

(No Model.)

2 Sheets—Sheet 1.

J. DAVIS & W. A. THOMAS.
RAIL.

No. 546,305.

Patented Sept. 17, 1895.

FIG. 1.

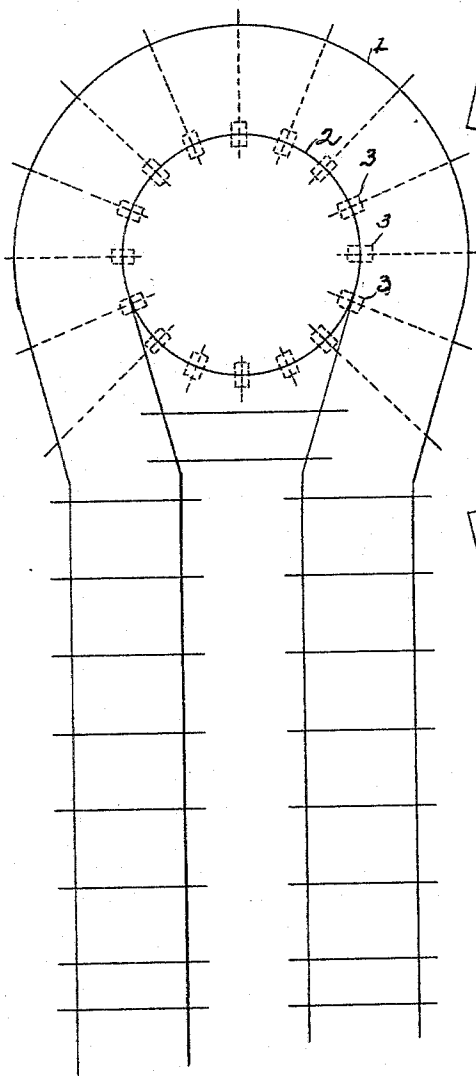


FIG. 3.

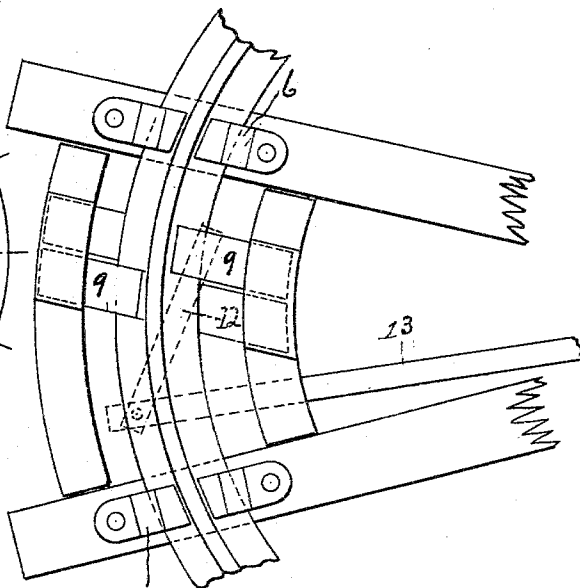


FIG. 4.

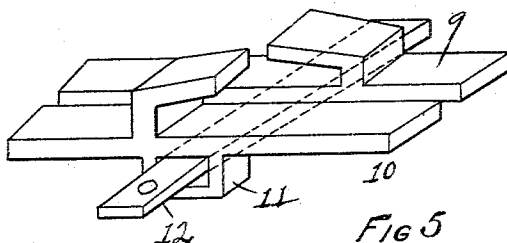
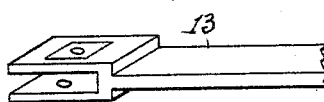


FIG. 5.



WITNESSES:

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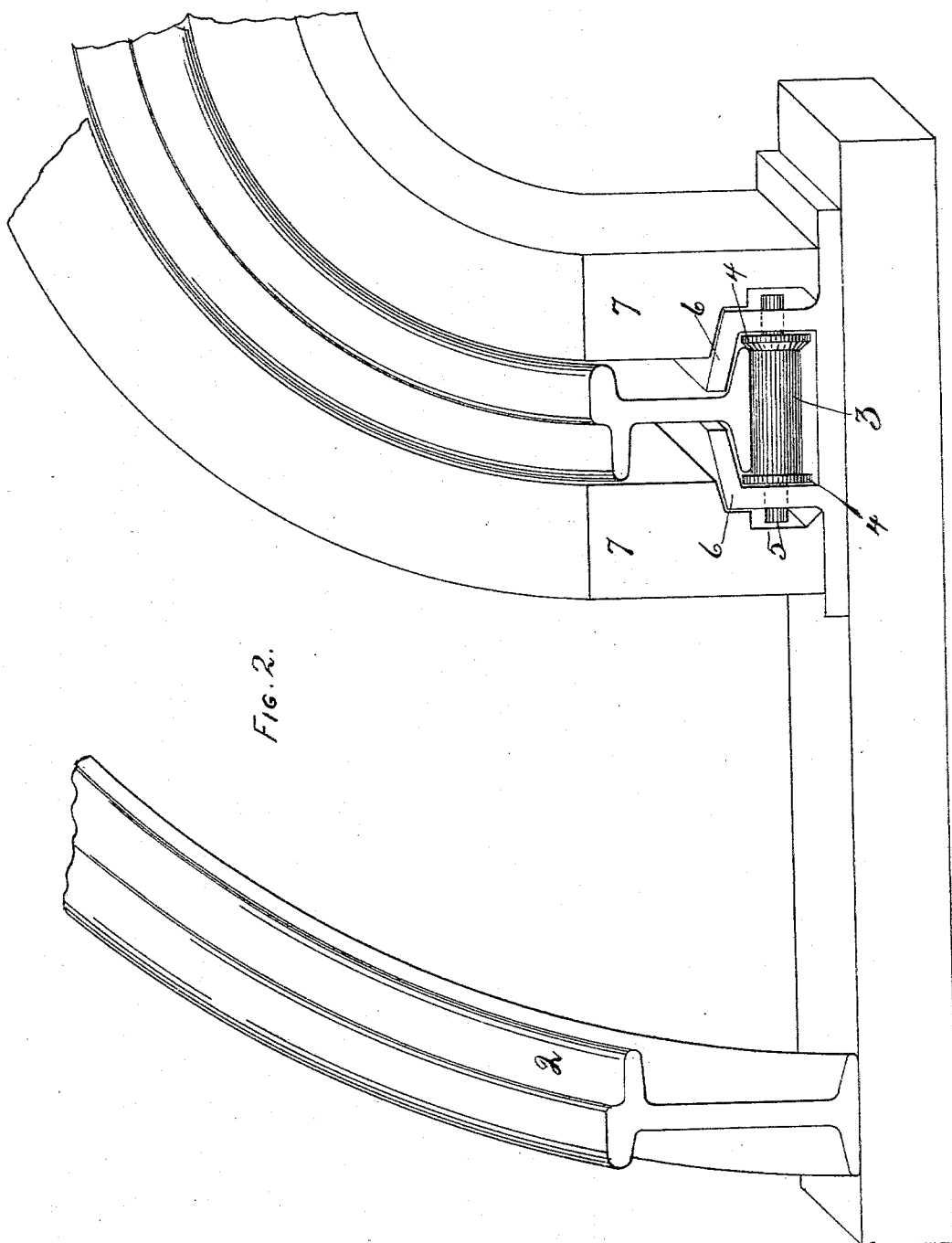
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2 Sheets—Sheet 2.

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WITNESSES;

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UNITED STATES PATENT OFFICE.

JAMES DAVIS AND WILLIAM ARTHUR THOMAS, OF PITTSBURG, PENN-
SYLVANIA.

RAIL.

SPECIFICATION forming part of Letters Patent No. 546,305, dated September 17, 1895.

Application filed December 26, 1894. Serial No. 532,982. (No model.)

To all whom it may concern:

Be it known that we, JAMES DAVIS and WILLIAM ARTHUR THOMAS, citizens of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rails, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to certain new and useful improvements in rails for street-railways, railroads, and the like.

The invention is particularly designed to be employed in connection with loops and curves, and affords special advantages when used in combination with our combined switch-loop and cross-over filed November 15, 1894, Serial No. 528,937.

20 The invention has for its object the provision of novel means whereby the friction caused by cars traversing a loop or curve is obviated.

The invention has for its still further object to construct an antifriction-rail that will be 25 simple, strong, durable, and comparatively inexpensive to manufacture; furthermore, one that will be reliable and accurate in its operation.

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

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

40 Figure 1 represents a top plan view of the loop, and in dotted lines are indicated a series of rolls. Fig. 2 is a perspective view, partly in section, of the track. Fig. 3 is a plan view of the locking device. Fig. 4 is a perspective 45 detail view of the locking device. Fig. 5 is a detail view of the lever-rod.

In the drawings, 1 indicates the outer rail of the loop or curve; 2, the inner rail of the same.

50 3 3 3 indicate a series of rolls provided with flanges 4 4.

5 indicates the shafts of the rolls journaled in chairs 6. The latter are inclosed by castings 7.

9 and 10 respectively indicate sliding jaws, 55 carrying on their underneath side a staple 11, adapted to receive a locking-bar 12, to which is pivotally secured the lever-rod 13.

The inner rail is mounted on a series of rolls and retained in position by means of the 60 flanges of the rolls, thus preventing a lateral motion of the rail and the chairs acting in the capacity of keepers for the rail. The castings inclose the chairs and extend upwardly slightly above the level of the rail. The cast- 65 ings are arranged at the sides of the chairs and extend upwardly above the level of the rail. By this arrangement the entire mechanism is protected and the moving rail will not interfere with the traffic in any way, the 70 portion of the castings extending above the level of the rail acting as guards, and thus preventing other vehicles from coming in contact with the moving rail.

Operation: As the car travels over a loop or 75 curve, the radius of the inner rail being much less than that of the outer, a friction will be caused that by the use of our invention will be entirely overcome, for the reason that the lost motion thus created will be compensated 80 for by the turning of the inner rail. The inner rail, operating on the principle of a turntable, will move in an opposite direction from that of the car, and the friction that would otherwise be created is thus successfully ob- 85 viated. The speed of the inner rail depends upon the curvature of loop or curve, together with the speed of the car, and the inner rail, as will be seen, will automatically regulate and adapt itself to abrupt curves and small 90 loops as well as those having a larger radius. When it is desired to lock the inner rail, the lever-rod 13 is operated in any suitable manner, actuating the locking-bar 12, which in turn operates the sliding jaws 9 and 10 in op- 95 posite directions, thus forming a clamp and clutching the rail, the sliding jaws operating in the castings. When a car is traveling over the loop or curve and it is desired to arrest the motion of the inner track, it can be 100 readily accomplished by bringing the car to a stop. The castings arranged at the sides of

the rail will protrude above the level of the bearing-surface of the rail and will prevent vehicles from coming in contact with the moving inner rail.

5 It will be noted that various changes may be made in the above-described locking device, as well as in the construction of the inner rails, without departing from the spirit of our invention.

10 Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In loops or curves for railways, the inner rail mounted on a series of rolls said rolls having straight and beveled flanges, castings extending slightly above the level of the rail

inclosing chairs substantially as described and shown.

2. In loops and curves for railways, the inner rail operating on a series of rolls provided with flanges in combination with chairs, and castings extending slightly above the level of said rail, all parts being arranged substantially as described, and for the purpose set forth.

25 In testimony whereof we affix our signatures in presence of two witnesses.

JAMES DAVIS.

WILLIAM ARTHUR THOMAS.

Witnesses:

H. C. EVERT,
C. L. REESE.