M. D. MURRAY.

SWITCHING APPLIANCE.

APPLICATION FILED FEB. 27, 1911.

1,068,807.

Patented July 29, 1913.

3 SHEETS—SHEET 1.

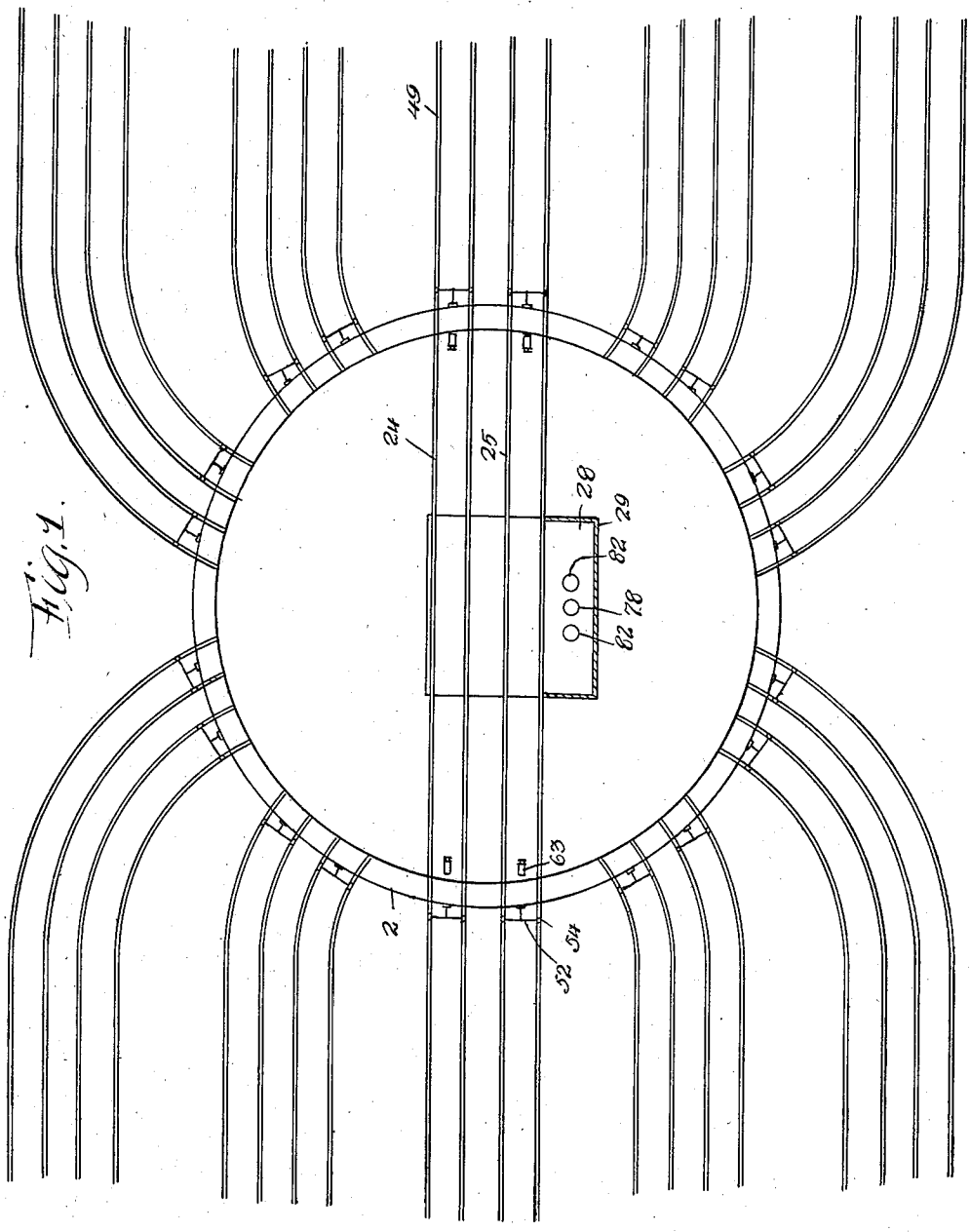


Fig. 1.

WITNESSES

Samuel Payne

J. W. Morgus

INVENTOR

M. D. Murray.

by

Attorneys.

M. D. MURRAY.

SWITCHING APPLIANCE.

APPLICATION FILED FEB. 27, 1911.

1,068,807.

Patented July 29, 1913.

3 SHEETS—SHEET 2.

Fig. 2.

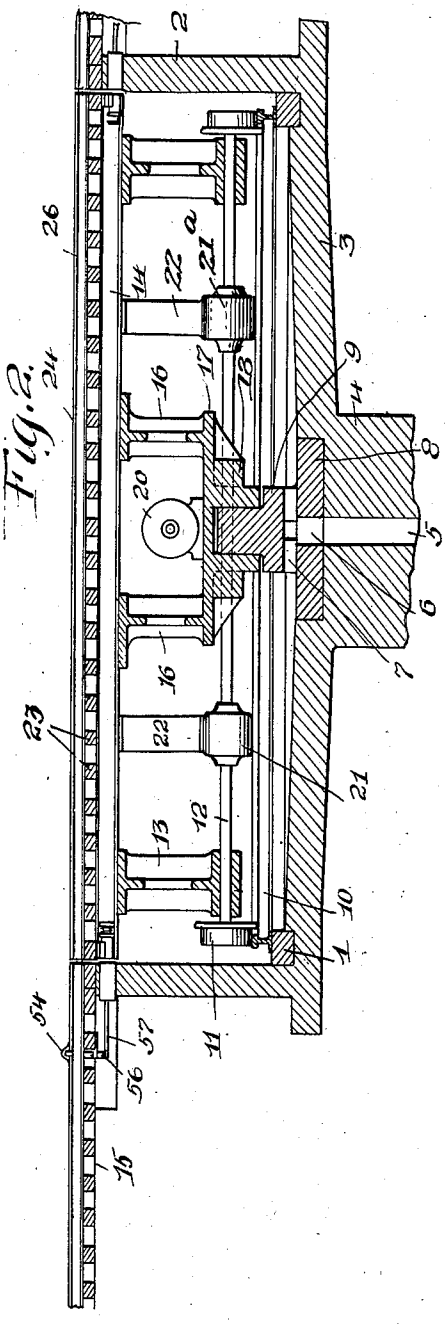
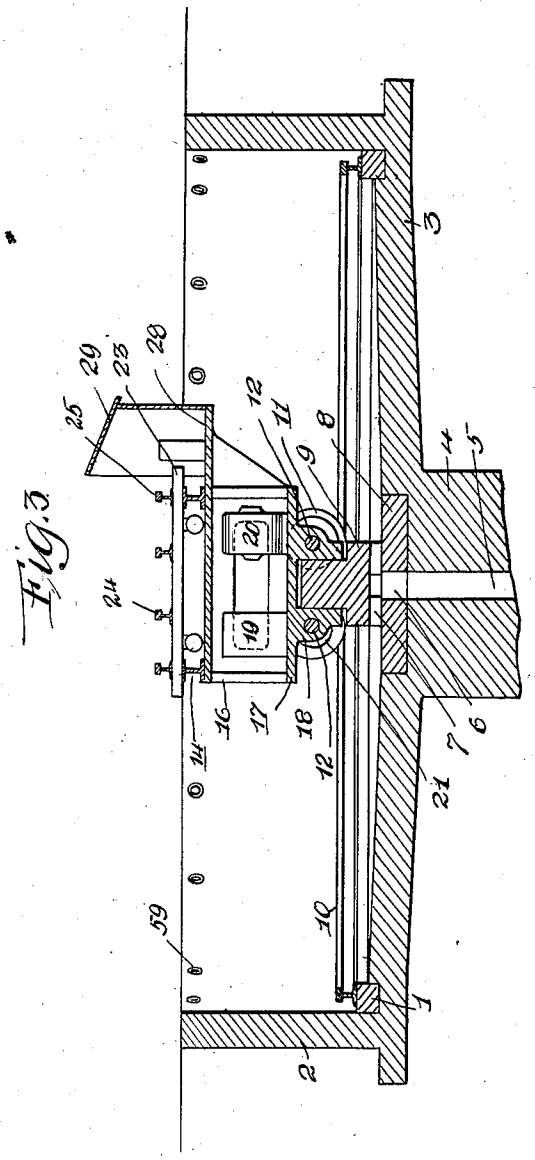


Fig. 3.



WITNESSES

Samuel Payne

J. H. Burgess

INVENTOR

M. D. Murray.

by A. C. Ewerts & Co

Attorneys.

M. D. MURRAY.

SWITCHING APPLIANCE.

APPLICATION FILED FEB. 27, 1911.

1,068,807.

Patented July 29, 1913.

3 SHEETS—SHEET 3.

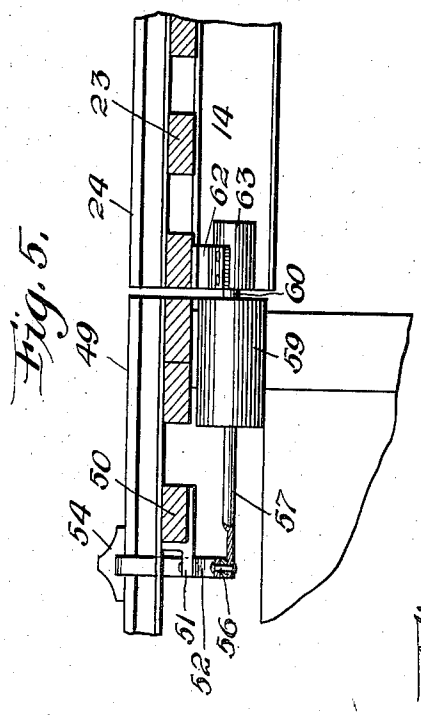


Fig. 5.

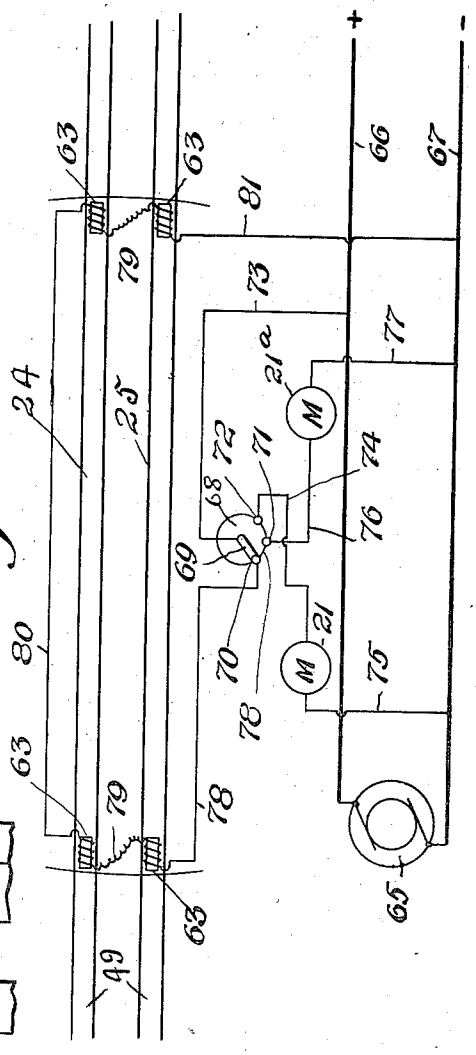


Fig. 6.

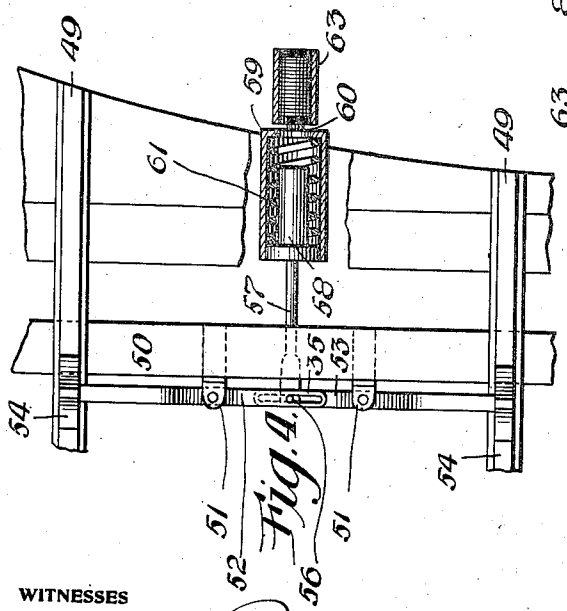


Fig. 4.

WITNESSES

Samuel Payne.

A. L. Boga.

INVENTOR

M. D. Murray.

BY

A. C. Evers Co.

ATTORNEYS

UNITED STATES PATENT OFFICE

MICHAEL D. MURRAY, OF WEST HOMESTEAD, PENNSYLVANIA.

SWITCHING APPLIANCE.

1,068,807. Specification of Letters Patent. Patented July 29, 1913.

Application filed February 27, 1911. Serial No. 611,196.

To all whom it may concern:

Be it known that I, MICHAEL D. MURRAY, a citizen of the United States of America, residing at West Homestead, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Switching Appliances, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a switch appliance, and the objects of my invention are to provide a novel electric turn-table that can be advantageously used in large freight yards for facilitating the switching and making-up of trains.

With the above and such other objects in view as may hereinafter appear, the invention consists of the novel construction, combination, and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings forming a part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof are susceptible to such changes as fall within the scope of the appended claims.

In the drawings: Figure 1 is a diagrammatic plan of the switching appliance in accordance with the invention. Fig. 2 is an enlarged vertical longitudinal sectional view of the same. Fig. 3 is an enlarged vertical cross sectional view of the appliance. Fig. 4 is an enlarged plan of a portion of the tracks adjacent to the appliance, showing automatic chuck blocks adapted to be used in connection with the appliance. Fig. 5 is a longitudinal sectional view of the same partly in elevation. Fig. 6 is a diagrammatic view illustrating the electrical connections between the various electrically operated elements of the invention.

A switching appliance in accordance with this invention embodies an electrically operated turn-table, and electrically operated chuck blocks in connection with the tracks terminating at the turn-table for preventing rolling stock from passing onto the turn-table except when the turn-table is properly positioned.

The turn-table comprises an annular foundation 1 located in a pit or well 2 lined with concrete or other material 3, the bottom of the well or pit 2 being inclined and converging to the center thereof for draining purposes. Centrally of the pit or well 2 there is a structure 4 having a drain opening 5 formed therein, and this opening is in communication with the pit or well 2 by openings 6 and 7 formed in a bed plate 8 and a central post 9 carried thereby, said bed plate being embedded in the bottom lining of the pit or well 2.

Mounted upon the annular foundation 1 within the pit or well 2 is a circular endless track or rail 10 and upon this rail is adapted to travel flanged wheels 11 mounted upon axles 12 journaled in depending hangers 13, carried by I-beams 14 arranged in the pit or well 2 and having the upper edges thereof flush with the ground line 15. The I-beams 14 are supported by the uprights 16 of a circular platform 17 revolubly mounted upon the post 9 of the bed plate 8, said platform having bearings 18 for the axles 12. Upon the platform 17 is mounted a suitable source of power, as a combustion engine 19 adapted to drive an electric generator 20 located upon said platform, this generator serving as a source of electrical energy for motors 21 and 21ª supported by hangers 22 from the I-beam 14. The armature shaft of the motor 21 is connected direct to one of the axles 12. Upon the I-beams 14 are mounted ties or sleepers 23 and upon these ties or sleepers are mounted rails constituting parallel tracks 24 and 25. The supports 16 are provided with an extension 28 for a cab or house 29 containing a controller adapted to be operated by the attendant of the turn-table.

To prevent rolling stock from being shifted off of the tracks 49 when the tracks 24 and 25 of the turn-table do not properly aline with the tracks 49, I employ electrically operated chuck blocks, these blocks being located at the ends of the tracks 49 in proximity to the turn-table. These blocks are arranged in pairs one block for each rail of a track 49. The ties or sleepers 50 of the tracks 49 adjacent to the turn-table are provided with bearings 51 and fulcrumed above the bearings 51 of each tie 50 are a pair of oppositely disposed levers 52 and 53. The

levers of each pair having the outer ends thereof provided with chuck blocks 54 normally extending over the rails of the track 49. The inner ends of the levers 52 and 53 are slotted as at 55. The slotted ends of the levers 52 and 53 overlap and slidably mounted in the said slotted ends of said levers is a pin 56 carried by an extension 57 which projects from an armature 58.

The reference character 59 denotes a casing located in the upper edge of the pit or well 2 and in which is arranged the armature 58. The casing 59 is provided with an open end 60 and arranged within said casing is a coiled compression spring 61 adapted to normally hold the armature 58 and the extension 57 thereof whereby the chuck blocks 54 will be positioned over the rails of the main track 49.

Arranged between the I-beams 14 at the ends thereof and supported by brackets 62 are electro-magnets 63. A magnet 63 is adapted to be positioned in alinement with the casing 59 so that when the magnet is energized it will contract the armature 58 carrying its respective extension 57 therewith. As the extension 57 moves toward the magnet 63, the levers 52 and 53 will be rocked so as to remove the chuck blocks 54 from the main track 49. The turn table is locked by the attractive force between the magnet 63 and the piston 58, as long as the magnet 63 is energized. When the magnet 63 is deënergized the turn table is released and the chuck blocks are automatically shifted to operative position through the medium of the expansion of the spring 61.

Reference will be had to Fig. 6 of the drawings, wherein there is illustrated what is believed to be sufficient electrical connections for understanding the operation of the switch appliance.

The reference numeral 65 denotes an electric generator or other source of electrical power in circuit with bus bars 66 and 67.

68 denotes a controller within the cab 29, and which is provided with a controller arm 69 adapted to be swung to engage contacts 70, 71, and 72. The controller arm 69 is connected by a feed wire 73 to the bus bar 66. The contact 72 is connected by a wire 74 to the motor 21, and said motor by a wire 75 to the bus bar 67. This connection is made with the source of electrical energy 65. The contact 71 is also connected to the motor 21ª by a wire 76 and said motor by a wire 77 to the bus bar 67. When the controller arm 69 is swung to engage the contact 71, the turn-table is revolved in one direction, the circuit being from the source of electrical energy 65 through the bus bar 67, wire 77, motor 21ª, wire 76 to the contact 71, controller arm 69 to the feed wire 73, to the bus bar 66 and to the generator 65. When the controller arm is swung into engagement with the contact 72, the turn-table is revolved in an opposite direction, and the circuit is, as follows:—from the generator 65 through the bus bar 67 to wire 75, motor 21 and wire 74 to contact 72, controller arm 69 to wire 73, bus bar 66 to generator 65. The contact 70 is connected by a wire 78 to the electro-magnets 63, the electro-magnets at one end of the turn-table being connected by a wire 79 and to the electro-magnets at the opposite end of the table by a wire 80, said electro-magnets being connected by a wire 81 to the bus bar 67. The circuit for energizing the electro-magnets to lock the turn-table in adjusted position is, as follows:— from the generator 65 through the bus bar 67, wire 81 to the electro-magnets 63 at one end of the table, wire 80 to the electro-magnets at the opposite end of the table, wire 78 to the contact 70, controller arm 69 to wire 73, bus bar 66 to the generator 65.

What I claim, is:

1. In a switching appliance, a shiftable turn table provided with a track, a plurality of tracks from which traveling bodies are shifted to a position upon the track of the turn table, chuck blocks one set for each track, a spring controlled mechanism for normally positioning said blocks over the treads of the rails of the tracks, and electrical magnetic means carried by the turn table and adapted to actuate said mechanism to shift the blocks from off the treads and further held to said mechanism by the attractive force thereof to hold the track of the table in alinement with that track of said plurality of tracks having the blocks removed from the treads thereof.

2. In a switching appliance a shiftable turn table provided with a track, a plurality of main tracks leading to the turn table, chuck blocks for each of said main tracks, a spring controlled mechanism for normally positioning the blocks for each track over the treads thereof and including a piston, and electrical magnetic means carried by the table and adapted to actuate said mechanism to shift the blocks from off the treads and further held to said mechanism by the attractive force between the magnet and piston to hold the track of the table in alinement with that main track having the blocks removed from the treads thereof.

3. In a switching appliance, a shiftable turn table provided with a track, a plurality of main tracks leading to the table, means associated with each of said main tracks for arresting the shifting of rolling stock from off a main track until the track registers with a main track, controlling mechanisms for normally maintaining said means upon the treads of main tracks, and means carried by the table and adapted to actuate a

controlling mechanism when the track of the table registers with a main track to shift the means of the latter to an inoperative position and to further in connection with said mechanism maintain the track of the table in alinement with that main track from which the arresting means has been shifted.

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

MICHAEL D. MURRAY.

Witnesses:
MAX H. SROLOVITZ,
CHRISTINA T. HOOD.