

S. T. ROBINSON.

SWITCH CHAIR.

APPLICATION FILED JULY 17, 1908. RENEWED MAY 7, 1910.

961,261.

Patented June 14, 1910.

2 SHEETS—SHEET 1.

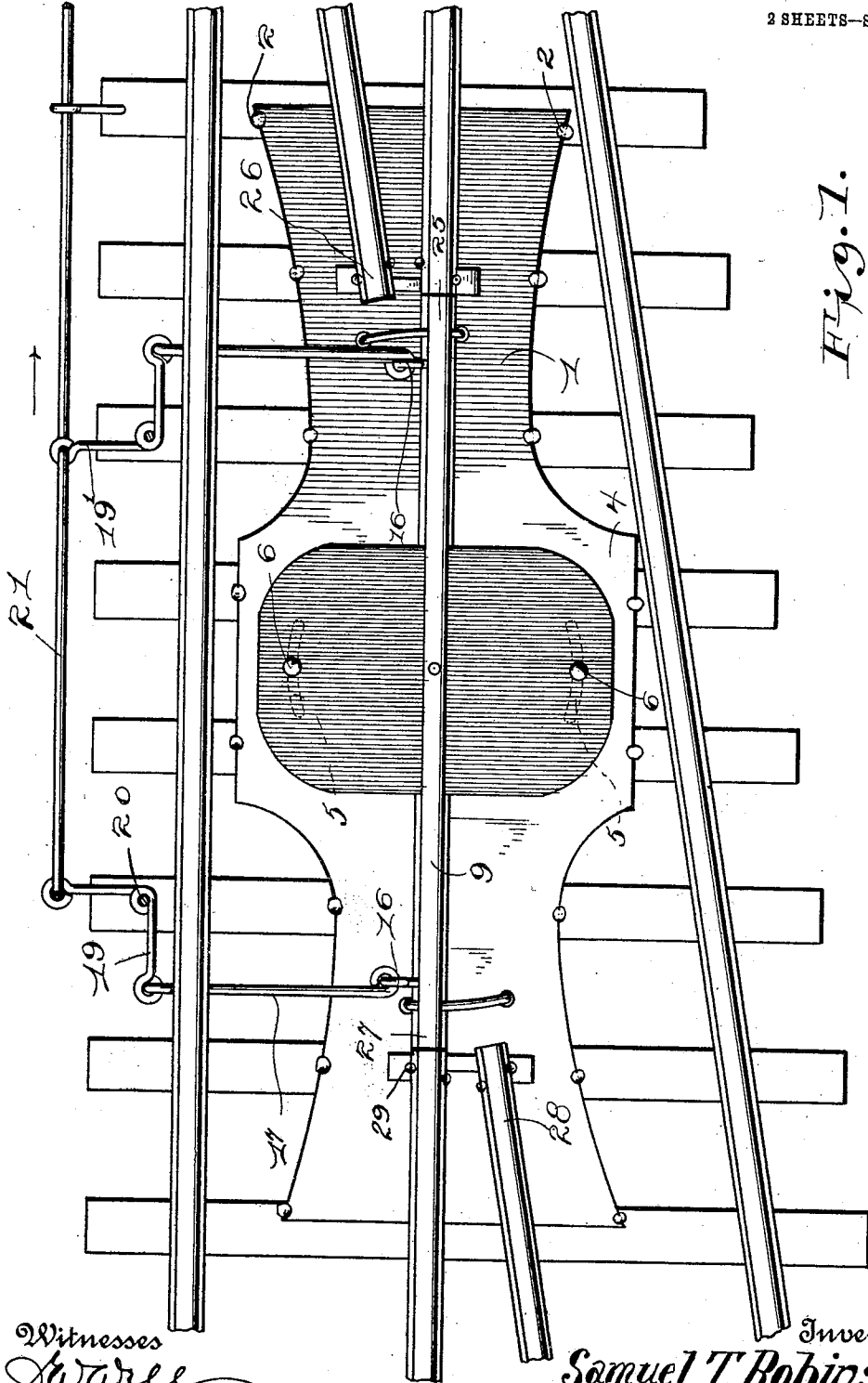


Fig. 1.

Witnesses

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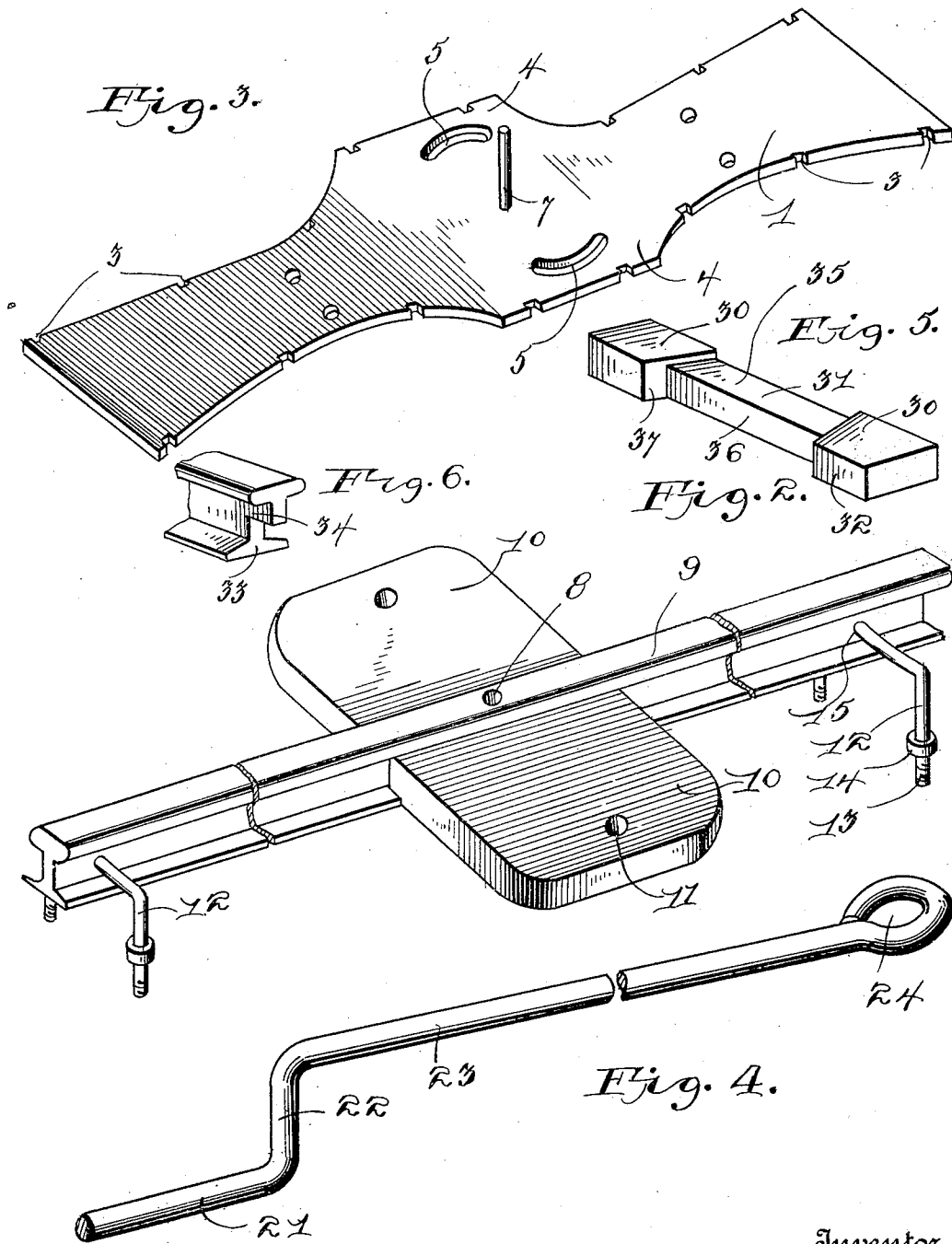
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UNITED STATES PATENT OFFICE.

SAMUEL T. ROBINSON, OF WALBRIDGE, OHIO.

SWITCH-CHAIR.

961,261.

Specification of Letters Patent. Patented June 14, 1910.

Application filed July 17, 1909, Serial No. 508,148. Renewed May 7, 1910. Serial No. 560,065.

To all whom it may concern:

Be it known that I, SAMUEL T. ROBINSON, a citizen of the United States, residing at Walbridge, in the county of Wood and State of Ohio, have invented certain new and useful Improvements in Switch-Chairs, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to frogless switches, and has for its object the production of a switch, which is simple in construction and consists of a comparatively small number of parts.

15 Another object of this invention is the production of a switch which will entirely do away with the guard rails, which have been necessarily used in the present construction of the frog, which is now in common use.

20 With these and other objects in view this invention consists of certain novel constructions, combinations and arrangements of parts as will be hereinafter fully described and claimed.

25 In the drawings: Figure 1 is a top plan view of the switch; Fig. 2 is a detail perspective of the pivoted-sectional switch rail; Fig. 3 is a detail perspective of the switch plate; Fig. 4 is a perspective view of the throwing rod; Fig. 5 is a detail perspective of the tie block; Fig. 6 is a detail perspective of one end of one of the inner main rails adapted to engage the tie block.

30 Referring to the drawings by numerals, 1 designates the switch-plate, which is secured to the ties by means of spikes 2, which spikes engage the notches 3 disposed along the side edges of said plate. The switch-plate is provided, near its center, with outwardly-extending sides 4, shown in Figs. 1 and 3. In the sides 4 of the plate 1 are formed curved slots 5, in which are adapted to work pins or lugs 6 secured to the sectional switch-rails hereinafter described. The plate 1 is also provided, near the center thereof, and intermediate the slots 5 with a vertically-extending post 7, which pin fits in an aperture or socket 8 formed in the sectional rail for pivotally securing said rail to said plate.

35 The sectional rail 9 is provided intermediate its ends, and upon each side thereof, with a laterally-extending portion 10, which portions 10 are provided with apertures 11 formed near the outer ends thereof and the

pins 6 hereinbefore mentioned are adapted to be secured therein and work in the slots 5 in the plate 1. Therefore, it will be seen from the foregoing description that as the sectional rail is swung upon its pivot pin 7 that the rotary or pivotal movement of the same will be limited through the medium of the curved slots 5.

Substantially inverted U-shaped members 12 are secured to the plate 1, and have their lower ends passing through said plate and secured thereto by means of nuts screwed upon the lower screw-threaded ends 13 thereof. The U-shaped members are provided, near said screw-threaded ends with enlarged portions or collars 14, which collars engage the top of the plate 1 and prevent the U-shaped members from slipping through the plate 1. Therefore, it will be obvious that the ends of the member 12 will be firmly clamped upon the plate through the medium of the nut adapted to be threaded upon the screw-threaded end 13 and the enlarged portion or collar 14.

40 The top of the U-shaped member 12 is adapted to pass through an aperture 15, near the outer end of the switch-rail 9 and said switch-rail is adapted to freely work upon said U-shaped member 12, and said member acts as a guide and also limits the pivotal swing of said switch-member, as is the case with the slots 5. Therefore, it will be seen that I have provided two means for limiting the movement of said rail. Eyes 16 are secured to the rail 9, near each end thereof, and a link member 17 is secured to each of said eyes 16 and said link members engage, at their other ends, bell-crank levers 19, which levers are pivoted at 20 and are connected, at their outer ends, to an operating-lever 21, shown in a fragmentary perspective view in Fig. 4. The operating-lever 21 is secured, at its outer end, to the farther bell-crank lever, and said operating-lever is provided intermediate its ends with a vertically-extending portion 22, which terminates into a longitudinally-extending portion 23, which longitudinally-extending portion is in the same plane with the body portion of the switch-throwing member. The switch-throwing member is provided, at its outer end, with an eye 24, which is adapted to be engaged by any suitable switch-throwing mechanism. The outer end of the nearer bell-crank lever, indicated by 19', is adapted to engage the vertically-extending portion

22 of the operating-lever, and it will be readily seen that when the operating-lever 21 is drawn in the direction shown by the arrow that the end 25 of the switch-rail will be thrown in the position shown in Fig. 1 and when the upper end of the lever is thrown in the opposite direction the end 25 will be brought into engagement with the rail 26 and the end 27 will be brought into engagement with the rail 28.

The adjacent ends of the inner main rails of the switch are held against displacement and in their proper position by means of a tie block 29, which comprises enlarged ends 30 and is provided with an intermediate truss portion 31 positioned below the top surface of the end block and of less width than the same and having one side thereof flush with one side of the ends 30. However, the front face of the truss is set back from one side or the other side of the ends of the face 32 of the tie block. The ends of the adjacent inner main rails are cut away or enlarged, as at 33, and the overhanging portion 34 of said rail is adapted to rest upon the upper portion 35 of the truss 31 and the end of the notched portion is adapted to rest against the side 36 of the truss. The shoulder 37 which is formed at the junction of the ends of the truss and the enlarged ends 30 prevent the lateral movement of the rails in one direction and the rails are adapted to be engaged by rivets upon the other side of the same for preventing the lateral displacement in the other direction. However, the enlarged ends of the blocks are so positioned as to take up comparatively all of the strain when a train is passing over the rail.

From the foregoing description it will be readily seen that I have provided a simple,

efficient and effective switch, which can be quickly shifted from one position to another, and which if desired can be operated synchronously with the operation of the switch, not shown on the drawing.

What I claim is:

1. In a device of the class described the combination with a frogless switch, of a tie block adapted to hold the adjacent ends of the main rails together, said block comprising enlarged ends, an intermediate truss connecting said ends, and integral therewith, said truss positioned below the top of said ends and of less width than said ends, thereby forming shoulders at the junction thereof, said rails provided with notched ends adapted to fit over said truss and engage said shoulders and adapted to be held against lateral movement in one direction.

2. In a device of the class described the combination with a switch, a plurality of main rails, of a tie block adapted to hold the adjacent ends of said rails in a set position, said block comprising enlarged ends provided with an intermediate truss portion reduced in size to said ends, said rails provided with notched ends upon the under surface thereof, said notched ends adapted to straddle said truss, and engage the inner face of said enlarged ends, for holding the rails against displacement in one direction, and a pivoted rail member adapted to be swung so as to engage the respective ends of the main rails.

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

SAMUEL T. ROBINSON.

Witnesses:

JOE A. KEHRES,

FRANK DRAYTON.