

No. 741,444.

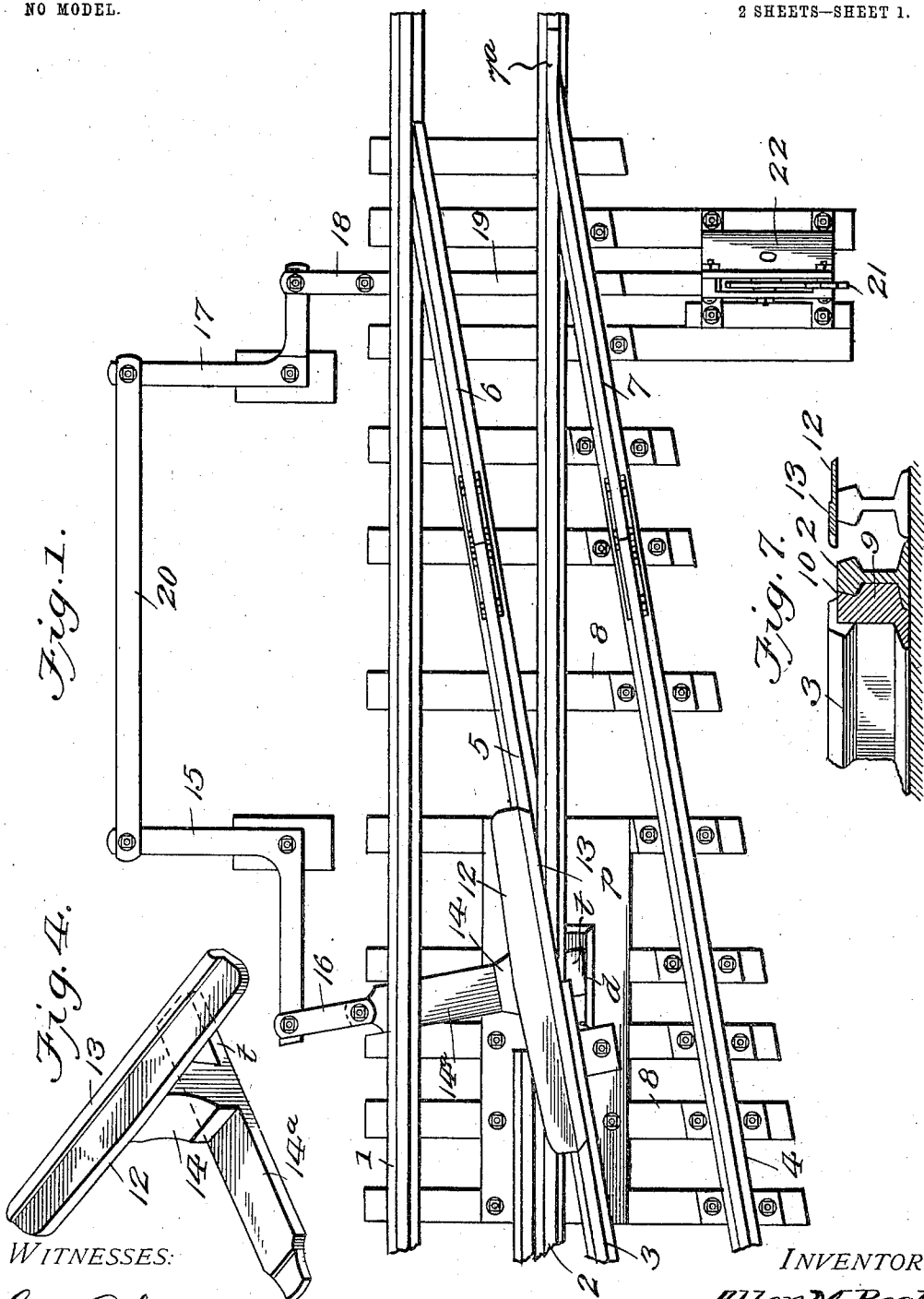
PATENTED OCT. 13, 1903.

A. M. BEALL.
SWITCH.

APPLIOATION FILED JULY 8, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

Geo. Ackman Jr
A. G. Heyman

INVENTOR

Allen M. Beall

 By

Victor J. Evans
Attorney

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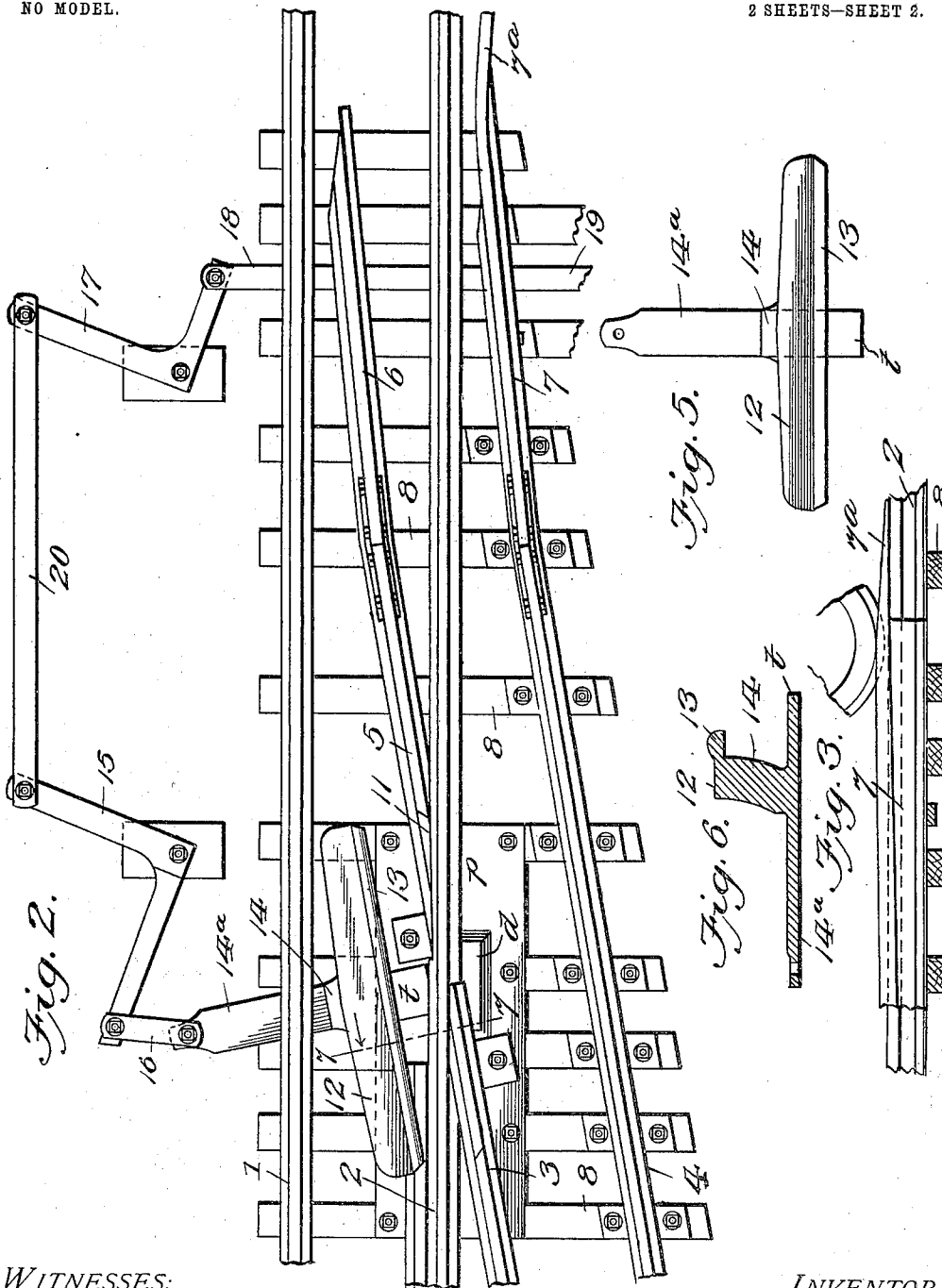
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UNITED STATES PATENT OFFICE.

ALLEN M. BEALL, OF WALKERTON, INDIANA.

SWITCH.

SPECIFICATION forming part of Letters Patent No. 741,444, dated October 13, 1903.

Application filed July 8, 1902. Serial No. 114,786. (No model.)

To all whom it may concern:

Be it known that I, ALLEN M. BEALL, a citizen of the United States, residing at Walkerton, in the county of St. Joseph and State of Indiana, have invented new and useful Improvements in Switches, of which the following is a specification.

My invention relates to improvements in railway-switches; and the object is to simplify and improve the existing art by providing a switch mechanism which is simple and strong in construction and certain and efficient in operation. The construction is of that kind or class wherein the main-track rails are left intact and continuous, and the shifting or switching is accomplished by means of a slidable rail-plate adapted to bridge over one of the main rails to afford means for bridging the main rail and carrying the wheels over the rail.

The improvements consist in the novel construction of parts and their assemblage or aggroupment in operative combination, as will be hereinafter fully specified and the novelty thereof particularly pointed out and distinctly claimed.

I have fully and clearly illustrated the improvements in the accompanying drawings to be attached to the patent as a part of this specification, and wherein—

Figure 1 is a plan view of a section of a railway having my improvements applied, the switch-points being closed to direct a car from the main track onto the side track and the bridge or switch plate arranged to carry the wheels over the main rail. Fig. 2 is a plan view showing the switch open and the bridge or switch plate moved from over the main rail, leaving the track clear for the uninterrupted progression of trains. Fig. 3 is a side elevation of the outside switch-point, showing the inclined end portion which laps over the main rail. Fig. 4 is a detail perspective view of the slidable switch-block and bridge-plate. Fig. 5 is a top plan view of the slidable switch-block and bridge-plate. Fig. 6 is a transverse central section of the slidable switch-block. Fig. 7 is a detail section taken on the line 7 7 of Fig. 2.

In the drawings similar reference notations denote like parts appearing in the several illustrations, and, reference being thereto

had, 1 2 designate the rails of the main track, which, as shown, are continuous to permit under ordinary circumstances the uninterrupted progression of a car or a train of cars.

3 4 designate the fixed terminal rails of the side track, and 5 designates the inner section of the switch-rail laid and secured between the main-track rails, as shown, and to the inner end of which is secured the switch-point 6, and to the end of the rail 4 is suitably secured the switch-point rail 7, which is formed with an extension 7^a, designed when the switch is closed to lap over and rest upon the tread of the adjacent main rail 2, so that the car will be turned from the main track onto the siding by the force of the contact of the wheel-flanges against the end of the switch-point 6. To carry the flange of the wheel over the main rail 2, the extension 7^a is inclined upward, as shown in Fig. 3 of the drawings.

The respective rails are secured to the usual cross-ties 8, and at the junction of the rails 2, 3, and 5 on the ties and under the rails is secured a strong metal plate *p* of such superficial area as will adapt it to firmly support the said rails at this point. The track-plate *p* is formed with a recess or depression *d*, between the floor of which and the faces of the rails the tongue *t*, formed on the slidable switch-block, engages to hold the switch-block from displacement when moved into transfer position on the rails. The switch-rail 3 is reinforced on its inner face, as at 9, and the vertical contour thereof fits the shape of the rail 2 of the main line to strengthen the construction at this point. The switch-rails 3 and 5 may be so positioned that their heads will be on a plane somewhat higher than the treads of the main rail 2, so that at the intersection of said switch-rails their tread-flanges may be removed for a suitable distance, as at 10 and 11, the standing webs of the switch-rails at these portions being left in substantial alinement with the plane or face of the track-rail 2. The purpose of cutting away the tread-flanges at these parts is to provide room for seating the bridge-plate of a slidable switch plate or block.

The switch block or plate is a strong metal device composed of a base-plate 14^a, from which rises a substantial standard or block

14 integral with the plate, and from the base of which is formed a tongue *t*, extending on the same plane as the base-plate 14^a and adapted to engage under the rails in the recess *d* and hold the switch-block firmly in engagement and against lateral displacement. The block or standard 14 is inclined toward the intersecting rails and carries on its upper end integral therewith a bridging and switch plate 12, formed with an overhanging flange 13, adapted to lie over and rest upon the edges of the webs of the rails 3 and 5 where cut away, and thus bridge the main rail and carry the wheels over it. On the flange 13 is a tread-flange, as shown, which when the switch-plate 12 is moved to bridge the rail alines with the head-flanges of the siding-rails 3 and 5, as shown in Fig. 1 of the drawings. The base-plate 14^a has its outer end pivotally connected by a link 16 to the arm of a bell-crank lever 15, the other arm of which is connected to a connecting bar or rod 20, the other end of which is connected to an arm of a bell-crank lever 17, the other arm of which is pivotally connected to a link 18, connected to the switch-bar 19, to which the switch-points 6 and 7 are secured in parallel arrangement, and so moved thereby. The switch-bar 19 is connected to the lever 21, suitably mounted in the switch-stand 22.

It will be perceived from the foregoing description, taken in connection with the drawings, that when the switch-lever is actuated to move the switch-points in either direction the bell-crank levers are actuated to move the switch-block correspondingly—that is to say, when the switch-points are moved to the closed position (shown in Fig. 1) the switch-block is also moved into the position to bridge the main rail and bring the rail 3, the flange 13 of the switch-block, and the rail 5 in transfer alinement, and that when the switch-

points are moved to the open position (shown in Fig. 2) the switch-block at the same time is moved free and away from the main rail, and the main track is clear.

Having thus fully described the invention, what is claimed as new is—

1. The combination with the switch-points and the adjacent switch-rails 3 and 5 disposed on opposite sides of the main rail and having their tread-flanges removed for a distance at their approaching ends, of a slidable switch-block consisting of a bottom plate formed with a vertical standard and an integral switch-plate on the top of the standard and extending in opposite directions therefrom and at right angles to the bottom plate and formed with a tread-flange along its inner edge, and means connected to the switch-points to move the switch-block to and from its seat on the cut-away portions of switch-rails and to and from over the main rail.

2. In a railway-switch, a track-plate formed with a depression, a track-rail on the plate alining switch-rails having their approaching ends on opposite sides of the main rail, a switch-block consisting of a bottom plate, a standard integral therewith, a tongue to engage in the depression in the track-plate and under the main rail and a bridge-plate integral with the standard and extending therefrom in opposite directions to bridge the main rail and rest on the switch-rails adjacent thereto, and means substantially as described to move the switch-block into and out of operative position.

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

ALLEN M. BEALL.

Witnesses:

N. A. GREEN,
HENRY SIMS.