

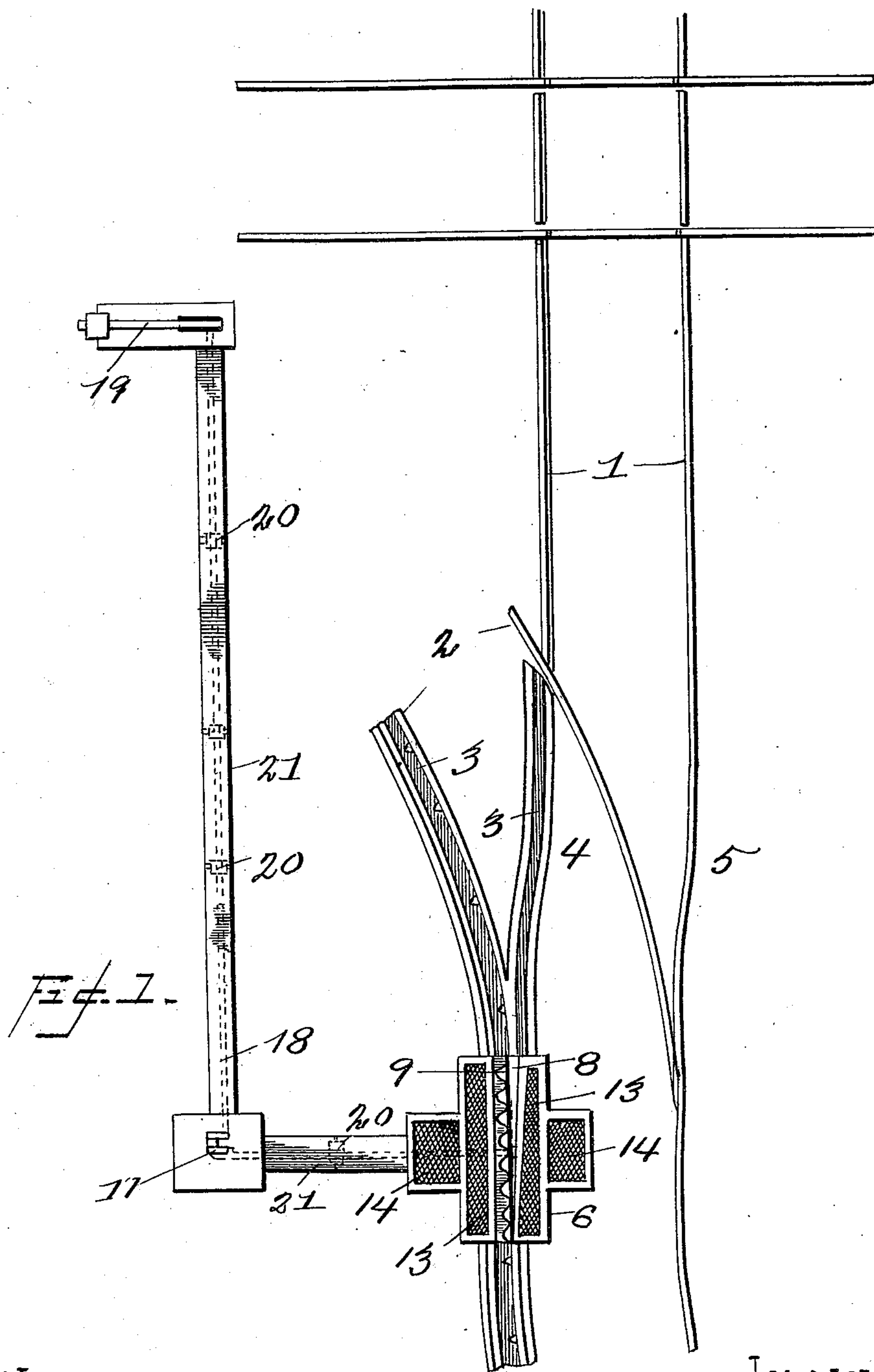
(No Model.)

2 Sheets—Sheet 1.

J. Y. PORTER.  
DERAILING SWITCH.

No. 556,317.

Patented Mar. 10, 1896.



WITNESSES

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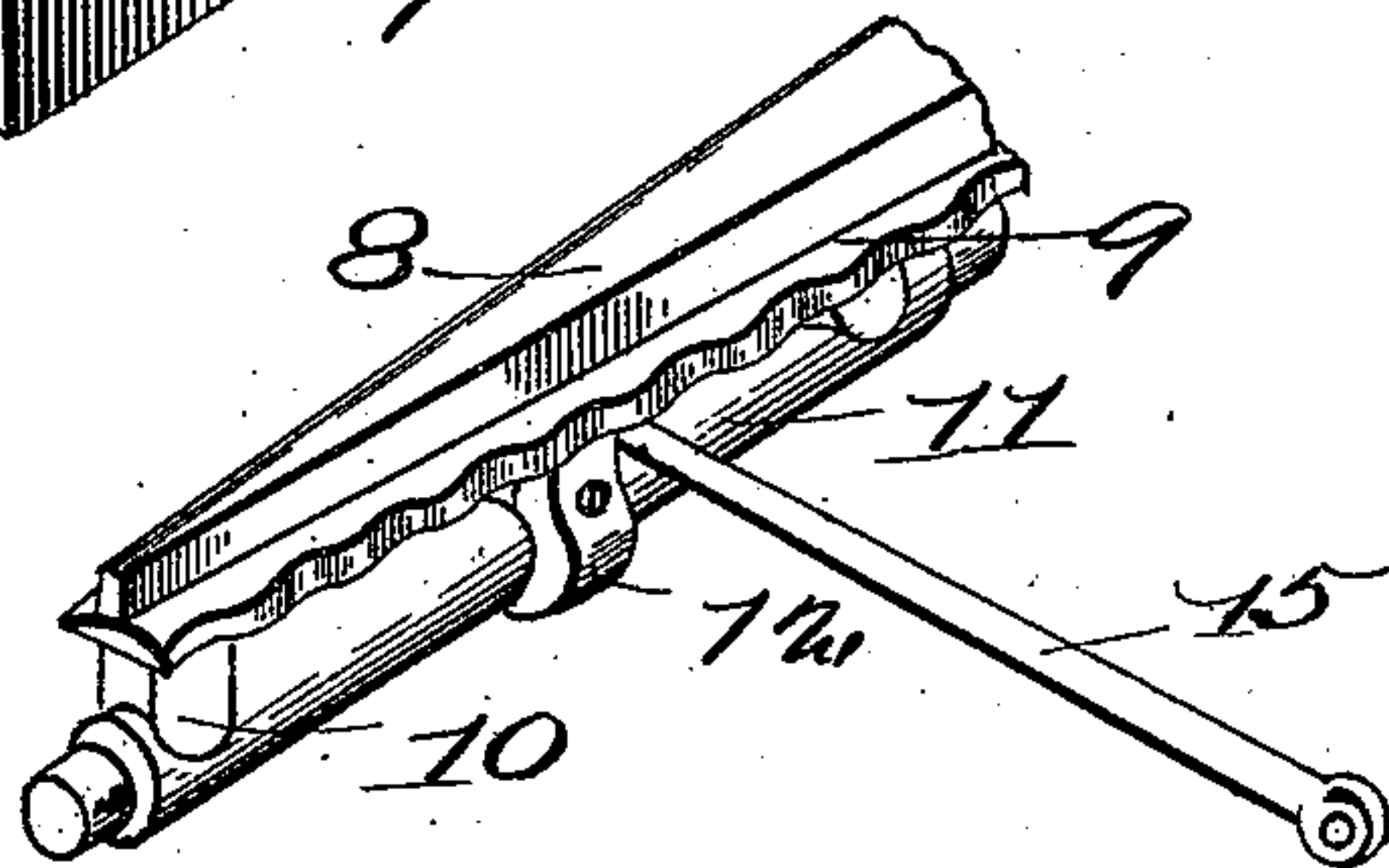
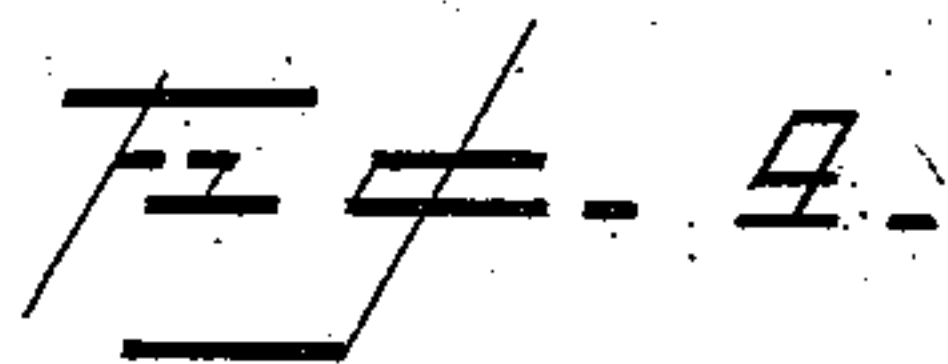
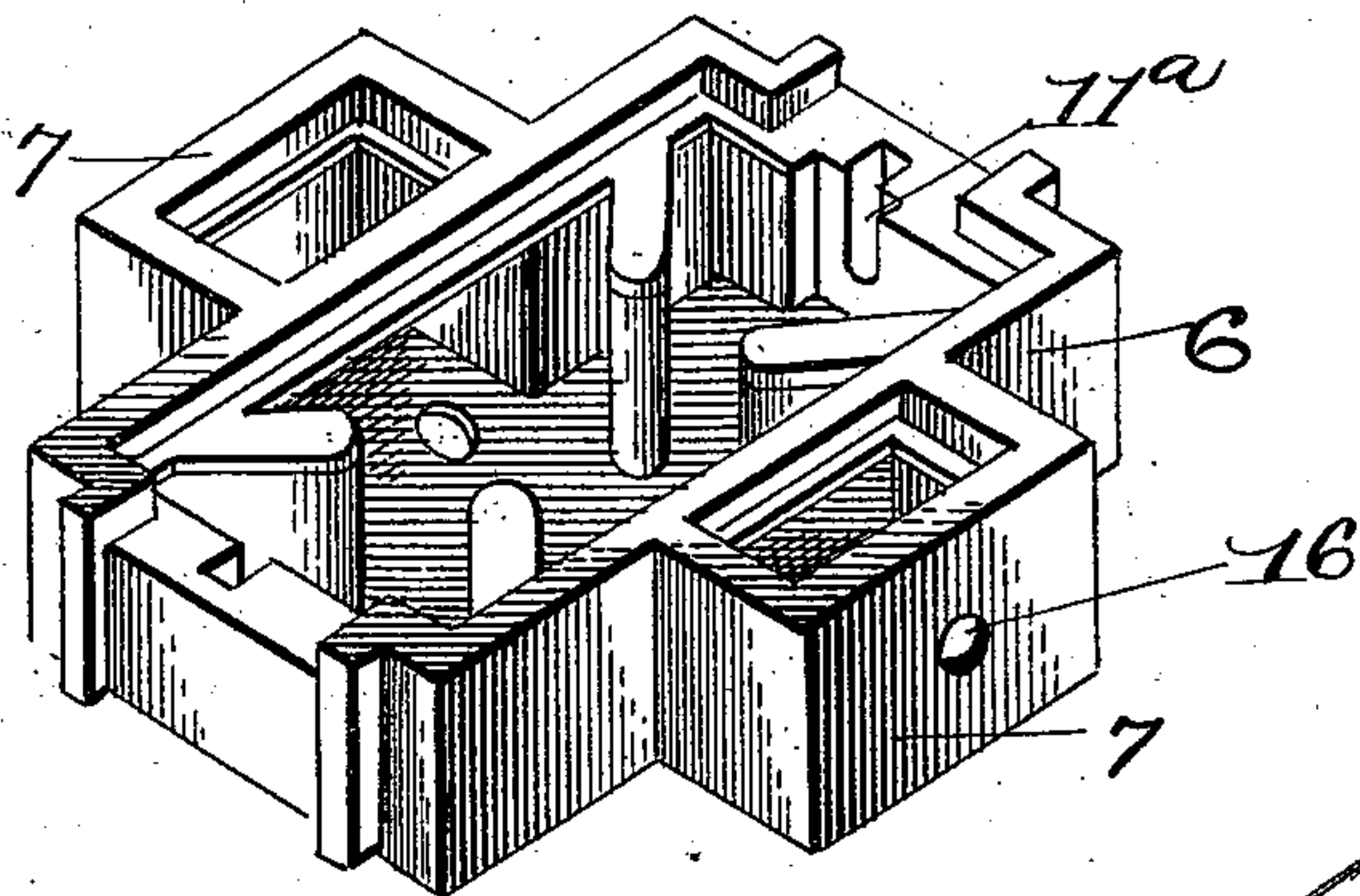
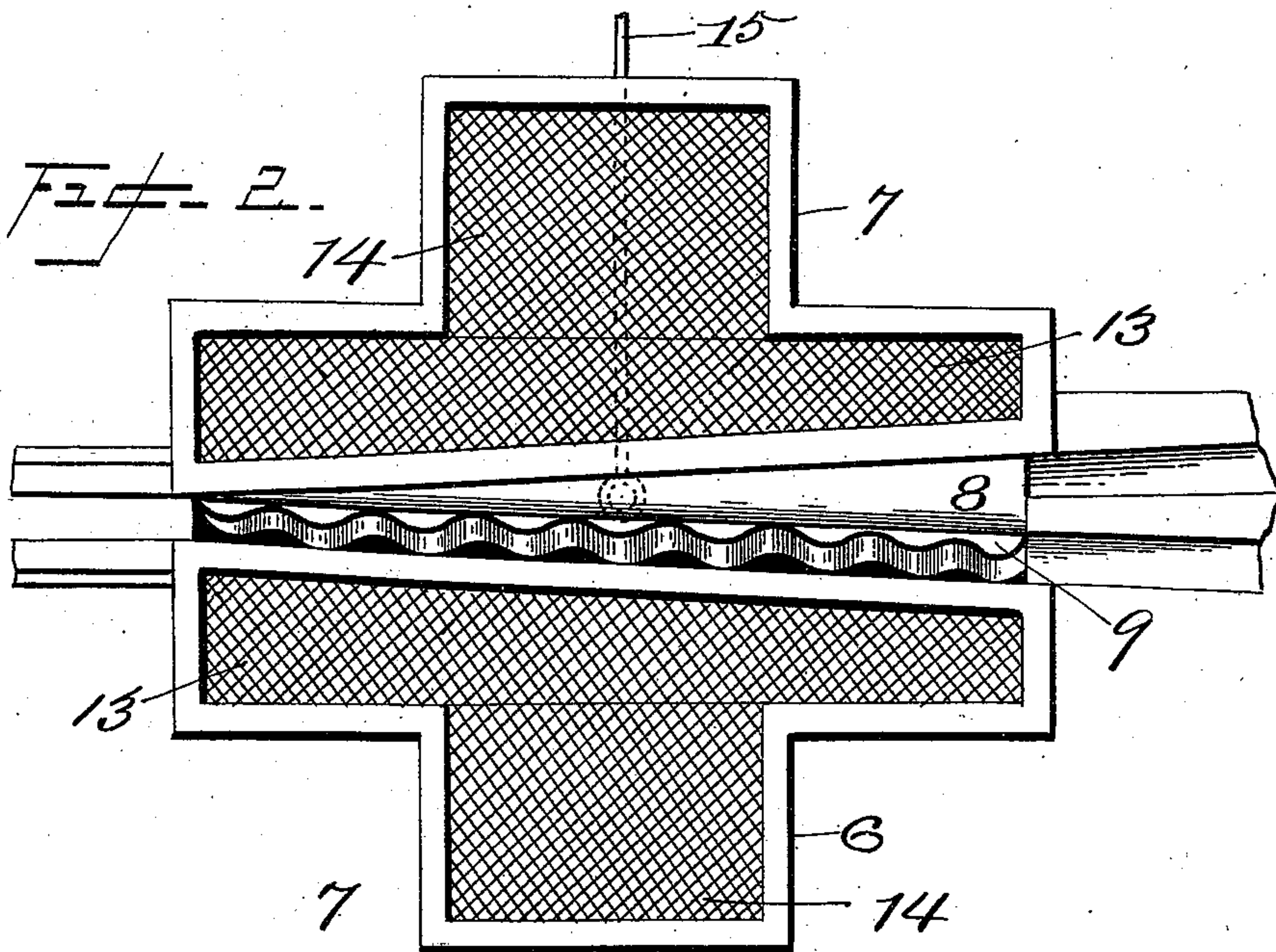
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# UNITED STATES PATENT OFFICE.

JOSEPH Y. PORTER, OF CLEVELAND, OHIO, ASSIGNOR TO JAMES W. MORRISON, OF DETROIT, MICHIGAN.

## DERAILING-SWITCH.

SPECIFICATION forming part of Letters Patent No. 556,317, dated March 10, 1896.

Original application filed April 28, 1893, Serial No. 472,274. Divided and this application filed March 13, 1895. Serial No. 541,615. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH Y. PORTER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Derailing-Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to certain improvements in railway-switches of that class generally called "derailing-switches;" and it consists essentially in providing a switch and suitable mechanism whereby the switch-point can be operated from a distant point, it being the object of the invention to prevent the occurrence of accidents at railroad-crossings at grade. This object is accomplished by locating the switch at a suitable distance from the railroad-crossing and maintaining the switch-point in such position that the conductor of an approaching car, or other employé, will be compelled to proceed to the crossing and manipulate a lever or other device to shift the switch before the car can proceed on its proper track, as will be hereinafter more fully explained.

In the accompanying drawings, Figure 1 represents a plan view of a portion of a main track and crossing, illustrating my invention, the switch-point being set to derail or shunt a car; Fig. 2, a plan view of the switch and its supporting box or frame; Fig. 3, a perspective view of the same, looking from the opposite side; and Fig. 4, a perspective view of the switch-point and supports therefor.

Referring to the several figures of the drawings, the numeral 1 indicates the main track and 2 a short siding or throw-off rails, one side of said track and siding being provided with the usual guard-rail 3, as shown in Fig. 1. The main track is preferably constructed with curves or bends 4 and 5, respectively, which permit of a less curve being given to the siding or throw-off rails and a tendency to facilitate the approach of the car to the switch and its egress therefrom.

In carrying out my invention I prefer to employ the style of switch and switch-box

shown and described in my application filed April 28, 1893, Serial No. 472,274, of which the present application is a division. This switch-box is preferably constructed rectangular in shape, and consists of a main body 55 6 and side extensions 7. The switch-point 8 is provided with a flanged base-plate 9 having corrugated side edges, and is supported by lugs or feet 10 loosely resting upon a shaft 11, which has its ends journaled in bearings 60 11<sup>a</sup> made in the end walls of the main body of the switch-box. The switch-point is detachably connected to the shaft 11 by means of a curved clamp 12, which projects from the under side of said point and partially encircles the shaft on each side of the switch-point, leaving a sufficient space or opening for the free movement of the said point. The main body of the switch-box is provided with cover-plates 13 and the side extensions with cover-plates 14. 70

It will be understood that the particular construction of switch and switch-box herein described and illustrated forms the subject-matter of the application hereinbefore referred to and forms no part of the present invention, being used simply to illustrate the operation of my improved device for derailing cars near danger points, when, through the negligence or carelessness of railroad employés, an approaching car should not be stopped and the obstruction removed. 80

Any suitable laterally movable or rockable switch may be employed to obstruct the passage of the car and open the way for a safe passage without departing from the spirit of my invention or sacrificing the principle thereof. 85

The mechanism for operating the switch-point is constructed as follows: The numeral 90 15 indicates a rod, which has one end pivotally connected to the switch-point at any suitable place and its other end projecting through a hole 16 made in one of the side walls of the switch-box and pivoted to a crank-arm 17, which is secured upon one end of a rod 18, which extends some distance beyond the switch, preferably to the crossing of the roads. The extended or free end of the rod 18 is provided with an operating lever or han- 100



dle 19, as shown in Fig. 1, by means of which lever or handle the switch-point may be opened or closed. Both of the rods 15 and 18 are preferably supported by bearings 20 and  
5 suitably inclosed by pipes or boxes 21.

The operation of the device is as follows: The switch is kept normally open, as shown in Fig. 1, so that should an approaching car on the street-railway attempt to continue on  
10 its way it would be shunted from the main track onto the siding or throw-off rails, or derailed, as the arrangement may be. Therefore in order that the car may be permitted to continue on its proper route the conductor  
15 or driver must go ahead of his car to the point where the operating-lever is situated and raise said lever, which is normally down. The raising of the lever closes the switch, leaving the main track clear for the passage  
20 of the car. When the lever is released it drops back to its normal position, setting the switch to the siding or throw-off rails.

The many advantages to be derived from the use of my improved derailing device,  
25 especially on street-railways near their junction with steam-railways, are clearly obvious and need not be herein enumerated, it being only necessary to state that the most important advantage is that the conductor or driver  
30 of a car, or other employé of the railroad, is compelled to go forward to the crossing or other danger point to see if the way is clear for the further progress of the car before the car can proceed on its proper way, as other-  
35 wise the car would be derailed or shunted from the main track onto the throw-off rails, as heretofore stated.

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

1. In a derailing device, the combination, with the main track, of a switch normally set to divert a car from said main track, and a switch-operating device adapted to set the  
45 switch for diverting the car from the main track when released, said operating device

being situated at some distance in advance of the switch, to which place the conductor or other operator must precede the car before it can pass the switch, and at which place only  
50 the said switch can be shifted to clear the main track, substantially as specified.

2. The combination, with the main track, of a switch normally set to divert the car from said main track, a switch-operating mechanism situated at a point in advance of said  
55 switch, whereby the conductor or other operative is compelled to precede the car and set the switch, so as to permit the car to continue its passage on the main track, and means for  
60 automatically restoring said switch to its normal position when the operating mechanism is released, substantially as specified.

3. The combination, with the main track, of an obstructing device situated on said  
65 track, near a danger point, and arranged normally to divert an approaching car from the main track, operating mechanism connected to said obstructing device and situated in advance of the same, to which place the oper-  
70 ative is required to proceed and manipulate said operating mechanism to free the main track of the obstruction, and means whereby said obstructing device is automatically re-  
75 stored to its normal position on the main track, as soon as the hand setting mechanism is released, substantially as specified.

4. The combination, with the main track, of a rockable switch-point normally set to divert an approaching car from said main track,  
80 mechanism situated at a point in advance of the switch, whereby the same may be operated to permit the car to continue its passage on the main track, and automatic means for returning the switch-point to its normal po-  
85 sition.

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

JOSEPH Y. PORTER.

Witnesses:

BERTHA H. BITZER,

G. E. HELICK.