

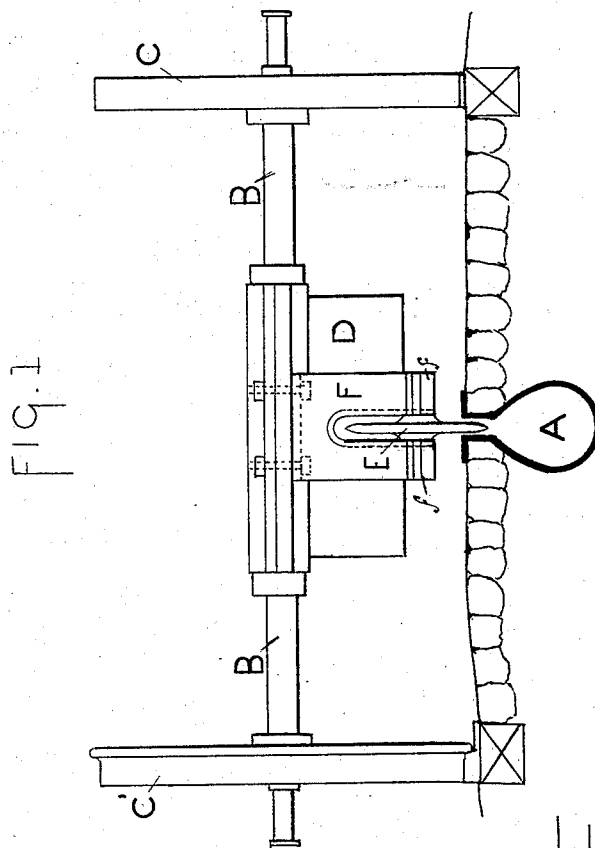
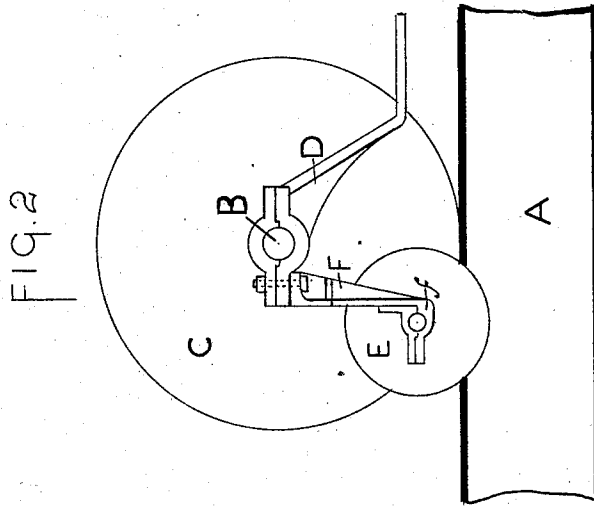
(No Model.)

J. B. LOW.

RAILWAY OPERATED BY UNDERGROUND ROPES.

No. 280,384.

Patented July 3, 1883.



WITNESSES
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UNITED STATES PATENT OFFICE.

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RAILWAY OPERATED BY UNDERGROUND ROPES.

SPECIFICATION forming part of Letters Patent No. 280,384, dated July 3, 1883.

Application filed September 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOEL B. LOW, a citizen of the United States, residing at San Francisco, State of California, have invented a new and useful Improvement in Railways Operated by Underground Ropes, of which the following is a specification.

My invention relates to those railways, principally operated in the streets of cities, which have an endless wire rope run in a tube or channel-way below the surface of the ground, said tube having a slot at the top to admit the shank of a gripping device connecting the car above ground with the rope below.

My invention consists in one or more guides rigidly secured to the axle or axles of the car, and arranged to insert in the slot of the tube in such a manner as that any tendency of the car to move sidewise and carry its wheels off the rails will be counteracted by said guide or guides confined in said slot independently of the side flanges on the carrying-wheels.

In the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of my device, shown applied in connection with the axle and wheels of a car and the slotted tube in the road-bed. Fig. 2 is a side elevation of the same.

In both figures like letters represent like parts.

A is a slotted tube in which the rope is carried.

B is one of the axles of a car.

C C' are the carrying-wheels.

D is the frame on which the gripping device is supported, which frame is secured to and between a pair of axles.

E is my guide, in the form of a wheel or circular wedge. This wheel may be made of steel and cast with solid journals upon it, (instead of boring it out and fitting a shaft thereto.) Ordinarily it may be, say, twelve inches in diameter, and if the slot in the tube is three-

quarters of an inch wide the wheel or disk may be five-eighths of an inch thick, beveled off to a sharp edge, as shown in Fig. 1. This wheel is carried in a hanging frame, F, bolted to the grip-frame D, though in some cases, where there is no grip-frame D, it may be attached directly to the axle in suitable manner. The shape of this hanging frame is amply illustrated in the drawings. It should be so arranged that when in place the axis of the guide-wheel E will be about half its diameter forward of the axle B, as shown. The frame F straddles the guide-wheel E, and is provided with suitable boxes to carry the axle of the guide-wheel.

I have shown the wheel C as having a plain tread without any side flange, and the rail it runs on of flat iron. The ordinary flanged wheel, C', is shown, also, with the common rail now in use. It is immaterial which style of wheels and track is used.

My device operates to great advantage in relieving the side strain on the grip-shank at all times, but more particularly in turning curves. The device is also serviceable for clearing the slot of ice or snow, and in case of the slot closing together from any cause the guide-wheel will open it apart to give passage to the grip-shank.

What I claim as my invention, and desire to secure by Letters Patent, is as follows:

In a rope railway having underground slotted tube A, in connection with the supporting-wheels of the vehicle, arranged to receive the entire load, and a rope-gripping device having a shank passing through said slot, the guide-wheel E, entered within the slot in said tube, and suspended from the axle B in the frame F, substantially as and for the purpose described.

JOEL B. LOW.

Witnesses:

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