

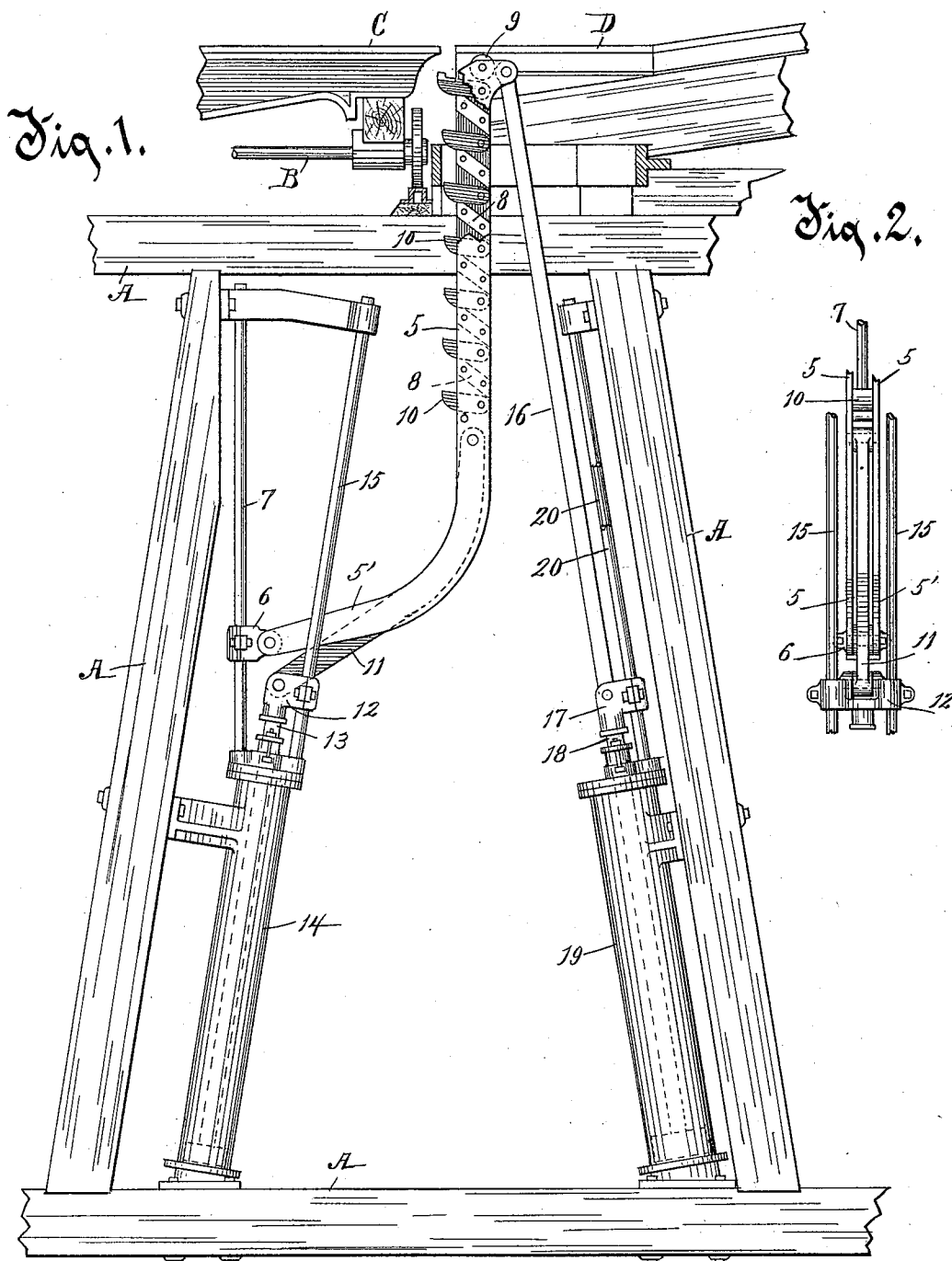
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Patented Jan. 17, 1899.

T. S. WILKIN.
LOG TURNER AND LOADER.

(Application filed Apr. 9, 1898.)

(No Model.)



Witnesses.

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UNITED STATES PATENT OFFICE.

THEODORE S. WILKIN, OF BROOKVILLE, PENNSYLVANIA.

LOG TURNER AND LOADER.

SPECIFICATION forming part of Letters Patent No. 617,844, dated January 17, 1899.

Application filed April 9, 1898. Serial No. 677,075. (No model.)

To all whom it may concern:

Be it known that I, THEODORE S. WILKIN, of Brookville, in the county of Jefferson and State of Pennsylvania, have invented a new and useful Improvement in Log Turners and Loaders, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates in a general way to improvements in log turners and loaders of a class shown and described in Patent No. 583,560, issued to me June 1, 1897.

Practical use of log-turners heretofore known developed the fact that something was yet desired in the construction of a log turner and loader by means whereof a more satisfactory application of power to the toothed bar or nigger could be obtained, whereby thrust or push in approximately direct lines could be secured, while at the same time equal or more flexibility of the turner itself could be had, and my improvements are directed chiefly to these objects and incidentally to minor benefits relating thereto.

The invention consists of the mechanism, its parts and combinations of parts, as hereinafter described and claimed, or their equivalents.

In the drawings, Figure 1 is an elevation of my improved log turner and roller, parts being broken away for convenience of illustration. Fig. 2 is a fragment of the mechanism, including a detail of the construction of the lower extremity of the toothed bar and devices intimately related thereto, shown at the left center of Fig. 1.

In the drawings, A A is the framing of a mill.

B is a carriage traveling on suitable rails therefor on the floor of the mill.

C is a head-block of the carriage.

D is a logway or skid opposite the path of the carriage, the floor of which logway terminates near to and flush with the top surfaces of the head-blocks C, of which there are two or more on the carriage, though only one is shown.

The nigger or toothed bar consists of an upright bar 5, having a curved or bent lower portion 5', which at its extremity is pivoted to a block 6, which slides on the fixed guide-

rod 7. The bar 5 is preferably constructed of two rails or plates, substantially duplicates and complementary to each other in form, size, and construction, which are located opposite each other, having the obliquely-disposed bearing-blocks 8 8 interposed between them at equal distances apart throughout the upper portion of the bar, and the rails are secured to each other by pins or bolts inserted through the rails and through the blocks 8 8. An antifriction bearing-roller 9 is located between the rails of the bar at its upper extremity, the roller projecting slightly beyond the ends of the rails. A number of teeth 10 10 in series are located between the rails of the bar and severally between blocks 8 8 and are pivoted to the rails of the bar near the rear edge of the bar, the teeth being of such size and so mounted in the bar as by gravity to rest on the block 8 below it at the front edge of the bar and project somewhat beyond the front edge of the bar, the teeth being adapted to serve as means for engaging a log and turning it as the bar is pushed up or to roll it over and thereby load it onto the carriage.

For operating the nigger or toothed bar a push-rod 11 is pivoted at its upper extremity to the toothed bar medially and advisably near the lower end of the straight portion of the toothed bar and just at or above the curved lower portion of the bar, which push-rod at its lower extremity is pivoted in a head-plate 12, fixed on the upper end of a piston-stem 13, the piston of which stem reciprocates in the cylinder 14. The head-block 12 slides on two guide-rods 15 15, that are fixed in a plane parallel with the axis of the cylinder 14. It will be observed that the guide-rod 7 is disposed in a substantially vertical position which is practically parallel with the normal line of movement of the toothed bar 5, though the toothed bar is so mounted as to be capable of swinging somewhat toward the right or left to permit of a desired cant or rake with reference to the log to be operated on. The push-rod 11 is conveniently secured to the toothed bar 5 by being located between the rails thereof and pivoted thereto, as clearly shown in Fig. 2.

In connection with the means above described for pushing the nigger up and bring-

ing it down there is employed a brace-rod 16, which at its upper end is pivoted to the toothed bar 5 at or near its upper extremity, and at its lower extremity the brace-rod is pivoted to a head-block 17, which is fixed on the upper end of a piston-stem 18, the piston of which reciprocates in the cylinder 19. The head-block 17 travels on fixed guide-rods 20, disposed parallel to the axis of the cylinder 19. This brace-rod 16 is adapted to hold the toothed bar up to its work or to tilt it limitedly to right or left, and to a certain extent it may be employed to lift on the toothed bar. The cylinders 14 and 19 are each disposed in an oblique position and inclining inwardly at the top toward the perpendicular of the toothed bar, whereby they are adapted to act opposingly and conjointly on the toothed bar for operating it either by lifting it or shifting it laterally and retrieving it, as required in active use. The cylinders 14 and 19 and the guide-rods 7, 15, and 20 are conveniently secured in position on the framing A and to each other in any suitable manner. The cylinders 14 and 19 are adapted for the use of any suitable fluid medium, but are ordinarily supplied with steam for moving the pistons therein.

What I claim as my invention is—

1. In a log-turner, the combination of a toothed bar capable of movement upwardly and downwardly secured at its lower extremity to a guide-block, a rod or way on which said block reciprocates, a push-rod connected medially to the toothed bar and to a power-actuated reciprocating device, said power-actuated device, a brace-rod connected to the upper extremity of the toothed bar and to a power-actuated device, and said power-actuated device.

2. The combination with a vertically-movable toothed bar connected at its lower extremity to and guided by a vertically-disposed guide or way, a push-rod connected medially to the toothed bar and also to a power-actuated device movable on a guide or way in a direction oblique to the guideway of the toothed bar, and a brace-rod connected to the upper extremity of the toothed bar and to a power-actuated device movable obliquely to the perpendicular and in a reverse direction to that of the device actuating said push-rod.

3. The combination with a vertically-movable toothed bar having a laterally-bent lower portion, a guide-block to which the lower end of the toothed bar is connected, and a vertically-disposed guide rod or way on which the guide-block travels, of a push-rod pivoted at its upper end to the toothed bar medially, a power-actuated head-block independent of

said guide-block to which the push-rod is pivoted, and guide rods or ways disposed obliquely to the toothed-bar guideway aforesaid, on which latter guide rods or ways the power-actuated head-block travels, said toothed-bar guide-rod and said head-block guide-rods being on one and the same side of the toothed bar.

4. The combination with a vertically-movable toothed bar having a laterally-bent lower portion, a guide-block to which the lower end of the toothed bar is connected, and a vertically-disposed guide rod or way on which the guide-block travels, of a push-rod pivoted at its upper end to the toothed bar medially, a power-actuated head-block to which the push-rod is connected, guide rods or ways disposed obliquely to the toothed-bar guideway aforesaid, on which latter guide rods or ways the power-actuated head-block travels, said toothed-bar guide-rod and said head-block guide-rods being on one and the same side of the toothed bar, a brace-rod connected to the toothed bar near its upper extremity and to a power-actuated head-block, said brace-rod head-block, and other guide rods or ways disposed obliquely to the perpendicular on which said toothed-bar guide-block travels.

5. The combination with a vertically-movable toothed bar, of obliquely-disposed power-supplying cylinders located on opposite sides of the prolonged axis of the toothed bar the prolonged axes of which cylinders would intersect the axis of said toothed bar, head-blocks on the piston-stems of said cylinders traveling on ways parallel with the prolonged axes of said cylinders, a push-rod and a brace-rod respectively connecting the head-blocks severally to the toothed bar medially and at its upper extremity, and means for guiding the lower extremity of the toothed bar to travel vertically reciprocally.

6. In a log-turner, the combination with a vertically-movable toothed bar of a vertically-disposed guide-rod to which the toothed bar is connected movably and by which it is guided vertically, and reversely obliquely disposed guide-rods and cylinders parallel therewith on opposite sides of the axis of the toothed bar and connected to the toothed bar by hinged or pivoted rods adapted to communicate movement to said toothed bar from opposite sides and through such pivoted rods in reverse directions.

In testimony whereof I affix my signature in presence of two witnesses.

THEODORE S. WILKIN.

Witnesses:

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CYRUS H. BLOOD.