

No. 725,986.

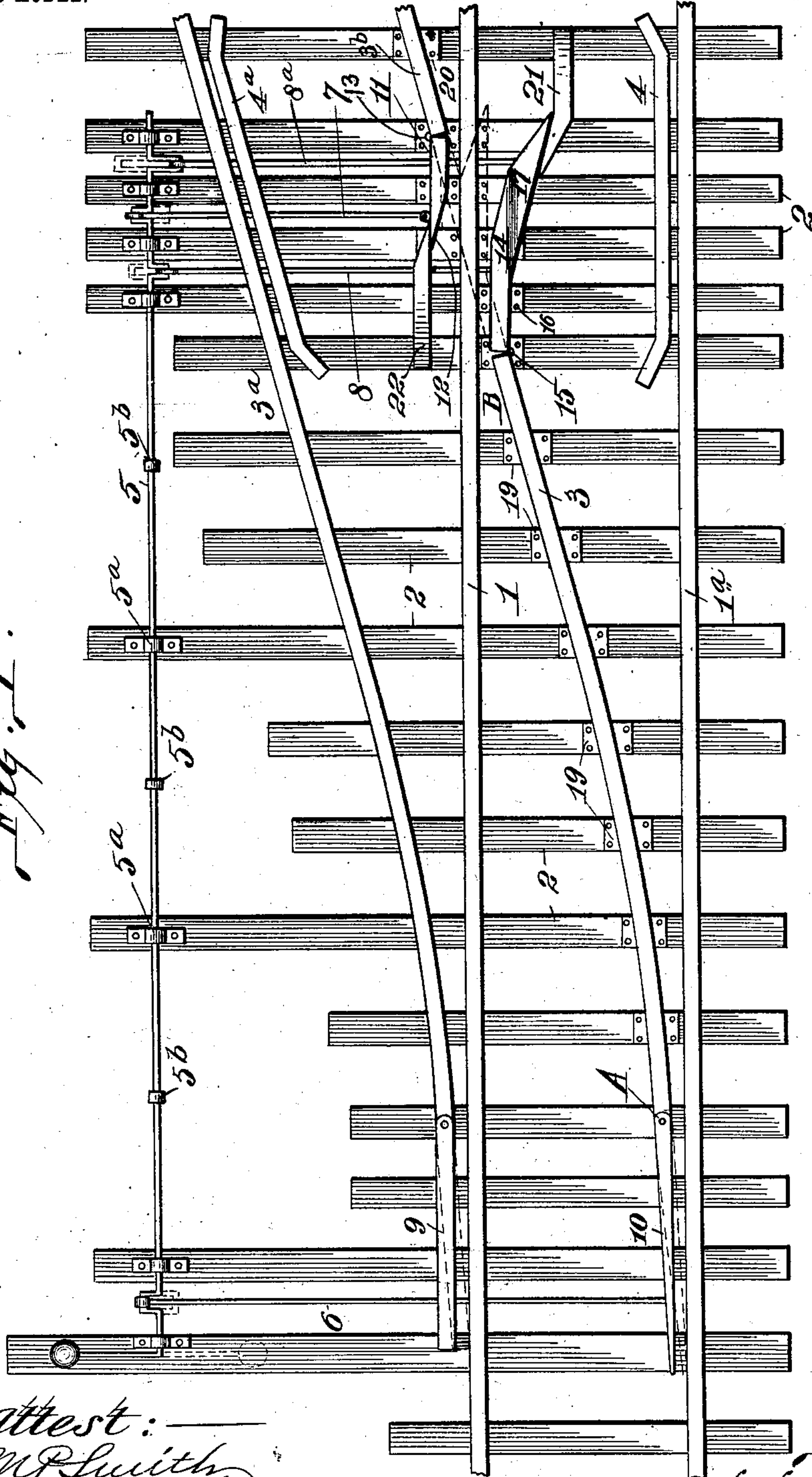
PATENTED APR. 21, 1903.

S. S. NICHOL.
RAILWAY SWITCH.

APPLICATION FILED AUG. 23, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



attest: —
M. P. Smith.
Z. Knight

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By *Wright & Bro*
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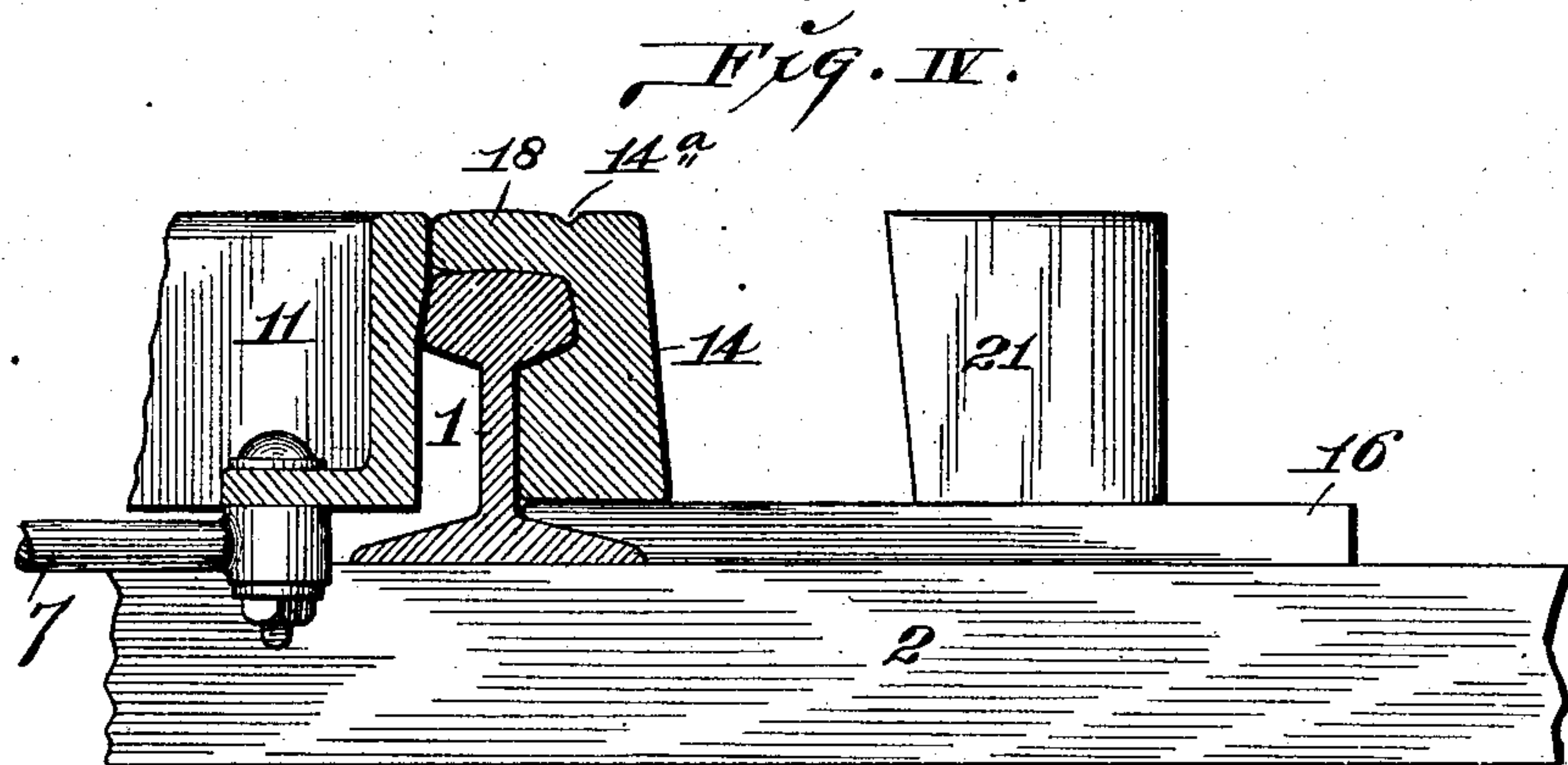
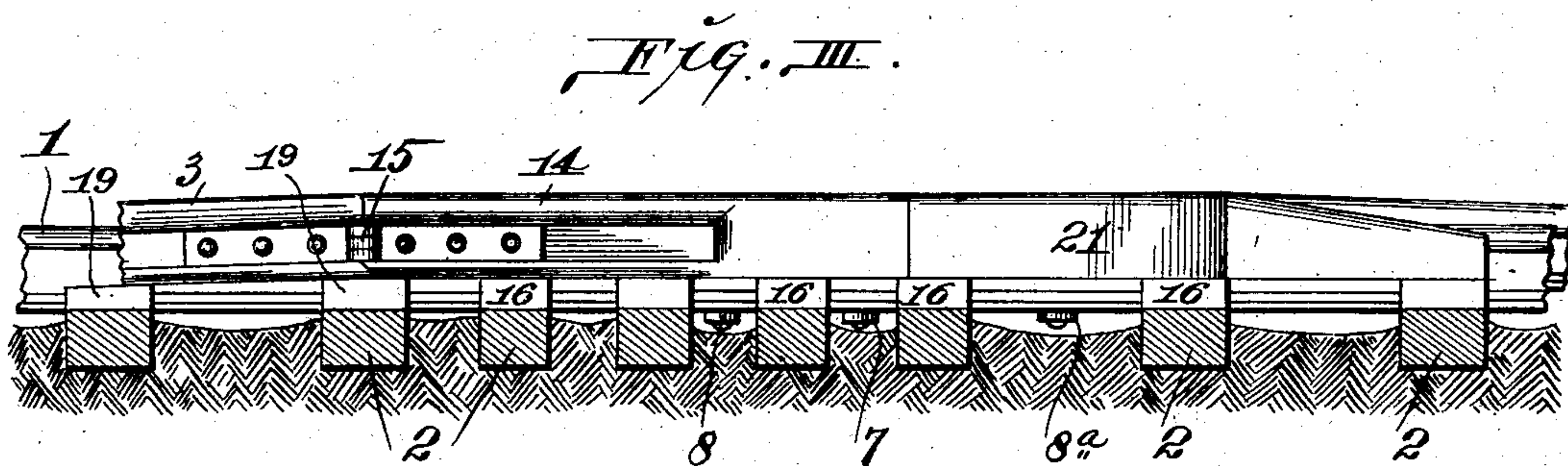
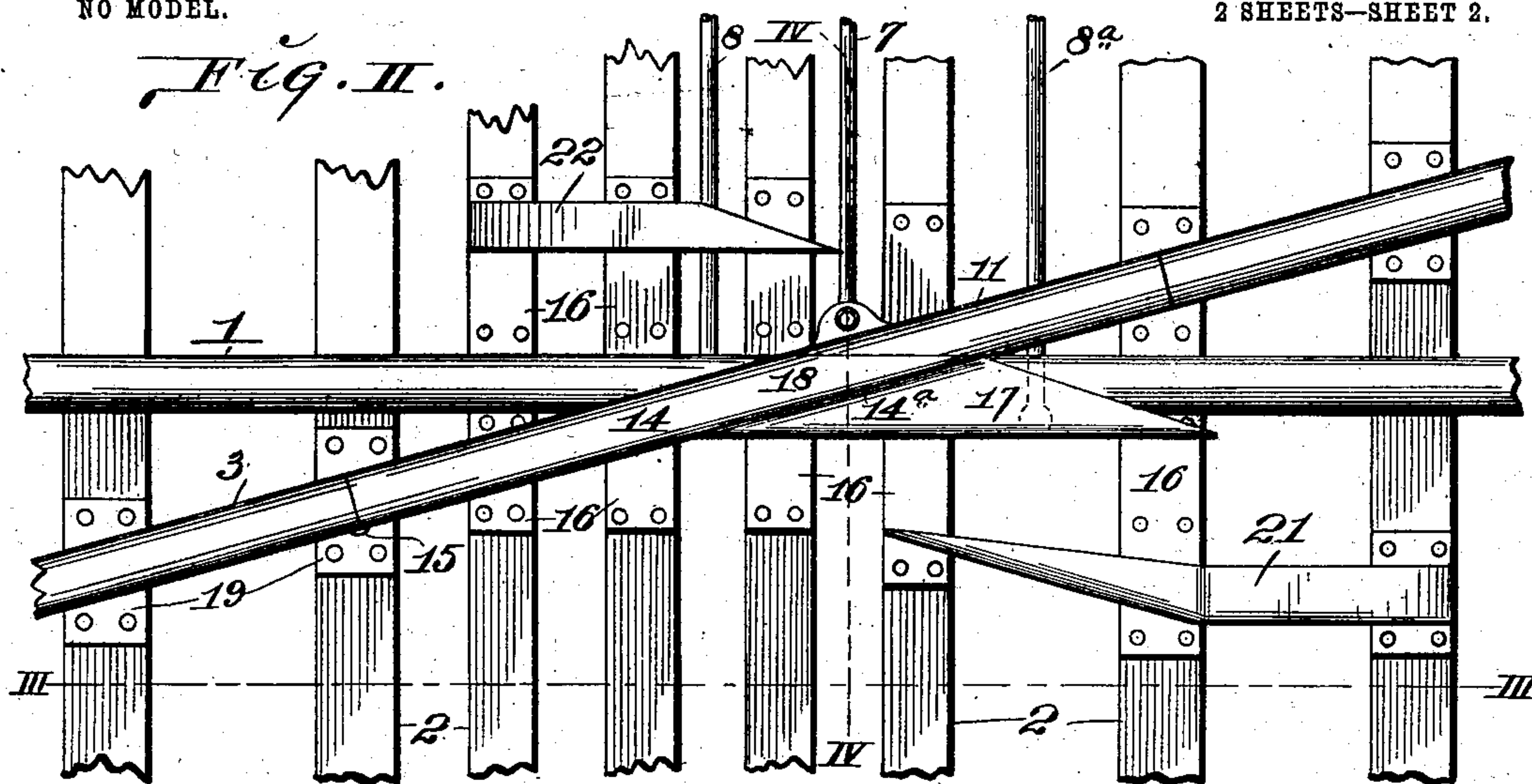
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attest:—
W. H. Smith
E. S. Krivon

Inventor:—
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UNITED STATES PATENT OFFICE.

SAMUEL S. NICHOL, OF KEWANNA, INDIANA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 725,986, dated April 21, 1903.

Application filed August 23, 1902. Serial No. 120,800. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. NICHOL, a citizen of the United States, residing in Kewanna, in the county of Fulton and State of Indiana, have invented certain new and useful Improvements in Railway-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a railway-switch in the construction of which frogs are dispensed with and the switch-rail sections are pivotally mounted so as to be capable of movement to the rails of the main track for the travel of the car-wheels directly onto or off of said main-track rails.

The invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view of my switch with parts broken out. Fig. II is an enlarged top view of one of the main-track rails and the pivoted switch-rails moved thereto. Fig. III is an enlarged longitudinal section taken on line III III, Fig. II, with the rails shown in elevation. Fig. IV is an enlarged cross-section taken on line IV IV, Fig. II.

1 and 1^a designate the main-track rails, which are mounted on ties 2 in the usual manner.

3^a and 3^b are the switch lead-rails that lead into proximity to the main-track rails.

4 and 4^a are guard-rails beside the track-rail 1^a and lead-rail 3^a in line with the crossover of the switch.

5 is a crank-shaft rockingly mounted in bearings 5^a on the ties 2 and having connected to the cranks thereof throw-rods 6, 7, and 8, by which the swinging switch-rail sections are moved on the rocking of said crank-shaft. The crank-shaft 5 is made in sections for convenience in shipping or transportation, and the various sections are joined by couplings 5^b. (See Fig. I.) The throw-rod 6 is connected to a switch-rail section 9, hinged to the end of the switch-point 3^a, and also to a switch-point 10, hinged to one end of the lead-rail section 3, located between the main-track rails 1 and 1^a, the said sections 9 and 10 being adapted for movement to the main-track rails. The throw-rod 7 is connected to a

switch-point section 11, hinged at 13 to the end of the lead-rail 3^b and provided with a tapered end 12, adapted to be moved to the outside face of the main-track rail 1, beside which it is located.

14 designates a slip-frog that is pivoted at 15 to the lead-rail 3, that is located intermediate of the track-rails 1 and 1^a. This slip-frog is adapted for movement to the main-track rail 1 and rides upon wear-plates 16, secured to the ties 2 beneath it. The slip-frog 14 is formed with an enlarged head 17, having a tapering point, and which is undercut, as shown in Fig. IV, to produce a tread-flange 18, that is adapted to ride onto the main-track rail 1 on the movement of the frog thereto. The flange 19 is of sufficient width to extend to the opposite side of the track-rail 1 and is adapted to meet the tapered end of the switch-point 11, situated at the opposite side of the rail 1, and which is moved to the rail simultaneously with the movement of the slip-frog. It will be seen that when the slip-frog and switch-point 11 are moved together, as stated, a continuous rail-surface is provided across the main-track rail 1, over which the car-wheels may pass without jarring or pounding action.

Situated beneath the lead-rail 3 on the ties 2 are a series of elevating-plates 19, that gradually increase in height from the point A (see Fig. I) to the point B to raise the lead-rail gradually toward the point B in order that the car-wheels will be elevated as they pass to the slip-frog 14 and will continue their elevated course onto the slip-frog and thereover to the switch-point 11, from which they pass onto the lead-rail 3^b. The lead-rail is elevated at the end adjoining the track-rail 1 by plates 20, that gradually decrease in elevation in the course of the lead-rail away from the track-rail. The slip-frog 14 receives the connection of the throw-rods 8 and 8^a, by which it is moved on the rotation of the crank-shaft 5.

21 is a guard-rail that is mounted on a series of supporting-plates of decreasing height and fixed to the ties 2 intermediate of the track-rails 1 and 1^a, and the point of which is adapted to overlap the point of the slip-frog 14 when the frog is thrown away from the track-rail 1. This guard-rail serves to

protect the point of the slip-frog and prevent its being struck by a chain or other object carried by a car and dragged on the railway-track, and which in the absence of any protection for the slip-frog might become engaged therewith to the injury of the frog.

22 is a guard-rail mounted on supporting-plates fixed to the track-ties and adapted to overlap the switch-point 11 when it is not in service to protect said point in the same manner as that stated in connection with the slip-frog 14.

The guard-rails 21 and 22 are extended transversely of the track-ties 2, so as to extend longitudinally of the slip-frog 14 and switch-point 11 in order that they will completely and adequately guard the free ends of said members of the switch.

The slip-frog 14 is provided with a diagonally-extending groove 14^a, adapted to receive the ridges of car-wheels common upon wheels that have been used any great length of time and which are produced by the wear of the wheels.

I claim as my invention—

1. In a railway-switch, the combination with main-track rails, of lead-rails exterior and intermediate of said main-track rails, a slip-frog having a tapered end hinged to one end of said intermediate lead-rail adjacent to one of said main-track rails, a switch-

point, having a tapered end, hinged to the end of one of the exterior lead-rails adjacent to said last-named main-track rail, and guard-rails, having tapered ends, extending longitudinally of said slip-frog and switch-point to which the free tapered ends of said frog and switch-point are adapted to be moved when out of service, substantially as described.

2. In a railway-switch, the combination with the main-track rails, of lead-rails exterior of said main-track rails, a lead-rail situated intermediate of said main-track rails, a slip-frog hinged to said intermediate lead-rail, adapted for movement to one of said main-track rails, and formed with an enlarged head 17 which is undercut to form a flange of sufficient width to extend to the opposite side of the track in alinement therewith, a switch-point, having a tapered end, hinged to one of the exterior lead-rails adjacent to said slip-frog, and guard-rails, having tapered ends, extending longitudinally of said slip-frog and switch-point, to which the free tapered ends of said frog and switch-point are adapted to be moved when out of service, substantially as described.

SAMUEL S. NICHOL.

In presence of—

FRANK W. LAMBORN,
W. F. COOPER.