

No. 617,846.

Patented Jan. 17, 1899.

T. S. WILKIN.  
LOG TURNER AND LOADER.

(Application filed Apr. 9, 1898.)

(No Model.)

2 Sheets—Sheet 1.

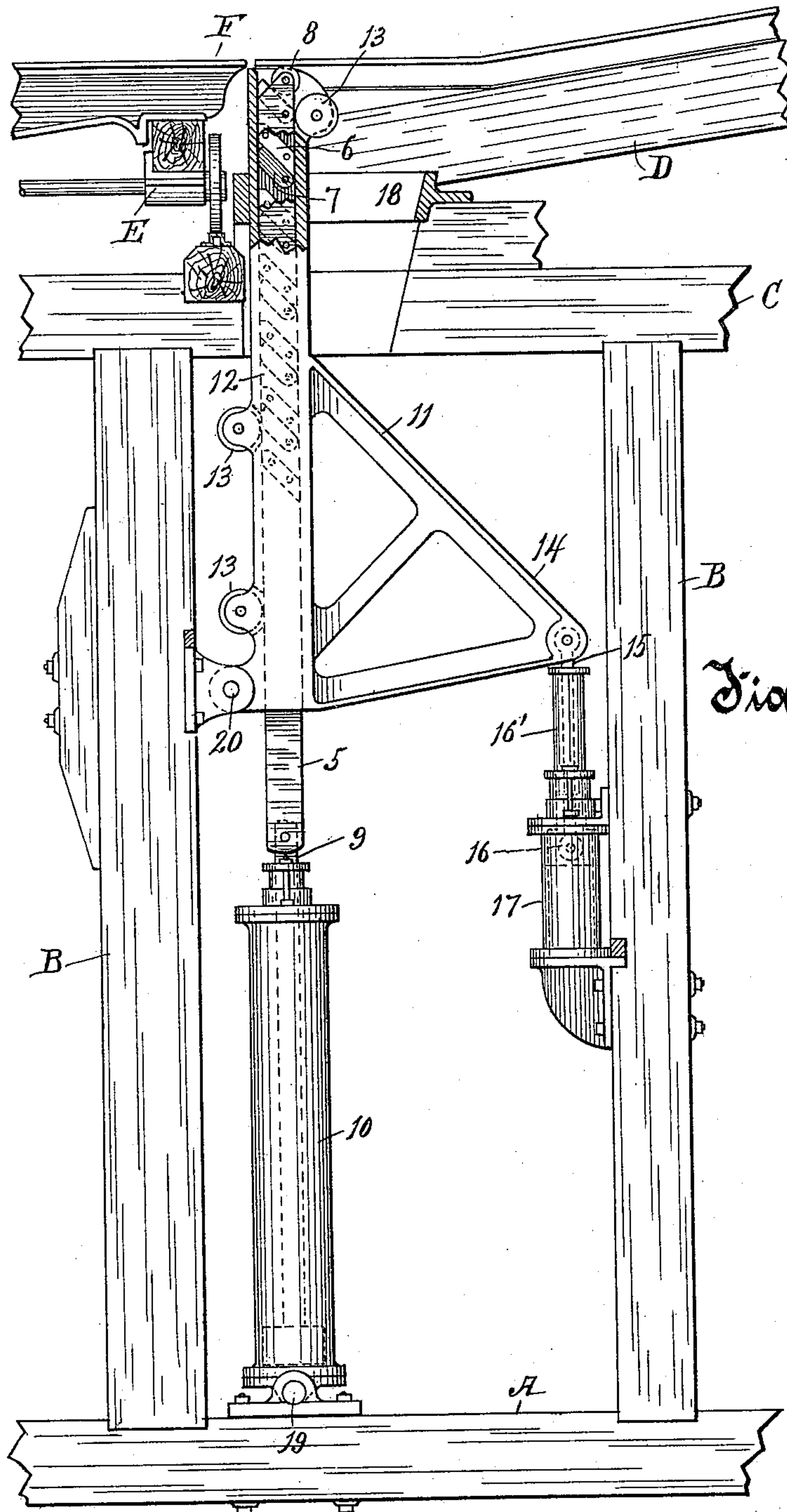


Fig. 1.

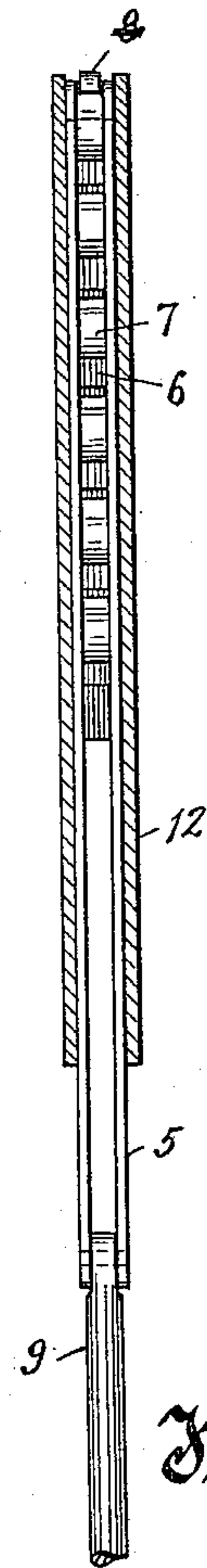


Fig. 2.

Witnesses.

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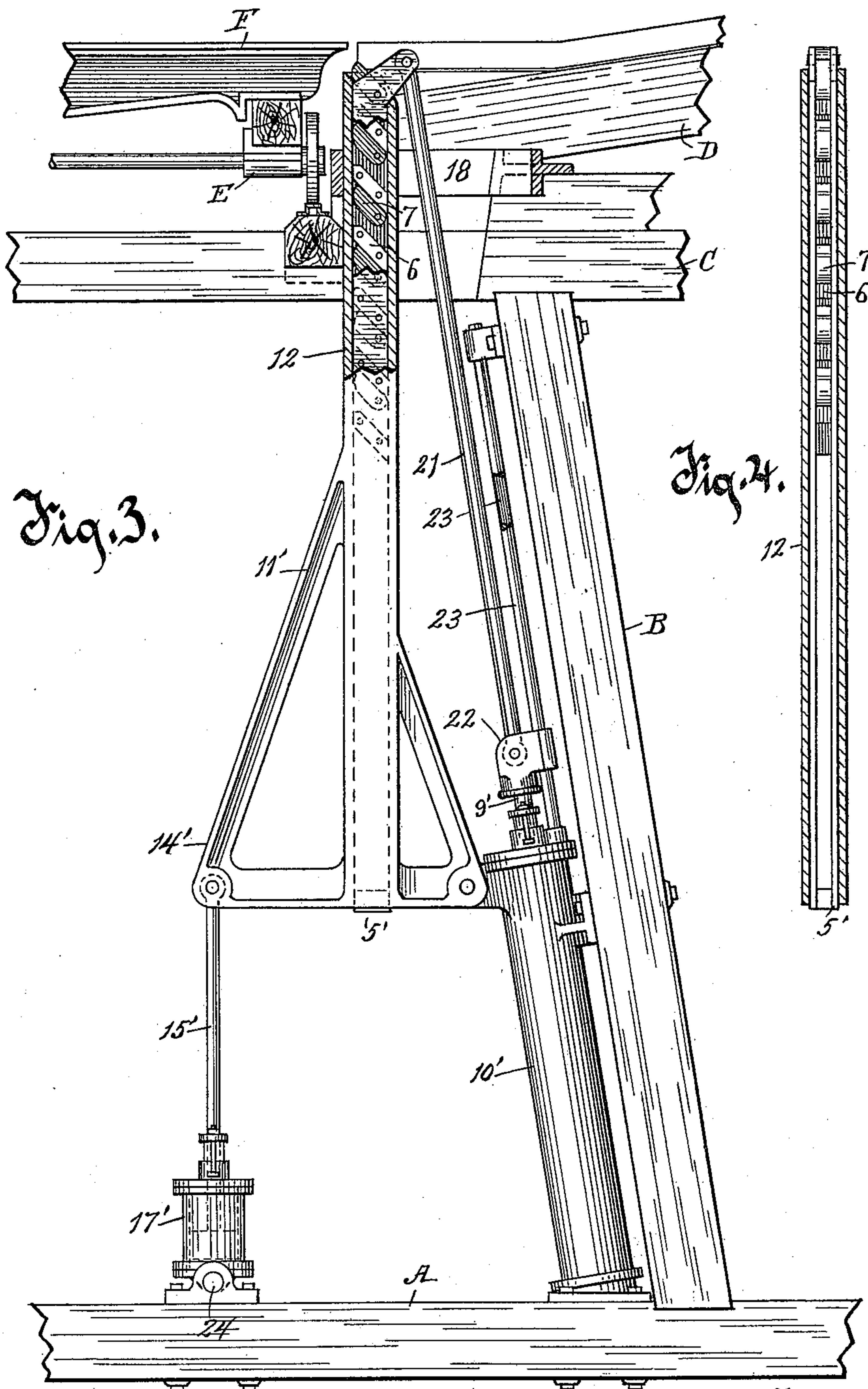
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# UNITED STATES PATENT OFFICE.

THEODORE S. WILKIN, OF BROOKVILLE, PENNSYLVANIA.

## LOG TURNER AND LOADER.

SPECIFICATION forming part of Letters Patent No. 617,846, dated January 17, 1899.

Application filed April 9, 1898. Serial No. 677,077. (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.

10 The object of my invention is directed chiefly to securing a construction in a log turner and loader whereby a direct application and action of power to the nigger or toothed bar is obtained, and in connection therewith, but independently thereof, to provide auxiliary means for tilting the nigger to secure the desired cant or rake thereof, and to other benefits incidental to these chief purposes.

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

25 In the drawings, Figure 1 is an elevation of my improved log turner and loader. Fig. 2 is an edge elevation of the nigger or toothed bar. Fig. 3 shows a modified form of the invention. Fig. 4 is an edge view of the nigger or toothed bar in the modified form shown in Fig. 3.

30 My improved log-turner is commonly used in connection with a sawmill, and for the purpose of illustrating its connection therewith and for providing means for the support of the log-turner I have shown a fragment of the framing of a mill, consisting of a bottom sill A, posts B B, a floor-sill C, and a logway D. Also in connection therewith I have shown and indicated a log-carriage E, that travels alongside of the end of the logway D and is provided with a head-block F, the upper surface of which is flush with the upper surface of the logway D adjacent thereto.

45 The nigger or toothed bar 5 is advisably constructed of two opposite rails that are secured together by bolts or rivets through them and through interposed blocks 6, located in the upper portion of the nigger at equal distances apart, and a number of swinging teeth 50 7, located between the rails of the toothed bar in its upper portion and severally between blocks 6 6, the teeth being so mounted

in the bar as to be capable of being swung upwardly entirely within the space between the two rails of the bar in the manner shown in Fig. 1 and so as when released from this position to swing by gravity into a substantially horizontal position, in which position the free ends of the teeth project laterally in front of the rails of the bar. The toothed bar is also preferably provided with an antifric- tion-roller 8 at its upper extremity and is piv- 55 otated at its lower end to a piston-stem 9, which stem is provided with a piston reciprocable in the cylinder 10. The toothed bar is dis- posed normally in a vertical position and in the line of the projection of the piston-stem 9, working in the vertical cylinder 10. The toothed bar is intended and adapted for work in a substantially vertical direction, though it is adapted to be tilted rearwardly to a limited extent, whereby movement is provided for in a slightly-oblique direction.

The nigger or toothed bar 5 is supported movably in position by a nigger-frame 11, which is preferably so constructed as to form ways, substantially a casing for the bar 5, in which it is adapted to reciprocate longitudinally. This casing 12 is preferably so constructed as to have front and rear walls closely adjacent to the front and rear edges of the nigger, so that as the nigger is projected above the casing the teeth 7 will fall by gravity and assume a horizontal position, projecting partially beyond the front edge of the bar, and when the nigger is withdrawn downwardly into the casing 12 the teeth will by contact with the casing be thrown up and rearwardly between the rails of the toothed bar in the manner shown in Fig. 1. The casing 12 projects upwardly to just below the surface of the logway D and is preferably provided with a suitable number of antifriction bearing-rolls 13 13 at the front and rear thereof to receive thereagainst the bearing of the edges of the toothed bar 5.

The casing 12 is a part of the nigger-frame 11, which frame is pivoted at 20 and supported tiltably, conveniently on an adjacent post B of the mill-frame. The frame 11 is provided with a laterally-projecting arm 14, which is connected by a rod 15 to a piston 16, reciprocable in the cylinder 17. The piston 16 is provided with an elongated tubular stem



16', which reciprocates steam-tight through the head of the cylinder 17, and the connecting-rod 15 extends through the tubular or hollow piston-stem 16' and is pivoted directly to the piston at the bottom of the stem, whereby the required amount of lateral movement of the connecting-rod 15 is provided for within the longitudinal space that can be readily provided for this cylinder, its piston, and the connecting-rod. As the work of the cylinder 17 is merely that of tilting the nigger, its capacity may be comparatively small, as indicated in the drawings. It is conveniently supported on a post B in any suitable manner.

A guideway 18 in the framing of the mill supports movably the upper portion of the case 12, but permits of a limited movement thereof to the rear of the position shown in Fig. 1. As the nigger is adapted to be tilted rearwardly at its upper end, producing a corresponding forward tilting of the lower end of the bar 5, the cylinder 10 is so mounted as to be capable of oscillation, and this is advantageously accomplished by supporting it on trunnions or a pivotal support 19, as shown in Fig. 1. The cylinders are adapted for the use therein of steam or other fluid medium for actuating the pistons.

In the modified form of the log-turner shown in Figs. 3 and 4 the toothed bar 5' is connected to and operated by a lifting-rod 21, that is pivoted to the toothed bar at its upper extremity and to a head-block 22, mounted on the upper end of a piston-stem 9', the piston-stem being provided with a piston (not shown) that reciprocates in the cylinder 10'. The head-block 22 is fitted and travels on fixed guide-rods 23 23. The cylinder 10' and the guide-rods 23 23 are disposed in an oblique direction that intersects the axis of the toothed bar or the prolongation thereof in the direction of and substantially at the point of the connection therewith of the lifting-rod 21,

so that the lift on the toothed bar is exerted in a direction substantially in the line of the axis of the cylinder 10'. In this form of construction the nigger-frame 11' is pivoted to the cylinder 10', and its arm 14' is connected to and actuated by the piston-stem 15', that is provided with a piston reciprocating in the cylinder 17', which in this instance is trunnioned or pivoted at 24 on the framing of the mill. The construction of the toothed bar and its support and movement in the casing 12 is substantially the same as in the form shown in Figs. 1 and 2, though the bearing-rolls 13 are omitted in the drawings in this case, as they are not necessary to an operative mechanism.

What I claim as my invention is—

1. In a log-turner, the combination, of a medium-containing cylinder, a reciprocable tooth-bar or nigger, means connected to the tooth-bar adapted to be actuated by the medium in said cylinder to push the tooth-bar outwardly, a nigger-frame pivoted to a fixed support and having a swinging capability independent of said cylinder, and means for tilting the nigger-frame.

2. In a log-turner, the combination with a medium-containing cylinder, a piston provided with a stem reciprocable in said cylinder, and a reciprocable tooth-bar or nigger pivoted to said piston-stem, of a swinging nigger-frame tiltable independently of any movement of said cylinder, another medium-containing cylinder, and a piston therein connected to said swinging frame and adapted to tilt it independently of said first-mentioned cylinder.

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

THEODORE S. WILKIN.

Witnesses:

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CYRUS H. BLOOD.