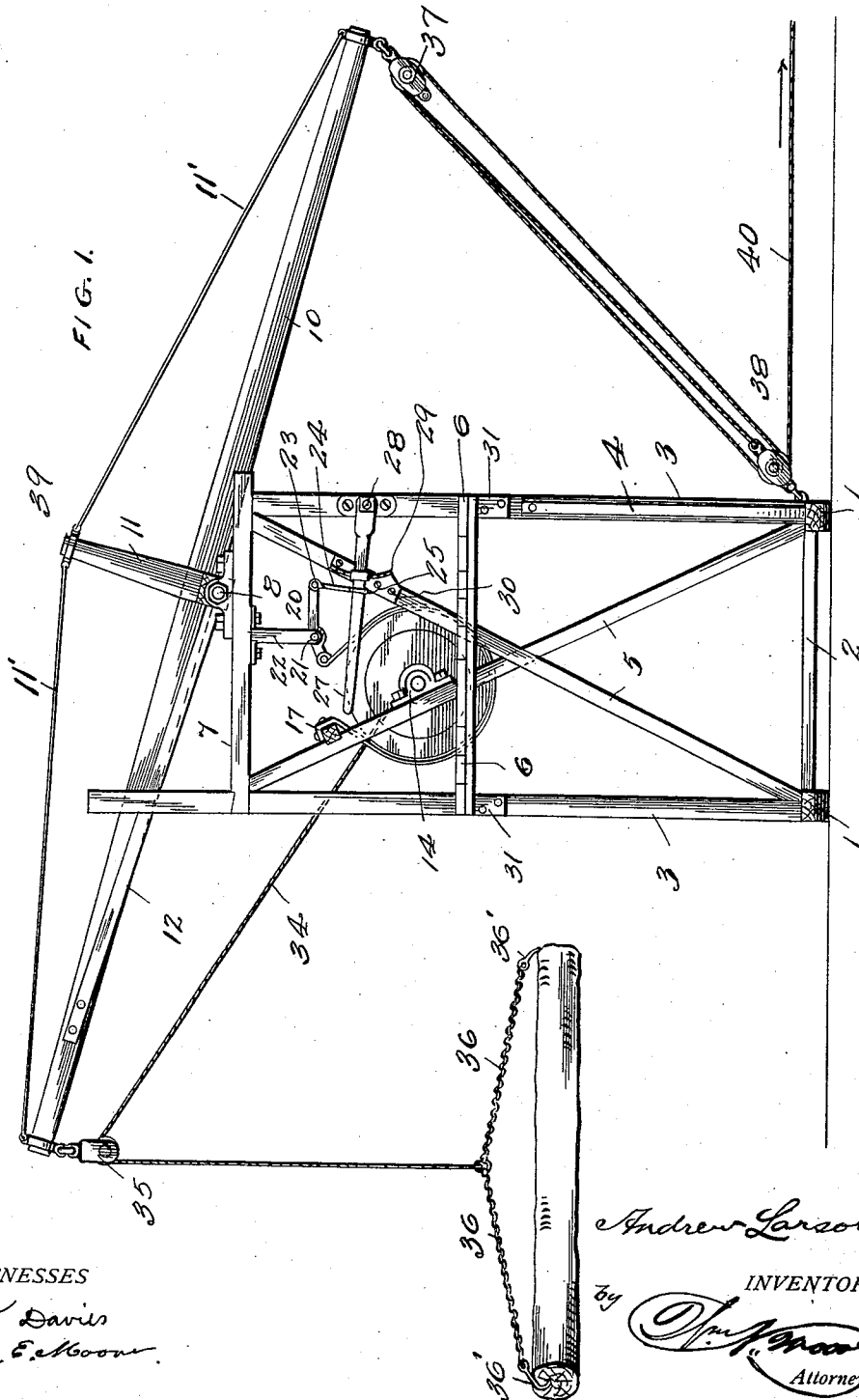


A. LARSON.
LOG LOADER.
APPLICATION FILED APR. 19, 1911.

1,016,076.

Patented Jan. 30, 1912.

2 SHEETS—SHEET 1.



WITNESSES

C. H. Davies
H. E. Moore

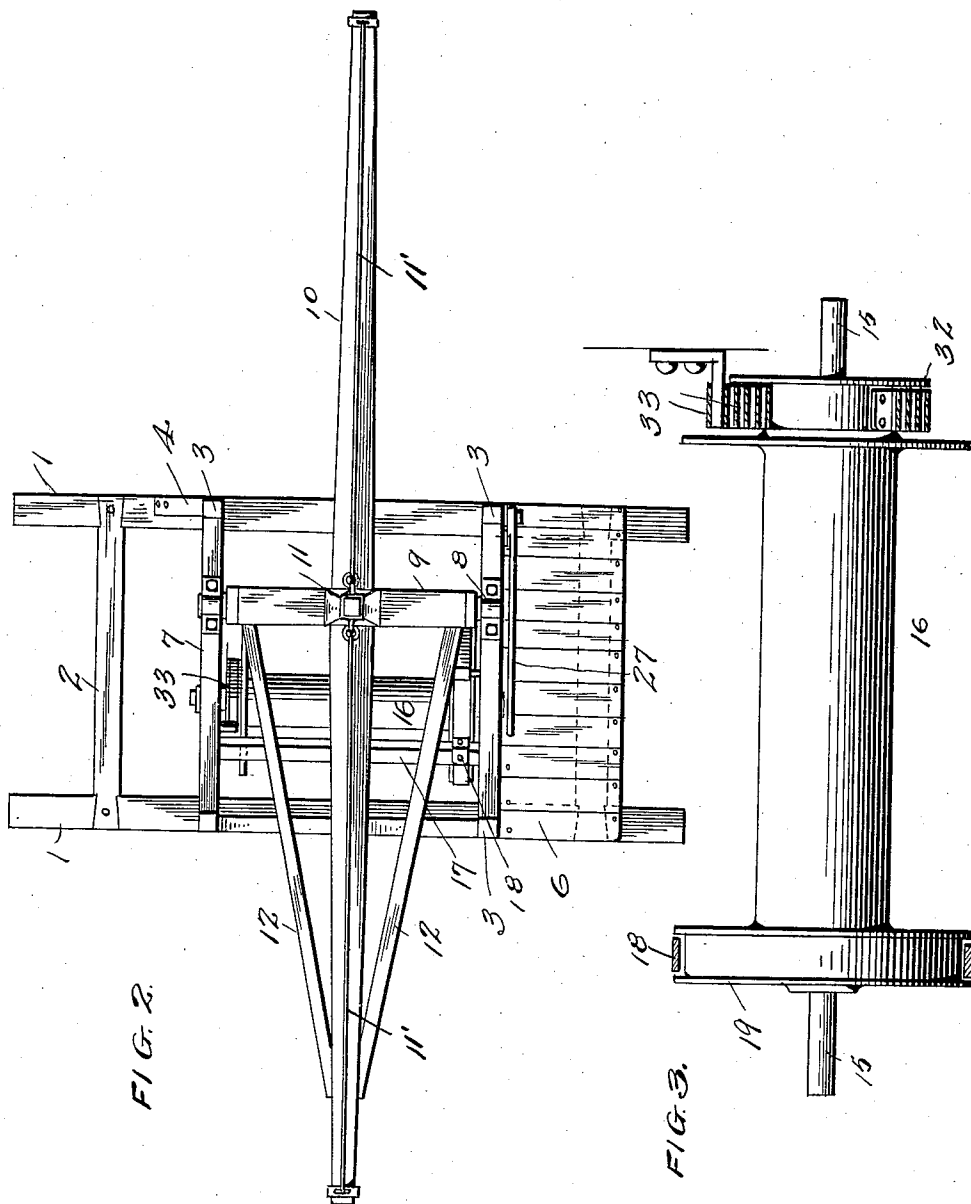
Andrew Larson
INVENTOR
by *[Signature]*
Attorney

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UNITED STATES PATENT OFFICE.

ANDREW LARSON, OF DULUTH, MINNESOTA.

LOG-LOADER.

1,016,076.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed April 19, 1911. Serial No. 622,060.

To all whom it may concern:

Be it known that I, ANDREW LARSON, a citizen of the United States, residing at Duluth, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Log-Loaders, of which the following is a specification.

My invention relates to improvements in log loaders and more particularly to a log loader which will lift the logs desired to be moved to any predetermined place with exactness and accuracy.

My invention has for its objects the provision of a log loader of extremely simple construction, entailing few working parts and hence requiring little expense to maintain; which will be easy to operate and will be under the control of one man at all times; which will dispense with the cant-hook men stationed on the car or other conveyance to be loaded; which will considerably lessen the distance the team is required to travel; and finally which will obviate the accidents prevalent in logging camps at the present time.

To attain the desired objects my invention resides in the provision of a log loader of novel construction and combination of parts substantially as disclosed herein.

In the accompanying drawings, in which similar numerals denote corresponding parts in all the views, I have illustrated a practical embodiment of my invention.

Figure 1 represents a side view of my log loader, showing a log in raised position, Fig. 2 represents a top plan view of my device, and Fig. 3 represents a detail view of the revolving axle, drums and coil spring for taking up the slack of the loading cable.

In the drawings: The numeral 1 designates the runners upon which the superstructure is mounted, said runners having rounded ends to enable the loader to be hauled either way, 2 the bunks or bracing members between the runners, 3 the supporting members of the structure, 4 a supporting brace for the supporting frame 3, 5 cross-braces for said supporting frame, 6 the platform upon which the operator stands, 7 the top cross beams mortised securely into the posts 3 and pivotally secured at 8 is the movable beam 9 resting upon said cross beam 7, and having the top balancing arm 10, of tapering shape and braced at its center by the top piece 11, and at its sides by the braces 12, secured at one end to the said

balancing arm and at the other to the cross-pieces 9. The ends 15 of the axle 16 are journaled in the bearings 14, secured upon the braces 5. The axle 16 carries a brake band 18, secured at one end to the cross piece 17, said cross piece being also bolted to the cross braces 5. This band 18 partly encircles the revolving end of drum 19 of the axle 16 and has its other end attached to one end of the small inside lever 20, and said lever is pivotally connected at 21 and is fastened to the cross beam 7 at 22, the other end of said lever 20 being pivoted as at 23 to a link 24, having a loop 25 through which the brake lever 27 is passed. The brake lever 27 is secured to the supporting post 3 by rivets or bolts 28 and engage in the rack 29, fastened by rivets or bolts 30 to the cross braces 5. A platform 6, already mentioned, is placed on the outside of the said drum and below the lever and is secured to the supporting post 3 at 31. On the opposite side of the revolving beam 16 is the drum 32, having the recoiling spring 33 and the function of this drum is to steady the recoiling spring and protect the same. The recoiling spring is fastened on the axle or revolving beam 16 and also to the cross braces 5, and the function of this spring is to enable the axle 16 to revolve and take up any slack of the loading cable. In operation a cable 34 is passed around the axle 16 of the aforementioned drums, is then run through the block and pulley 35, secured to the balance beam 10, and at its extremity has fastened two chains 36 having the grab hooks 36', whose purpose is to impinge against the ends of the log desired to be lifted, as clearly shown in Fig. 1 of the drawings. At the other end of the said balancing beam 10 is secured a double block 37 and to the bunk 2 and the runner 1 is fastened a double block 38, through which blocks the cable 40 is passed, as shown in Fig. 1.

It will be understood that the balancing beam 10 is provided with the pair of brace rods 11', secured at 39 to the top piece 11 by any suitable means and to each end of the said beam 10, for the purpose of strengthening the structure. A cable 40 is fastened to the abovementioned blocks 38 and is run through the blocks 37 and 38 twice, and the end of said cable 40 is secured to the motive power (not shown) and the tension is in the direction of the arrow in Fig. 1. Everything being in readiness, the team or other

means of draft is attached to the said cable 40 and started, causing the rear end to rise, thereby hoisting the log. When said log has been raised to the desired height the 5 brake lever 27 is moved and the log is swung gently into place upon the car or wagon to be loaded and the grab hooks released from the log, the recoiling spring taking up the slack of the loading cable where the hooks 10 are fastened.

It will be apparent from the above that the operation of the device is at all times under the control of the man stationed on the operator's platform, who manipulates 15 the brake and is in a position to see and direct the entire loading.

Benefits and advantages accruing from the use of my improved log loader are many, since it is extremely simple and durable in 20 construction; has few working parts; can be hauled either backward or forward along any logging road; is easy and quick in its operation, obviates the necessity of having cant-hook men in the car or wagon to be 25 loaded to place the logs in position, and lessens the distance the team is obliged to travel, and is at all times under the control of the one man stationed on the operator's platform, thus reducing the danger due to 30 accidental slipping of the logs or other causes to a minimum.

I claim:

1. A machine of the character described, consisting of a pair of runners, cross bunks 35 therefor, upright posts rising from said runners, cross braces therefor, a transverse cross piece surmounting the posts, a balancing arm pivotally carried thereby, blocks and pulleys secured to said arm at one end and 40 to the cross bunks, a cable connecting said blocks and pulleys whereby said arm may be tilted upon its pivot, a block and pulley secured upon the other end of the arm, a revolving axle carried by the cross braces 45 substantially intermediate their length, a hoisting cable passing over said block and pulley and having one end connected to the article to be lifted and the other end passed around the revolving axle, a brake at one 50 end of the revolving axle, and a recoiling spring at the other end for winding up the slack of the hoisting cable.

2. A machine of the character described, consisting of a pair of runners, cross bunks

therefor, upright posts rising from said 55 runners, cross braces therefor, a transverse cross piece surmounting the posts, a balancing arm pivotally carried thereby, connections at one end whereby movement may be 60 imparted from a suitable agency, connections at the other end of said arm whereby the articles to be moved may be raised or lowered, a revolving axle mounted upon the cross braces substantially intermediate their 65 length, revolving drums carried thereby, a cross piece carried by the cross braces, a brake band passing partially around one of said drums, and having one end secured to said cross piece, an inside lever to which the 70 other end of the brake band is secured, an outside lever, connections between the inside and outside levers, a rack in which said outside lever is engaged, and a spring attached to the other of said drums carried by the revolving axle for taking up the slack of the 75 hoisting connections.

3. In combination with the runners and superstructure, the balancing arm having the top piece, bracing members and pivoted fulcrum, of the pulleys, the cables attached 80 to one end of the arm whereby movement may be imparted thereto from a suitable agency, means attached to the other end of the arm for lifting the logs, and means for winding one of the cables, an axle mounted 85 revolvably upon the superstructure, revolving drums carried by said axle at each end, one of said drums having the brake band passing around its periphery and secured to the small inside lever, said inside lever being connect- 90 ed to the outside brake lever by means of the toggle link, the brake lever being passed through said link, and engaging in the rack secured to one of the cross braces of the structure, the other of said drums having a 95 spring attached thereto and to the cross braces of the structure, for the purpose of taking up the slack of said hoisting cable, and the platform located under the brake lever, upon which the operator stands to di- 100 rect the loading of the logs.

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

ANDREW LARSON.

Witnesses:

NAT N. NASLUND,
I. GRUTHUM.