

No. 890,159.

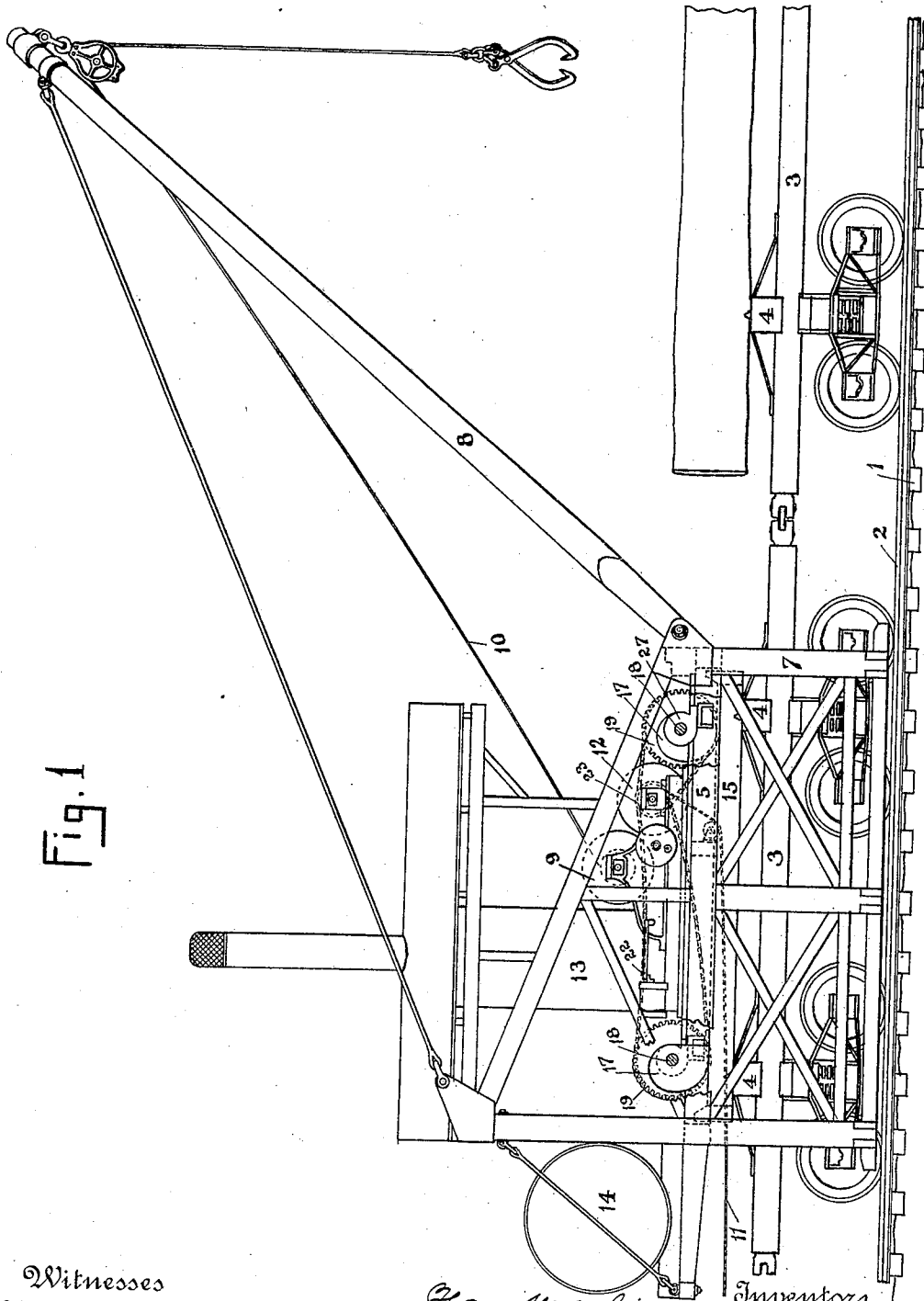
PATENTED JUNE 9, 1908.

T. S. MILLER & J. H. DICKINSON.

PORTABLE DERRICK.

APPLICATION FILED NOV. 18, 1903.

6 SHEETS—SHEET 1.



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5 SHEETS—SHEET 2.

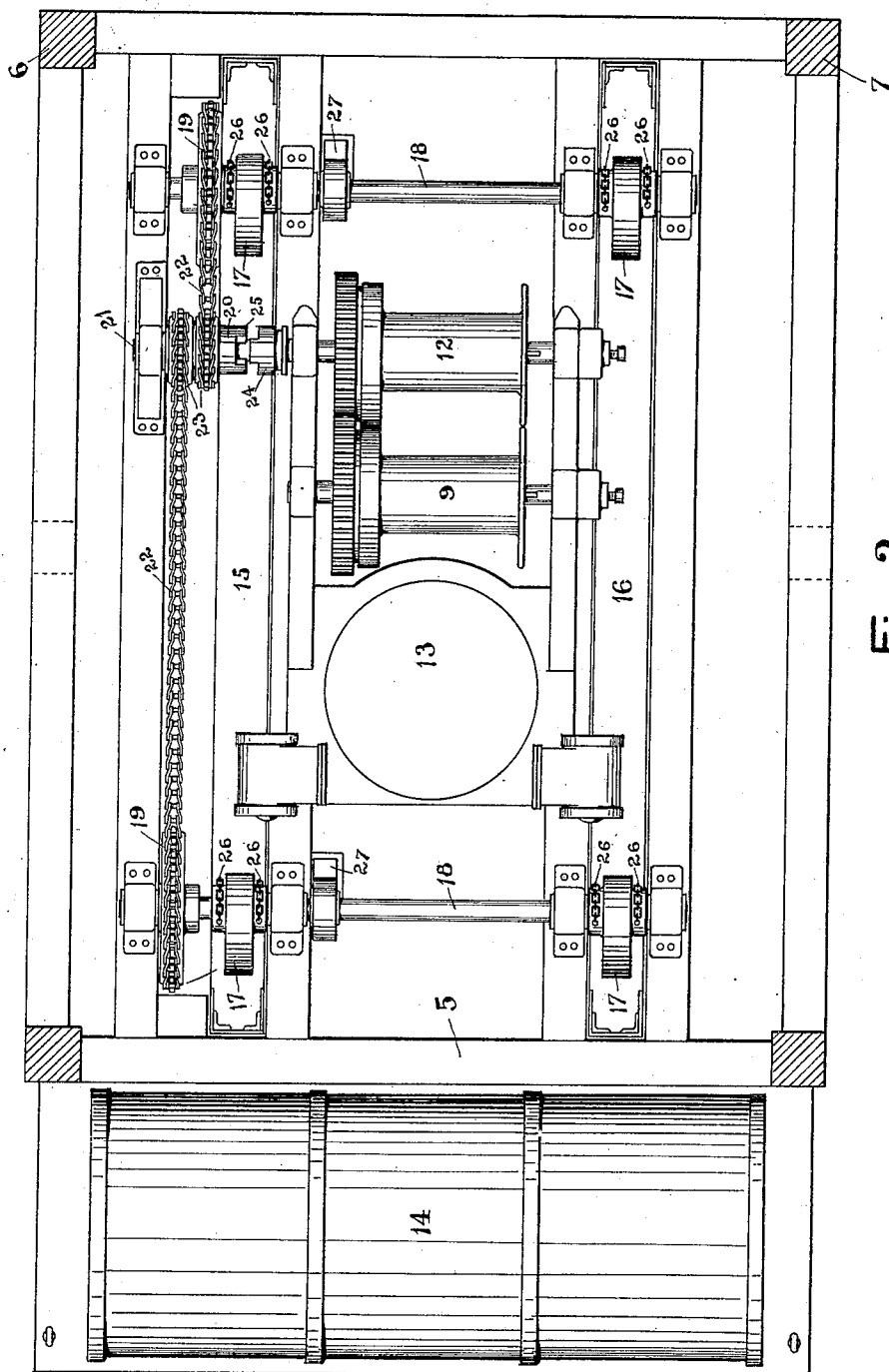


Fig. 2

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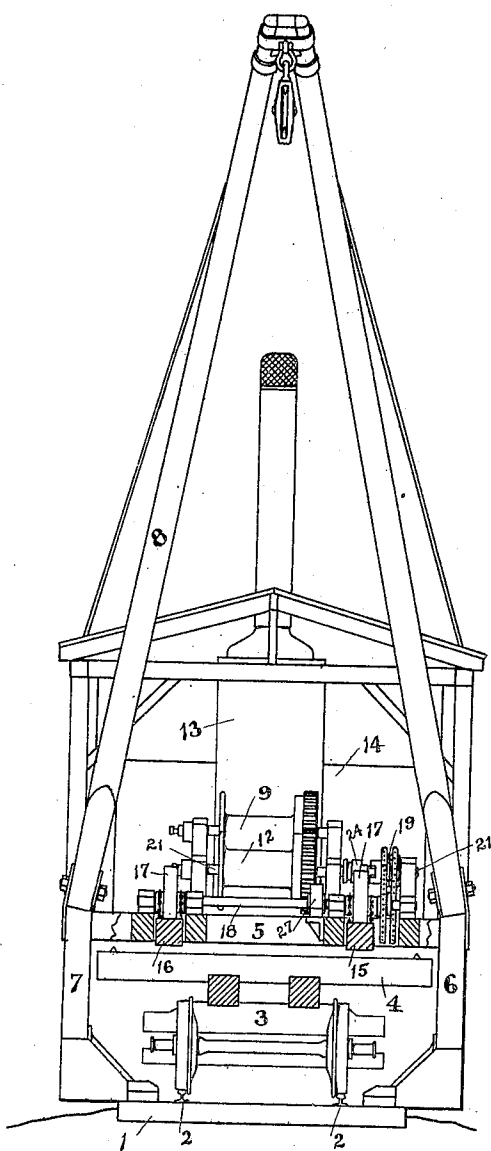


Fig. 4

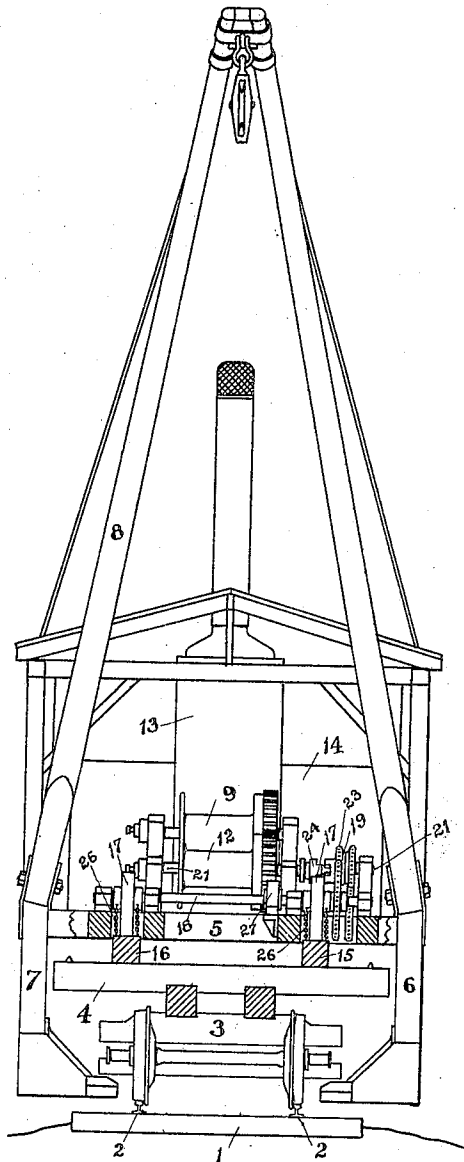


Fig. 3

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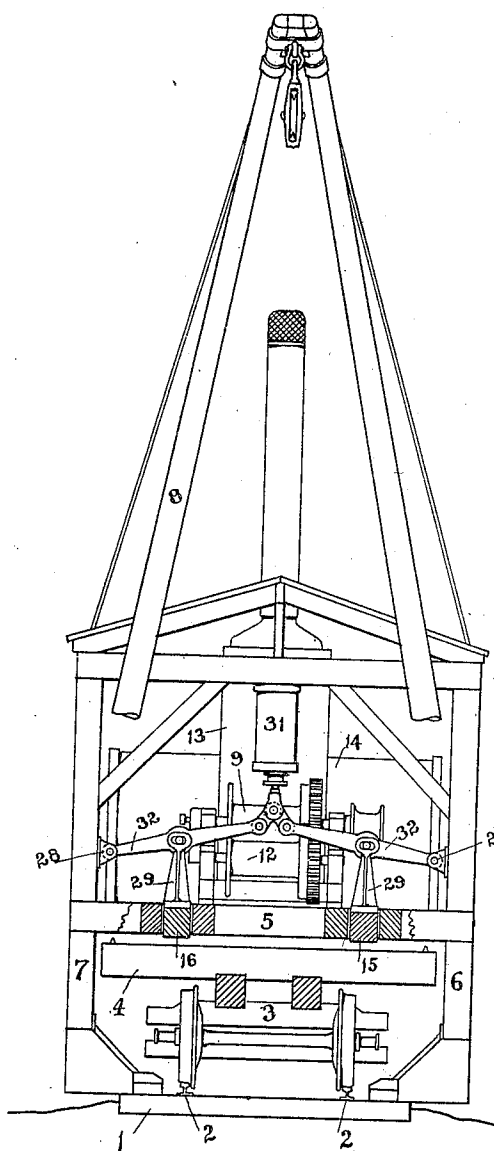


Fig. 5

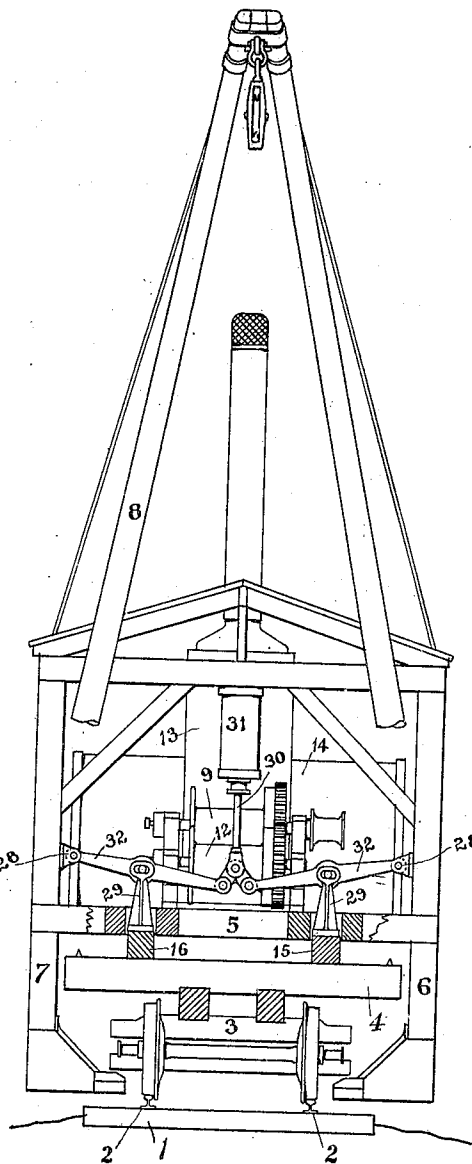


Fig. 6

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5 SHEETS—SHEET 5.

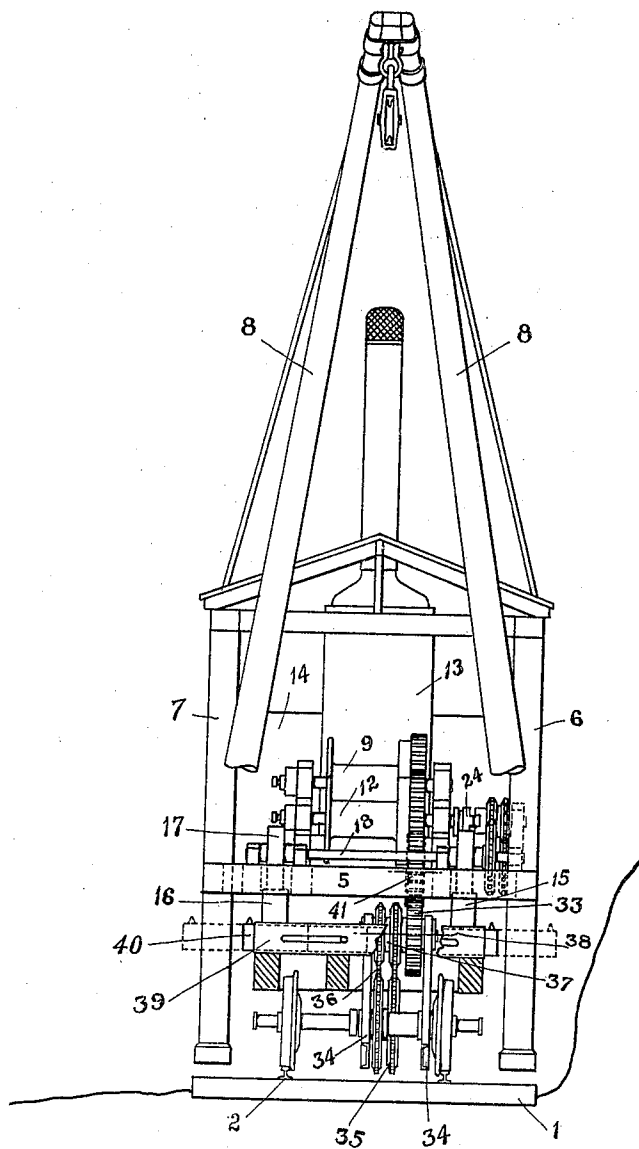


Fig. 7

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UNITED STATES PATENT OFFICE.

THOMAS SPENCER MILLER, OF SOUTH ORANGE, AND JOSEPH H. DICKINSON, OF MONTCLAIR,
NEW JERSEY.

PORTABLE DERRICK.

No. 890,159.

Specification of Letters Patent.

Patented June 9, 1908.

Application filed November 18, 1903. Serial No. 181,714.

To all whom it may concern:

Be it known that we, THOMAS SPENCER MILLER, a citizen of the United States, and a resident of South Orange, county of Essex, and State of New Jersey, and JOSEPH H. DICKINSON, a citizen of the United States, and a resident of Montclair, county of Essex, and State of New Jersey, have invented a new and useful Improvement in Portable Derricks, of which the following is a specification.

In that class of derricks which straddle a railway track so as to permit cars to pass freely beneath the derrick platform, the transfer of the support of the derrick from its own supports to a carrying car has heretofore been accomplished by operative mechanism controlling the effective length of the derrick supports so that by shortening the same the derrick platform was lowered until it rested upon the car.

The object of our present invention is to enable the derrick to be loaded upon the car in a more expeditious and simple manner and it consists in interposing between the derrick and the car, supports by the movement of which in contact with the car, the derrick may substantially lift itself until its supports are raised from the ground and it is loaded bodily upon the car.

In the accompanying drawings, Figure 1 is a side elevation of a derrick containing our invention carried by an ordinary logging car beneath it. Fig. 2 is a plan view of the derrick-platform and the apparatus carried thereon with the superstructure above the platform removed. Fig. 3 is an end view of the same corresponding with Fig. 1, partly in section. Fig. 4 is an end view of the same but showing the derrick standing upon its own supports with the car free to run beneath its platform. Figs. 5 and 6 are modifications. Fig. 7 shows propelling mechanism in the combination.

1 are the railway ties; 2, the tracks.

3 is an ordinary logging car carrying the log-bunkers 4.

5 is the derrick-platform from the opposite sides of which project downwardly the rigid supports 6, 7, so as to straddle the car and stand upon the ends of the ties.

8 is the boom.

9 is the hoisting-rope-drum.

10 is the hoisting-rope.

11 is the car spotting-rope and 12 the rope-drum for the same.

13 is the boiler and 14 the water-tank.

15 and 16 are members which are forced down from the derrick-platform against the bunkers of the car to load the derrick onto the car and lift the derrick-supports 6 and 7 clear of the ties. As exemplified in the drawings, these members consist of two longitudinal sills adapted to extend from bunker to bunker of the car and movable up and down in slots through the derrick-platform.

The mechanism for operating the members 15 and 16 is exemplified by two forms in the accompanying drawings. In Figs. 1, 2, 3, and 4 it consists of the two pairs of cams 17 each fixed to a shaft 18 to which are fixed the sprocket-wheels 19 connected with the sleeve 20 on the shaft 21 of the drum 12 by the chains 22 and sprocket-wheels 23. 24 is a clutch splined to the shaft 21 and adapted to interlock with a clutch 25 on the end of sleeve 20. 26 are chains suspending the members 15 and 16 from the hubs of cams 17. 27 are stops fixed to the shafts 18 whereby the rotation of said shafts in a direction to unwind said chains is limited. When the derrick is in operation and standing upon its own supports, the clutch 24 will stand disengaged. When it is desired to load the derrick on the car, the clutch 24 will be moved longitudinally into engagement with the clutch 25 and the derrick-engine run in such direction as to rotate the cams 17 downwardly until the support of the derrick is transferred from the supports 6, 7 to the supports 15, 16, on the car. When it is desired to unload the derrick from the car, the engine is run in the opposite direction with the clutches in engagement and the cams 17 are thus moved upwardly while the chains 26 compel the members 15 and 16 to follow the upward movement of the cams.

In the forms shown in Figs. 5 and 6, we substitute for the cams 17 above described, the levers 32 pivoted to the derrick structure at 28 and connected with the members 15 and 16 by hangers 29. Each pair of said levers 32 is coupled with the piston-rod 30 of a cylinder 31 that may be operated by steam from the derrick-boiler, or other power, such as by hydraulic power taken from the pump of the derrick.

In Fig. 7, we have shown traction mech-

anism on the car and driving mechanism therefor on the derrick, so that after the car has coacted with the derrick to enable it to lift itself off of its supports it continues to coact to enable the derrick to act as its own locomotive. 41 is a spur-wheel on the derrick platform driven in any suitable way from the derrick engine. 33 is a spur-wheel on the car adapted to be engaged or disengaged therewith by the rocking of the frame 34. 35 are sprocket-wheels fixed on the car axles and 36 are chains by which the same are driven from sprocket wheels 37 fixed on the counter shaft 38 of spur-wheel 33. A form of this is also shown in our applications 181204 filed Nov. 14, 1903, and 169862 filed Aug. 18, 1903. In Fig. 7, we have also combined with the mechanism above described log bunkers consisting of a central portion 39 adapted to support the lifting members 15, 16, and into which the bunker ends 40 telescope so as to be capable of an inboard movement to permit the car to pass between narrow derrick supports. A form of this is also shown in our application 181205 filed Nov. 14, 1903.

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

1. In combination, an engine and its supporting platform, a derrick, a car free to move relatively to said platform on a railroad track beneath the same, supports with which said platform is rigidly connected and which support the same without obstructing said movement of the car, and mechanism interposed between said engine platform and said car, whereby the engine platform is raised upon the car.

2. In a log loading machine the combination of a derrick frame having a derrick mounted thereon, a hoisting engine attached to said frame, a car horizontally movable through said frame, and lifting mechanism interposed between said derrick frame and car, whereby said derrick frame is loaded onto the car.

3. The combination of hoisting apparatus, supports for the same adapted to straddle a car, a sill adapted to rest on said car, vertical guides on the hoisting apparatus platform for said sill, and mechanism whereby said sill is forced downward.

4. The combination with a frame, of a hoisting and conveying apparatus carried thereby, an engine, longitudinally disposed members movable in said frame, and means connecting with the engine for imparting a vertical movement to the longitudinally disposed members to lower the latter to support the said frame upon a vehicle, or the like.

5. The combination of a frame, a hoisting apparatus carried thereby, supports for said frame adapted to straddle a car, mechanism for operating the hoisting apparatus, power

transmitting means between the mechanism and the car for imparting motion to the car from the mechanism, and vertically movable means within said frame adapted, when lowered, to support the frame and its parts upon the car.

6. In a logging machine the combination of a derrick frame, a derrick mounted thereon, a hoisting engine also mounted thereon, a car movable through the frame, and lifting mechanism interposed between the engine and the car.

7. The combination with a frame, of an engine, a car, jacking mechanism interposed between the engine and the car whereby the engine may be raised and lowered on the car, a derrick carried by the frame, and legs whereby said engine may be supported independently of the car.

8. The combination with a frame, of an engine carried thereby, hoisting and conveying mechanism operated by said engine, means for supporting the frame above a car, and means carried by said frame adapted to be lowered into contact with the car for raising the frame.

9. The combination with a frame, of hoisting and conveying apparatus carried thereby, an engine for operating said apparatus, a plurality of longitudinally disposed members, movable up and down in slots in the platform base of the frame, and means connected with the engine for imparting a vertical movement to said members and to elevate the frame.

10. The combination with a vehicle, of a portable derrick, including the frame thereof having foot members for resting upon the ties of a track; and means carried by the derrick frame adapted to be moved in contact with the body of the vehicle for supporting said derrick on the vehicle, and power transmitting means between the derrick and the vehicle for propelling the latter.

11. The combination with a vehicle, of a portable derrick, means for supporting said derrick upon the vehicle, an engine, power transmitting means between the engine and the derrick supporting means for actuating the latter, and power transmitting means between the derrick and the vehicle for propelling said vehicles.

12. The combination of a vehicle or the like, of a portable derrick, a plurality of horizontally disposed sills or beams carried by said derrick, and means for imparting a vertical movement to said sills or beams, to move the latter into and out of contact with the platform base of the car therebeneath.

13. The combination of a frame adapted to permit the passage of trucks there-through, hoisting mechanism fixedly mounted in said frame, and means adapted to raise said frame upon a truck positioned therebeneath.

14. The combination of a frame formed with a longitudinal opening to permit the passage of vehicles therethrough, hoisting mechanism fixedly mounted in said frame, and means borne by said frame and adapted to raise the same upon a vehicle positioned therebeneath.

15. The combination of a truck, a frame adapted to straddle the same, hoisting mechanism fixedly mounted in said frame, and means adapted to jack said frame upon said truck.

16. In a log-loading machine, the combination of a truck, a frame adapted to straddle the same, a deck for carrying hoisting mechanism rigidly mounted in said frame, and means adapted to raise said frame upon said truck.

17. In a log-loading machine, the combination of a car movable upon a track, a frame adapted to rest upon such track and permit said car to pass therealong, hoisting mechanism fixedly mounted in said frame, and means adapted to raise said frame upon said car.

18. In a loading device, the combination of a car movable upon a track, a frame adapted to rest upon such track and permit said car to pass therealong, hoisting mechanism fixedly mounted in said frame, and means borne by said frame and adapted to raise the same upon said car.

19. In a loading device, the combination of a frame adapted to permit the passage of trucks therethrough, hoisting mechanism mounted in said frame, and positively depressible members mounted in said frame and adapted to raise the latter upon a truck positioned therebeneath.

20. In a loading device, the combination of a frame formed with a longitudinal opening to permit the passage of trucks therethrough, hoisting mechanism fixedly mounted in said frame, and depressible members mounted in said frame and adapted to be positively actuated to raise the latter upon a truck positioned therebeneath, such members being operatively connected with said hoisting mechanism.

21. In a log-loading machine, the com-

bination of a car movable upon a track, a deck for carrying hoisting mechanism, supporting means rigidly attached to said deck and adapted to rest upon such track and permit cars to pass beneath said deck, and means attached to said deck and adapted to raise the same upon said car, such means comprising a depressible member, and means adapted to depress the same.

22. In a log-loading machine, the combination of a car movable upon a track, a frame adapted to straddle such track and permit said car to pass therealong, hoisting mechanism fixedly mounted in said frame, and means adapted to raise said frame upon said car, such means comprising depressible members adapted to be actuated by said hoisting mechanism.

23. In a log-loading machine, the combination of a deck for carrying hoisting mechanism, supporting means rigidly attached to said deck, said means being adapted to straddle a track and permit cars to pass beneath said deck, and means, borne by said deck, adapted to raise the same upon a car positioned beneath it.

24. In a log-loading machine, the combination of a truck movable upon a track, a frame for carrying hoisting mechanism, such frame being adapted to straddle such track and permit said truck to pass beneath it, and means adapted to raise said frame upon said truck, such means comprising a plurality of depressible members mounted on said frame, and adapted in one position to recede within said frame and in another position to contact with such truck, and means adapted to actuate said members.

In testimony whereof, we have hereunto signed our names in the presence of two subscribing witnesses.

THOMAS SPENCER MILLER.
JOSEPH H. DICKINSON.

Witnesses for Thomas Spencer Miller:
FRANK B. KNIGHT,
PRIOR SINCLAIR.

Witnesses for Joseph H. Dickinson:
D. R. WING,
B. B. TRUETT.