

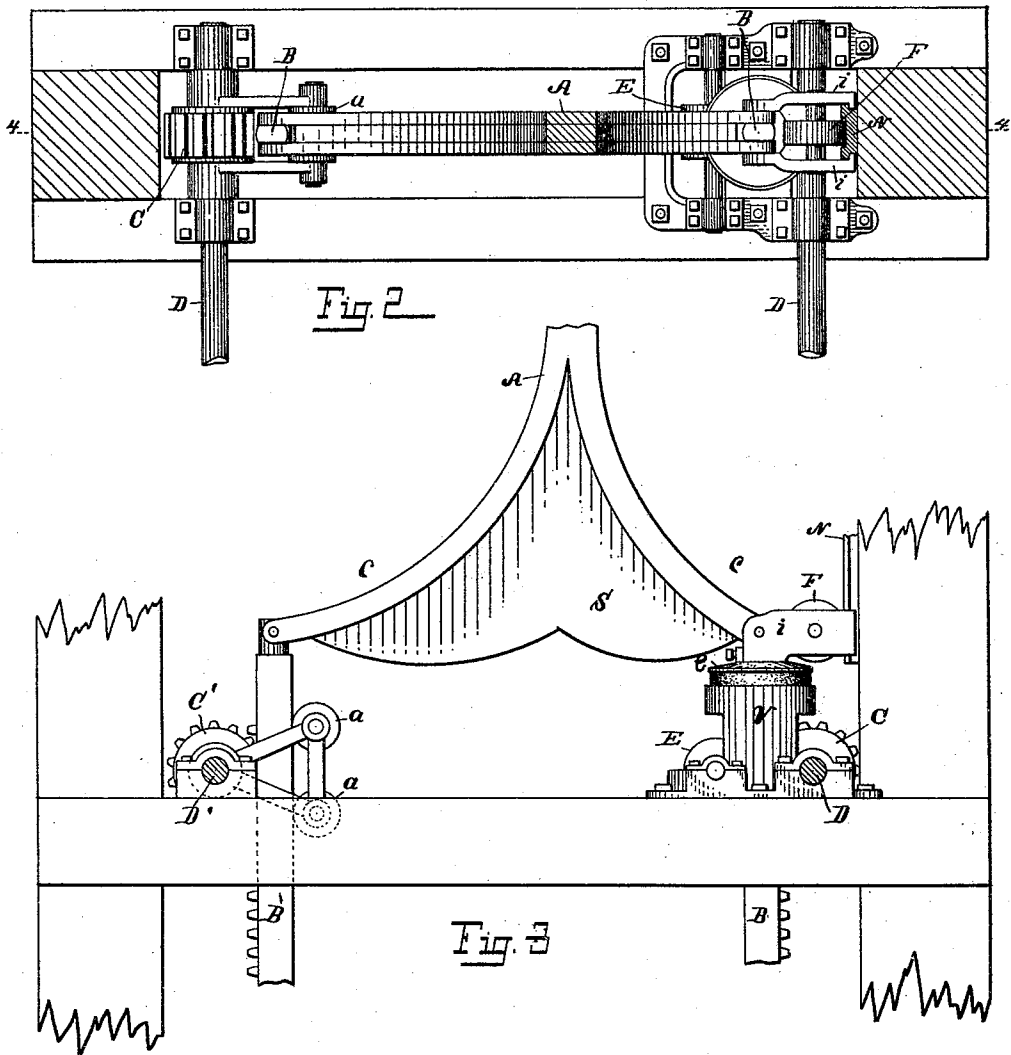
(No Model.)

2 Sheets—Sheet 2.

W. E. HILL.
LOG LOADER AND TURNER.

No. 484,013.

Patented Oct. 11, 1892.



Witnesses:
Walter S. Wood
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UNITED STATES PATENT OFFICE.

WILLIAM E. HILL, OF KALAMAZOO, MICHIGAN.

LOG LOADER AND TURNER.

SPECIFICATION forming part of Letters Patent No. 484,013, dated October 11, 1892.

Application filed February 15, 1892. Serial No. 421,662. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. HILL, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Log Loader and Turner, of which the following is a specification.

This invention relates to that class of machines in which a tooth-bar is made to operate in a manner to both load the log and turn the same on the carriage, and has for its object the construction below described and claimed, in which two racks are employed in connection with two power-shafts.

In the drawings forming a part of this specification, Figure 1 is an elevation of parts being in section near the longitudinal center of Fig. 2. Fig. 2 is a section, enlarged, on line 3 3 in Fig. 1, looking from a point above. Fig. 3 is an enlarged broken portion of Fig. 1.

Referring to the lettered parts of the drawings, A is the tooth-bar, forked at the lower end, so as to present two lateral arms *c c*. The space between these arms is filled with a metal plate S.

Mounted upon suitable framework is a power-shaft D, which power-shaft is provided with a pinion C. A vertically-playing rack B meshes with the pinion C, the upper end of said rack being pivotally attached to one of the arms *c* of the tooth-bar A.

Attached to the upper end of the rack B is a guide-bracket *i*, which has a sliding connection with a guide-plate N, which guide-plate is attached to one of the posts of the mill-frame. Said bracket is provided with a friction-roller F, which roller comes in contact with the guide-plate N. Back of the rack B and in contact therewith is a friction-roller E, which roller, in connection with the bracket *i* and its roller F, guides and steadies the rack B in its vertical movements.

The upper end of the rack B is provided with a cap *e*. The rack B plays through a cushion-support *v*, projecting upwardly from the bearing-support of the power-shaft D. Between this cap and cushion-support is a rubber cushion (or other suitable spring may be employed) for the purpose of cushioning the shock when the tooth-bar assumes its

down position after operating upon the log. This cushioning arrangement may or may not be employed, as found desirable.

At D' is a power-shaft bearing a pinion C', and having pivoted thereto a bracket bearing the friction-rollers *a a*.

The rack B' plays between the friction-rollers *a a* and the pinion C', the upper end of said rack being pivoted to the other lateral arm of the tooth-bar A, as in Figs. 1 and 3, the object of which construction will appear in the description of the operation, as follows:

In loading the log, power is applied to the power-shaft D', which throws the tooth-bar A and the rack B' to the position shown in dotted lines in Fig. 1. Power may be applied to the power-shaft D at the same time, if necessary; but the ordinary course, as here illustrated, is to throw the tooth-bar in the rear of the log by first applying power to the power-shaft D', then applying power to the power-shaft D, which action will raise the rack B, throwing the tooth-bar to an upright position and loading the log upon the carriage.

In turning the log, power is applied to both power-shafts at once, which action will cause the tooth-bar to move directly up and down, the teeth thereof in their upward movement of course engaging the side of the log and turning it on the carriage. In such a construction of course a single engine can be employed for imparting power to both shafts D and D', no engine being here shown.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a log loader and turner, the combination of a tooth-bar having the laterally-extending arms at the lower end, a vertically-playing rack pivotally attached to one of said arms, suitable guides for said rack, a vertically-playing and laterally-tilting rack pivotally attached to the other arm of the tooth-bar, adjustable guides therefor, and power-shafts bearing pinions meshing with said racks, substantially as set forth.

2. In a log loader and turner, the combination of a tooth-bar having the laterally-extending arms at the lower end, a vertically-playing rack pivotally attached to one of said

arms, a cushion to receive the shock when the
tooth-bar falls to place, suitable guides for
said rack, a vertically-playing and laterally-
tilting rack pivotally attached to the other
5 arm of the tooth-bar, adjustable guides there-
for, and power-shafts bearing pinions mesh-
ing with said racks, substantially as set forth.

In testimony to the foregoing I have here-
unto subscribed my name in the presence of
two witnesses.

WILLIAM E. HILL.

Witnesses:

WILLIAM CROTY,
MARIAN LONGYEAR.