(No Model.)

M. C. TULLY.

DEVICE FOR OPERATING STREET CARS.

No. 343,211. Patented June 8, 1886.

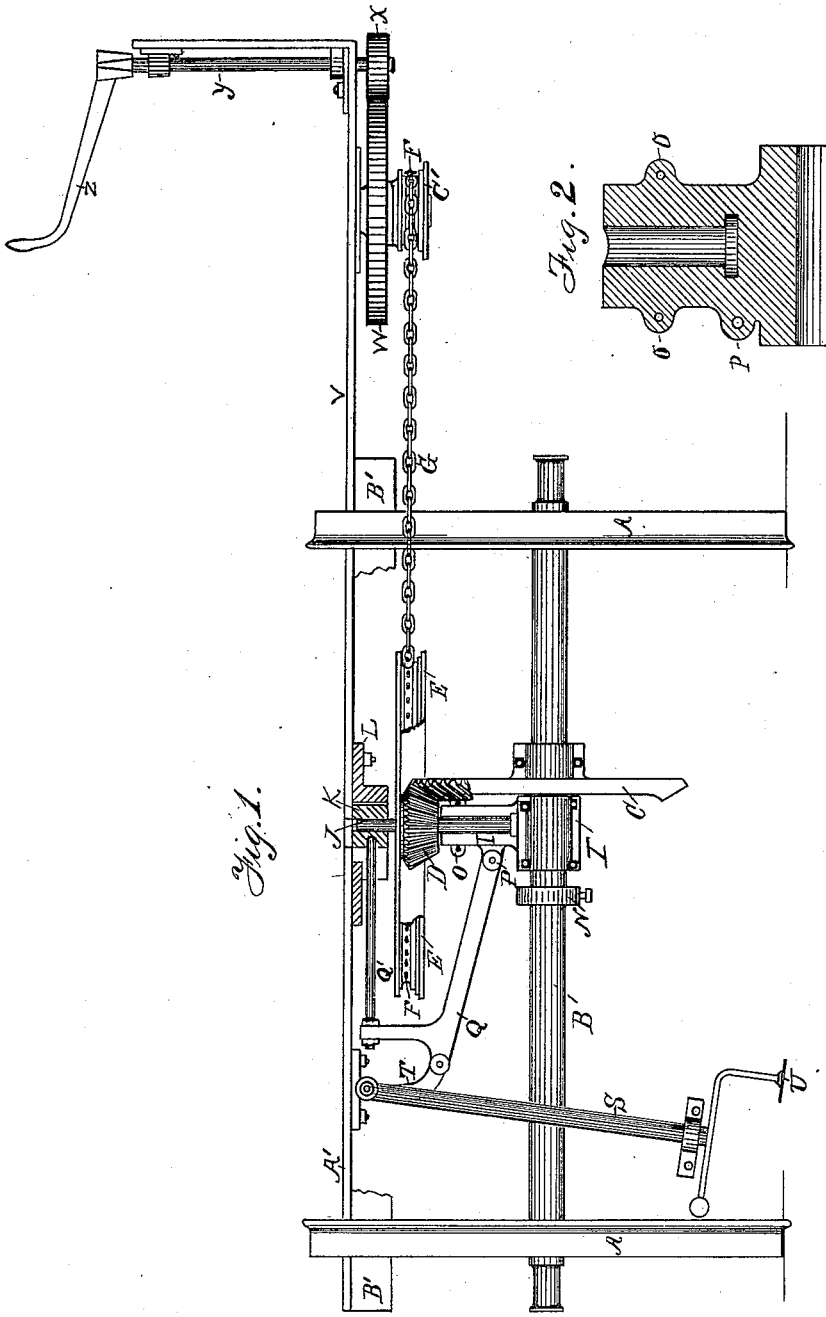

Fig. 1.

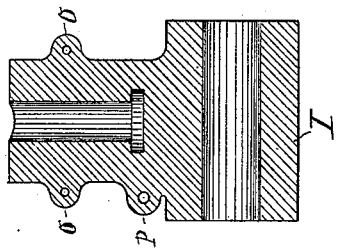

Fig. 2.

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UNITED STATES PATENT OFFICE.

MILTON C. TULLY, OF LOUISVILLE, KENTUCKY.

DEVICE FOR OPERATING STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 343,211, dated June 8, 1886.

Application filed March 6, 1886. Serial No. 194,337. (No model.)

To all whom it may concern:

Be it known that I, MILTON C. TULLY, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a certain new and useful Improvement in Devices for Operating Street-Cars; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming part of the specification.

This invention relates to certain new and useful improvements in devices for operating street-cars either in connection with or without the assistance of mules, but more especially for the purpose of moving the cars in and out of the car-houses without other assistance; and it consists in a series of wheels, the first of which being a bevel cog-wheel screwed upon the main axle of the car, having a small pinion engaging therewith which is operated by a large sheave-wheel by means of a chain passing around it, which extends out under the platform in front, and also around a small sheave-wheel secured to the under side of a large cog-wheel, which engages with a small pinion upon the lower end of the crank-shaft in front of the platform, thereby gaining sufficient power, by means of the inequality of the size of the wheels, to enable the driver to operate the cars slowly without assistance.

The object of my invention is to provide a device for operating street-cars without mules, but more especially for moving the cars in and out of the car-house without other assistance, and also to assist the mules when the car is off the track, or for the purpose of backing the cars, in case the switch has been misplaced, without changing the mules to the rear of the car for the purpose of drawing it back.

I attain the above object by the mechanism illustrated in the drawings, in which Figure 1 is an elevation of the device with the platform turned to the side, in order to show more clearly the general construction of the several devices. Fig. 2 is a view of one-half of the boxing of the upright spindle, showing the form of the several parts.

Similar letters refer to similar parts throughout the several views.

In the drawings, A A represent the wheels of the car, and B is the axle, all of which may be made in any of the known forms.

C is the main driving-wheel, which is a bevel-wheel about sixteen or more inches in diameter, made in two pieces bolted together in order to get it on the shaft; and D is the driving-wheel pinion, which is about five inches in diameter and cast upon the under side of the chain sheave-wheel E, which is about twenty or more inches in diameter and formed as shown in the drawings.

F F are small pins in the groove of the wheel which engage with the links of the chain to prevent slipping.

G is the chain, which is made as shown.

J is the spindle of pinion D, and K is the upper boxing, which slides back and forth in the boss on plate L in order to throw the device in and out of gear, the plate L being secured to the under side of the car-floor, with a space between the boxing and wheel E to allow the car to spring up and down.

I is the step-boxing of the lower end of the spindle J, and is made in two pieces and bolted together, as shown, in order to get it upon the axle of the car, where it slides back and forth loosely in order to put the device in and out of gear. The lower end of the spindle J is provided with a collar to prevent the wheel D from rising up in its operation.

N is a loose or adjustable collar with set-screw on the axle to answer as a gage for the distance required for the movement of the boxing I in gearing and ungearing the machine.

O are the lugs by which the boxing is bolted together, and P is the lug for the shifter-frame Q, which is made of wrought-iron and in form as shown in the drawings.

S is the shaft by which the device is thrown in and out of gear, and T is the arm connecting it with the shifter-frame Q, and U is a treadle for operating it with the foot. This shaft S is not intended to be turned down, as shown, but extends out under the platform to a convenient point to be easily operated.

V is the platform, which is shown as if turned to the side, but is only so shown for convenience in illustrating the invention.

W is a cog-wheel, about sixteen inches in diameter, hinged loosely to the under side of

the platform engaging with the pinion X, of about one-fourth of its size, on the lower end of the operating crank-shaft Y, thereby gaining additional power to be used in cases of necessity.

Z is the crank by which the device is operated.

A′ is the floor of the car, and B′ is the cross-beam, and C′ is the small chain sheave-pulley under the platform in front.

What I claim as my invention, and desire to secure by Letters Patent in devices for operating street-cars, is—

1. The main driving cog-wheel C and pinion D, having spindle J, chain sheave-wheel E, step-box I, and adjustable collar N, as above described, combined with the plate L, sliding box K, shifter-frame Q, arm T, and operating-shaft S, with its treadle U, substantially as described, and for the purpose set forth.

2. Combined with the cog-wheel C, pinion D, and chain sheave-wheel E, as above described, the chain G, chain sheave-pulley C′, cog-wheel W, pinion X, and operating-shaft Y, with its operating-crank Z, substantially as herein described, and for the purpose set forth.

MILTON C. TULLY.

Witnesses:
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