

No. 767,837.

PATENTED AUG. 16, 1904.

G. W. SANDERS.
CABLE TRACTION SYSTEM.

APPLICATION FILED MAY 3, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

Fig 1

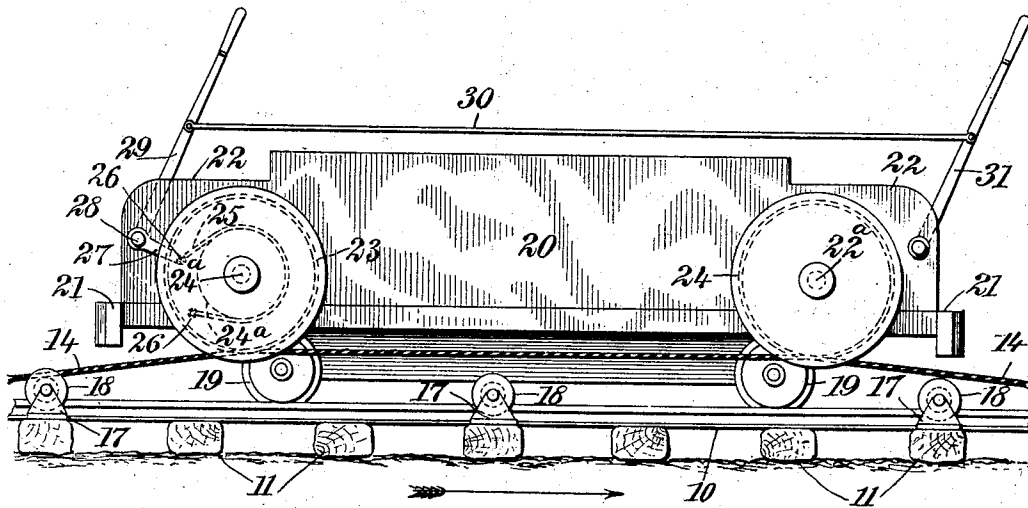
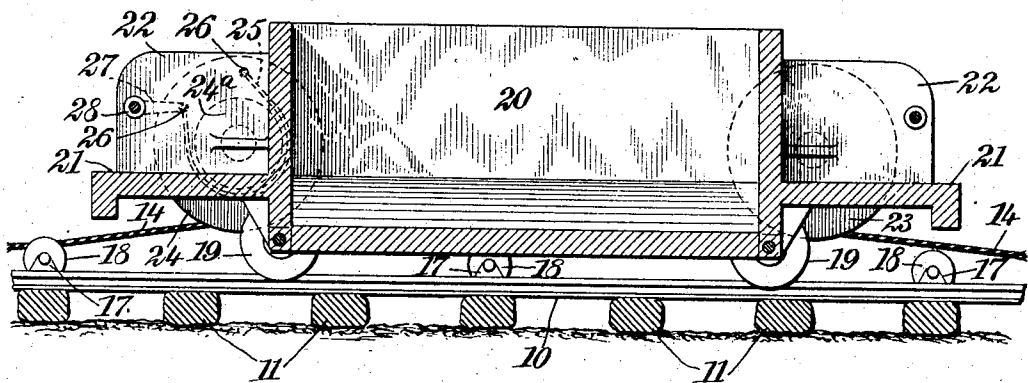


Fig 2



WITNESSES:

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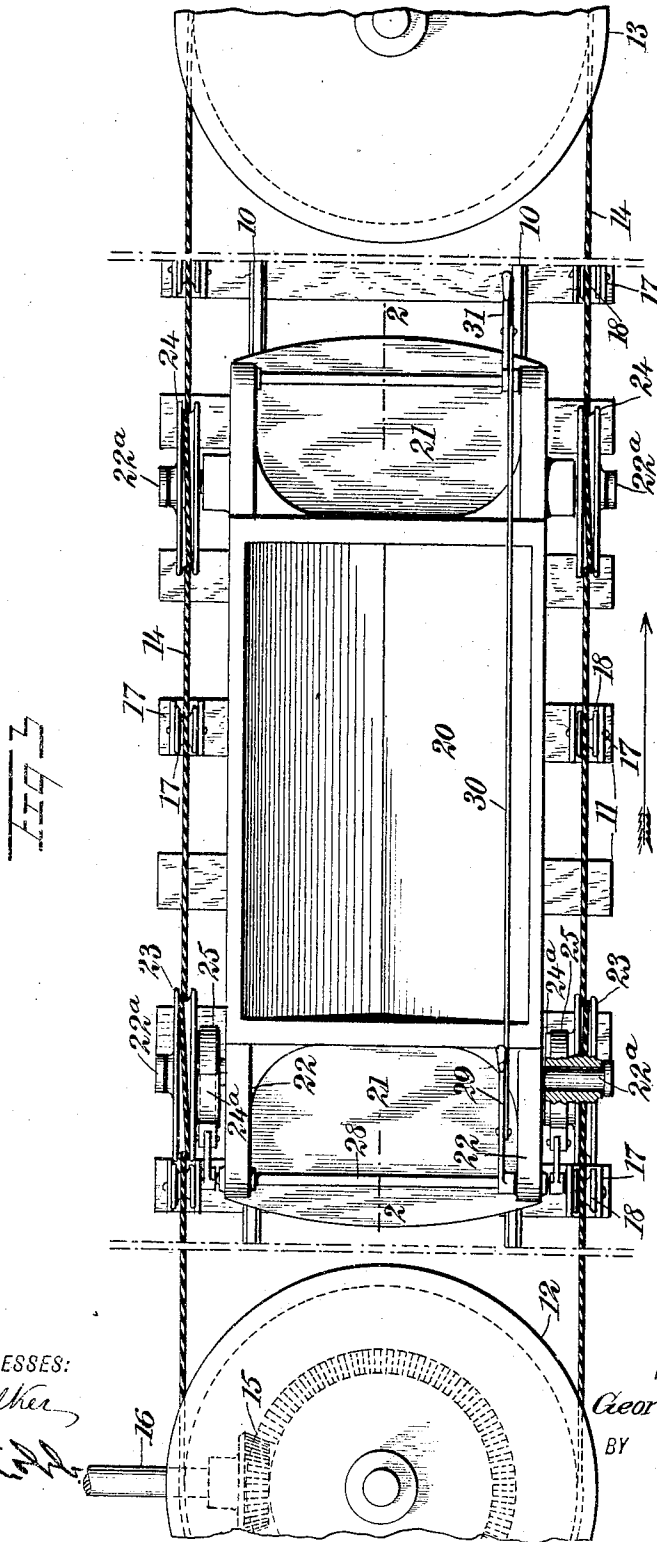
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

GEORGE W. SANDERS, OF GADSDEN, ALABAMA.

CABLE-TRACTION SYSTEM.

SPECIFICATION forming part of Letters Patent No. 767,837, dated August 16, 1904.

Application filed May 3, 1904. Serial No. 206,203. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SANDERS, a citizen of the United States, and a resident of Gadsden, in the county of Etowah and State of Alabama, have invented a new and Improved Cable-Traction System, of which the following is a full, clear, and exact description.

My invention relates to cable-traction systems, and has for its principal objects the provision of an effective means for operating cars in either direction along a track.

It consists in the various features and combinations hereinafter described and more particularly claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a portion of a track with a car operating thereon, these showing one embodiment of my invention. Fig. 2 is a longitudinal section on the line 2 2 of Fig. 3; and Fig. 3 is a top plan view of a track and car, including the operating-pulleys for the cable.

The drawings show a track-section consisting of rails 10 laid in the usual manner upon ties 11, and at each end of this track-section are situated horizontal pulleys 12 and 13, the peripheries of which extend outside the rails and which are preferably grooved to receive an endless cable 14. The pulley 12 may serve to drive the cable, it being connected through suitable gearing 15 with a power-shaft 16, the companion pulley being a support or idler. Mounted outside the rails, conveniently in suitable bearings 17, fixed near the ends of the ties, are sheaves 18, in contact with which the cable may run and be supported at proper intervals between the main pulleys.

Operating upon the rails on wheels 19 is a car 20. At each end of the car is shown a platform 21, in the side walls 22 of which are fixed pairs of opposite bearing-axes 22^a, projecting outwardly, on which are journaled pairs of pulleys 23 23 and 24 24, situated outside the rails and in substantially the same vertical plane as that of the sheaves and the peripheries of the main pulleys. About these car-pulleys the cable extends, it crossing at the bottom of each

at a point not far removed from the upper side of the sheaves 18. This arrangement of the pulleys and cable prevents the former from interfering with any portion of the car and places the latter so that it is least liable to be injured. The pulleys 23 serve as traction-wheels and may be fixed upon their axles by friction devices, here shown as consisting of friction-surfaces 24^a of cylindrical form, extending from the inner sides of the pulleys, about each of which passes a flexible band 25, which may be of metal lined with some such material as leather. One end of this band is connected to a pin 26, fixed to the outer face of the side wall, the other end being joined to the extremity of an arm 27, fast upon a shaft 28, journaled near the outer ends of the walls. Secured to this shaft is a lever 29, which may be connected by a rod 30 to a similar lever 31, fulcrumed upon the wall of the platform at the opposite end of the car.

The cable will of course travel in different directions at the opposite sides of the car, and the securing-points of the bands to the car and to the lever-arm for each of the pulleys 23 is such that upon forcing the lever in one direction that band will be brought into coaction with the friction-surface of the pulley encircled by the run of the cable which is traveling in the same direction, while the companion band is simultaneously loosened or moved out of coöperation with its friction-surface. If it is desired to reverse the movement of the car, it is only necessary to move the lever in the opposite direction, when the band previously in engagement with the friction-surface will be loosened and the other band tightened. By virtue of the connection this may be accomplished from either platform of the car. The pulleys 24 serve merely as guide-wheels, they turning at all times freely upon their axles.

This system is very simple in construction and operation and subjects the cable to but slight wear.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A traction system comprising a cable movable in opposite directions, a car, a pulley rotatably mounted at each side of the car

and coacting with the cable, and means for preventing the rotation of either pulley.

2. A traction system comprising a cable movable in opposite directions, a car, a pulley rotatably mounted at each side of the car and coacting with the cable and provided with a friction-surface, and a member carried by the car and movable into coaction with the friction-surface.

3. A traction system comprising a cable movable in opposite directions, a car, a pulley rotatably mounted at each side of the car and coacting with the cable and provided with a friction-surface, a member carried by the car and movable into coaction with the friction-surface, and means for moving said members common to both.

4. A traction system comprising a cable movable in opposite directions, a car, a pulley rotatably mounted at each side of the car and coacting with the cable and provided with a friction-surface, a member carried by the car and movable into coaction with the friction-surface, and means common to both of said members for simultaneously moving them in opposite directions.

5. A traction system comprising a cable movable in opposite directions, a car, a pulley rotatably mounted upon each side of the car and coacting with the cable and provided with a friction-surface, a shaft extending across the car, an arm fixed to the shaft adjacent to each pulley, and a band secured to the arm and to the car and coacting with the friction-surface.

6. A traction system comprising a cable movable in opposite directions, a car, a pulley

rotatably mounted upon each side of the car and coacting with the cable and provided with a friction-surface, a shaft extending across the car, an arm fixed to the shaft adjacent to each pulley, a band secured to the arm and to the car and coacting with the friction-surface, and means for moving the arms to simultaneously apply one band to its friction-surface and loosen the other from its engagement.

7. A traction system comprising a cable movable in opposite directions, a car, a guide-pulley mounted at each side of the car near one end, a traction-pulley mounted at each side of the car near the opposite end, and means for preventing the rotation of either traction-pulley.

8. A traction system comprising a track, a cable movable outside the track in opposite directions, a car upon the track, and traction-pulleys mounted outside the car and coacting with the cable.

9. A traction system comprising a section of track, horizontal pulleys situated at the ends of the track-section with their peripheries extending beyond the track at each side, sheaves located along the track outside the rails, an endless cable extending over the pulleys and sheaves, a car supported upon the track, and pulleys outside the car over which the cable operates.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE W. SANDERS

Witnesses:

EDWARD CLARK,
W. A. WISE.