

No. 778,183.

PATENTED DEC. 20, 1904.

W. R. FINDLY.
SWITCH.

APPLICATION FILED SEPT. 19, 1904.

NO MODEL.

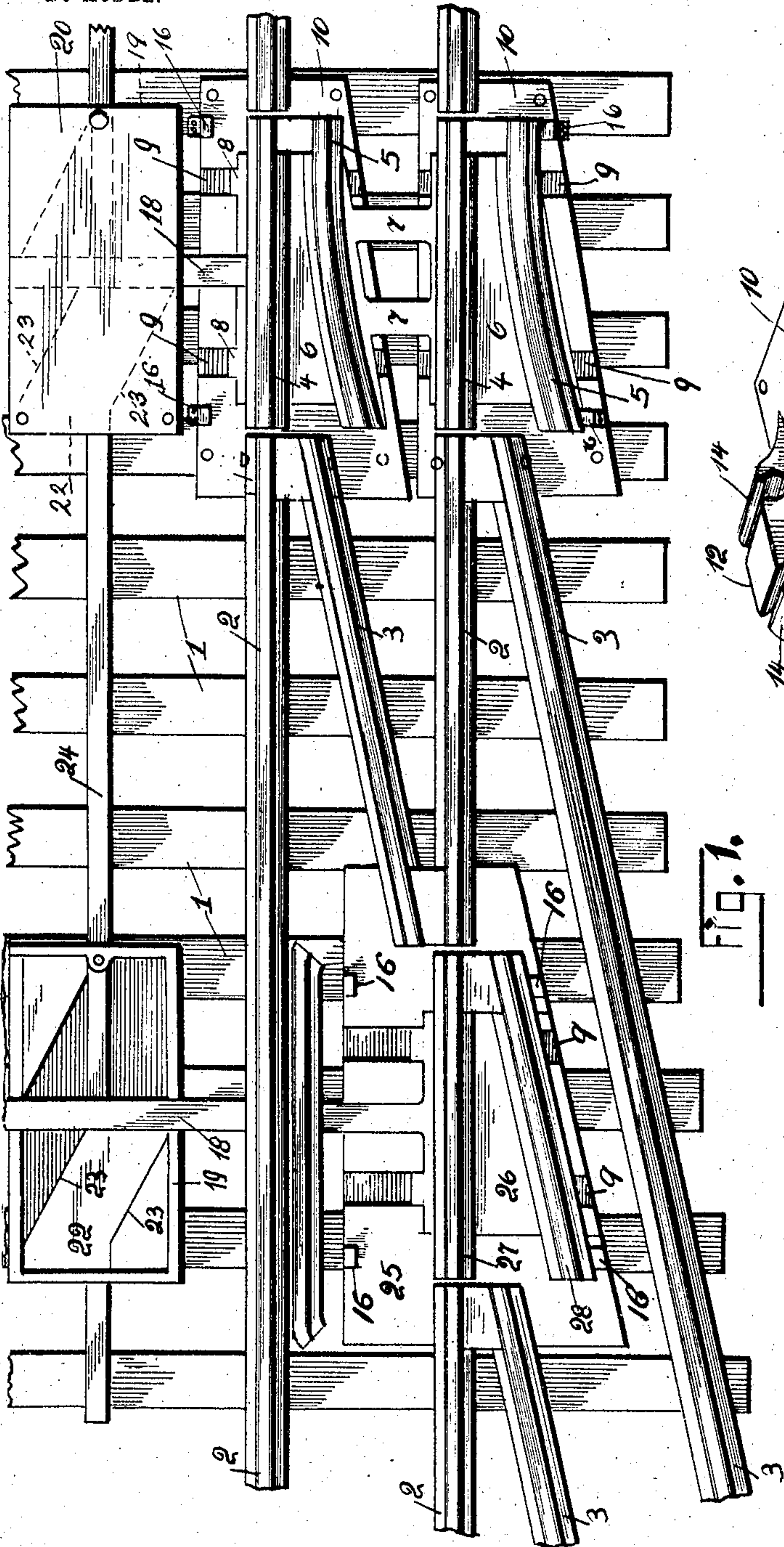


FIG. 1.

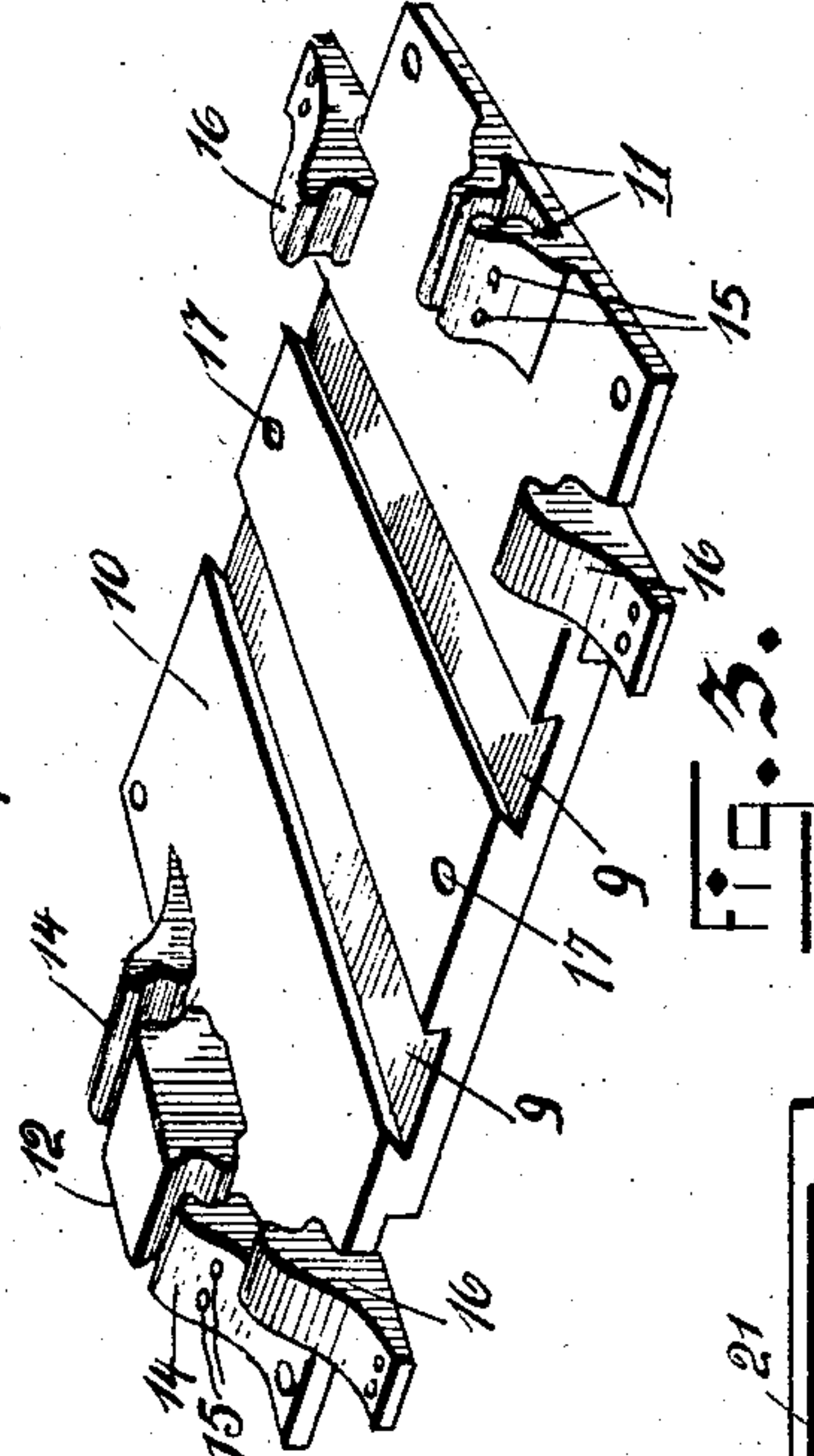


FIG. 3.

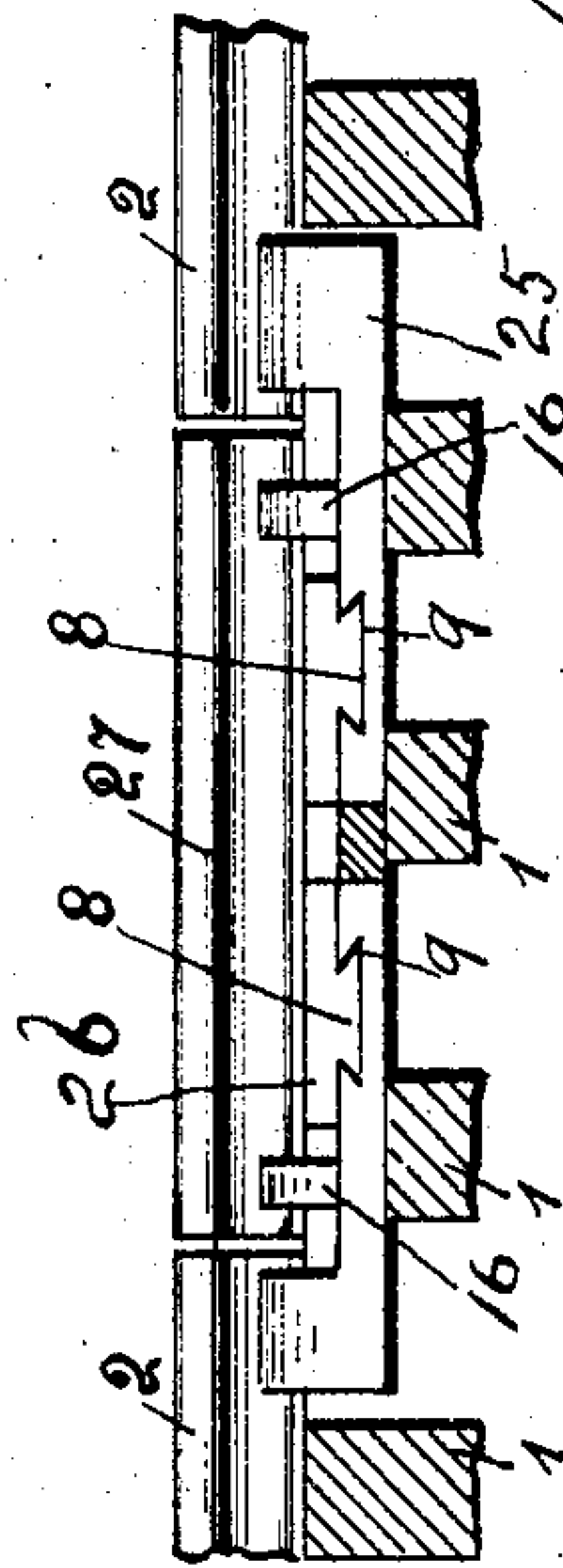


FIG. 2.



FIG. 4.

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SWITCH.

SPECIFICATION forming part of Letters Patent No. 778,183, dated December 20, 1904.

Application filed September 19, 1904. Serial No. 225,033.

To all whom it may concern:

Be it known that I, WILLIAM R. FINDLY, a citizen of the United States of America, residing at Seward, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Switches, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention has relation to switches, and has for its object to provide a novel form of switch wherein the ordinary form of frogs and switch-tongues is dispensed with and a novel form of construction provided in connection with means for operating the same, whereby the wear and tear upon the rails adjacent to the switch is reduced to a minimum and a safe and durable construction provided.

15 Another object of this invention is to provide novel means for operating the switch, and from the following description it will be apparent that I have provided a switch which will be comparatively inexpensive to manufacture, serviceable, and highly efficient in its use.

20 With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

25 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this application, and wherein like numerals of reference indicate like parts throughout the several views, in which—

30 Figure 1 is a top plan view of my improved switch, showing the same in connection with a main track and siding. Fig. 2 is a side elevation of one of the switch-plates, showing the same in connection with my improved switch; and Fig. 3 is a detail perspective view of one of these switch-plates as constructed by me. Fig. 4 is a detail view of one end of the operating-bar used in my improved switch.

35 Reference will first be had to Fig. 1 of the drawings, wherein I have illustrated my improved switch and its appurtenant parts in connection with main rails and siding-rails, and in this view the reference-numeral 1 designates the ties upon which the main rails 2 2

are secured, and branching off from these main rails are the siding-rails 3 3. As heretofore stated, I have dispensed with the frogs and switch-tongues commonly used, and in place of the switch-tongues and frogs I intend to employ sections of rails, which may be secured by suitable means to the plate 6 6. By referring to the right-hand side of Fig. 1 of the drawings it will be seen that I have connected the plates 6 6 by ribs 7 7, and said plates 6 6 have their under faces provided with tongues 8 8, which are adapted to slide in grooves 9 9 of supporting-plates 10 10, which are secured to the ties 1. The supporting-plates, one of which is shown in Fig. 3 of the drawings, are preferably formed of a forging or casting, and I provide the one end of said plates with integral fish-plates 11 11, while the other end thereof is provided with an integral space-block 12 and fish-plates 14 14. The fish-plates are each provided with apertures 15, whereby the ends of the rails resting upon said supporting-plates may be secured within the fish-plates. The main rails 2 and siding-rails 3 are adapted to be spaced apart by the block 12, which is formed integral with the supporting-plates, while the main rails on the opposite end of the supporting-plates are retained in position by the fish-plates 11 11.

40 The sections of rails 4 4 are adapted to control the movement of the rolling-stock upon the main tracks 2 2, while the curved rails 5 5 are adapted to control the movement upon the siding-tracks 3 3. The supporting-plates are provided with stops 16 16, which are adapted to limit the movement of the plates 6 6, carrying the rails 4 5, these stops also serving to secure the supporting-plates 10 to the ties, and besides these stop-plates I form the supporting-plates with apertures 17 17, whereby said plates may be more firmly secured upon the ties.

45 To operate or move the plates 6 6, I have connected said plates to a bar 18, which extends into a casing 19, secured to the ties upon one side of the track. This casing is provided with a suitable lid 20, which may be removed at any time it is desired to lubricate the mechanism carried within the casing 19.

The outer end of the bar 18 is provided with a slot 21, and operating through said slot is a block 22, which is provided with beveled edges 23 23. This block is connected to a rod 24, which passes through the casing 19 and extends parallel with the tracks. This rod is adapted to be reciprocated by any desired means, the ordinary weighted lever being used most commonly for this purpose.

Reference will now be had to the left-hand side of Fig. 1, where one of the siding-tracks crosses one of the main tracks, and heretofore the frog has been used where these tracks cross one another. I intend to employ the supporting-plate 25 and the plate 26, carrying sections of rails 27 28, in place of the ordinary frog and to operate said parts simultaneously with the operation of the switch mechanism heretofore described. By employing the rails 27 28 and their appurtenant parts the safe passage of rolling-stock over this part of the tracks is facilitated and the use of guard-rails and frogs entirely dispensed with.

In order to operate the rails 27 28 simultaneously with the rails 4 5, I have employed two sets of operating mechanism, which are actuated by the rod 24, these two sets and the manner of connecting the same being clearly illustrated in Fig. 1 of the drawings. It will be observed that by reciprocating the rod 24 the blocks 22, mounted within the casings 19, will be drawn in one or the other direction and that either one of the beveled edges 23 23 of said blocks will engage within the slots 21 and move the bars 18 simultaneously.

The supporting-plates used in the place of frogs are identical with the plates used in place of switch-tongues, and it will thus be seen that the construction of my improved switch can be mostly of standard pieces, which is impossible with the present construction used upon railways.

It will be observed from the foregoing description that I have provided a novel form of switch wherein the life of the rolling-stock, especially the flanges of the wheels, passing over the switch as constructed by me will be considerably lengthened, and that when the rolling-stock is passing on the main track it will have a straight-way passage, and that it will be impossible for the wheels to in any

manner engage the siding-tracks or sections thereof, and while I have herein shown the preferred form of construction of my switch I do not care to confine myself to the exact construction shown, but may vary the same as will be permissible by the appended claims.

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

1. In a switch, the combination of two supporting-plates, fish-plates carried by each supporting-plate at one end thereof to receive main rails, fish-plates carried by each supporting-plate at the other end thereof and space-blocks interposed between the last-named fish-plates, to receive main rails and siding-rails, two sliding plates mounted on said two supporting-plates, said sliding plates being formed with tongues, fitting grooves in said supporting-plates, straight rail-sections and angularly-disposed rail-sections carried by each sliding plate, said sliding plates being connected together.

2. In a switch, the combination of a supporting-plate adapted to receive the ends of main rails and siding-rails, said supporting-plate being grooved transversely on its upper face, means carried by said supporting-plate for the attachment thereto of said main rails and siding-rails, a sliding plate mounted on said supporting-plate and having tongues on its lower face seating in the grooves in the supporting-plate, said sliding plate carrying a main-rail section and a siding-rail section.

3. In a switch, the combination of a supporting-plate adapted to support the ends of main rails and siding-rails a sliding plate mounted on said supporting-plate, a main-rail section and siding-rail section carried by said sliding plate, a casing located adjacent the supporting-plate, a slotted bar attached to the sliding plate and extending into the casing, a sliding block arranged in said casing and having beveled edges and passing through the slot in said bar and means for moving said block in the casing.

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

WILLIAM R. FINDLY.

Witnesses:

D. B. ANDERSON,
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