

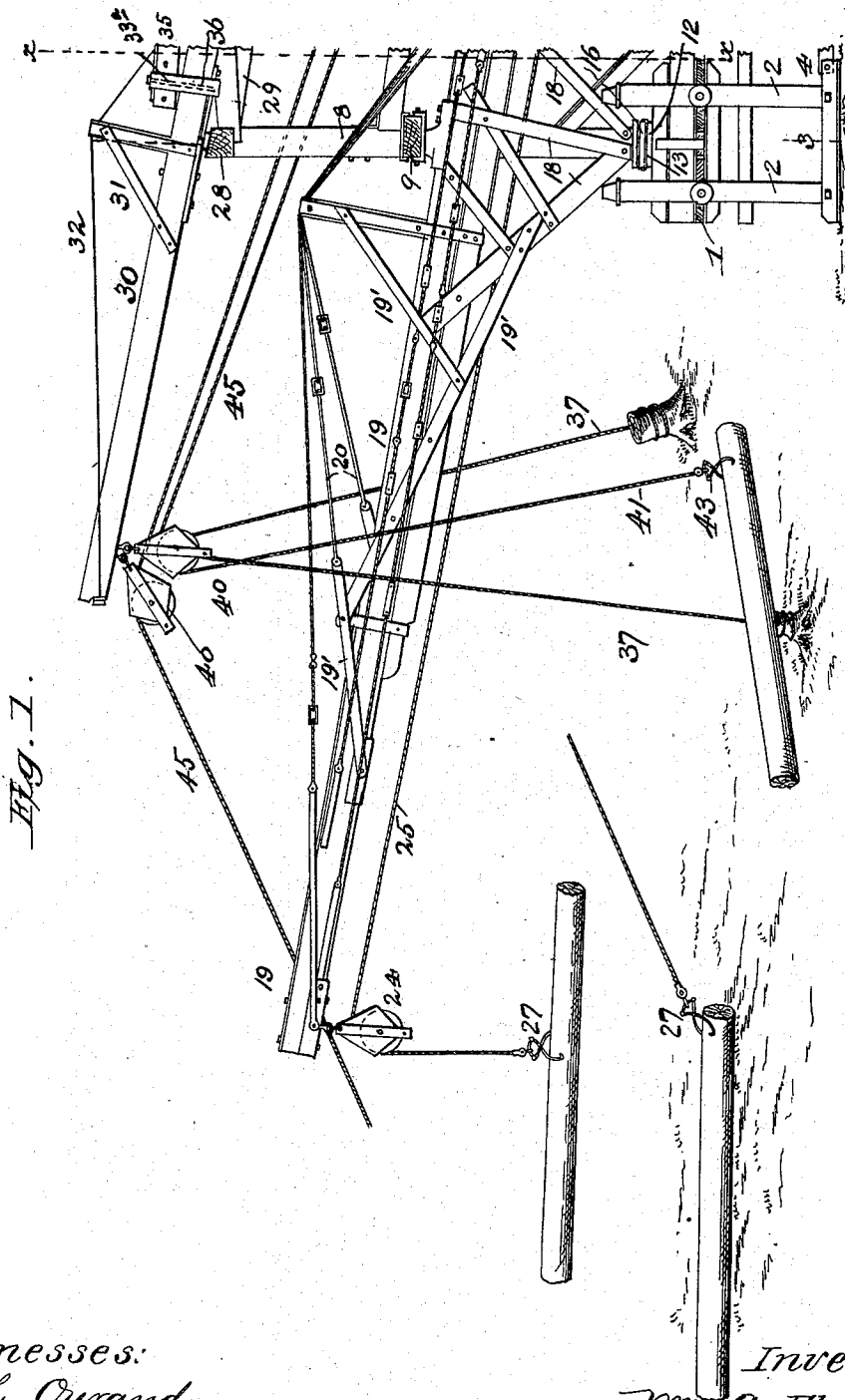
(No Model.)

5 Sheets—Sheet 1.

W. A. FLETCHER.  
LOG LOADER.

No. 565,857.

Patented Aug. 11, 1896.



Witnesses:  
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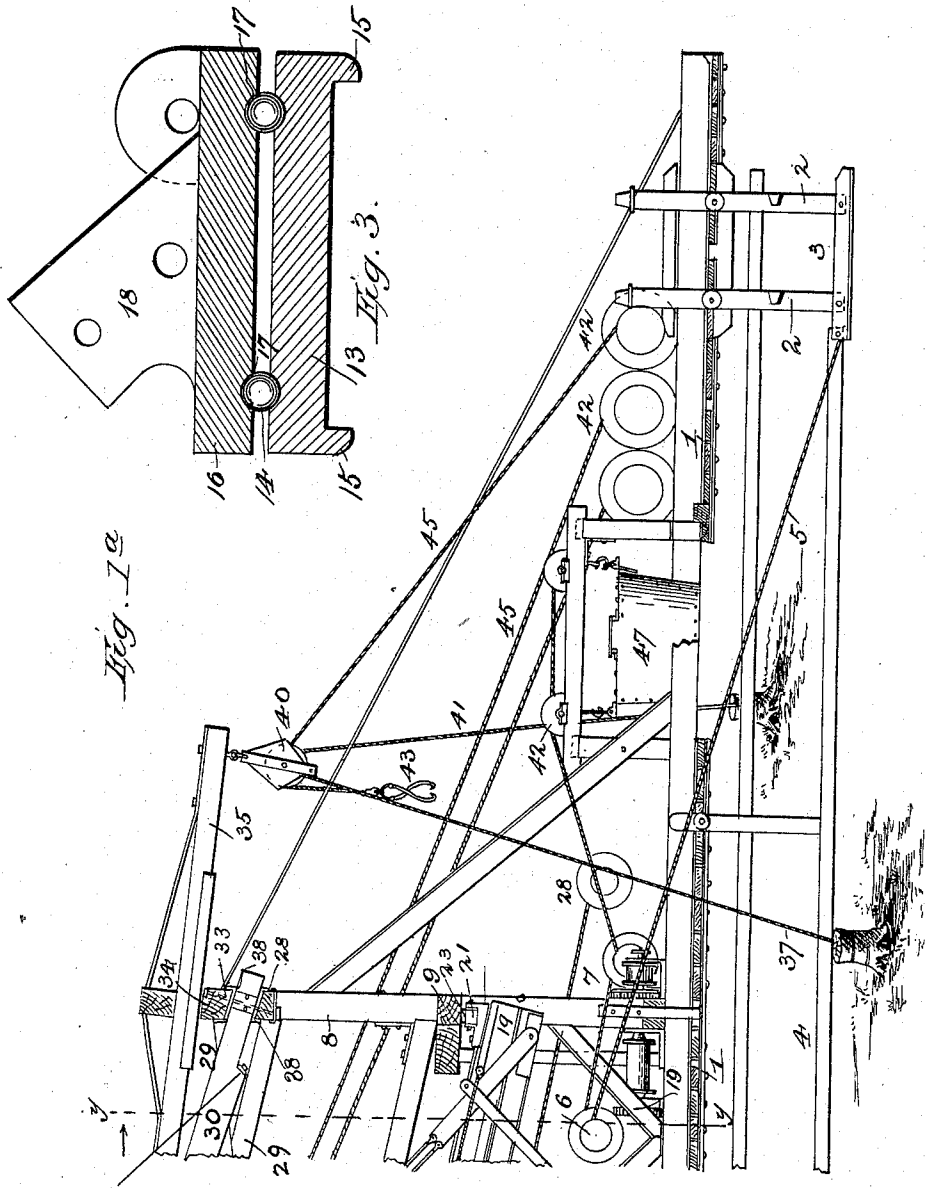
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W. A. FLETCHER.  
LOG LOADER.

5 Sheets—Sheet 2.

No. 565,857.

Patented Aug. 11, 1896.



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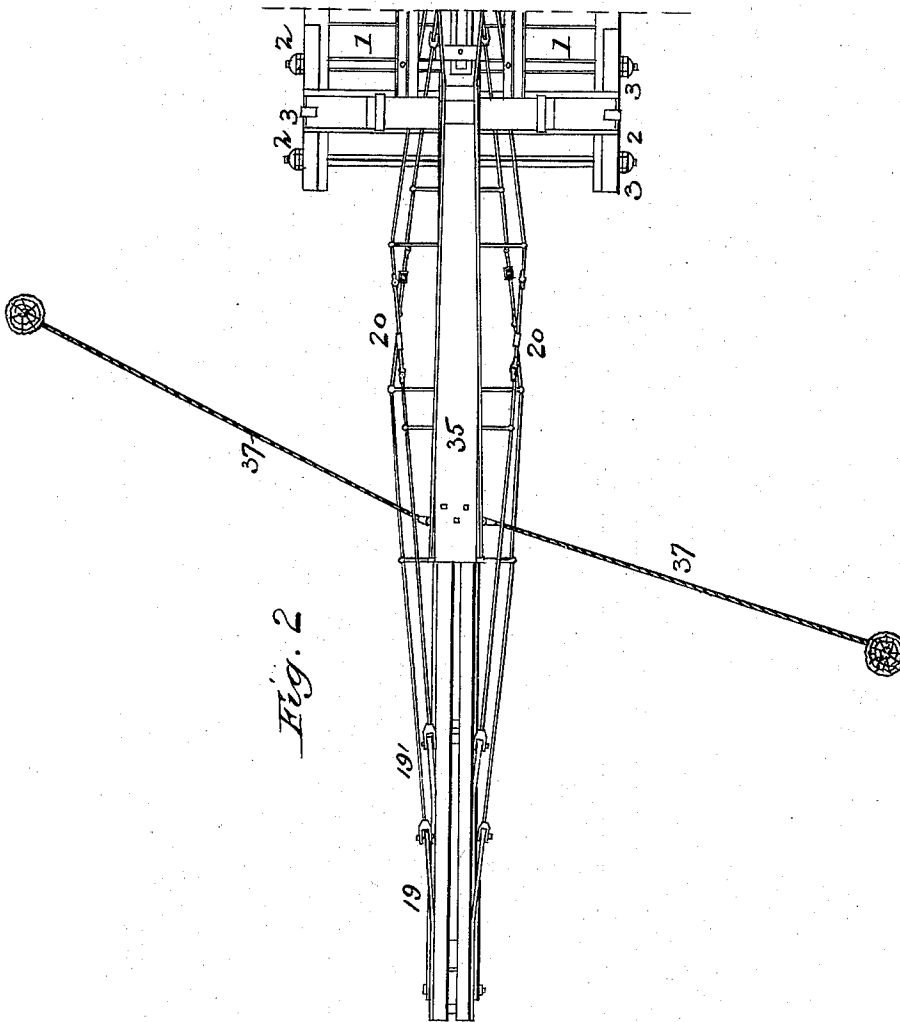
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W. A. FLETCHER.  
LOG LOADER.

No. 565,857.

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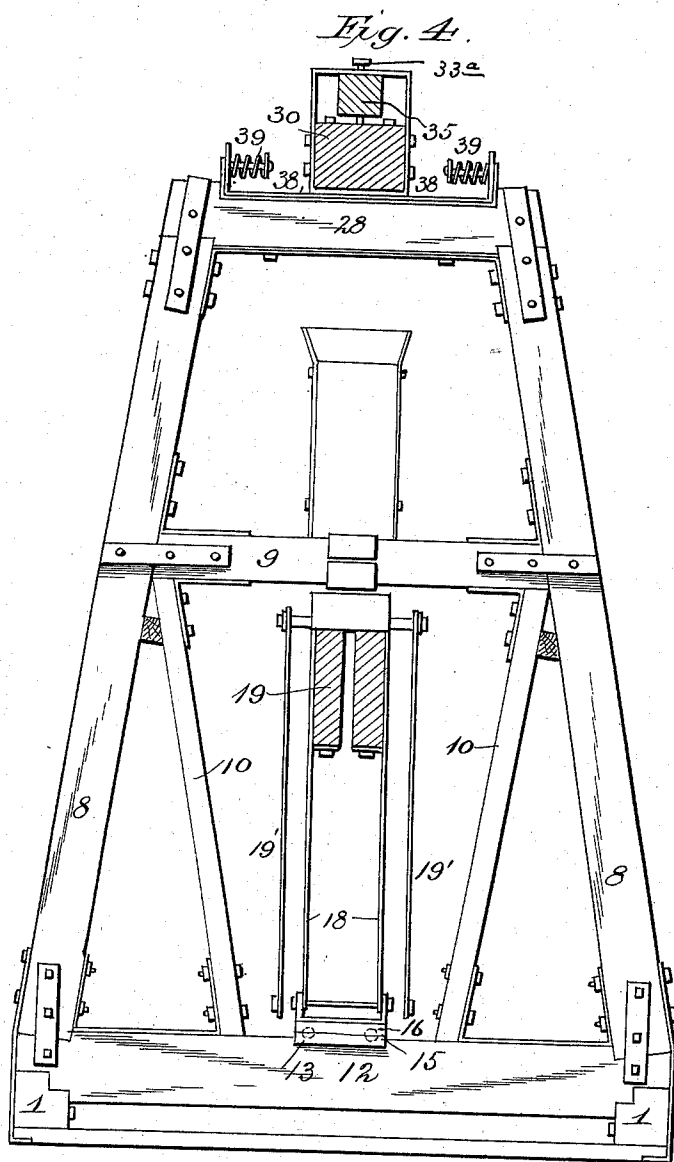
(No Model.)

W. A. FLETCHER.  
LOG LOADER.

5 Sheets—Sheet 4.

No. 565,857.

Patented Aug. 11, 1896.



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(No Model.)

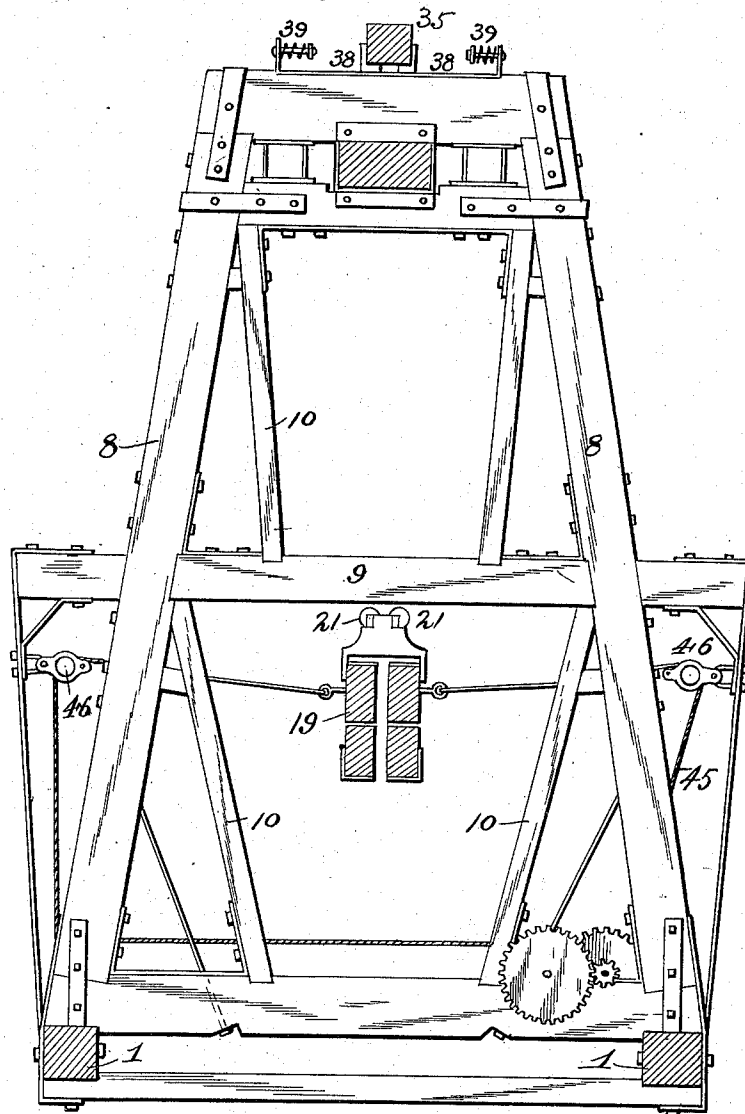
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W. A. FLETCHER.  
LOG LOADER.

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Fig. 5.



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# UNITED STATES PATENT OFFICE.

WILLIAM A. FLETCHER, OF BEAUMONT, TEXAS.

## LOG-LOADER.

SPECIFICATION forming part of Letters Patent No. 565,857, dated August 11, 1896.

Application filed March 6, 1896. Serial No. 582,086. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. FLETCHER, a citizen of the United States, and a resident of Beaumont, in the county of Jefferson and State of Texas, have invented certain new and useful Improvements in Log-Loaders; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in that class or description of apparatus for hauling logs to and loading them on railway-cars for which I made application for Letters Patent on the 21st day of September, 1895, Serial No. 563,242, and in which the apparatus can be transported on the car to be loaded to destination and can then be elevated from the car and deposited on the track ready for use, while the car can be run from beneath the same to receive the logs. In said application I have shown a vertically-movable platform and which contains the hauling and loading mechanism, provided at each side with pivotal legs so constructed and arranged that said platform may be deposited on a car and the legs turned up out of the way when the apparatus is to be transported, and when it has reached the point where the logs to be loaded are located the legs can be turned down, so as to rest on the track and the platform be elevated and the car run from beneath the same to receive the load. Mounted upon said platform there is shown a rotatable or oscillatory crane, the outer end of which is adapted to be made fast by means of guy-ropes secured to stumps or other objects, and is provided with one or more sheaves, around which pass ropes or chains connected with a hoisting drum or drums and adapted to be secured to the logs to be loaded, so that said logs can be drawn up to the car and then elevated and deposited therein.

The present invention relates to improvements in the cranes for drawing the logs toward the car and for loading them thereon; and it consists, essentially, in a rotatable or oscillatory crane mounted upon the platform

and adapted to swing to either side of the car, and provided with sheaves and chains connected with a hoisting-engine, by which the logs can be elevated and deposited on the car, in combination with one or more stationary cranes elevated above the oscillating crane, the outer ends of which are adapted to be made fast by means of guy ropes or chains to stumps, trees, or other objects, and said cranes provided with sheaves and chains, also connected with the hoisting-engine, whereby logs at a distance from the car may be drawn up into close proximity thereto, so as to be elevated and loaded thereon by the oscillating crane.

The invention also consists in certain sub-combinations of parts, all of which will be hereinafter fully described and claimed.

In the accompanying drawings, Figures 1 and 1<sup>a</sup> represent a side elevation of a log-loading apparatus constructed in accordance with my invention, the side standards of the frame being removed so as to more clearly show the cranes. Fig. 2 is a detail plan view of the same. Fig. 3 is a longitudinal sectional view, on an enlarged scale, of the lower bearing of the swinging crane. Figs. 4 and 5 are cross-sectional views on the lines *xx* and *yy*, respectively, of Figs. 1 and 1<sup>a</sup>.

In the said drawings the reference-numeral 1 designates a platform adapted, when not in use, to be supported by an ordinary log-car, and provided at each side with a number of pivoted legs 2, the legs on each side being connected together in pairs by means of shoes 3, pivoted thereto at the lower ends, which shoes are adapted to rest on the track when the apparatus is in use. These shoes are connected with each other by means of a horizontal bar 4, pivoted thereto and connected by a chain 5 with a drum 6, by which the lower end of the legs can be elevated out of engagement with the track and the platform can be lowered onto a car run beneath the same for transportation from place to place.

The numeral 7 designates an engine which is to be connected with a steam-boiler (not shown) for driving the hauling and hoisting mechanism.

The parts so far described form no part

of the present invention, and a detailed description thereof is not necessary.

Secured to the platform, near one end thereof, are four inwardly-inclined standards or beams 8, two on each side. These standards are connected together intermediate their ends by cross-beams 9, and are braced at suitable points by brace-bars 10, so as to constitute a rigid frame.

Secured to a cross-beam 12 at the front of the platform is the lower section 13 of a turn-table having an annular groove in its upper face to receive a number of balls 14, and at its front and rear sides is formed with downwardly-depending flanges 15, which embrace the said beam and hold the section in place.

The numeral 16 designates the upper section of the turn-table, having a corresponding groove 17, with which the said balls engage, and bolted or otherwise secured to this section are a number of bars 18, the upper ends of which are secured to the rotatable or oscillatory crane 19, consisting, as shown in the present instance, of four parallel beams, two above the others, (see Fig. 5,) although more or less may be employed, as found convenient or desirable. These beams are suitably trussed and braced by means of bars and rods 19' and 20, so as to make a very strong and rigid structure. The rear or inner end of the crane is provided with a number of rollers 21, which engage under a plate 23, secured to one of the cross-beams 9, which serve as a support for this end of the crane. At its outer end the crane is provided with one or more sheaves 24, provided with chains or cables 25, wound upon hoisting-drum 28, driven by the engine. The free ends of these chains or cables are provided with grapples 27, adapted to grab and elevate a log.

The upper ends of the standards are connected by means of cross-beams 28 and horizontal beams 29. To the rear or inner cross-beam 28 is pivoted the inner end of an upper crane 30 by a pivot-bolt 33, which crane is supported intermediate its ends by the front cross-beam 28. This crane is trussed and braced by means of tie rods and bars 31 and 32. Supported by a cross-beam 34, secured to the rear standards, is an oppositely or rearwardly extending crane 35, the front end of which is pivoted by a pivot 33<sup>a</sup> to the crane 30 intermediate its ends, and embracing said cranes is a strap or yoke 36. The crane 35 is also trussed and braced to strengthen it. To the outer ends of said cranes 30 and 35 are secured guy ropes, chains, or cables 37, the free ends of which are adapted to be secured to stumps, trees, or other objects, so as to hold them stationary or rigid and prevent crane 30 from turning on its pivot 33. The object of pivoting said cranes is to permit them to have a slight oscillatory movement, so as to allow the guy-ropes to be properly adjusted. Wear-plates 38 are interposed between the said cranes and supporting-beams, having their ends turned up at right angles

and provided with coiled springs 39, against which the cranes strike and whereby the rotary movement of the latter is checked. To the outer ends of said cranes are also connected sheaves 40, provided with chains or cables 41, wound upon drums 42, driven by the engine and their ends provided with grapples 43.

The numeral 45 designates chains secured to the swinging or oscillatory crane passing over pulleys 46 (see Fig. 5) and connected with the engine, by which the crane may be swung from side to side. I make no claim herein, however, to these features, nor to the hoisting and hauling mechanism, which may be of any ordinary or suitable construction.

The numeral 47 designates a water-tank for supplying the boiler with water.

The operation is as follows: The machine or apparatus is loaded on an ordinary log-car and transported to the place where the logs are located. The platform is then elevated and supported by the pivoted legs, as in my application before referred to, and the car run back from underneath the apparatus. The upper cranes are then braced and made fast by the guy ropes or cables, and the grapples of the hauling-cables, which pass around the sheaves of said cranes, are connected with the logs to be loaded on the car. The engine is then started and the chains or cables are wound upon the drums, hauling or drawing the logs in close vicinity to the apparatus.

The grapples are then disengaged from the logs and the oscillating crane is swung to the right or left, as the case may be, and the grapples of the hoisting chains or cables engaged with the logs hauled to the track, as before stated. The drums with which these hoisting-chains are connected are then set in motion, when the logs will be elevated, and the crane is then swung over the car and the logs lowered and deposited thereon.

From the above it will be seen that all the cranes may operate simultaneously, the stationary cranes hauling the logs to the car and the swinging or oscillating crane elevating and depositing them thereon, so that the logs can be loaded in a very rapid manner.

Having thus described my invention, what I claim is—

1. In a log hauling and loading apparatus of the character described, the combination with the swinging or oscillating crane, of a pivoted upper hauling-crane, substantially as described.

2. In a log hauling and loading apparatus of the character described, the combination with the swinging or oscillating crane, of a pivoted upper crane having its end provided with a guy rope or ropes adapted to be connected with a stump or other object, substantially as described.

3. In a log hauling and loading apparatus of the character described, the combination with the swinging or oscillating crane, provided with sheaves and hoisting chains or

cables, of the oppositely-extending cranes, located above said swinging crane, the sheaves and hauling chains or cables and the guy-ropes connected with the outer ends of said stationary cranes, substantially as described.

4. In a log hauling and loading apparatus of the character described, the combination with the platform, the frame mounted thereon, the swinging or oscillating crane, the sheaves and the hoisting chains or cables, of the crane located above said swinging crane, pivoted at one end to said frame, and provided with sheaves and hauling chains or cables, and the guy-ropes secured to the outer end thereof, substantially as described.

5. In a log hauling and hoisting apparatus of the character described, the combination with the platform, the frame mounted thereon, the swinging or oscillating crane and its sheaves and hoisting chains or cables, of the crane located above said swinging crane pivoted at one end to said frame, the oppositely-extending crane pivoted thereto, the sheaves and hauling chains or cables and the guy-ropes, substantially as described.

6. In a log hauling and loading apparatus of the character described, the combination with the platform, the frame mounted thereon, the swinging or oscillating crane, and the sheaves and hoisting chains or cables, of the crane pivoted at one end to said frame, the oppositely-extending crane pivoted thereto, the strap or yoke embracing said pivoted cranes, the sheaves and hauling chains or

cables and the guy-ropes, substantially as described.

7. In a log hauling and hoisting apparatus of the character described, the combination with the platform, the frame mounted thereon, the swinging or oscillating crane, the sheaves and hoisting-ropes, of the crane located above said swinging crane, pivoted at one end to said frame, the oppositely-extending crane pivoted thereto, the yoke or strap, the wear-plates, having their ends bent upwardly at right angles and the coiled spring, substantially as described.

8. In a log hauling and loading apparatus, the combination with the vertically-movable platform, the legs pivoted thereto, the shoes at the lower ends thereof, the connecting bar and chain, the frame mounted on said platform, the swinging or oscillating crane, and the sheaves and hoisting-ropes, of the upper oppositely-extending cranes located above said swinging crane, the guy-ropes, the sheaves, the hauling chains or cables, and means for operating said hauling and hoisting chains or cables, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

WILLIAM A. FLETCHER.

Witnesses:

E. P. BURKET,

AUGUST PETERSON.