(No Model.)

E. SAMUEL.

DERAILING SWITCH AND SIGNAL.

No. 534,521. Patented Feb. 19, 1895.

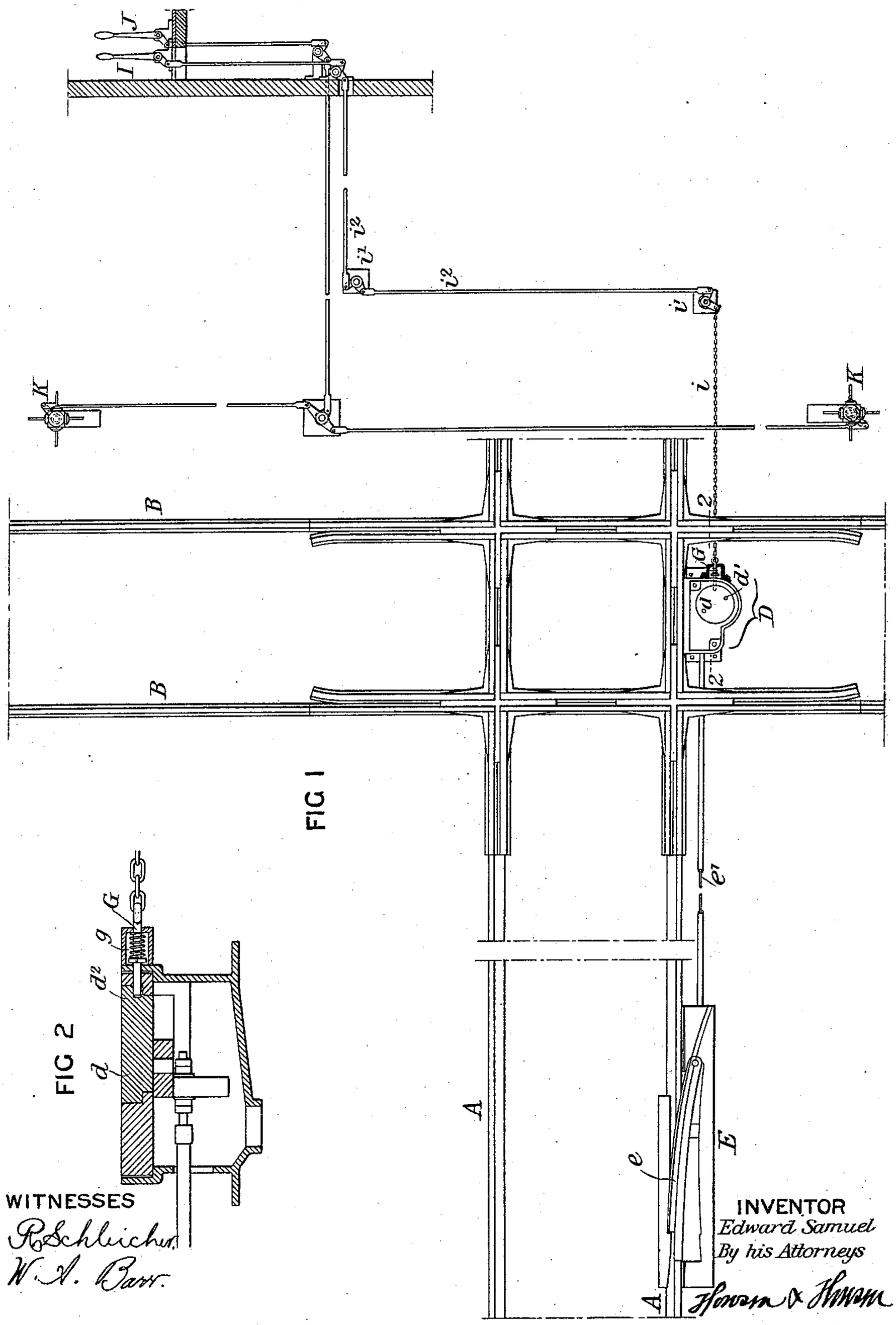

FIG 1

FIG 2

WITNESSES

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EDWARD SAMUEL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF SAME PLACE.

DERAILING-SWITCH AND SIGNAL.

SPECIFICATION forming part of Letters Patent No. 534,521, dated February 19, 1895.

Application filed April 7, 1894. Serial No. 506,680. (No model.)

To all whom it may concern:

Be it known that I, EDWARD SAMUEL, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Derailing-Switches and Signals, of which the following is a specification.

The object of my invention is to so connect the operating mechanism of a derailing switch with signal mechanism that the derailing switch will be locked in the derailing position except when the crossing track is clear so that it will be impossible for the conductor of a street car, for instance, to operate the derailing switch until the switch is released by the signal man.

In the accompanying drawings:—Figure 1, is a plan view of a crossing illustrating my invention with the lock and signal levers in elevation; and Fig. 2, is a section on the line 2—2, Fig. 1.

I will describe my invention in connection with a crossing in which a street railway track crosses a steam railway track.

A A are the tracks of the street railway, B B the tracks of the steam road and at the intersection of the two tracks is placed the derailing switch operating mechanism D, which is connected to the pivoted tongue *e* of the switch E by a rod *e'* and intervening mechanism, such for instance as that described in the application filed by me December 8, 1893, Serial No. 493,041.

The disk *d* of the switch operating mechanism D can be turned part of a revolution by inserting a bar in the opening *d'*, which movement will throw the tongue *e* from the derailing position to a point clear of the track. Thus the conductor must precede the car and operate the switch before the car can pass, but in order to place the responsibility upon two persons I lock the switch operating mechanism by a bolt or similar device controlled by an operator in a signal tower or station who also controls the signal for the steam road.

In the present instance I have shown a spring bolt G adapted to bearings in the box of the switch operating device and between a collar on the bolt and the rear bearing is a spring *g* which tends to force the bolt into the hole d^2 in the edge of the disk *d;* thus locking the disk and the switch operating mechanism in the derailing position. In the present instance this bolt is connected by a chain *i* and bell crank levers *i'* and rods i^2 to a switch lever I in the signal tower, so that when the signal operator moves the lever he can throw the bolt G thus freeing the disk and allowing the conductor to shift the derailing switch.

I preferably interlock the lever I with the signal lever J, which is connected to the signals K K so that the operator in the tower must throw the signals at "danger" and then by the interlocking lever the bolt G is pulled out of the recess in the disk *d* when the derailing switch can be moved. To throw the signals to "clear" again the operator must first release the bolt which returns into the recess in the cover *d*, locking the derailing switch making it impossible for a street car to pass a crossing, after which the signals can be thrown to "clear."

The bolt instead of being a spring bolt may be a gravity bolt or may be operated by a weight, or may be positively and not flexibly connected with the lever by substituting a rod for the chain *i*, without departing from my invention and the bolt may project into any part of the switch operating mechanism or the switch itself whereby it will lock the whole mechanism and prevent the tongue being thrown or moved.

I claim as my invention—

1. The combination of the derailing switch, operating mechanism therefor, a lock for locking the switch in derailing position, with mechanism for operating the lock, situated at some distance from the switch operating mechanism, substantially as described.

2. The combination of a derailing switch, the operating mechanism therefor situated in advance thereof, signaling mechanism, and a lock for the derailing switch, with lock and signal operating mechanism situated at some distance from the switch operating mechanism and independent thereof, substantially as as described.

3. The combination in a railroad crossing, of the derailing switch, operating mechanism therefor situated in advance of the derailing switch, a locking bolt engaging with the

switch operating mechanism, signals for the steam road, operating levers for the signals and for the lock, said levers interlocking, substantially as set forth.

4. The combination in a crossing, of the derailing switch E on one track, switch operating mechanism D in advance of the switch E and in close proximity to the crossing track, an operating disk *d* for the derailing switch, a bolt G engaging with said disk, signals K K, operating levers for the signals and bolt in close proximity to each other, so that the signal operator can draw the bolt and release the switch operating mechanism, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD SAMUEL.

Witnesses:
WILLIAM A. BARR,
JOSEPH H. KLEIN.