J. BRITTON.

TURN TABLES FOR ENDLESS TRACTION WAYS.

No. 181,817. Patented Sept. 5, 1876.

Fig. 1.

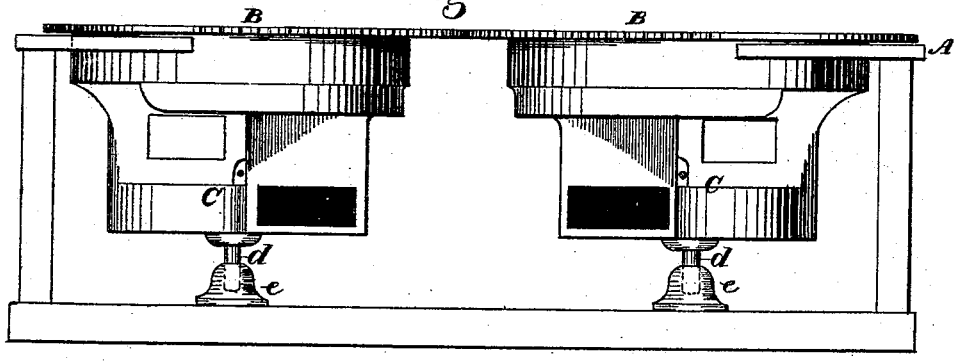


Fig. 2.

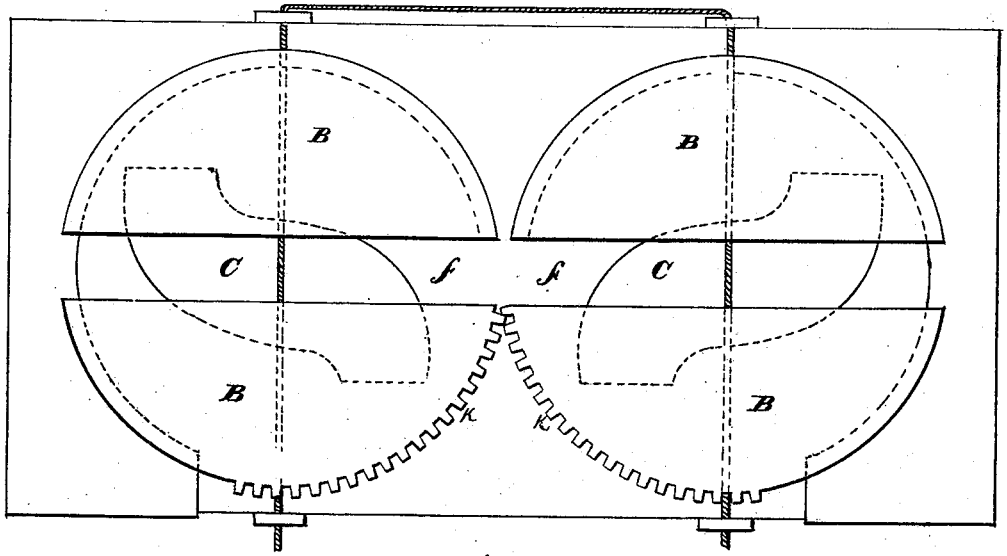
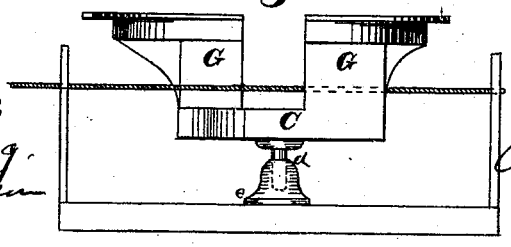


Fig. 3.



Witnesses
Geo. H. Strong.
C. M. Richardson

Inventor
Joseph Britton
By his attys
Dewey & Co.

UNITED STATES PATENT OFFICE.

JOSEPH BRITTON, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN TURN-TABLES FOR ENDLESS TRACTION-WAYS.

Specification forming part of Letters Patent No. **181,817**, dated September 5, 1876; application filed January 21, 1876.

To all whom it may concern:

Be it known that I, JOSEPH BRITTON, of San Francisco city and county, State of California, have invented an Improved Turn-Table for Endless Traction Street-Railway; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to improvements in turn-tables, such as are used for transferring cars from one railway-track to another, where an endless wire-rope is used for propelling the cars along the track or tracks. The only instance that I am aware of where duplicate turn-tables have been used for this purpose is in the Clay Street Hill railway in San Francisco, California.

As these tables have been heretofore constructed, the wire-rope which gives traction to the cars passed beneath the center of the turn-tables, so that it was necessary not only to release the rope from the griping apparatus or device which connected it with the car, but also to raise the griper by means of a screw or other wire, so that it could pass over the turn-tables. When thus raised, the moving of the car from the track to the turn-table, the turning of the tables, transferring the car from one table to the other, and finally moving the car again upon the track from the turn-table, were all accomplished by hand at the expense of time and labor, besides the wear upon the screw or other mechanism by which the griper is elevated.

My invention contemplates such a construction of the turn-tables that the endless wire-rope can be passed above the center or bearing point, and thus permit the car to be drawn by the rope to its position upon the table before it is released by the griper. It also consists in connecting the turn-tables by gearing, so that both platforms will be rotated simultaneously by power applied to rotate either one of them.

Referring to the accompanying drawing, Figure 1 is a front view of my device. Fig. 2 is a top view. Fig. 3 is an end view.

Let A represent the road-bed or street-surface, either at the terminus or at any point along the line of a railway where it may be desirable or necessary to transfer the cars from one track to another. At this point I make an excavation across both tracks sufficiently large to permit of the introduction of two turn-tables, one across the line of each of the tracks. These turn-tables must be of the proper size to permit the traction-rope *c* of each track to pass centrally through them, while their peripheries almost meet at a point midway between the two tracks.

In constructing these tables I make the upper portion of each in two sections, B B′, and these sections I connect with a secondary table or platform, C, which is supported at a short distance below by a vertical spindle or shaft, *d*, which steps in a suitable bearing, *e*, at the bottom of the excavation, so that it can rotate horizontally. The table-sections B are made in the form of a semicircle, and are placed at a short distance apart, so that when they are connected with the platform C on the same plane they form a circular table, with a slot or opening, *f*, between them. The two sections of each turn-table are connected with the platform C beneath by a connection, G, upon opposite sides of the center, leaving a free or open space beneath the opposite half of each section. The opening or space underneath the slot which crosses the center of each table corresponds in size, and is in line with, the tube or tunnel through which the traction-rope travels, so that the rope passes directly across the center of each table, above the center of the lower platform or table C.

With this arrangement, it is evident that the griper which connects the car with the traction-rope need not be released from the rope until the car has been drawn upon the turn-table. When the car has been drawn upon the table and the rope released from the griper, it is also evident that the table can be turned one-quarter of the way around without disturbing the rope, as the free space under the opposite ends of the sections will allow the table to turn that far without interfering with it.

It is further evident that when both tables are given a quarter-turn the slots and tracks, which were before parallel, will be brought in

line with each other, so that the car can pass from one table to the other without raising the griper from the tube, as its shank will move in the slots, thus avoiding the necessity of elevating the griping device during the transfer. The car can then be run upon the opposite track by turning the table upon which it has been transferred until its track is in line with the main track.

In order to provide for turning the tables simultaneously by means of power applied to either one of them, I form cogged teeth *k* upon the outer edge of each table for at least one-quarter of the circumference. These racks *k* are made on one-quarter of the periphery of the tables lying contiguous when the slots in the two tables are in line, and the rotation of one necessarily causes the rotation of the other.

By this arrangement I am able to greatly economize in time and labor, and in the wear and tear of the machinery which is employed to operate the griper.

As the slots in the tables and the spaces beneath them correspond with the tube and slot of the track, these turn-tables can be placed at any point in the length of the track without in any way interfering with the passage of the cars in ordinary travel, and thus provide a means for transferring the cars from one track to the other, when desired, without sending them to the end of the track to be transferred.

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

1. In endless-cable traction-ways, a means for transferring cars from one of a series of parallel tracks to the others without raising the griping device or disturbing the cables, consisting of a series of turn-tables, slotted above their points of support, and turning simultaneously through a quarter-revolution, so as to bring the slots in which the griper traverses into alignment with each other, and allow the transverse passage of the griper and of the car from one track and cable to another without delay, substantially as set forth.

2. A turn-table provided with a slot and passage or chamber extending across it above the point of support of said table and below its surface, when said chamber is made wide enough at each end to permit a propelling rope or cable to pass through it, and at the same time permit the table to make a quarter-rotation without interfering with the rope or cable, substantially as and for the purpose set forth.

3. A turn-table consisting of the two upper sections B B, connected with secondary tables or platforms C C on alternate sides of the center, so as to leave a free space beneath the opposite halves of the sections B B, substantially as and for the purpose set forth.

4. In combination with a railroad-track, a series of turn-tables, B B, constructed and connected so as to rotate simultaneously, substantially as described.

JOSEPH BRITTON.

Witnesses:
GEO. H. STRONG,
C. M. RICHARDSON.