

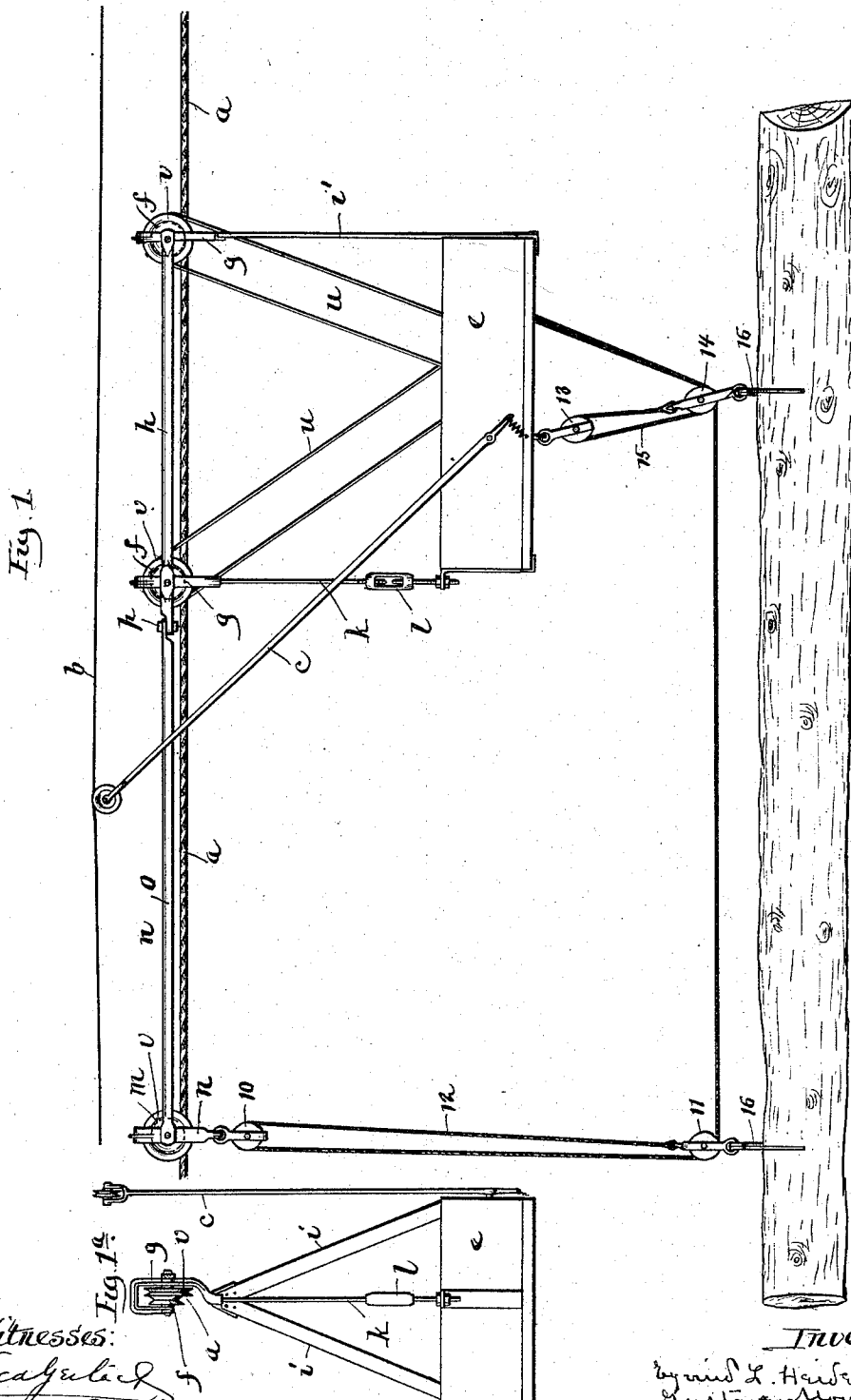
(No Model.)

3 Sheets—Sheet 1.

E. L. HEIDENREICH & G. MONRATH.
CABLE CARRIER.

No. 571,440.

Patented Nov. 17, 1896.



Witnesses:
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(No Model.)

3 Sheets—Sheet 2.

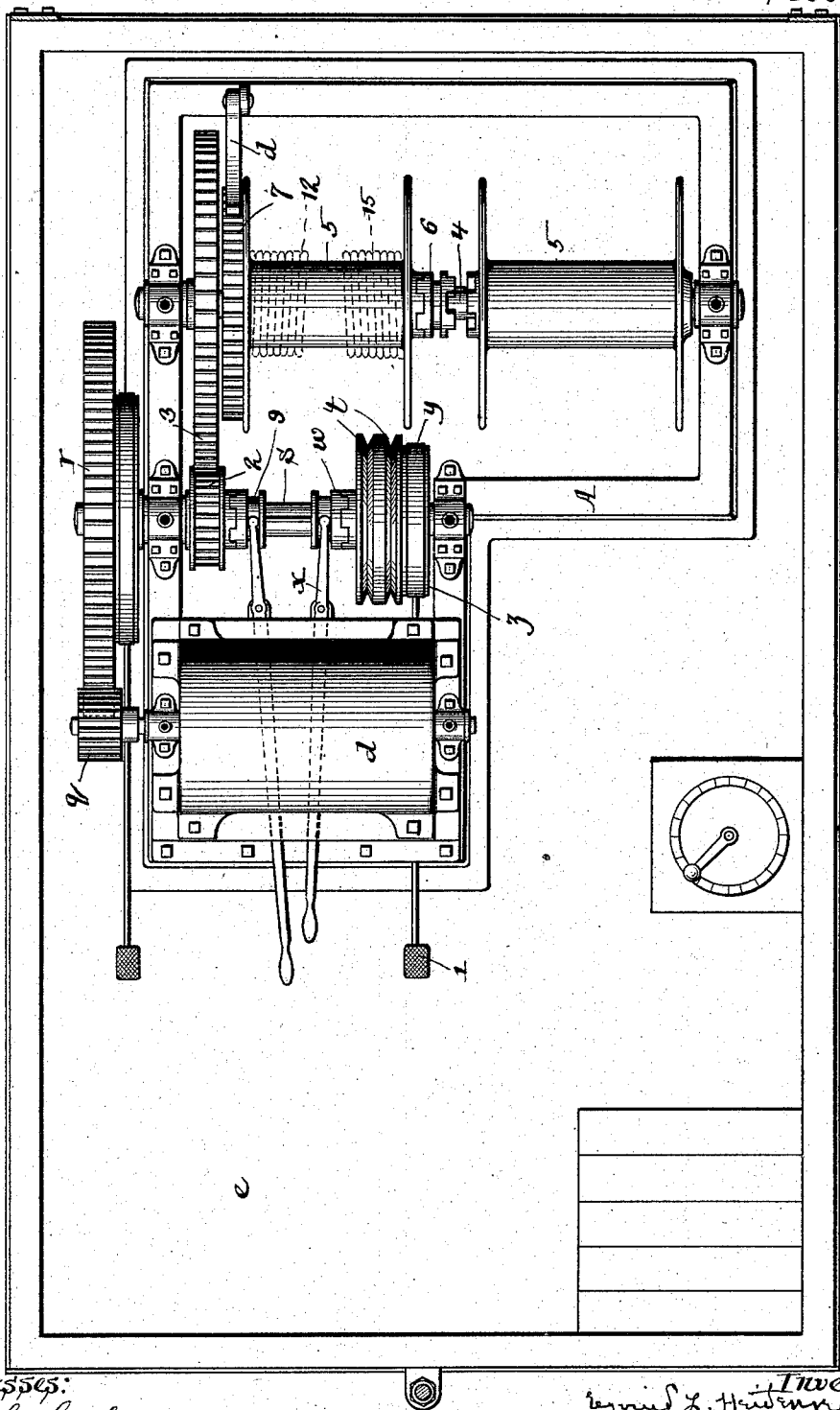
E. L. HEIDENREICH & G. MONRATH.

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Fig. 2.



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(No Model.)

3 Sheets—Sheet 3.

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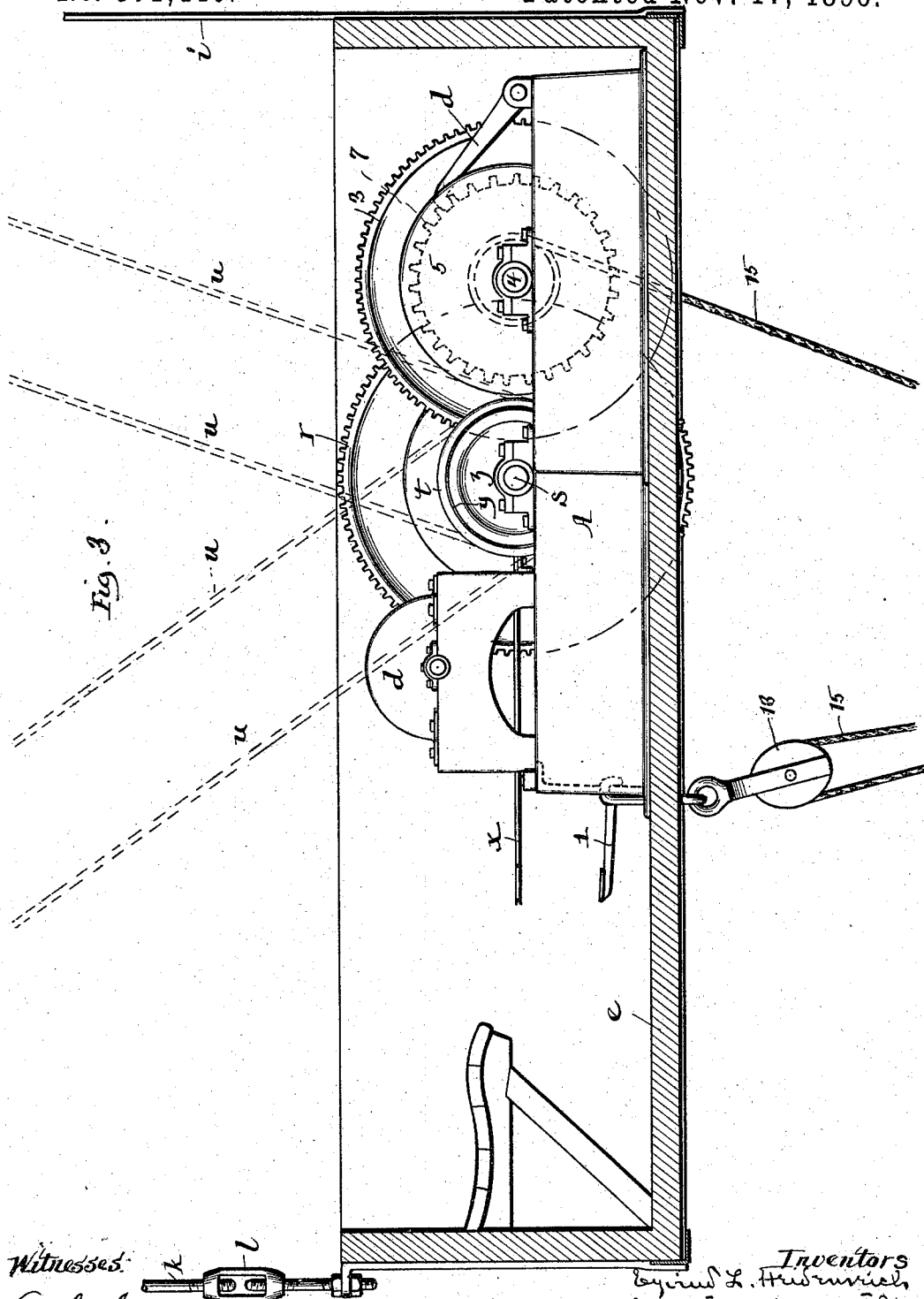


Fig. 3.

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UNITED STATES PATENT OFFICE.

EYVIND L. HEIDENREICH AND GUSTAVE MONRATH, OF CHICAGO, ILLINOIS;
SAID MONRATH ASSIGNOR TO SAID HEIDENREICH.

CABLE-CARRIER.

SPECIFICATION forming part of Letters Patent No. 571,440, dated November 17, 1896.

Application filed August 15, 1896. Serial No. 602,847. (No model.)

To all whom it may concern:

Be it known that we, EYVIND LEE HEIDENREICH and GUSTAVE MONRATH, residents of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Cable Carriers, of which we declare the following to be a full, clear, and exact description.

The invention relates to devices traveling along cableways for the purpose of shifting loads from place to place.

The improvements are directed more especially to carriers suspended from a cableway and furnished with an electric motor controlled by the operator on the car. The motor usually derives its energy from an overhead feeder-wire, as in ordinary trolley systems. The motor serves to propel the car and thereby to transport the burden. The load is slung between suspenders which extend from the car and from a guide-trolley mounted on the cableway at a defined distance from the car. In common practice the suspenders take the form of the familiar block and fall, the fore and aft ropes running to a winch mechanism on the car actuated by the electric motor. Provision is made for propelling the car and for working the winch simultaneously, or again, if there be different winches for the separate falls, for working the winches in unison or independently, as may be requisite.

The invention is peculiarly fitted for transporting logs or like unwieldy burdens over a lateral cableway to the skid, chutes, landings, or main-track line of the system.

In the drawings like parts have like designation throughout.

Figure 1, Sheet I, is a side elevation view of the car, the guide-trolley, and the tackle supporting a log. Fig. 1^a is a rear view of the car. Fig. 2, Sheet II, is a plan view of the car, showing the motor, propulsion-sheaves, and the winch mechanism; Fig. 3, Sheet III, an interior side elevation, the car-body being in section.

The cableway *a* is supported in any suitable fashion on poles or trees, and extends ordinarily from the main skidway or receiving station in lateral direction for a suitable distance to command the section-area over which the loggers are ranging. An electric

generator at the skidway-station may conveniently serve as a source of supply for the current, which passes thence by feeder-wire *b* and trolley-pole *c* to the motor *d*, mounted on the car *e*. The feeder-wire is strung along in familiar fashion in near relation to the cableway, while the pole and motor are of any usual approved pattern.

Upon the cableway *a* travel the wheels *f*, having straps *g* at the axles thereof, and a distender *h*, affixed to the respective axles to determine the distance between the wheels. At one end the cross-braces *i* unite the car-body with the strap of the front wheel. At the opposite end a tie-rod *k* with turnbuckle *l* thereon unites the rear wheel and car. By shifting the turnbuckle the tension on the drive-belts for the car may be varied. A guide-trolley *m* moves along the cableway in defined position to the car, the strap *n* of the trolley being flexibly united for such purpose to the rear end of distender *h* through the medium of connector *o*, jointed thereto by bolt *p*. The flexible relation of the trolley to the car-sustaining wheels enables the system to pass curves of short radius along the cableway without risk of jumping the track.

Upon a suitable frame *A* within the car is journaled the electric motor *d* in mesh by pinion *q* with the gear-wheel *r* of main shaft *s*. Near its opposite end the shaft *s* loosely carries the companion sheaves *t*, about which pass the drive-belts *u*, extending thence overhead and front and rear to the sheaves *v* at the carrier-wheels *f*. Each of said wheels *f* and its adjacent sheave *v* are rigidly united and revolve upon a common axle. By this provision when drive-sheaves *t* at the car are caused to revolve the overhead wheels *f* necessarily partake of the movement, and thus the car is propelled.

A clutch *w*, splined to main shaft *s* and controlled by lever *x* or like expedient, is thrown into or out of engagement with drive-sheaves *t* to govern the propulsion. Affixed to each end of shaft *s* is a pulley *z*. Over its rim passes a brake-strap *y*, which by usual treadle *l* can be tightened or loosened to slacken the speed of the shaft or release it, as may be necessary.

A pinion 2 on main shaft *s* meshes with a

gear-wheel 3, affixed to counter-shaft 4 of the winch mechanism. The counter-shaft journals on the frame A and loosely sustains the winch-barrels 5, between which is a double clutch 6, splined to the shaft. The clutch enables either winch to be brought into action, as the operator may desire. Ratchet 7, affixed to one of the winches, encounters pawl 8 to prevent the barrel from unwinding. This expedient ordinarily comes into play after the winch has raised the load to suspended position and the car is being propelled to transport the burden. At such juncture the clutch 9 on main shaft *s* is thrown off from pinion 2, which latter being no longer positively driven rides loosely on shaft *s*, and thus, except for pawl and ratchet 7 8, must release gear-wheel 3 and permit the winch to unwind. On the other hand, it will be noticed that the main shaft through its clutches controls not only the propelling-wheels, but also the winch mechanism, and at times may compel their simultaneous action, as in effecting a "flying" lift of the burden.

Generally a single winch serves for raising and lowering the load. For this purpose the tackle consists of companion block and falls to suspend opposite ends of the log or other burden. Guide-block 10 and hook-block 11 with cable 12 are carried by trolley *m*, while car-block 13 and hook-block 14 with cable 15 are sustained from the car. The free ends of cables 12 15 move through block 14 and pass thence to the winch. Gripping-hooks 16, carried from the straps of blocks 11 14, seize the log and stoutly hold it in suspended position.

The exterior or companion winch on counter-shaft 4 may be used at times for one of the lifting-cables, in which event the front and rear falls for the burden each has its own winder. Ordinarily the dual winch comes into play at other occasions, being used for "snaking" out logs from difficult or remote

position preparatory to transportation. The electric motor affords the requisite power immediately at command to aid the loggers in snaking their burdens to the traveling car.

Obviously the details can be varied according to the skill of the mechanic without essential departure from the principles of the invention.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with the cableway and with the traveling car suspended therefrom, of the electric motor mounted on said car, the winch mechanism driven by said motor, the guide-block separately sustained upon the cableway at a defined distance from the car, the car-block and the dual tackles extended between each block and the winch mechanism therefor, substantially as described.

2. The combination with the cableway and with the traveling car suspended therefrom, of the electric motor mounted on said car, the companion winches driven by said motor, the guide-block sustained upon the cableway at defined distance from the car, the car-block and the separate tackles for each block and its corresponding winch, substantially as described.

3. The combination with the cableway and with the traveling car suspended therefrom, of the electric motor mounted on said car, the car-propelling wheels and the winch mechanism independently driven by said motor, the guide-block separately sustained upon the cableway, the car-block, and the separate tackles extended between each block and the winch mechanism therefor, substantially as described.

EYVIND LEE HEIDENREICH.
GUSTAVE MONRATH.

Witnesses:

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