No. 718,570. PATENTED JAN. 13, 1903.

W. O. GUNCKEL.

TRACTION RAILROAD.

APPLICATION FILED APR. 25, 1902.

NO MODEL.

FIG. 1.

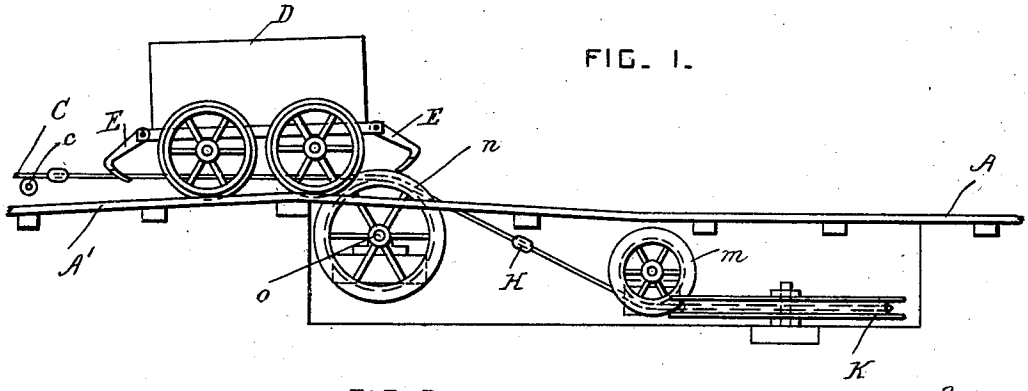


FIG. 2.

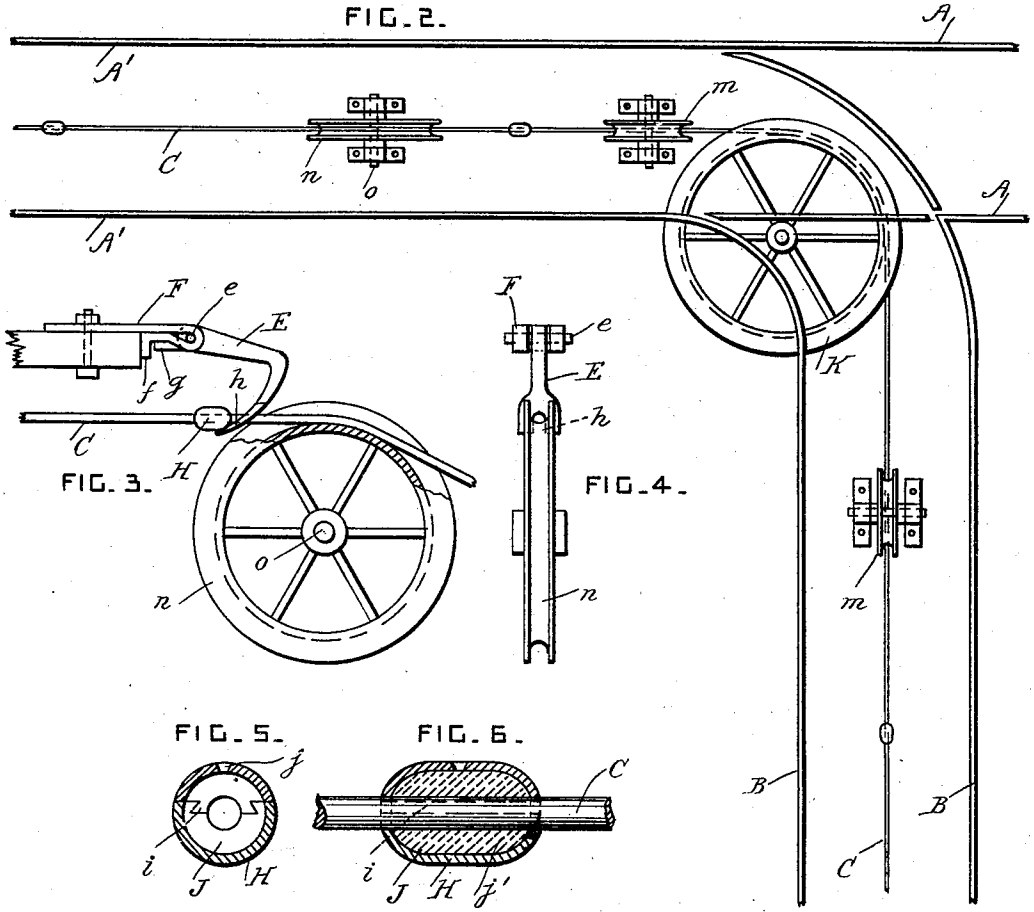


FIG. 3.

FIG. 4.

FIG. 5.

FIG. 6.

WITNESSES

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WINFIELD O. GUNCKEL, OF TERRE HAUTE, INDIANA, ASSIGNOR OF TWELVE TWENTY-FIFTHS TO JABEZ C. CASTO, OF TERRE HAUTE, INDIANA.

TRACTION-RAILROAD.

SPECIFICATION forming part of Letters Patent No. 718,570, dated January 13, 1903.

Application filed April 25, 1902. Serial No. 104,715. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD O. GUNCKEL, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Traction-Railroads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to traction-railroads operated by cables; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of a portion of the railroad. Fig. 2 is a plan view of a portion of the railroad. Fig. 3 is a detail side view of the grip members. Fig. 4 is an end view of the same. Fig. 5 is a cross-section through the cable grip member. Fig. 6 is a longitudinal section through the same.

A represents the main track-rails of a traction-railroad, and B represents the track-rails of a branch, which is connected to the main track by curved rails and a switch of any approved construction. Portions A′ of the main track-rails are raised above the general level of the rails A at the approach to the branch track, the said portions A′ being inclined in each direction from about the middle of their length and joining onto the level portions of the track-rails.

C is the cable, which is supported by rollers *c* at as many points as necessary. The cable and the rollers *c* are arranged above the level of the track-rails and the cable is driven continuously by any approved mechanism for that purpose, such as a steam-engine.

The rails may be arranged above ground, or they may be used in mines and any other places where cable-railroads are useful.

D is a car of any approved construction, which runs upon the rails of the main and branch tracks. Each end of this car is provided with a hooked grip member E. The grip member E is pivoted by a pin *e* to a forked bracket F. The bracket F is secured to the car-frame and is formed of a strip of metal, which is bent around to form a double eye. The upper end of this strip of metal is secured to the top of the platform of the car by one or more bolts, and its lower end forms a foot *f*, which abuts against the end of the car. The grip member E has a stop *g* on its under side which bears against the under side of the bracket F and prevents the grip member E from falling. The hooked end of the said grip member is provided with a slot *h*, which engages with the cable C.

H is the cable grip member, which is secured to the cable and which consists of an oblong ball of metal formed in two halves longitudinally arranged, and which halves are connected together by dovetailed projections *i*. These projections are formed on one half of the grip member and are slid longitudinally into a corresponding socket formed in the other half of the grip member. The halves of the cable grip member have an internal chamber J, and a hole *j* is formed in one side of the grip member. The grip member is secured in position on the cable by pouring lead *j′* in a melted condition into the chamber J through the hole *j*. As many grip members H as desired are secured to the cable at any desired distances apart. The grip members H engage with the hooked grip members E automatically, and the cars are drawn along the level and on upgrades by the grip members E at one end of the cars. On downgrades the cars are moved by gravity and are kept at the same speed as the cable by the hooked grip members at the other end of the cars.

In order to transfer the cars from the main track to the branch track, a horizontal grooved sheave K is journaled on a suitable shaft under the intersecting portions or junction of the two tracks. Grooved guide-sheaves *m* are provided one on each side of the sheave K and are journaled on suitable shafts, so that they run in vertical planes and prevent the cable from leaving the sheave K. A grooved sheave *n* is also provided and is arranged at a little distance from one of the sheaves *m*. The sheave *n* is journaled on a shaft *o*, and its periphery projects above the track-rails and operates to uncouple the hooked grip member from the cable grip member. The sheave *n* is arranged at the upper part of the inclined portions A′ of the

rails where the car commences to descend the said portions toward the junction of the tracks. All the grooves of the said sheaves are made of such size that the grip members H will pass within them. When a car reaches the top of the inclined portions A′ of the rails, it is uncoupled from the cable, as shown in Fig. 1, its hooked grip member being forced out of engagement with the cable grip member H by contact with the flanges of the sheave *n*. The car then runs down the inclined portions A′ by gravity onto the rails of the branch track and is coupled automatically to the cable before it stops. When desired, the car may be sent ahead by changing the position of the switch, so that it does not pass onto the branch track.

What I claim is—

1. In a traction-railroad, the combination, with a main track, and a branch track; of a cable guide-sheave arranged under the said tracks at their junction, guide-sheaves for depressing the cable arranged between the rails of the said main and branch tracks respectively and one on each side of the said cable guide-sheave, a guide and uncoupling sheave which projects above one of the said tracks at a short distance from the said junction, a cable provided with grip members and carried by the said sheaves, and a car which runs on the said tracks and which is provided with a grip member for engaging with the said grip members of the cable, substantially as set forth.

2. In a traction-railroad, the combination, with a main track and a branch track; of a horizontal grooved sheave arranged under the said tracks at their junction, vertical grooved guide-sheaves one on each side of the said horizontal sheave, a vertical grooved guide and uncoupling sheave which projects above the said main track at a short distance from the junction, a cable provided with grip members which enter the grooves of the said sheaves, a car which runs on the said tracks, and a hooked grip member carried by the said car and which is disengaged from the said cable by the said sheave which projects above the track, substantially as set forth.

3. The combination, with a traction-cable, of a cable grip member formed of two longitudinally-slidable portions coupled together by a dovetailed joint, said grip member being provided with an internal chamber and a pouring-hole, and fusible material filling the said chamber and securing the said grip member on the cable, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WINFIELD O. GUNCKEL.

Witnesses:
JAMES H. MULLEN,
WM. T. MCCARTHY.