

**1,018,407.**

**Fig. 1**

This diagram shows a top-down view of a circular mechanical assembly. A central vertical shaft (11) passes through the center. At the top, a handle (2) is attached. Below the handle, a series of gears and levers are arranged. A large gear (9) is on the left, and a smaller gear (10) is at the bottom. A horizontal bar (15) with a handle (17) is on the right. Various other components are labeled with numbers: 1, 2, 3, 4, 5, 6, 7, 8, 12, 13, 14, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29. The assembly is mounted on a base (1).

**Fig. 2**

This diagram shows a side view of the mechanical assembly. It illustrates the internal components and their arrangement. A central vertical shaft (11) is shown. A handle (2) is at the top. A series of gears and levers are arranged around the shaft. A large gear (9) is on the left, and a smaller gear (10) is at the bottom. A horizontal bar (15) with a handle (17) is on the right. Various other components are labeled with numbers: 1, 2, 3, 4, 5, 6, 7, 8, 12, 13, 14, 16, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29. The assembly is mounted on a base (1).

**Witnesses:**  
*Geo. F. Coleman*

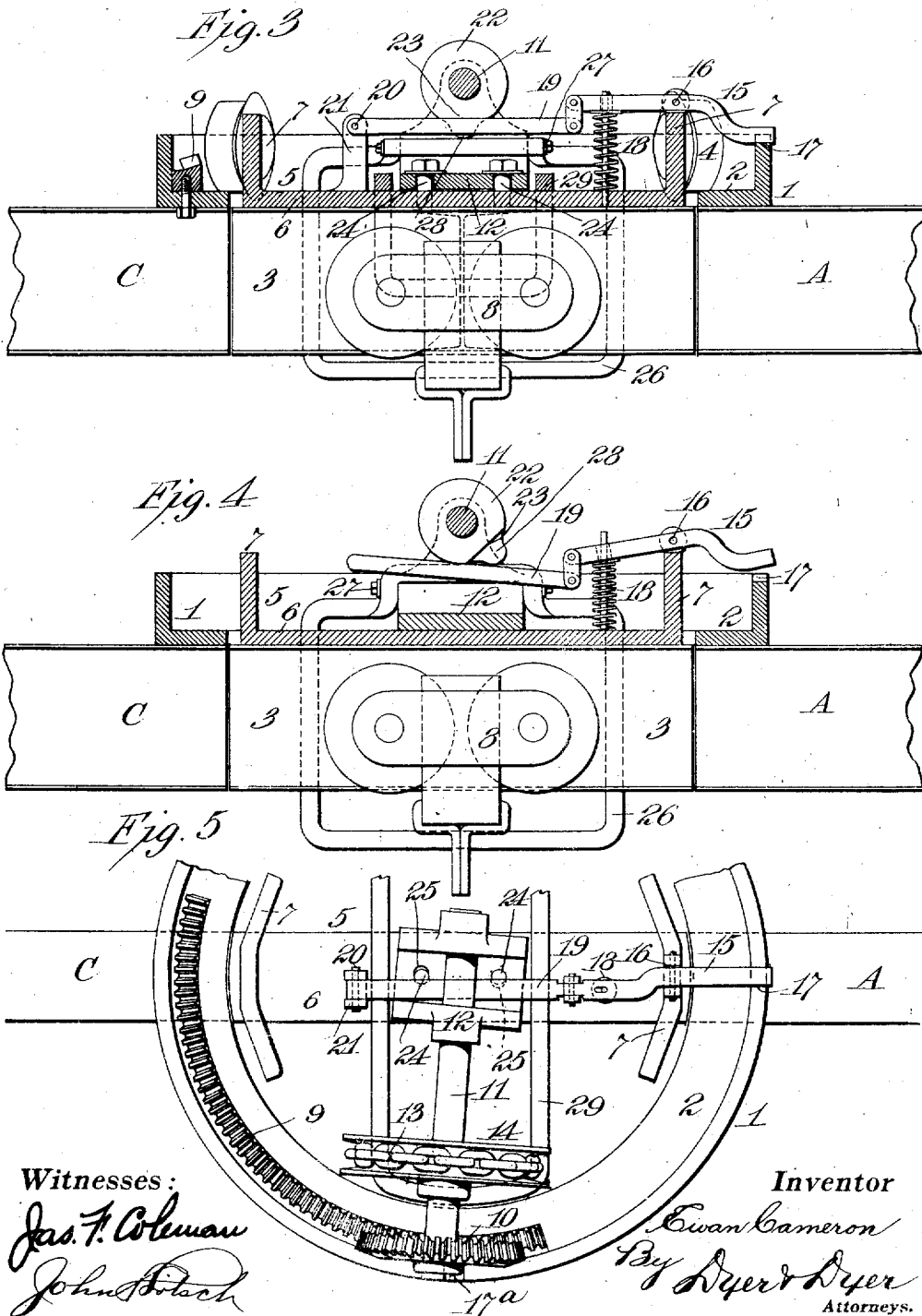
**Inventor:**  
*Ewan Cameron*  
*By Dyer & Dyer*

E. CAMERON.  
TURN TABLE FOR TROLLEYS.  
APPLICATION FILED JUNE 26, 1908.

1,018,407.

Patented Feb. 27, 1912

2 SHEETS—SHEET 2.



Witnesses:

Jas. F. Coleman  
John P. Fitch

Inventor

Ewan Cameron  
By Dyer & Dyer  
Attorneys.

# UNITED STATES PATENT OFFICE.

EWAN CAMERON, OF BROOKLYN, NEW YORK, ASSIGNOR TO JOHN ROBERT TAYLOR, OF  
BROOKLYN, NEW YORK.

## TURN-TABLE FOR TROLLEYS.

1,018,407.

Specification of Letters Patent.

Patented Feb. 27, 1912.

Application filed June 26, 1908. Serial No. 440,459.

### *To all whom it may concern:*

Be it known that I, EWAN CAMERON, a citizen of the United States, and a resident of the borough of Brooklyn, county of Kings, and State of New York, have invented a new and useful Turn-Table for Trolleys, of which the following is a specification.

This invention relates to improvements in turn tables for overhead trolleys, and has for its particular object the simplification of the parts and the reduction of the number of operations necessary to shift a trolley from one rail to another.

So far as I am aware, turn tables for trolleys have been shifted by one set of mechanism, with additional mechanism to lock the turn table and additional mechanism to block the trolley upon the turn table; all of the separate mechanisms requiring separate manipulation on the part of the operator.

One object of my invention is to obviate the necessity of extra movements in locking and unlocking the turn table, and in blocking and unblocking the trolley, which I accomplish by the movement of the same mechanism which moves the turn table.

A further object is to produce a turn table in which the operating mechanism moves with it, and always remains in the same position relative to the moving track section, and to the trolley. This is an important advantage particularly in connection with trolleys which carry their own motive power, and which carry the operator, as the operator may shift the turn table without dismounting from the trolley.

These and further objects will appear from the following specification and accompanying drawings, considered together or separately.

In the accompanying drawings: Figure 1 is a plan view of a structure embodying my invention. Fig. 2 is a section on the line 2-2 of Fig. 1. Fig. 3 is a section on the line 3-3 of Fig. 1, being at right angles to Fig. 2. Fig. 4 is a detail showing a portion of the structure on the same section as Fig. 3, but with parts in a different position, there being certain parts omitted; and Fig. 5 is a plan view of the parts illustrated in Fig. 4 in the position there illustrated.

In all of the views like parts are designated by the same reference characters.

The structure illustrated as embodying the invention is a turn table for connecting four rail or track ends. These rail ends are designated as A, B, C and D. The rail ends are connected to a ring or annulus 1. This ring as shown in Fig. 2 has a flange 2, which is riveted or otherwise secured to the top flange of the rails. The ring or annulus 1 serves as a means for connecting the rails and holding their ends in proper alinement; it also serves as a support for the turn table and its operating mechanism. The turn table includes a rail or track section 3, similar in cross section to the rails A, B, C and D, and of a length slightly less than the distance separating the inner ends of the rails. The rail section 3 is supported on the ring 1 by means of wheels 4-4, the said wheels supporting a frame 5, to which the rail section is attached. This frame 5 is in the form of a band or bar 6, which is of the same width as the upper flange of the rail section 3. The bar has bent-up extremities 7, which carry the axles or supports of the wheels 4. The bent-up extremities 7 are sufficiently long, as shown in Fig. 2, so that the axles of the wheels 4-4 are enough separated to give the necessary stability to the rail section and prevent it from toppling over. The flanges on the wheels hold the rail section and frame 5 firmly in place within the ring 1 yet permit it to freely pivot around an axis coincident with the axis of the ring. The rail or track section of the turn table may be brought into alinement with either the rails A and C or with the rails B and D, and thus serves to carry the trolley 8 and transfer it from one rail to another rail at right angles.

The movement of the turn table is effected by the following mechanism: A toothed rack or sector 9 is secured to the ring 1 and rests upon the flange 2. This rack is engaged by a beveled pinion 10 which is carried upon a shaft 11. This shaft is mounted in bearings in a U frame 12. The U frame is connected to the frame 5 above the center of the rail section 3, which coincides with the center of the ring or annulus 1. One end of the shaft 11 is supported in the bearings in the U frame 12; and the other end of the shaft is supported by the rolling engagement of the beveled pinion 10 with the rack 9. The shaft 11 is rotated by means of a chain 13, which passes over a sprocket wheel

14 secured to the shaft 11. It is apparent that when one or the other end of the chain 13 is pulled on, the shaft 11 will be rotated in one direction or the other. This will turn the beveled pinion 10 and cause it to roll upon the toothed rack 9, thus bodily turning the shaft at the same time it is rotated. This turning movement will cause the U frame 12 to turn the rail section 3 around within the ring or annulus 1. As shown in Fig. 1, the toothed rack 9 extends through but little more than 90° of the circumference of the ring 1. This permits the turn table to move through 90° of the arc. By extending the peripheral length of the rack, a greater degree of movement may be secured to the turn table.

I prefer to proportion the size of the beveled pinion and the toothed rack in such a manner that but one rotation of the beveled pinion will move the rail section exactly 90°, or from one rail end to the adjacent one on either side. The chain 13 hangs down from the sprocket wheel 14 within convenient distance of the operator on the trolley or on the ground. As the sprocket wheel moves with the turn table the chain remains always at the same distance from the trolley, irrespective of the position of the turn table.

For the purpose of locking the turn table against movement, I provide the following mechanism: A finger 15 is pivoted at 16 to the bent-up extremity 7 of the frame 5. This finger is adapted to engage within either of the notches 17 or 17<sup>a</sup> formed in the ring or annulus 1. The notches are shown as 90° apart. The finger is normally kept in engagement with one of the said notches by means of a spring 18. The finger is disengaged from the notch by mechanism which includes a lever 19, pivoted at 20 to an upright 21 on the frame 5. The lever 19 is depressed by means of a cam 22 having a flat portion 23. The cam 22 is carried by the shaft 11 and is rotated thereby. The location and proportion of the flat portion 23 are such that when the turn table is in coincidence with the rail ends the flat portion will engage with the lever 19; this will allow the spring 18 to engage the finger 15 with the notch 17 and will lock the turn table against movement. Upon the shaft 19 being rotated, for the purpose of moving the turn table, in the manner described, the cam 22 will turn in engagement with the lever 19 and will cause the latter to engage with the round portion of the cam. This will depress the lever 19 and disengage the finger from the notch. The lever 19 will remain depressed until the cam has made a complete turn, when the flat portion again coming into engagement with the lever will permit the spring to lower the finger.

For the purpose of permitting the rotation

of the shaft 11 to disengage the finger from the notch without first moving the turn table, a lost motion connection is provided. This lost motion connection comprises a loose connection between the U frame 12 and the frame 5. The two frames are secured together by bolts 24 which pass through elongated slots 25 in the U frame (see Fig. 5). This permits the U frame and shaft 11 to partake of a certain amount of pivotal motion about the axis of the turn table without moving said turn table. The lost motion will be of sufficient extent to permit the cam 22 to disengage the finger 15 from the notch 17, before the turn table begins to move. It will be apparent therefore that pulling of the chain will first disengage the finger 15 from a notch 17 and 17<sup>a</sup> and unlock the turn table and will then move the turn table about its axis, shifting the rail section 3 from coincidence with one line of rails to coincide with the other. It is apparent that as soon as the turn table has been moved and the shaft 11 has made one revolution, the flat portion 23 will again engage with the lever 19, permitting the spring 18 to lower the finger 15 into the other notch 17 or 17<sup>a</sup>. The turn table may be reversed by moving the chain in the other direction, as is apparent.

For the purpose of blocking the trolley 8 upon the rail section while the latter is being moved, I provide the following mechanism: This mechanism comprises a frame 26, which extends in a vertical direction on one side of the rail section 3. The frame is of general rectangular shape as shown in Figs. 3 and 4, and is pivoted at 27 to the U frame 12. A transverse portion of the frame 26 beyond the point of pivoting engages with a cam 28. This cam 28 is carried by the shaft 11, and turns in time with the cam 22, and is in the form of a projection, located upon the same cam 22 as the flat portion 23 (see Fig. 4) and directly alongside of the same. The frame 26 may be moved from the solid line position (Fig. 2) to the dotted line position, and when in the dotted line position it will surround one side of the trolley and prevent it from moving longitudinally upon the track section 3. The weight of the frame 26 will cause it to tend to assume the dotted line position, shown in Fig. 2. It is moved to the solid line position by means of the cam 28 engaging with the transverse portion of the frame. As the cam 28 is directly alongside of the flat portion 23, the frame 26 will be moved to the full line position, and clear of the trolley when the finger 15 is in engagement with the notch 17 or 17<sup>a</sup> and the turn table is locked. Furthermore, the cam 28, moving at the same time as the flat portion 23, will turn the frame 26 upon its pivot and move it from the dotted line position to the

solid line position of Fig. 2 before the turn table moves. This movement will be secured by the same mechanism which unlocks or locks the turn table and will be attained by the movement of the chain 13. It is thus apparent that the turn table is moved, locked and unlocked; and the trolley is blocked or unblocked upon the rail section by the movement of the single chain and that this chain turns with the turn table and is always at the same distance from the trolley when the latter is upon the turn table. For the purpose of blocking those rail ends that lie at right angles to the rail ends which are in line with the rail section on the turn table, a frame 29 is carried by the frame 5 and extends down to a position close to the rail ends which are at right angles to the rail section 3.

In accordance with the provisions of the patent statutes, I have described the principle of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is merely illustrative and that the invention can be carried out in other ways.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A turn table for a trolley having common operating mechanism for turning the table and for blocking and unblocking the trolley.
2. A turn table for a trolley having a single chain for turning the table and for blocking and unblocking the trolley.
3. A turn table for a trolley having moving means, a locking means, and means for blocking the trolley upon the table, all of these said means being operated by the same mechanism.
4. A turn table for a trolley, having a single chain for moving the table, for locking and unlocking the table, and for blocking and unblocking the trolley on the table.
5. A turn table for trolleys having common operating mechanism for turning the table, locking table, and blocking the trolley on the table, which mechanism turns with the table.
6. A turn table for trolleys having operating mechanism which includes a fixed rack and a pinion secured to and moving with the table, means for locking the table to the rack, and means for blocking the trolley on the table.
7. A turn table for trolleys having operating mechanism which includes a fixed rack,

a pinion operating on said rack, the said pinion turning a shaft which is connected to and turns the table, means for locking the table to the rack, and means for blocking the trolley on the table.

8. A turn table for trolleys, having means for locking the table against rotation, means for moving the table, such means including a wheel and a shaft carried by the table, a pivoted frame for preventing movement of the trolley on the table, and a cam on the shaft for releasing the trolley.

9. A turn table for trolleys having means for locking the table against rotation, means for moving the table, such means including a wheel and a shaft carried by the table, means carried by the table for preventing movement of the trolley on the table, and means carried on the shaft for unlocking the table and trolley.

10. In a conveyer system, a plurality of intersecting tracks; and a turn table for transferring a trolley from one track to another comprising a track section rotatably mounted for alinement with the different intersecting tracks, means for turning said track section, means for blocking and unblocking the trolley during operation of the turn table, locking means for securing the track section in alinement with the different intersecting tracks, and common operating mechanism for controlling the turning, blocking and locking means.

11. A turn table for trolleys, having turning mechanism which includes a shaft which bodily turns to turn the table, and locking mechanism actuated by the rotation of the shaft, there being means to bodily turn and also rotate the shaft.

12. In a conveyer system, a plurality of intersecting tracks; and a turn table for transferring a trolley from one track to another comprising a track section rotatably mounted for alinement with the different intersecting tracks, means for turning said track section, and means operated by said turning means for blocking and unblocking the trolley during operation of the turn table.

13. A turn table for a trolley, having a single chain for moving the table, for locking and unlocking the table, and for blocking and unblocking the trolley on the table, said chain being carried on the table.

This specification signed and witnessed this 24th day of June, 1908.

EWAN CAMERON.

Witnesses:

LEONARD H. DYER,  
JOHN L. DOTSCH.