

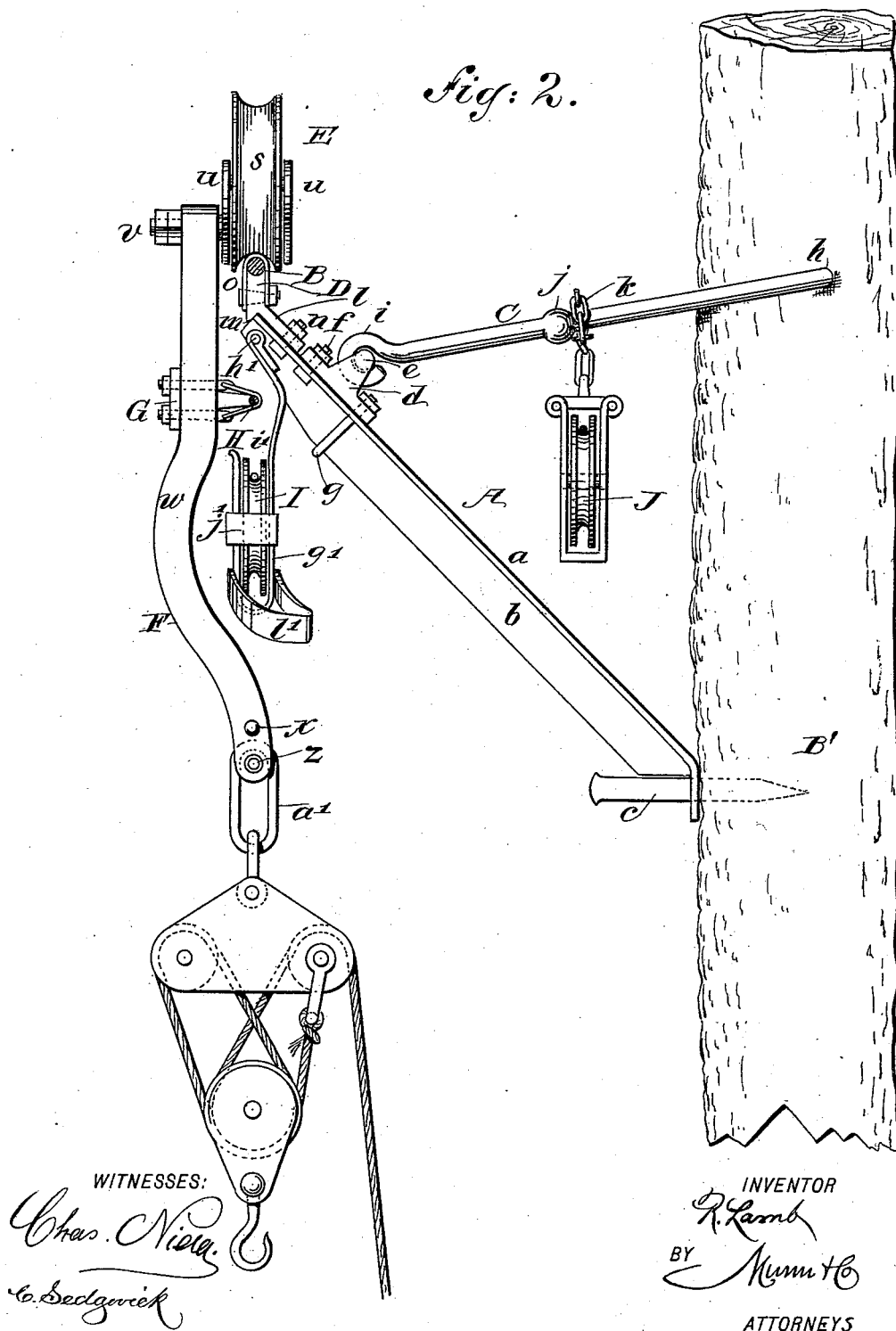
(No Model.)

4 Sheets—Sheet 2.

R. LAMB.
LOGGING SYSTEM.

No. 523,216.

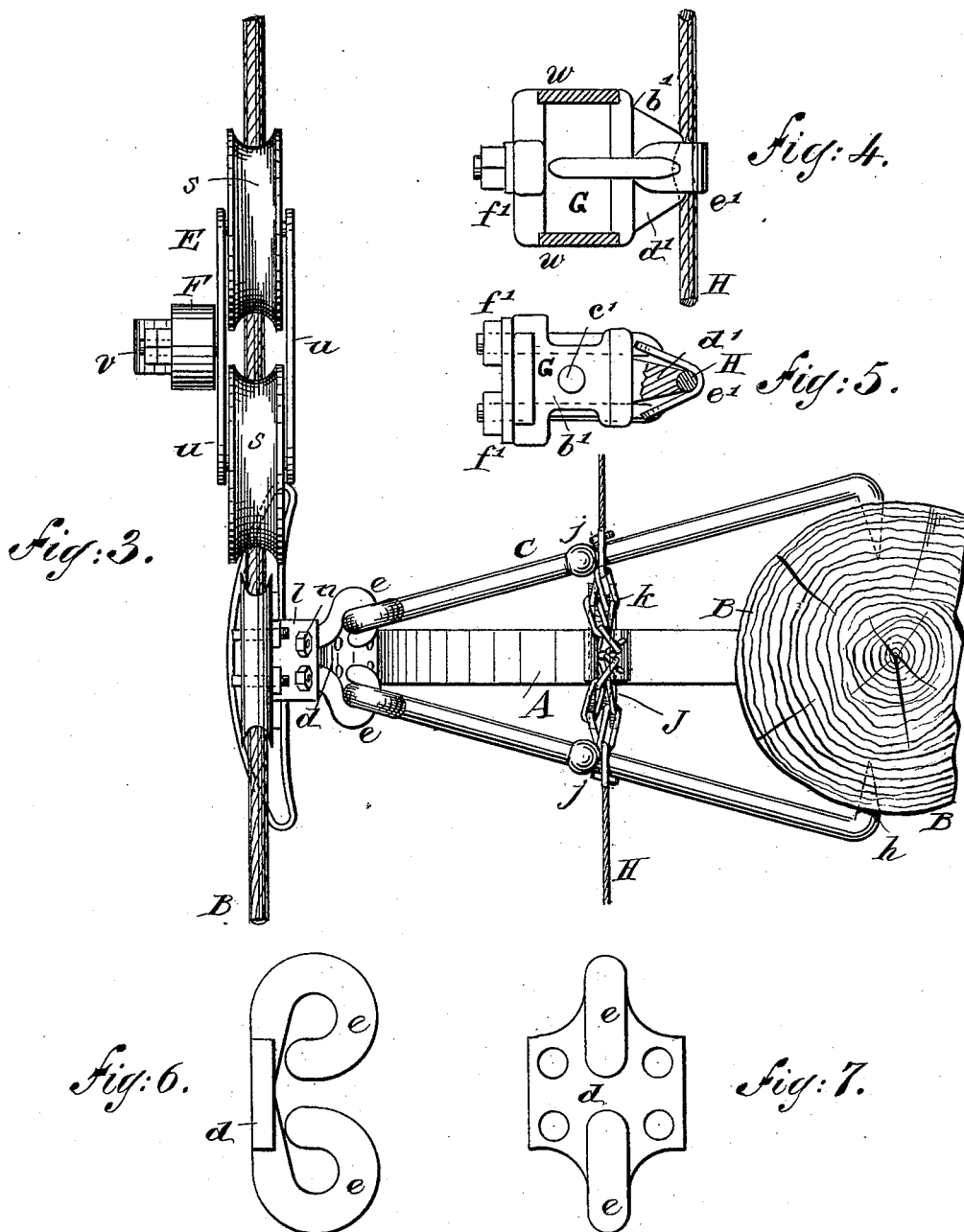
Patented July 17, 1894.



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WITNESSES:
Chas. Nida.
C. Sedgwick

INVENTOR
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BY *Munn & Co.*
ATTORNEYS

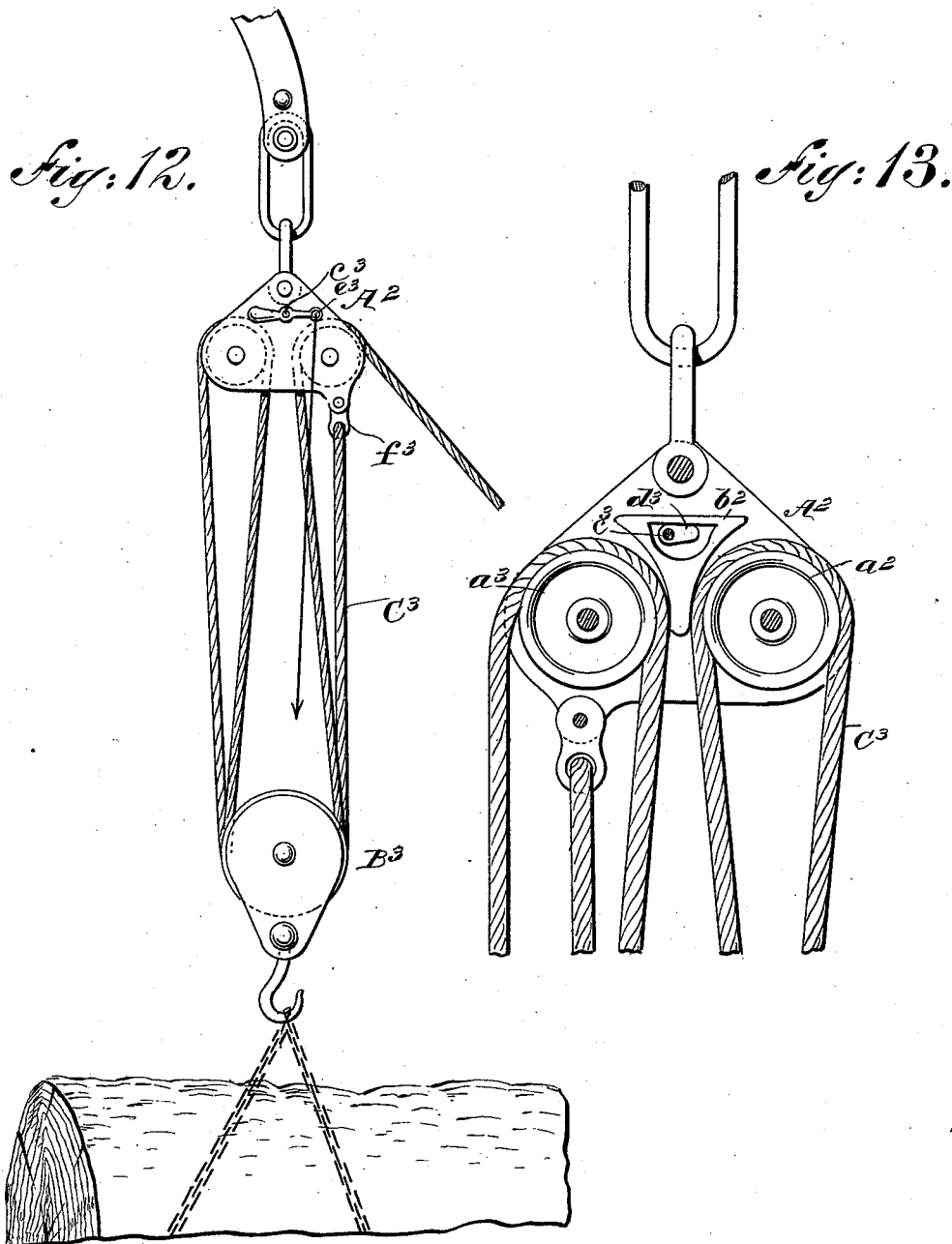
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4 Sheets—Sheet 4.

R. LAMB.
LOGGING SYSTEM.

No. 523,216.

Patented July 17, 1894.



WITNESSES:

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UNITED STATES PATENT OFFICE.

RICHARD LAMB, OF NEW YORK, N. Y.

LOGGING SYSTEM.

SPECIFICATION forming part of Letters Patent No. 523,216, dated July 17, 1894.

Application filed December 16, 1893. Serial No. 493,852. (No model.)

To all whom it may concern:

Be it known that I, RICHARD LAMB, of New York city, in the county and State of New York, have invented a new and Improved Logging System, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a front elevation showing a portion of the rope tramway used in my improved logging system. Fig. 2 is a transverse section of the tramway, showing a side view of the trolley-supporting bracket. Fig. 3 is a plan view. Fig. 4 is a plan view of the hauling cable clip. Fig. 5 is a side elevation of the same, partly in section. Fig. 6 is a detail side view of the eye plate for receiving the bracket-supporting braces. Fig. 7 is a plan view of the same. Fig. 8 is a side elevation, partly in section, of the cable-supporting saddle and bracket. Fig. 9 is a side elevation, partly in section, of the upper end of the cable-supporting bracket and saddle. Fig. 10 is a transverse section of the bearing cable clip. Fig. 11 is a detail view of one of the key bolts for fastening the bearing cable clip. Fig. 12 is a side elevation of the locking tackle block; and Fig. 13 is an enlarged sectional view of a part of the same.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to construct a tramway especially adapted for hauling logs from within woods or swamps, and delivering them for transportation or to a mill to be worked up into lumber.

My invention consists in the combination of a bearing-cable, a bracket for supporting the cable, constructed to be easily attached to a support and removed therefrom, a car mounted on the bearing cable and provided with a hanging arm, hanging sheave blocks, a hauling cable resting in the sheave blocks and attached to the hanging arm of the car, and in other details of construction, all as will be hereinafter more fully described.

The bracket A, which supports the bearing cable B, is preferably formed of a T-iron bar *a*, the web *b* being cut away near the lower end of the bracket, the body of the bar being bent at an angle of forty-five degrees or thereabout, and slotted to receive the spike *c* which

is driven into the support B', which may be a tree or an upright erected for the special purpose of supporting the bracket.

To the upper surface of the T-iron bar *a*, near its upper end, is attached an eye plate *d*, provided with eyes *e* on opposite ends. The eye-plate *d* is secured to the bar *a* by short bolts *f*, and a U-bolt *g* passing through the body of the bar *a*. The said U-bolt embraces the web of the T-bar *a*.

Braces C, each having a pointed hook *h* on one end and an eye *i* on the opposite end, are connected with the eye-plate *d*, the eyes *i* being received by the eyes *e* of the plate *d*, and the hooked ends *h* being driven into the upright B'. At or near the mid-length of each brace C, is formed an enlargement *j* and a chain *k* is passed around the braces above the enlargement *j*, and its ends are fastened so that when the said chain is twisted, as shown in Fig. 3, the braces C will be drawn toward each other and the hooked ends *h* of the said braces will be securely held in their places in the support B'.

To the upper end of the T-bar *a*, is attached a bearing-cable saddle D, formed of an angled plate *l* of steel, having a shoulder *m* which rests upon the upper end of the bar *a*, the said angled plate being secured to the bar *a* by bolts *n*. The upper edge of the angled plate *l* is curved and provided with a semi-circular groove, forming a saddle for the cable B, and over the said cable and the angled plate *l*, is placed a clip *o*, the shape of which conforms to the convex surface of the cable passing over the saddle. The ends of the clip are reduced in width and received in recesses *o'* formed in the sides of the angled plate *l*. In the clip *o* and angled plate *l* are formed key-ways *p*, for receiving wedge-shaped keys *q*, which are each provided with a threaded shank *r* for receiving the nut which draws the key to its bearings in the saddle and the clip. The key-ways *p* are reversed, so that the keys enter from the opposite sides of the saddle D. By means of this arrangement an efficient pressure is brought to bear upon the clip *o* and upon the bearing cable B.

On the bearing cable B, is placed a car E, formed of grooved wheels *s* which rest upon the cable, pins *t* on which are journaled the grooved wheels *s*, and plates *u* secured to

the ends of the pins t , forming the frame of the car. From a bolt v passing through the plates u , is suspended a hanging arm F, formed of the straps w united at the upper
 5 end in a solid eye for receiving the bolt v , and connected at their lower ends by the rivet x , which passes through the straps w and through a distance piece y placed on the rivet and between the straps. The lower ends
 10 of the straps w are perforated to receive the bolts z , which supports the link a' .

The straps w of the arm F are spread to receive the clip G which engages the hauling cable H. The said clip consists of a block
 15 b' , having grooves in opposite sides for receiving the straps w , the block being secured in place by a bolt c' passing through the straps and through the block. The block b' is furnished with a projection d' , the outer end of
 20 which is concave to receive the hauling cable H, which is clamped against the projection by means of the clip e' , the said clip being furnished with threaded ends for receiving the nuts f' which bear upon the block b' .

The hauling cable H is supported at each bracket A by a sheave I, and a snatch block J. The sheave I is journaled in a hanging frame g' suspended from a bolt h' passing through the web of the T-bar a , at the upper
 30 end. The frame g' is formed of the straps i' , curved upwardly at the lower ends and connected by the strap j' , which extends around the curved portions of the strap i' and supports the pin k' on which the sheave I is journaled. To the lower extremity of the frame
 35 which supports the sheave I, is attached a curved bar l' , which extends beyond the sheave supporting frame, its ends being curved downwardly and also rearwardly, to form a guide
 40 to insure the passage of the arm F, without catching and to automatically guide the hauling cable to its place in the swinging sheave, should it become accidentally disengaged from the sheave. The said arm F is bowed
 45 outwardly at a point opposite the sheave I, and the straps i' are bowed in the opposite direction opposite the path of the clip G. The snatch block J which supports the out-going strand of the cable is suspended preferably
 50 from the chain l .

Any efficient means may be employed for connecting the load with the arm F, but I prefer to use some form of locking tackle block, as indicated in the drawings. This
 55 locking tackle block is known as the "Sure grip tackle block" patented September 4, 1888, by Alexander M. Kerr, No. 389,155. In this tackle block the upper block A^2 is furnished with two sheaves $a^2 a^3$, which are journaled in the same plane, and between which
 60 is supported a wedge b^2 capable of entering into the space between the ropes running over the said sheaves. In the side plate of the block A^2 is journaled a rock shaft c^3 , carrying an arm d^3 on its inner end, and fur-

nished with a counter-weighted lever e^3 on its outer end. The arm d^3 on the inner end of the rock shaft c^3 enters an opening in the upper part of the wedge, and is capable of engaging the upper end of the wedge when
 70 it is desired to release the wedge from the ropes running over the sheaves. The lower block B^3 is a double block of the usual description. The rope C^3 is connected with an eye f^3 , hanging from the lower part of the
 75 upper block A^2 . It passes thence around one of the sheaves of the block B^3 , then around the sheave a^2 of the block A^2 , thence downward around the other sheave of the block B^3 , thence upward over the sheave a^3 of the
 80 block A^2 , and thence outward.

The hauling cable H runs from a winding engine of any approved construction to a distant sheave, and returns to the engine, so that the car E may be carried outward away
 85 from the winding engine, or returned at pleasure by winding and unwinding the hauling cable.

In operating my improved cable tramway, I connect the locking tackle block suspended
 90 from the link a' with the load to be carried, in the usual way, and I make the rope C^3 taut and attach the free end of the rope to one of the uprights or some other fixed object. I then signal to the engineer to start the haul-
 95 ing cable, which he does carefully and gradually, thus lifting the load free from the ground, by drawing the locking tackle block away from the temporarily fixed end of the rope C^3 ; and when the rope is released the block auto-
 100 matically fastens itself, by the engagement of the wedge b^2 with the rope on the sheaves a^2 , a^3 ; and it is further secured by wrapping the free end of the rope around the block; then
 105 the engine is started and the hauling cable H is drawn in, thus propelling the car E and the bearing cable B.

As the hauling cable is attached to the arm F near the point of suspension, the applica-
 110 tion of power is nearly opposite the line of resistance, consequently the power thus applied is used to the best advantage. As the hauling cable clip G approaches the sheave I, it lifts the cable from the sheave, passes over the sheave, and returns the cable to its place
 115 on the sheave. In its passage by the swinging frame of the sheave I, the arm F is prevented from catching by the curved guide l' .

The logs are kept in line and prevented from turning so as to strike trees or supports,
 120 by connecting two or more logs together by short chains, using dogs driven into the adjacent ends of the logs, so that the logs will form a tandem arrangement for holding each other in proper relation to the route of the
 125 tramway.

It is obvious that a cable tramway constructed according to my improved system, can be readily put up in any swamp or forest, and as readily taken down and removed. 130

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with a log-carrying trolley, of a locking tackle block adapted for raising and sustaining the load carried by the log-carrying trolley, substantially as specified.

2. In a cable tramway, a removable cable-supporting bracket formed of a bar adapted to receive a spike at its lower end and furnished with a cable-supporting saddle at its upper end, and a pair of hooked braces pivotally attached to the bracket bar, substantially as specified.

3. The combination with the bracket bar *a*, of hooked braces *C* pivotally connected with the bar, and provided with enlargements *j*, and the chain *k* for holding the hooked braces in the position of use, substantially as specified.

4. A saddle for supporting the bearing cable, the same consisting of an angled plate having a convex upper edge furnished with a longitudinal semi-cylindrical groove, a clip fitted over the cable and the saddle, and

wedge bolts for fastening the clip in the position of use, and binding the cable to the saddle substantially as specified.

5. The combination, of the T-bar *a* provided with a slot in the lower end thereof for receiving a spike, the eye plate *d* attached to the T-bar, the hooked braces *C* connected with the eye plate *d* and provided with pointed hooks on their free extremities and enlargements *j* between their ends, the chain *k* passing around the divergent ends of the hooked braces, and the saddle *D* attached to the end of the bar *a* and embracing the cable *B*, substantially as specified.

6. In a cable tramway for a logging system, the combination of the bracket *A* provided with braces *C* and the saddle *D*; the cable *B*, the swinging sheave *I*, the car *E*, the swinging arm *F*, the clip *G* carried by the said arm, the hauling cable *H*, and the snatch block *J*, substantially as specified.

RICHARD LAMB.

Witnesses:

RICHARD W. DOUGLAS,
WM. B. McNIECE.