2 Sheets--Sheet 1.

W. EPPELSHEIMER.

Device for Propelling Cars.

No. 166,975. Patented Aug. 24, 1875.

Fig: 1.

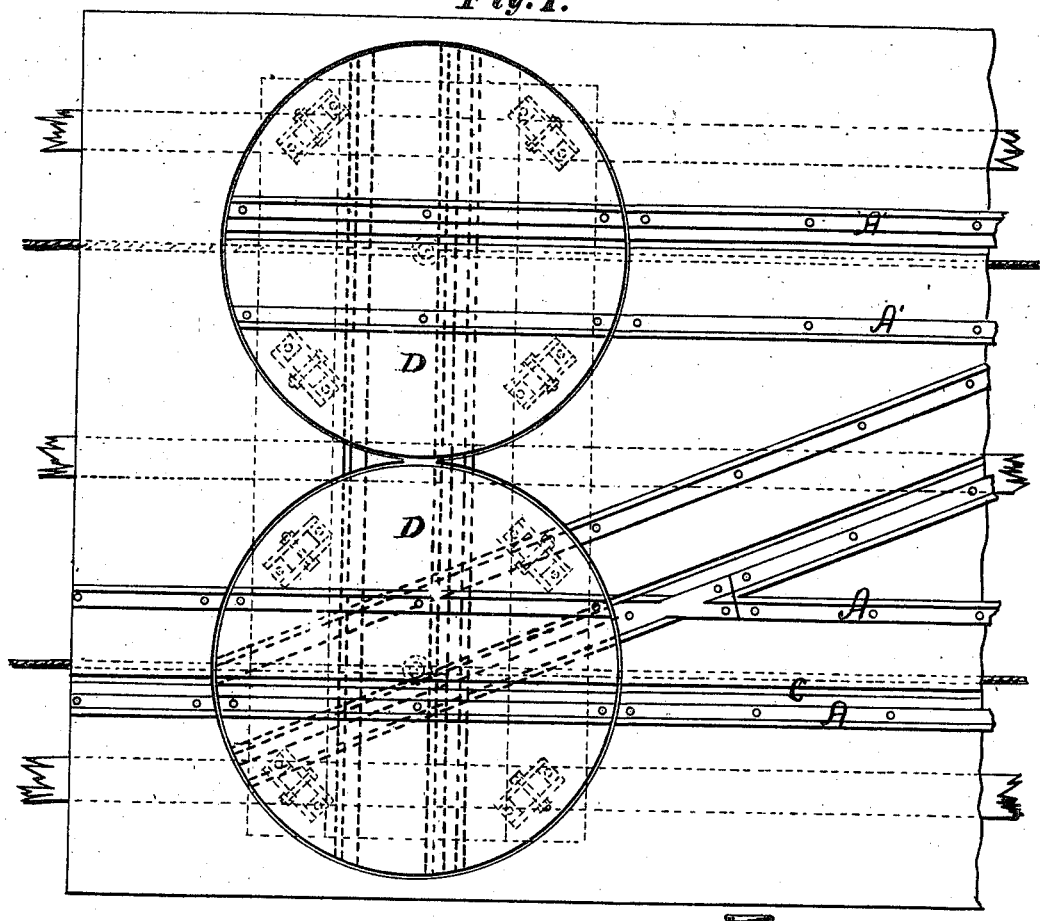


Fig: 2.

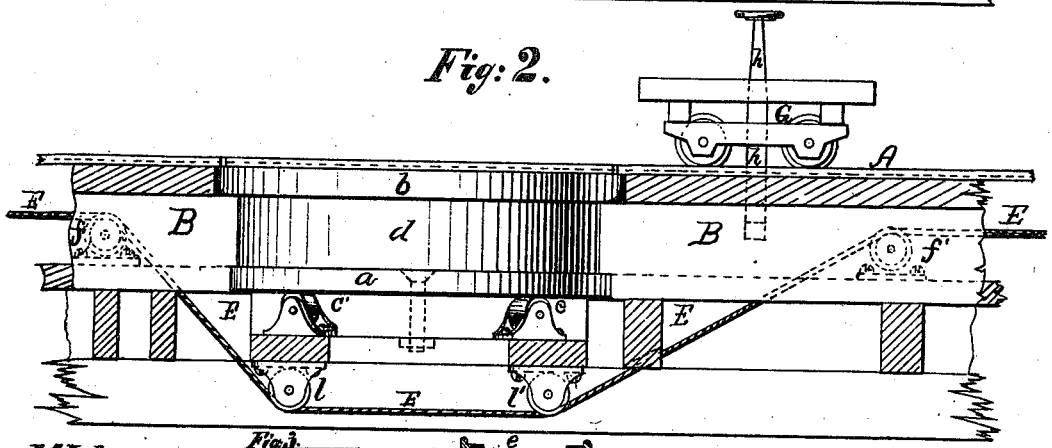
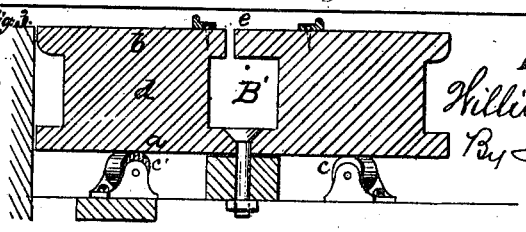


Fig: 3.



Witnesses:

Henry Eichling.

B. S. Clark

Inventor:

William Eppelsheimer

By J. D. Hall & Co.

his Atty.

2 Sheets--Sheet 2

W. EPPELSHEIMER.

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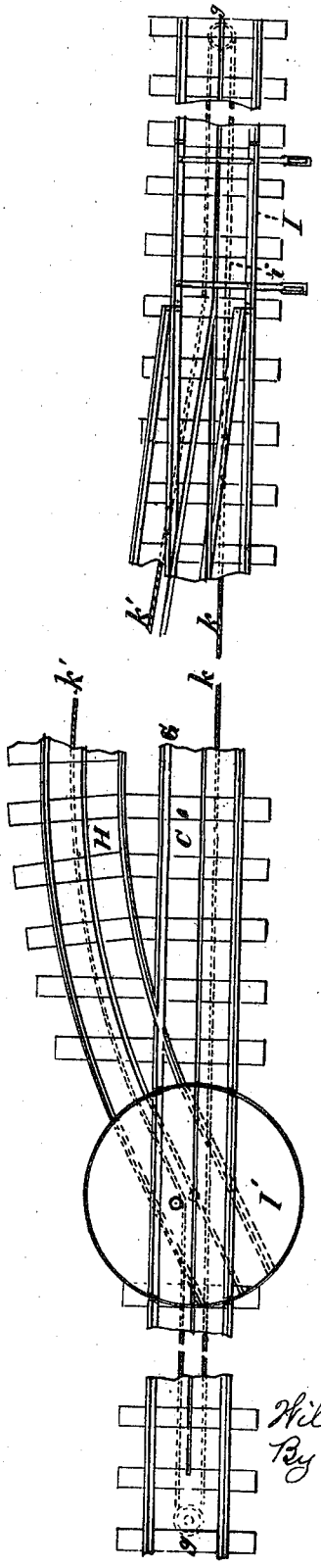

Fig. 1.

Witnesses:
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Inventor:
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By J. P. Finch
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UNITED STATES PATENT OFFICE.

WILLIAM EPPELSHEIMER, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN DEVICES FOR PROPELLING CARS.

Specification forming part of Letters Patent No. **166,975**, dated August 24, 1875; application filed June 28, 1875.

To all whom it may concern:

Be it known that I, WILLIAM EPPELSHEIMER, of San Francisco, in the State of California, have invented an Improvement in Turn-Tables and Switches for Railways, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same, in which—

Figure 1 is a plan of railway-tracks and turn-tables containing my invention. Fig. 2 is a vertical section of the same, with a car-truck in elevation on the track; and Fig. 3 is a central vertical section of one of the turn-tables, and Fig. 4 a plan of a modification of the same.

My invention relates to railways on which cars are drawn by traveling rope or chain running in a channel or chamber provided for it underneath the surface of the roadway, the connection between the traveling-rope and car being established by a suitable griping device attached to a standard or arm secured to the car and extending downward into the aforesaid chamber under the surface of the roadway; and consists in a turn-table (one or more) or switch, provided with a chamber or passage through it underneath its upper surface, corresponding substantially to that under the roadway of the main track, and a slit or narrow opening through such upper surface into such chamber or passage. The said turn-table being so constructed and placed, and so operating, relatively to the main track, that the grappling device on its standard, attached to a car, may pass from under and through the surface of the main roadway into and through the said passage or chamber and surface opening in the turn-table or switch.

A A′ are the main tracks of two railroads. Underneath each of these tracks is constructed a channel or chamber, in which travels a perpetually-moving rope or chain. Through the covering of these chambers is formed a narrow opening or slit, C, for the passage of the standard, to which is attached the before-named grappling device. D D are two turn-tables, each formed of a bed-plate, *a*, and floor-plate *b*, with an intermediate body, *d*, of sufficient depth to allow of there being formed in it a channel or chamber, B′, similar to the chamber for the endless rope under the main tracks, so that when the table is turned in position to bring such chamber in line with that under the main track the chamber will be continuous through the turn-table. Upon the faces of these turn tables rails are secured in the ordinary way to form tracks corresponding to the main tracks. In the floor-plates *b* of the table are formed slits or openings *e*, corresponding to those in the coverings of the chambers of the main tracks. These tables are pivoted at the center and run on friction-rollers *c c′* in the usual way. E is a section of the endless rope, showing it as it is arranged at a turn-table, it being sunk below the said table into a chamber provided for it under the foundation of the table, where there are provided friction-pulleys *l l′* to run over. By this arrangement the rope avoids the turn-table and leaves the same free to revolve any desired distance on its center. It is obvious that my invention is applicable as well to what is technically known as a "switch" as to what is known as a turn-table, the former being in fact a segment of the latter, it being necessary only to lay the rails of the switch upon a platform of sufficient depth to contain within it the rope-chamber, to make a slit or opening through the upper floor of the platform for the passage of the standard of the grappling device, and then to swing the platform instead of swinging merely the rails of the switch, as is usually done. Fig. 4 (Sheet II) shows the application of my invention to a turn-table or switch, in which the under-ground traveling rope runs directly through the rope-chamber in the switch or table instead of running underneath the floor-plate of the same, as shown in Fig. 2. This modification is to be used when the cars run from the main track onto a branch or turn-out, requiring the swinging of the switch only a distance that is less than the width of the rope-chambers. By this modification, and by employing an endless rope running over pulleys, as seen at *g g′*, both lines of the rope between the pulleys may be run in opposite directions on the same track, and on the main track and a branch. G may be regarded as the main track, and H a branch. *k* and *k′* are the two lines of an endless rope running around the pulleys *g g′*, the two lines running in the same subterraneous chamber in the track between the pulleys and the points

where the branch H connects with the main track. At each of these points is a switch, I, or turn-table I′, provided with a rope-chamber running through it, and a slot opening through the surface platform into the said chamber, the switches being set as shown by the full lines in the drawing, making the main track continuous across the switches. A car grappled to the rope *k* will have an open and continuous track across the switches, and the slot in the roadway of such track coinciding with the slot *i* in the switch the standard *h* of the grappling device on the car will pass freely through the said slot *i*, and the grappling device through the rope-chamber in the said table and under the main track. Then by swinging the switch or table into the position indicated by the dotted lines, the track and the slot are opened onto the branch H, so that a car grappled to the line of rope *k*′ will run over the said branch, the aforesaid standard passing through the slot in the switch or table into the slot in the roadway of the branch, and the grappling devices grappled to the line *k* will pass through the rope-chamber in the switch or table from the rope-chamber under the main track into the chamber in the branch H.

A switch proper is preferably used, as with a turn-table the car must be run first onto the table from the branch, and then the table turned to adjust its rails to the main track.

When it is desired to provide for the transfer of a car from one track to another independent track, and the two tracks are sufficiently near together to render it practicable, a single large turn-table may be employed in place of the two turn-tables shown in the drawing, Fig. 1, it only being necessary that such larger table should be provided with two tracks, and two rope-chambers, and slots opening into them respectively.

What I claim, and desire to secure by Letters Patent, is—

1. The construction of a railway-track provided with a subterraneous rope-chamber and a continuous narrow opening through the covering of such chamber, intended to be traversed by a rope grappling device attached to a car, with a turn-table or switch, provided also with a rope-chamber under its surface-floor, and a slot through such floor into said chamber, which may open respectively into the rope-chamber and slit in the road-way of the main track, whereby the grappling device and its standard, attached to a car running on the road and across the switch or turn-table, may pass from the rope-chamber under the main track into the rope-chamber and slot in a branch track, or the reverse, all substantially as and for the purpose described.

2. The combination, with a railway-track, provided with a subterraneous rope-chamber, as described, of a turn-table, provided likewise with a sub-surface chamber similar to that under the railway-track, and also a passage underneath the body of said table, whereby the rope traveling under the railway-track may avoid the said table and leave it free to turn on its pivot, all substantially as described.

In witness whereof I have hereunto set my hand this 26th day of June, 1875.

WILLIAM EPPELSHEIMER.

Witnesses:

HENRY INFELD,

B. S. CLARK.