

# UNITED STATES PATENT OFFICE.

JOHN DOLBEER, OF SAN FRANCISCO, CALIFORNIA.

## LOGGING-LOCOMOTIVE.

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*To all whom it may concern:*

Be it known that I, JOHN DOLBEER, of the city and county of San Francisco, and State of California, have invented an Improvement in Logging-Locomotives; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a novel apparatus in which I produce a traction and a rope-winding or hauling engine in one mechanism, which I term a "logging-locomotive."

It consists of an engine and boiler mounted upon a suitable frame supported upon wheels, which are adapted to run upon a track, and a gipsy or winding-drum mounted upon the forward part of the same frame, and a suitable mechanism by which power may be applied to drive the wheels and move the locomotive along the track, or to actuate the winding apparatus, as will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my combined apparatus, showing an intermediate gearing. Fig. 2 is a plan of a portion of the apparatus. Fig. 3 shows the mechanism with a secondary engine in place of the gear. Fig. 4 is a plan view of a part of the same.

In mountainous heavily-wooded localities it is often difficult to construct logging-roads or to bring the necessary apparatus to the proper points to haul the logs into position and load them to be transported to the mill, or to unload them at destination. This is a serious obstacle in places like the timber region of the Pacific coast, where the logs are often eight feet or more in diameter. It has been found more economical to construct a temporary railway-line from the mill to the point where the logs are cut, and in order to provide a convenient mechanism for moving the logs and loading them, and then transporting them over the railway to the mill, I combine a locomotive and gipsy, as hereinafter described.

A is the frame of a locomotive, mounted upon bearing and driving wheels B, which are fitted to run upon a track.

C is the boiler, and D is the cylinder in which the steam operates upon a piston to drive the engine.

In Fig. 1 I have shown the engine connected

with the gipsy and also with the driving-wheels by intermediate gearing, and in Fig. 3 it is shown connected with the gipsy only, while the driving-wheels are operated by a separate engine.

E is a gipsy or winding-drum, which is fixed to a horizontal shaft, F, turning in strong boxes, which are fixed upon the front portion of the engine-frame, so that the gipsy projects to one side of the frame in a convenient position to receive the rope.

G is a strong gear-wheel fixed to the gipsy-shaft, and H is a pinion secured to the engine-shaft and engaging the teeth of the gear-wheel, so as to drive it when the engine is in motion.

A gear-wheel, I, turns loosely upon the forward axle, K, of the driving-wheels, and an intermediate pinion, J, engages with this wheel and also with the gear-wheel G upon the gipsy-shaft. It will be seen that when the engine is in motion the gipsy will be rotated, and also the gears I and J, the former turning loosely upon the axle K.

A clutch coupling-sleeve, L, is fitted to move upon a feather upon the axle, so that it may be moved up to engage with the other portion of the coupling,

which is upon the hub of the gear-wheel I, and when so engaged the shaft K and the driving-wheels will be caused to rotate and the engine converted into a locomotive; but when the gipsy is to be used this coupling is disengaged and the locomotive remains stationary.

When running upon downgrades, which frequently occurs, the clutch is disengaged and the engine and machinery will then remain stationary, while the wheels revolve and the train moves by gravitation. This clutch mechanism may be operated by a lever, M, or in any suitable manner. Geared Steam Locomotive Works

In some cases I have found it preferable to employ a separate engine or engines to connect directly with the driving-wheels, as in Fig. 3, to move the locomotive without the intervention of the gear-wheels, which are then simply used in connection with the gipsy, as before described. By this construction I am enabled to use my locomotive to haul a train of cars suitable for carrying logs to a point near the timber. The locomotive, being brought to a convenient point, is disconnected and fixed by brakes or chocks, and the rope, after pass-