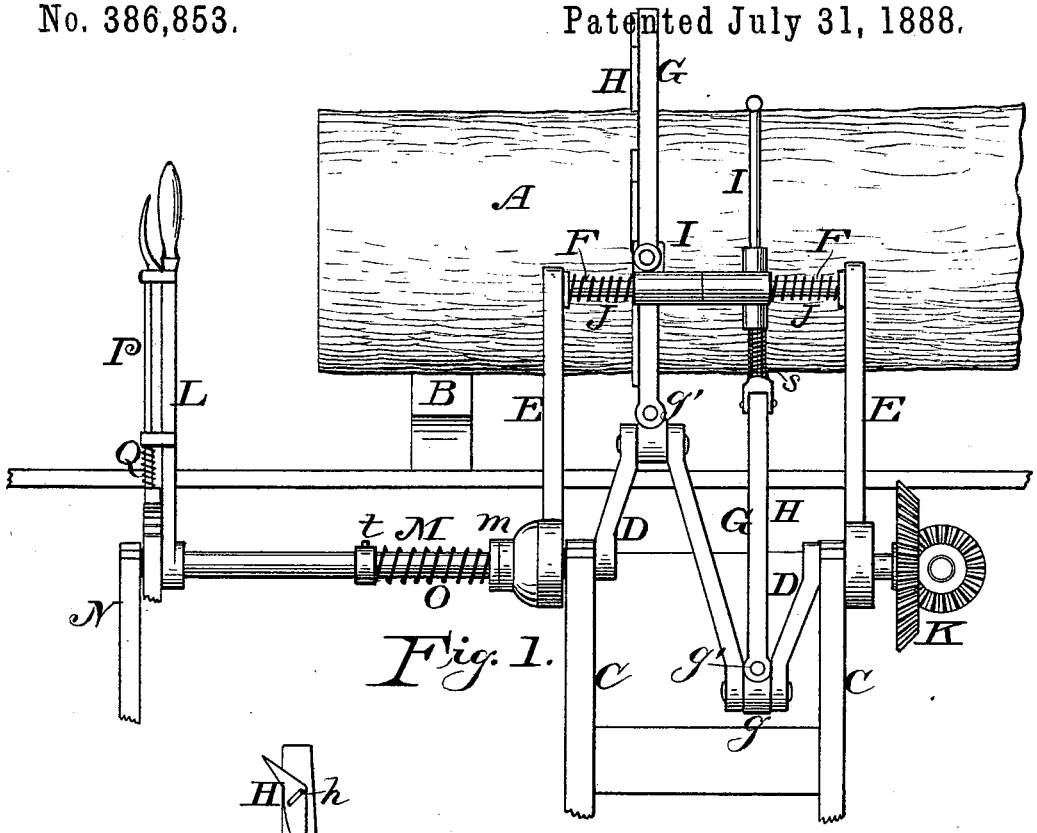

Fig. 1.

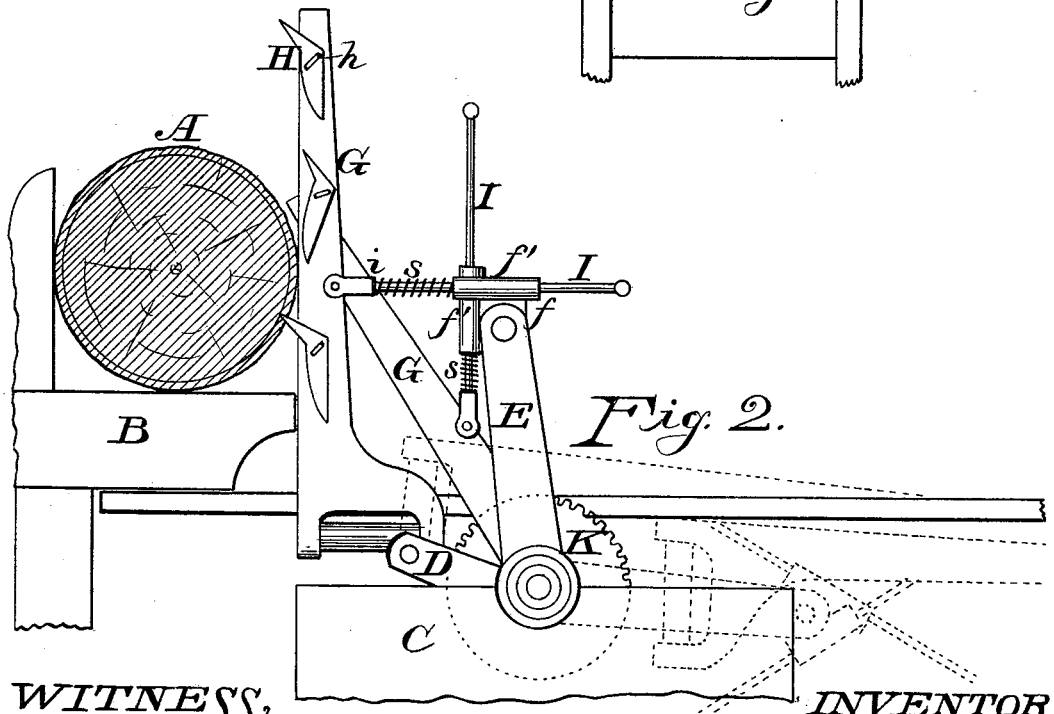

Fig. 2.

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INVENTOR
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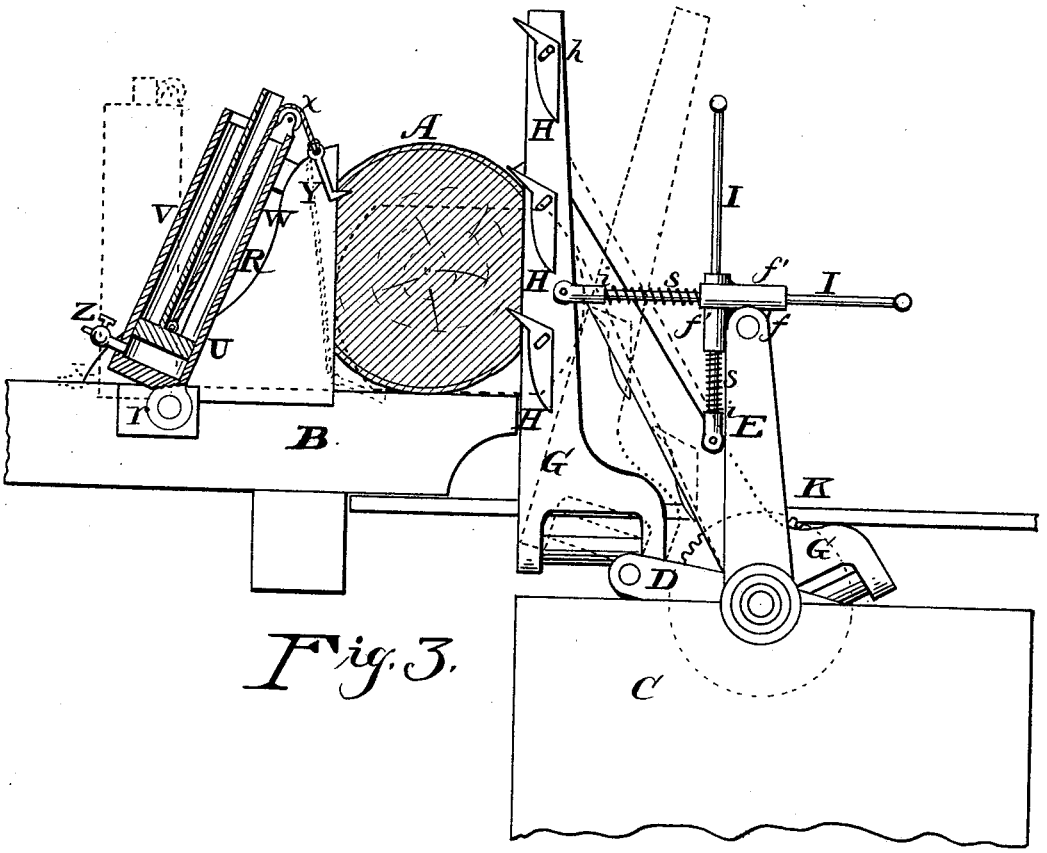

Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM P. SHERMAN, OF WILSON'S MILLS, OHIO.

LOG-TURNER.

SPECIFICATION forming part of Letters Patent No. 386,853, dated July 31, 1888.

Application filed November 25, 1887. Serial No. 256,174. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. SHERMAN, a citizen of the United States, residing at Wilson's Mills, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Log-Turners, of which the following is a specification.

This invention relates to improvements in saw-mills in which it is necessary to turn the log over on its side during the process of sawing the log up into boards; and the objects of my improvements are, first, to provide a means of turning the log by power derived from the engine, and, second, to provide a means of turning the log easily and prevent the log from falling with force, and thereby relieving the carriage of the concussion and jarring incident to the labor of turning heavy logs. I attain these objects by the mechanisms illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation showing the turning device as it appears in front of a log, ready for operation. Fig. 2 is a side elevation of the same, and Fig. 3 is a side elevation showing the turning device and the device for easing down the log.

A represents a log, and B a part of the carriage upon which a log is carried in connection with a saw-mill. C C are supports forming part of a frame, which I secure to any suitable part of the floor or frame-work of the mill in front of the carriage.

D is a crank-shaft having its bearings in the said supports C C. The cranks may be two or more in number.

E is a frame, consisting of two upright bars journaled onto the crank-shaft outside of the supports C C, and having round cross-bar F. To each of the cranks are attached levers G G by means of sleeves *g g*, which have transverse sleeves *g' g'*, to the ends of which the lower ends of the said levers G G are journaled, said levers having their lower ends made in the form of a yoke. The object of thus attaching these levers is to allow of some lateral motion, if need be, while turning the log. Upon the levers G G are placed peculiar pointed dogs H H, having slots *h h*, through which pins pass in securing them to the sides of the levers. This is for giving them freedom for self-adjustment in catching into the log. Pins *h'* are fixed in the sides of the levers to prevent the dogs swinging backward.

Upon the cross-bar F are placed sleeves *f f*, having transverse sleeves *f' f'*, which are adjustably held at the middle part of the bar by means of springs J J, placed upon the bar at each side of the said sleeves. Through the said sleeves *f' f'* are placed connecting-rods I I, pivotally attached to the levers G G. The connecting-rods have shoulders *i i*, and between the said shoulders and the sleeves are placed springs *s s*.

Upon the shaft D is placed a gear-wheel, K, to which power may be applied for operating the said crank-shaft.

At the opposite side of the frame E is attached a shaft, M, by being inserted in a collar, *m*, on the said frame, and having its other end supported in a suitable bearing, N, and said lever is provided with a hand-lever, L, for turning the shaft, and through it for tilting the frame E and levers G G over, as seen in dotted lines in Fig. 2, when not required for use. On the said shaft M is a collar, *t*, and between it and the collar *m* is placed a spiral spring, O, one end of which is secured to the collar *t* and the other to the collar *m*. The tension of this spring serves to allow the frame E to have some play back and forth when the log is being turned. To the lever L is attached a latch mechanism, P, working in conjunction with a rack, Q, for holding the lever in the upright position. This constitutes the first part of my invention.

The second part of my invention is described as follows: To that part of the carriage called the "knees," against which the log rests, is attached the mechanism for easing down the log when turned.

R is a cylinder, closed at the bottom and provided with a lug, *r*, having an eye by which it is journaled to the frame-work of the carriage, by means of which it may be tilted over toward the log. In the said cylinder is a piston, U, having a tubular and slotted piston-rod, V, playing through a cap or cross-piece in the top end of the cylinder.

W is a cord or chain attached to the center of the piston, reaching out and running over a

pulley, X, fixed at the top end of the cylinder, and provided with a hook, Y. In the cylinder, near the bottom, is provided a stop-cock, Z.

The operations of these improvements are as follows: As before stated, when the turning device is not required for use for turning a log, it is turned down to be out of the way for rolling and loading a log onto the carriage. When wanted, however, it is turned to the upright position, bringing the bars G G to bear against the front side of the log, as shown. To turn the log, power is applied to the gear K, the crank-shaft is rotated, and the levers G G are given a reciprocating motion, and the dogs H H catch into the log in the upward movements of said levers G G, and lift the front side of the log, and thus roll it over on the carriage. When the log has been partly sawed from, as seen in Fig. 3, the cylinder R is tilted over and the hook Y is caught into the log. Now, as the log is turned it draws on the cord and the piston is drawn upward, a vacuum is created below the piston, and this holds the log from falling, which is, however, let down easily by opening the cock Z and admitting air gradually into the cylinder. By this means the turning of a log is greatly facilitated and easily and safely performed.

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

1. The combination of a crank-shaft, as D, journaled to suitable supporting-frame, C C, levers G G, connected to and operated by said crank-shaft, and provided with self-adjusting dogs H H, the tilting frame E, journaled onto said crank-shaft, and having on its cross-bar F the sleeves *f f'*, carrying the connecting-rods I I, connecting the levers G G with the tilting frame E, and provided with the springs *s s*, and the extension-shaft M, having collar *t* and spring O, journaled in bearing N, and provided with the hand-lever L, having latch mechanism P, all constructed and arranged to operate substantially as and for the purpose set forth.

2. The combination, with the carriage of a saw-mill, of the cylinder R, having cock Z, and journaled to the carriage-frame, and having piston U, provided with tubular rod V, playing through top of cylinder, and having the cord or chain W, playing over a pulley, X, and having the hook Y, for catching into the log, all arranged for lowering the log without concussion, substantially as described.

WILLIAM P. SHERMAN.

Witnesses:
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