J. H. DRISCOLL & L. BALCOM.

Log-Turner.

No. 202,712. Patented April 23, 1878.

Fig. 5.

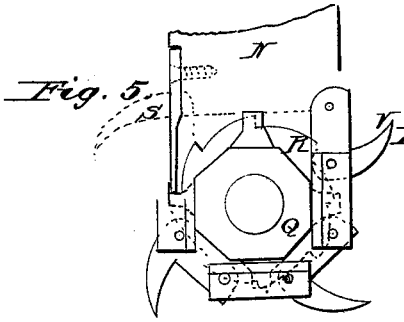


Fig. 1.

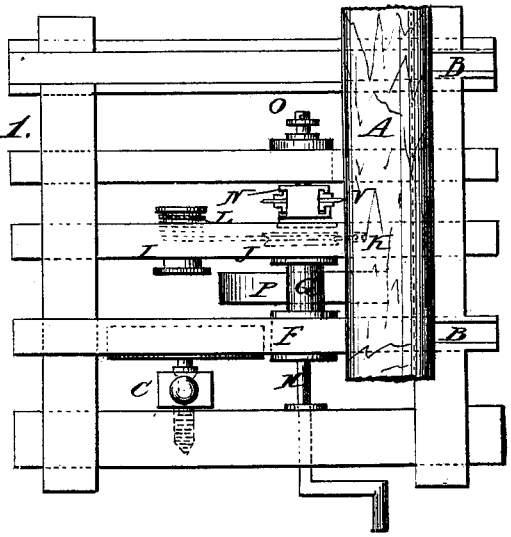


Fig. 4.

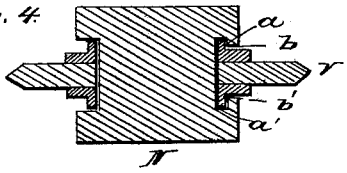


Fig. 3.

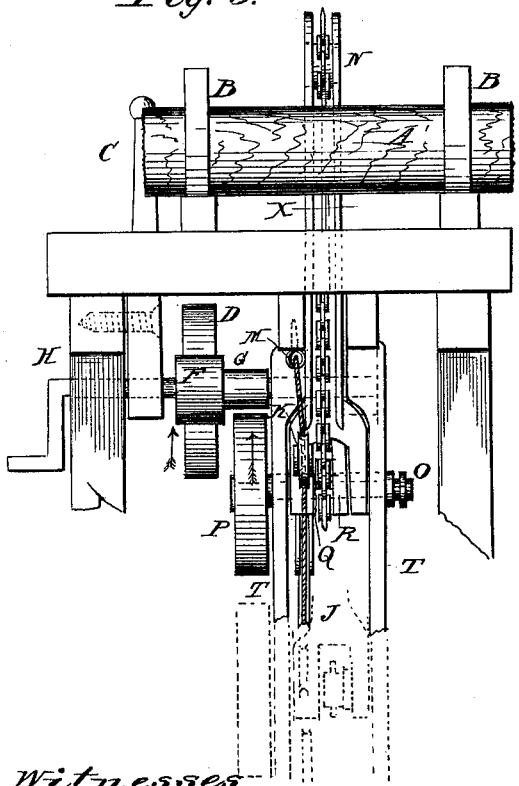
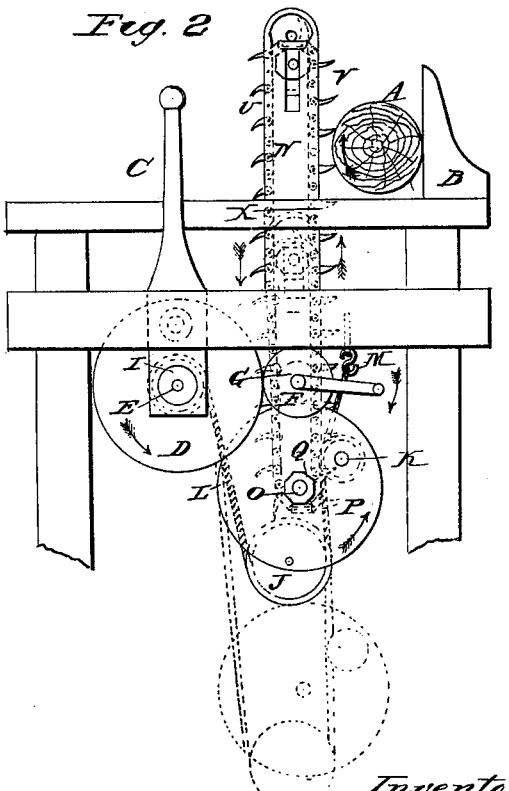


Fig. 2



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UNITED STATES PATENT OFFICE.

JAMES H. DRISCOLL AND LUKE BALCOM, OF OCONTO, WISCONSIN.

IMPROVEMENT IN LOG-TURNERS.

Specification forming part of Letters Patent No. **202,712**, dated April 23, 1878; application filed January 19, 1878.

To all whom it may concern:

Be it known that we, JAMES H. DRISCOLL and LUKE BALCOM, of the city of Oconto, in the county of Oconto and State of Wisconsin, have invented a new and useful Improvement in Log-Turners, of which the following is a specification:

Heretofore log-turners have been provided with a toothed bar, which, in its passage up, the teeth coming in contact with the log, causes it to turn. It is objectionable, as it often occurs that the bar will pass up the total length of its stroke, and the log will not be turned the required distance, in which case it becomes necessary to either dog the log or hold it by some other device until the bar descends to its position to repeat the operation, and in some cases it being necessary to repeat the operation three or four times in order to turn the log the required distance, necessarily causing delay.

The object of our invention is to provide a machine that, when once it begins to operate upon a log, will cause it to revolve continually until brought to the desired position.

The invention consists of a grooved bar and an endless toothed chain, with tongues on its sides running in grooves in the bar, in connection with suitable mechanism for driving the chain.

In the accompanying drawings, in which similar letters indicate like parts, Figure 1 is a plan. Fig. 2 is an end elevation, and Fig. 3 a front elevation, showing our invention. Fig. 4 is a cross-section of the grooved bar and chain through X in Figs. 2 and 3; and Fig. 5 is a side view of chain-pinions, one at top and one at bottom of the grooved bar.

A is a log resting against the knees B of the head-blocks. C is a lever, that may be located at any desired point for operating the device. D is a friction-pulley upon a shaft, E. F and G are friction-pulleys of different diameters upon the shaft H, said shafts E and H being mounted in suitable bearings. I is a spool upon the shaft E. J is a large sheave, suitably attached to the lower extremity of the grooved bar N; and K is a sheave located upon the front side of the said bar N at any point desired above the shaft O. L is a rope or chain, one end of which is fastened by any suitable device at M, said rope or chain passing over sheave K and under sheave J, the other end being fastened at one end of spool I upon the shaft E. N is a bar, made of any desired material, and made with a suitable fork at each end to receive the chain-pinions. It is provided at the top with a suitable device for tightening the chain U. It is also provided at its lower end with a projection on each side, that work in the slides T T, Fig. 3. Said bar is also provided with grooves running part or the whole of its length, as shown at *a a'* in cross-section, Fig. 4. O is a shaft that passes through a bearing in each of the two sides of the lower part of bar N, upon which is carried a friction-pulley, P. (See Fig. 3.) It also carries the chain-pinion Q and ratchet-wheel R between the fork on the lower end of said bar N; Figs. 3 and 5. S is a pawl, that is attached to bar and engages with the teeth upon the said wheel R, Fig. 5. U is an endless chain provided with teeth at suitable distances along its length. It is also provided with tongues *b b'*, Fig. 4, on its two sides, that slide in the grooves *a a'* in the bar N, holding the teeth V firmly to their work. The sheave K runs up on front side of chain L, holding said chain L out of a straight line, the tension of the chain acting as a spring upon sheave K, it being above shaft O thereby holding the points of teeth V in close contact with log A. The device for fastening the chain at M being adjustable, it can be moved from or toward the bar N, increasing or decreasing the tension of chain on sheave K, as desired.

The operation of the device is as follows: The bar N being down, as shown by dotted lines in Figs. 2 and 3, (power is applied to the shaft H by belt or other gearing, motion being in the direction of the arrows,) the operator, desiring to turn the log A, moves the lever C, bringing the pulley D in contact with pulley F, rotating D, and causing the chain L to wind upon the spool I upon shaft E, said chain raising the bar N until the top of friction-pulley P is brought in contact with friction-pulley G upon shaft H, communicating motion, through P and its shaft O and chain-pinion Q, to chain U, moving it in the direction indicated by the arrows, the points of the teeth V engaging with the side of the log A, rotating it

toward the knee B until the desired position is obtained, when the log A is dogged, the pulley D is released, and the bar N descends to its former position, suitable provision being made for the bar N to adjust itself to the uneven surface of logs.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. The combination of the grooved bar, the endless toothed chain, and the chain-pulleys, one of which is adjustable upon the grooved bar, for the purpose of enabling slack upon the chain to be taken up, substantially as and for the purpose herein set forth.

2. The combination of the grooved bar N, the toothed chain, the shaft O, having ratchet-wheel R, and the pawls S, all arranged and operating substantially as herein described, for the purposes shown and specified.

3. The combination, in a log-turner, of an endless toothed chain, traveling upon a grooved bar, with friction mechanism, substantially as described, for raising or elevating the said grooved bar with its toothed chain, and additional friction mechanism for operating the said toothed chain, the grooved bar being, in the meantime, held to work by the first friction mechanism, pressure upon which is adjustable by a hand-lever, all constructed substantially as and for the purposes herein shown and specified.

4. In a log-turner, constructed substantially as herein described, the bar N, arranged to vibrate upon the shaft O at its lower end, the said shaft sliding in vertical guides T T, substantially as and for the purpose herein set forth.

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