

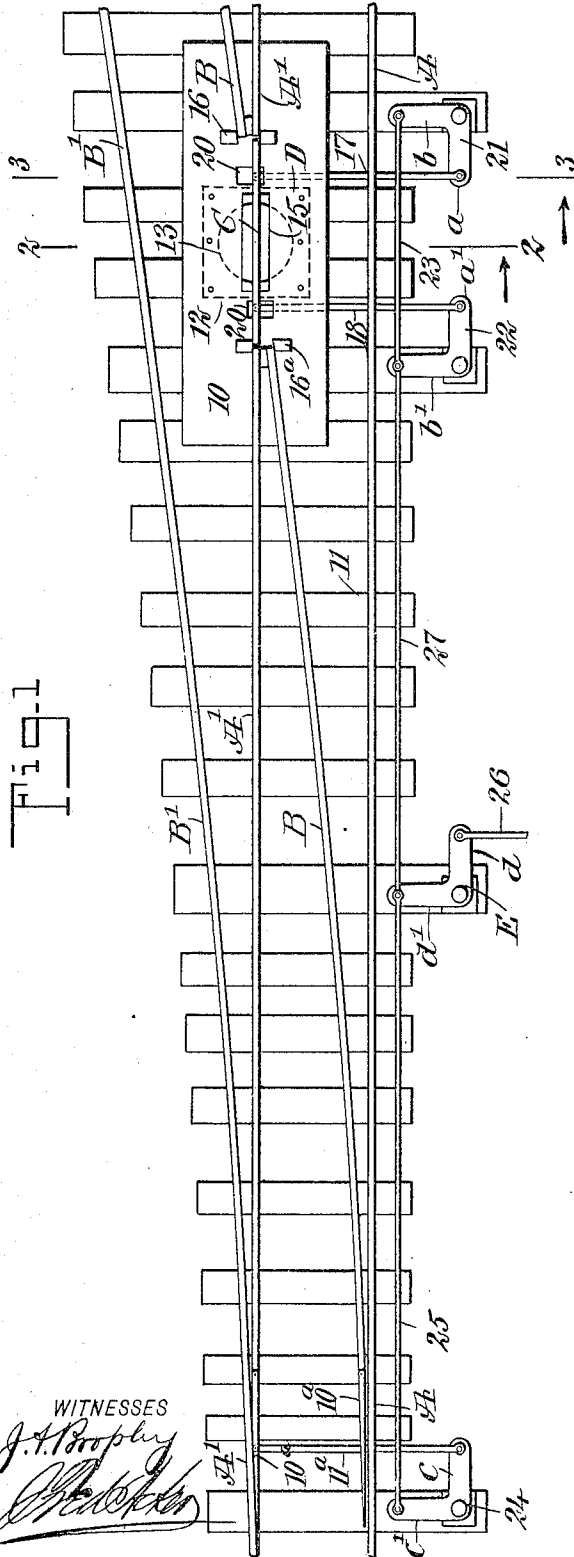
No. 856,805.

PATENTED JUNE 11, 1907.

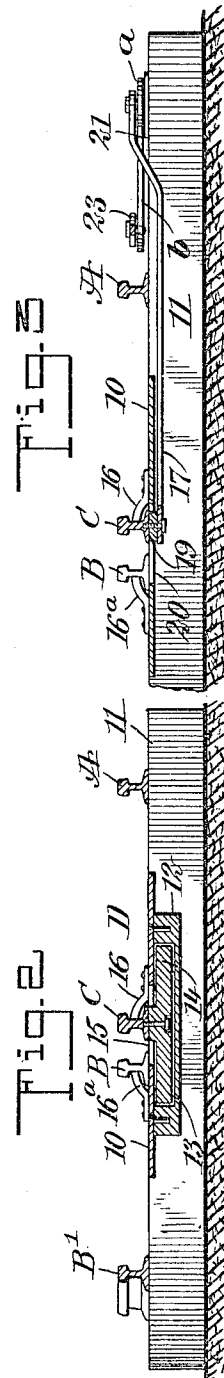
J. M. POWELL.
RAILROAD SWITCH.

APPLICATION FILED NOV. 13, 1906.

2 SHEETS—SHEET 1.



WITNESSES
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2 SHEETS—SHEET 2.

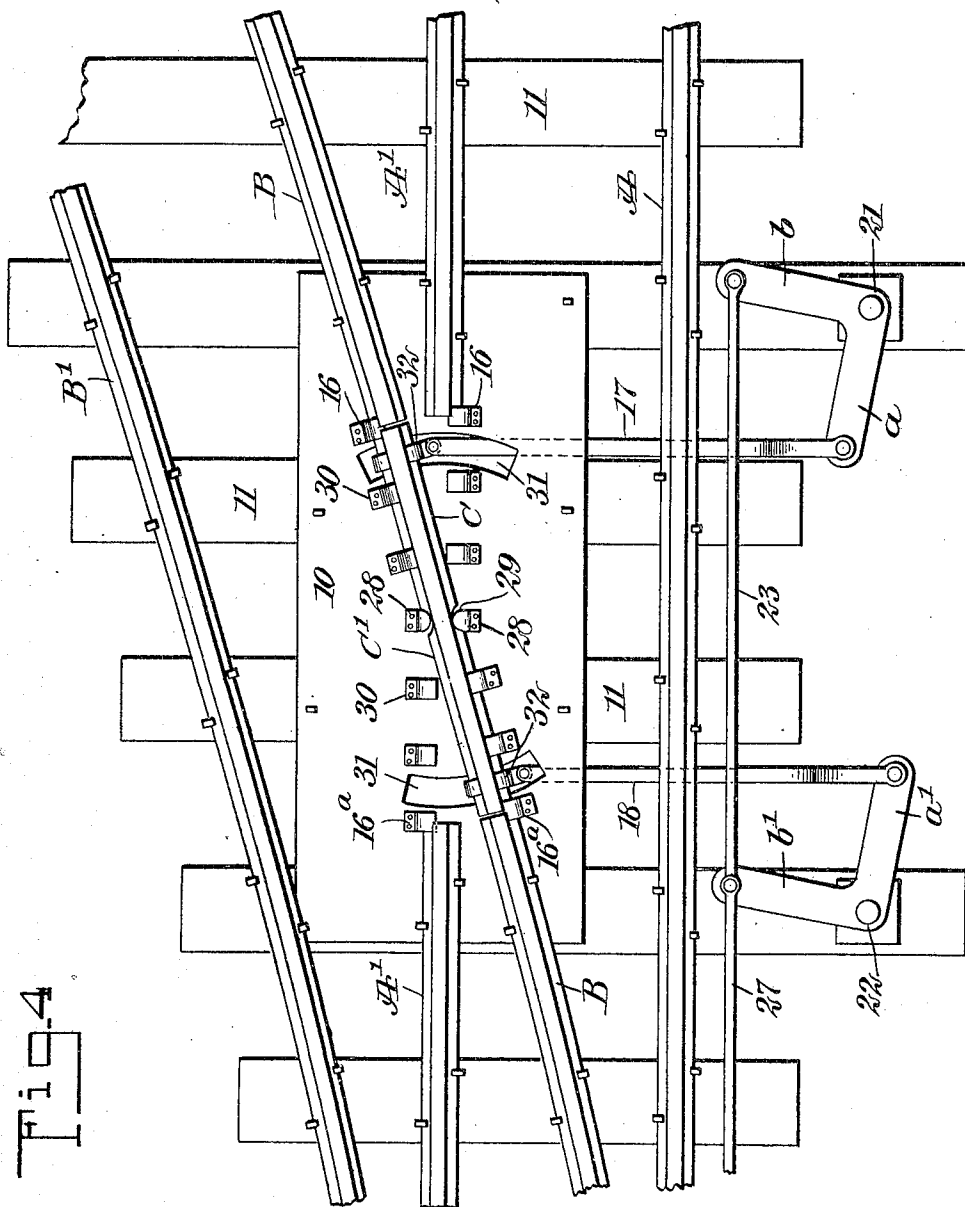


Fig. 4

WITNESSES

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JOHN MAURICE POWELL, OF STOCKTON, UTAH.

RAILROAD-SWITCH.

No. 856,805.

Specification of Letters Patent.

Patented June 11, 1907.

Application filed November 13, 1906. Serial No. 343,189.

To all whom it may concern:

Be it known that I, JOHN MAURICE POWELL, a citizen of the United States, and a resident of Stockton, in the county of Toole and State of Utah, have invented a new and Improved Railroad-Switch, of which the following is a full, clear, and exact description.

The purpose of the invention is to improve upon the construction of the railroad switch for which Letters Patent were granted to me October 17th, 1905, No. 802,236, to the extent that a short switch rail is employed between adjacent rail sections of the main line and sidings, pivotally mounted to constitute a bridge rail for the break occurring at such sections of the track, and to provide suitable switch points having concerted movement with the switch rail.

Another purpose of the invention is to provide a simple system of levers whereby through the operation of one main lever the associate levers will be compelled to place the switch rail in position relatively to the main track or the siding according to the direction in which the main lever is operated, one connection between the associated levers of the switch rail acting to throw the switch from a point at one side of its pivot, while the corresponding connection will simultaneously act to pull the said switch rail from a point at the opposite side of its pivot.

It is also a purpose of the invention to provide such connections between said train of levers and the switch points as to automatically shift them to the proper position relatively to the rails of the main line or the siding as may be required by the position of the switch rail.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a portion of the main line and siding and the improved switch applied, the switch being shown set for the main line and the switch rail mounted upon a turn table; Fig. 2 is a transverse section taken practically on the line 2—2 of Fig. 1; Fig. 3 is a similar section taken on the line 3—3 of Fig. 1; and Fig. 4 is an enlarged plan view of the switch rail and adjacent rails of

the main and siding tracks, the switch rail being shown pivotally mounted without the employment of a turn table and as set for the siding.

A and A' represent the rails of the main line and B and B' the rails of the siding, and adjacent to where the inner rail B of the siding and the inner rail A' of the main line converge, a platform plate 10 of any desired size is spiked or otherwise secured to the ties 11. At this point the switch rail C, which is made quite short, is longitudinally and pivotally mounted; and at that point in the line where the main and the switch tracks are brought together, or where the switch rails merge into the rails of the main line, switch points 10^a are pivoted at one of their ends, being free at their opposite or pointed ends, as is customary. Said switch points are connected by a sliding bar 11^a that extends beyond the outer rail of the main line.

In Figs. 1, 2 and 3, the pivot for the switch rail C is in the form of a turn-table D. This turn-table or pivoted saddle consists of a bed piece 12, usually countersunk in convenient ties 11 to such an extent that its upper face is flush with the upper faces of the ties. A circular chamber 13, open at the top, is formed in the said bed piece, and the upper marginal portion of said bed piece is secured to the under face of the platform plate 10 by bolts or their equivalents, as best shown in Fig. 2. A disk 14 is mounted to freely turn in said chamber 13, being prevented from leaving the chamber by the platform plate 10.

A longitudinal opening 15 is produced in the platform plate 10, the center of which opening vertically aligns the center of the turn-table disk 14, and the flange portion of the switch rail C is centrally bolted, or is otherwise secured to the platform disk 14, whereby when the disk 14 turns in one direction the switch rail C will connect the sections of the inner rail of the main line and will connect the corresponding ends of the sections of the inner rail of the switch track when said disk is turned in an opposite direction.

The slot 15 is of sufficient width to permit the switch rail C to freely swing from one position to the other, but the switch rail is limited in its circular movement by means of stop chairs 16 and 16^a, between which its ends have movement, and said stop chairs are located at the opposing ends of the sections of the rails A' and B as is clearly shown in Fig. 1.

Two shifting rods 17 and 18 are employed for the switch rail C, being secured to blocks 19 attached to the bottom of the switch rail, one block at each side of the center of said rail; and slots 20 are made in the platform plate 10 for the downward extension of the blocks 19, and to permit of their sliding movement relatively to the platform plate, as is best shown in Figs. 1 and 3.

Two opposing elbow levers 21 and 22 are pivoted upon the extended ends of suitable ties that project beyond the outer rail of the main line opposite the platform plate 10 as is shown in Fig. 1. The members *a* and *a'* of the two levers 21 and 22 are parallel with the main line and face each other as is shown in Fig. 1, the shifting bars 17 and 18 being pivotally attached to said members *a* and *a'*, while the other members *b* and *b'* of said levers 21 and 22, or those members which extend at right angles to the main line, are connected by a suitable link 23. A third elbow lever 24 is pivoted to an extension from the tie projecting beyond the outer rail of the main line adjacent to the switch points 10^a. This lever also consists of a member *c* extending parallel with the main line, and a member *c'* that extends inward at an angle to the main line. The member *c* faces in the same direction as the member *a'* of the lever 22, and said member *c* of the elbow lever 24 is pivotally attached to the connecting or shifting rod 11^a for the switch points 10^a, as is shown in Fig. 1. The inwardly-extending member *c'* of the lever 24 is connected with the corresponding member *d'* of a main elbow lever E, that is also pivotally mounted adjacent to the outer rail of the main line, and by preference about midway between the levers 22 and 24. The said member *d'* of the main elbow lever E is connected by a second link 27 with the member *b'* of the lever 22. All of the lines 23, 25 and 27 are in longitudinal alinement.

The member *d* of the main lever E faces in the same direction as do the corresponding members of the levers 22 and 24, and said member *d* is connected by a link 26, or its equivalent with a switch stand or tower of any approved type, whereby when the lever E is operated in one direction the associated levers 21 and 22 will carry the switch rail C between the separated sections of either the main or the siding rails, and the lever 24 will simultaneously act to carry the switch points 10^a in the right or a corresponding position.

It is evident that when the levers 21 and 22 are operated, one of the shifting rods connected with the switch rail will throw the said rail, while the other will pull the same, acting at opposite points on the rail, and in this manner the switch rail is compelled to turn freely and positively.

In Fig. 4 I have illustrated the switch rail C' as pivotally mounted directly upon the

platform plate 10, and when this is done opposing chair pivots 28 secured to the platform plate 10 at each side of its central portion and having rounded inner ends, are made to enter recesses 29, produced in opposite sides of said switch rail C' centrally between its ends; and at each side of each pivot chair 28 stop chairs 30 are located, the spaces between said stop chairs increasing in width in proportion to the distance said stop chairs are removed from the pivot chairs 28. These stop chairs 30 serve to limit the pivotal movement of the switch rail in either direction at points between its center and its ends, while the stops 16 and 16^a heretofore described are also utilized to limit the movement of the extreme end portions of the switch rail.

When the switch rail is mounted as shown in Fig. 4, clamps 32 are made to engage therewith adjacent to its end portions, and the said clamps enter arcuate slots 31, produced in the platform plate 10 between its center and its ends, and the shifting rods 17 and 18 are secured to these clamps.

It is obvious that the operation of the switch rail C' is identical with that of the switch rail C shown in Fig. 1, since the same system of levers is employed for throwing both forms of switch.

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

1. In railroad switches, the combination with the rails of the main line and the rails of the siding, of a platform plate located adjacent to where the inner rail of the siding and the inner rail of the main line converge, a bed piece located beneath the platform plate and secured thereto, the said bed piece having a circular chamber formed therein, open at the top, a disk mounted to turn freely in said chamber, the said platform plate having a longitudinal opening the center of which is in vertical alinement with the center of said disk, a switch rail located between the main and the siding rails and secured to the center of said disk, the said switch rail being capable of bridging relation to either the main or the siding rails, stop chairs located at the opposing ends of the sections of the inner rails of the siding and main line, to limit the turning movement of the disk and switch rail, blocks attached to the bottom of the switch rail at each side of the center thereof, the said platform plate being provided with slots for the downward extension of said blocks, and shifting mechanism for the switch rail arranged to exert a pushing action on one of said blocks and a pulling action on the other.

2. In railroad switches, the combination with the rails of the main line and the rails of the siding and a platform plate located between the breaks in the inner rails of the said main line and the siding, of a cen-

trally-pivoted switch rail on the platform plate and operative with relation to the main and siding rails, blocks secured to the bottom of the switch rail at opposite sides of its pivot and extending downward through slots formed in the platform plate and mechanism for shifting the switch rail, which mechanism exerts a pulling action on the block at one side of the pivot of the switch rail and a simultaneous pushing action on the block at the opposite side of the pivot of said rail, and means for limiting the movement of the switch rail in either direction.

3. In railroad switches, the combination with the rails of the main line and the rails of a siding, a platform plate, a bed piece located beneath the platform plate, and provided with a chamber, and a disk mounted to turn in the chamber of the bed piece, of a switch rail centrally pivoted to said disk and adapted for bridging action relatively to either the main or the siding rails, blocks secured to the bottom of the switch rail, one at each side of its pivot, the said platform plate being provided with slots through which said blocks extend shifting rods connected with the said blocks, elbow levers pivotally connected with said shifting rods, the connecting members of the said levers facing each other, a link connection between said levers, a main elbow lever, means for operating the same, and a link connection between the said main lever and one of the levers connected with the switch rail.

4. In railroad switches, the combination with the rails of the main line, the rails of the siding, a platform plate located between the breaks in the inner rails of the said main line and the siding, a chambered bed piece located beneath the platform plate, and a disk mounted to turn freely in the chamber of the bed piece, of a short switch rail centrally secured to said disk and adapted to operate as a connecting medium with either of the inner rail sections of said main line or siding, blocks secured to the bottom of the said switch rail at each side of its center, the said platform plate being provided with slots for the downward extension of said blocks and to permit of their sliding movement relative to said platform plate, pivoted switch points located a distance from

the switch rail, and means connected with the said blocks and with the switch points for simultaneously operating the switch rail and said switch points.

5. In railway switches, the combination with the rails of the main line and the rails of the siding, of a switch rail located between the main and the siding rails and capable of bridging relation to either the main or the siding rails, a turn table carrying said switch rail and comprising a chambered bed piece, a disk mounted to turn in the chamber of the bed piece, a platform plate secured on top of the bed piece and provided with a longitudinal slot in line with the center of said disk, the said switch rail being secured to said disk and extending over the platform plate, blocks secured to the under face of the switch rail at opposite sides of its center and movable in slots in the said platform plate, and a shifting mechanism for the switch rail connected with said blocks.

6. In railway switches, the combination with the rails of the main line and the rails of the siding, of a switch rail located between the main and the siding rails and capable of bridging relation to either the main or the siding rails, a turn table carrying said switch rail, and comprising a chambered bed piece, a disk mounted to turn in the chamber of the bed piece, a platform plate secured to the upper marginal portion of said bed piece and projecting at each end beyond the bed piece, the said platform plate being provided with a longitudinal slot in line with the center of said disk, the said switch rail being secured to said disk, blocks secured to the under face of the switch rail at opposite sides of the center, and movable in slots formed in the said platform plate, a shifting mechanism for the switch rail extending beneath the platform plate and connected with said blocks, and means carried by the platform plate for limiting the movement of the switch rail.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN MAURICE POWELL.

Witnesses:

PHIL. ABRAHAMS,
H. WOLFF.