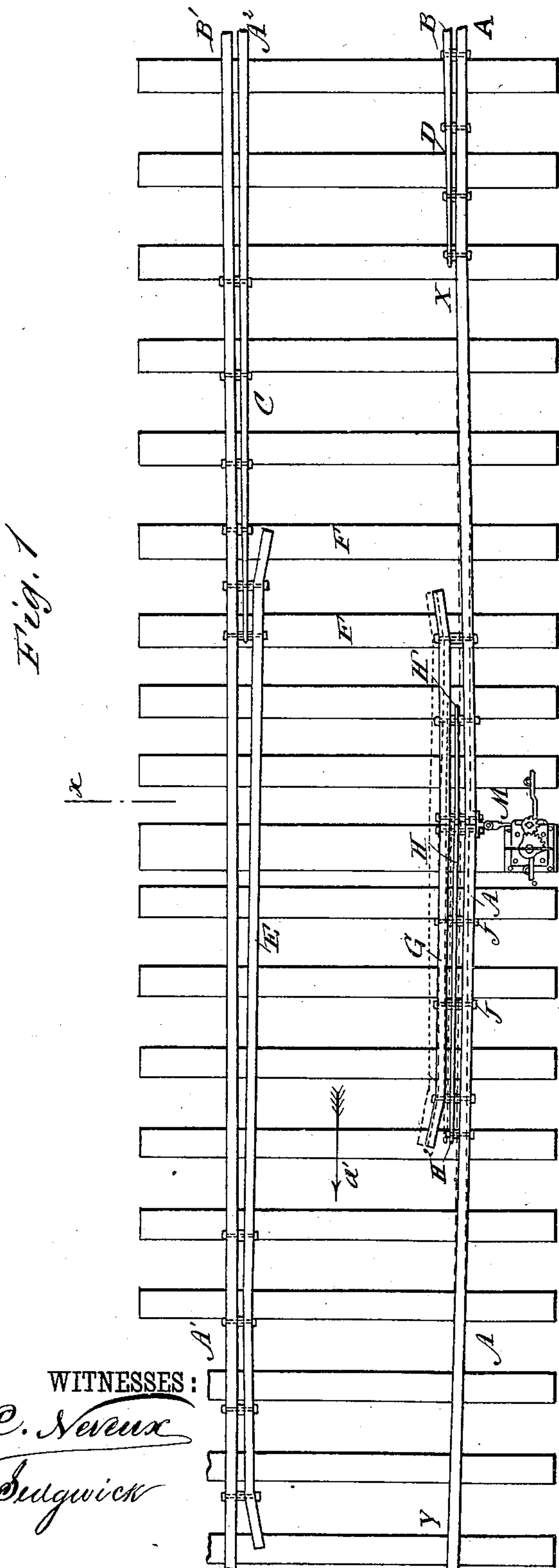


(No Model.)

J. H. WAIT.
RAILROAD SWITCH.

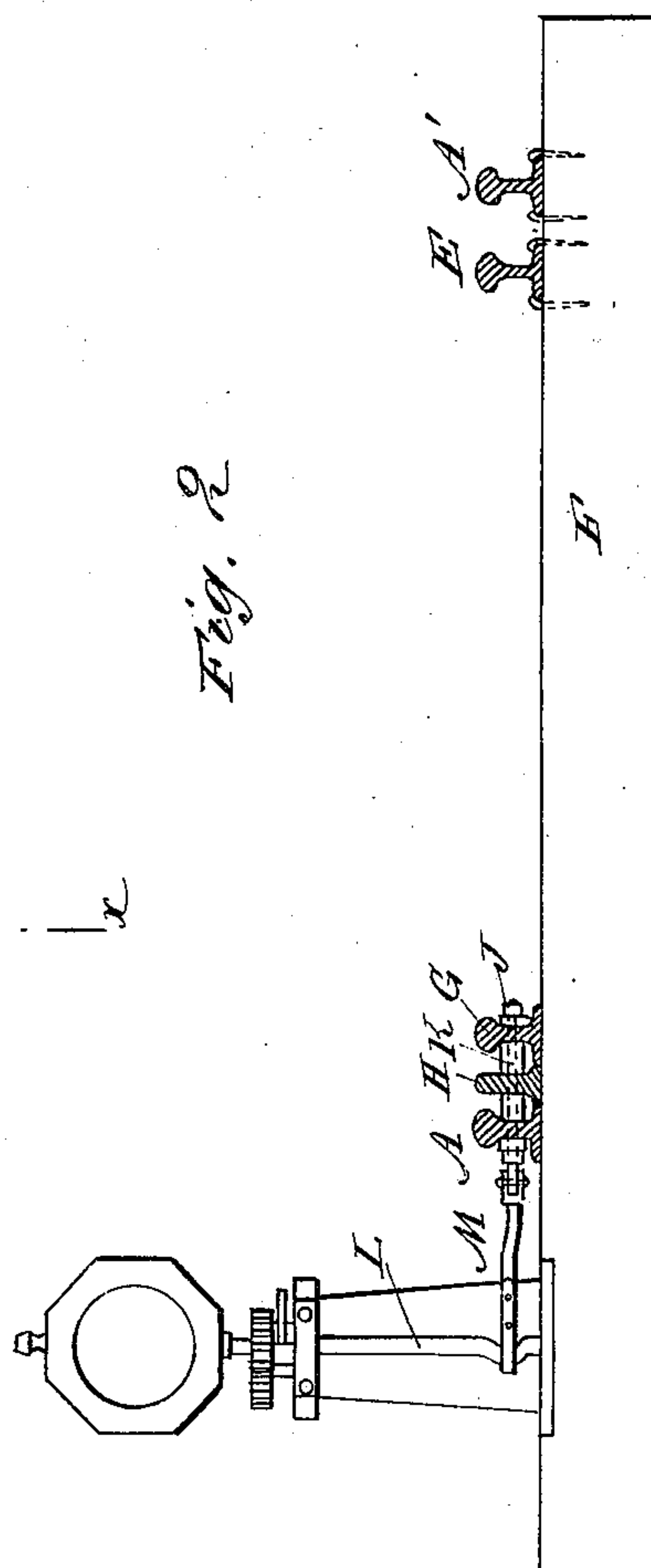
No. 253,792.

Patented Feb. 14, 1882.



WITNESSES :

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INVENTOR:

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UNITED STATES PATENT OFFICE.

JOHN H. WAIT, OF EAST MINNEAPOLIS, MINNESOTA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 253,792, dated February 14, 1882.

Application filed September 13, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. WAIT, of East Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and

Improved Railroad-Switch, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved railroad-switch which is so constructed that it will prevent derailment at the switch independently of the position of the switch and the direction in which the train moves.

The invention consists in having one of the main rails so arranged as to be capable of being moved laterally by means of a suitable switch device, to which movable rail a guard-rail and a middle rail are united, which united rails are combined with a tongue of one siding-rail and an opposite tongue of a main-line rail, as will be more fully described hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved railroad-switch. Fig. 2 is a cross-sectional elevation of the same on line $x x$, Fig. 1.

The main-line rails $A A'$ at the switch run through without a break, and beyond the switch the outer main rail, A' , or the one on the side to which the siding passes, forms a siding-rail, B' . The other main-line rail, A , runs through as such. The tongue C , at the end of the main-line rail A^2 , beyond the switch, and the tongue D , at the end of the siding-rail B , are contained between the main-line rails $A A'$, as shown in Fig. 1. The tongue C is rigidly held a short distance (large enough to admit the wheel-flange) from the inner side of the rail B' by a series of bolts and thimbles, and a guard-rail, E , is fastened on the sleepers F and to the rail A' , a short distance from this rail A' and from the tongue C , in the same manner, this guard-rail extending from the end of the tongue C a considerable distance along the main-line rail A' . The tongue D of the siding-rail B is held firmly a certain distance from the main-line rail A by a series of bolts and thimbles, and the end of this tongue D is a greater distance from the movable section of rail A than the end of the tongue C is. The rail A is not spiked down from the point X at

the end of the tongue D to a point, Y , opposite the end of the guard-rail E . A guard-rail, G , and a middle rail, H , are rigidly united with the main-line rail A , on the inner side of the same, by means of bolts J and thimbles K , inserted between the rails A , H , and G , to separate these rails sufficiently to permit the flanges of the wheels to pass in between the rails A and H or G and H . The ends of the guard-rail G are bent toward the middle of the track, and the end of the rail G toward the tongue D projects beyond the end of the middle rail, H . One of the bolts J is pivoted to a connecting-rod, M , combined with a crank-rod, L , provided with levers and devices for turning it and thus operating the switch. The rails G and H , being firmly united with the rail A , will move with it in the direction of the length of the sleepers, for as the rail A is not spiked down between the points X and Y , it can be moved in the above-named direction, and this is accomplished by means of the connecting-rod M and crank-rod L , with which any suitable signal and switch operating devices may be combined.

The operation is as follows: When the switch is set to have a clear main line the rails A , G , and H will be in the position shown in Fig. 1 in full lines, and when the switch is set for the siding the rails A , G , and H will be in the position shown in dotted lines in Fig. 1. Only the rails A , G , and H are movable. All the other parts of the switch are rigid and spiked down. When the switch is set for a clear main line and a train approaches from either direction on the main line the guard-rail E will compel the flanges of the wheels to run between the middle rail, H , and the guard-rail G , the treads of the wheels resting on the middle rail, H , and the wheel-flanges, on the other side, will pass in between the guard-rail E and the end of tongue C , on account of the guard-rail G , when a train is coming in a direction opposite to that of arrow a' . When the switch is set either for the main or siding track and the train approaches in the reverse direction of the arrow a' the guard-rail E compels the flanges of the wheels to run between the end H^2 of the rail H and the guard-rail G , as the track is one and one-half inches in excess of the standard gage at H^2 . It will be seen that the switch is a safety-switch to the main line when set

to the siding, but not to a train coming out of the siding when the rails are set to clear the main line. When the switch is set for the siding and the train approaches in the direction of the arrow *a'* on the main line the flanges of the wheels will enter between the rail A and the end H' of the rail H, the main-track rails A A' sustaining all the weight. When the switch is set for the siding and the train approaches in the reverse direction of the arrow *a'* the flanges of the wheels will be compelled to run between the side-track rail B' and the end of the tongue C, and the wheels on the other side of the axle will run on the end of the tongue D. When the switch is set for the side track all trains approaching in the reverse direction of the arrow *a'* will enter the siding.

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

1. A railroad-switch, constructed substantially as herein shown and described, with a laterally-movable main rail, with which a guard-rail and a middle rail are united so as to move with this laterally-movable main rail, as set forth.

2. The combination, with the laterally-movable rail A of a railroad-switch, of the guard-rail G and the middle rail, H, firmly united with the rail A, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the laterally-movable rail A of a railroad-switch, of the guard-rail G, the middle rail, H, both attached firmly to the rail A, the rail A', the guard-rail E, and the tongues C and D, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the laterally-movable rail A of a railroad-switch, of the guard-rail G, the middle rail, H, the guard-rail E, the fixed rail A', the tongues C and D, the connecting-rod M, the vertical crank-rod L, and devices for operating this rod L, substantially as herein shown and described, and for the purpose set forth.

JOHN HENRY WAIT.

Witnesses:

JOHN MCLEAN,
C. D. BROWN.