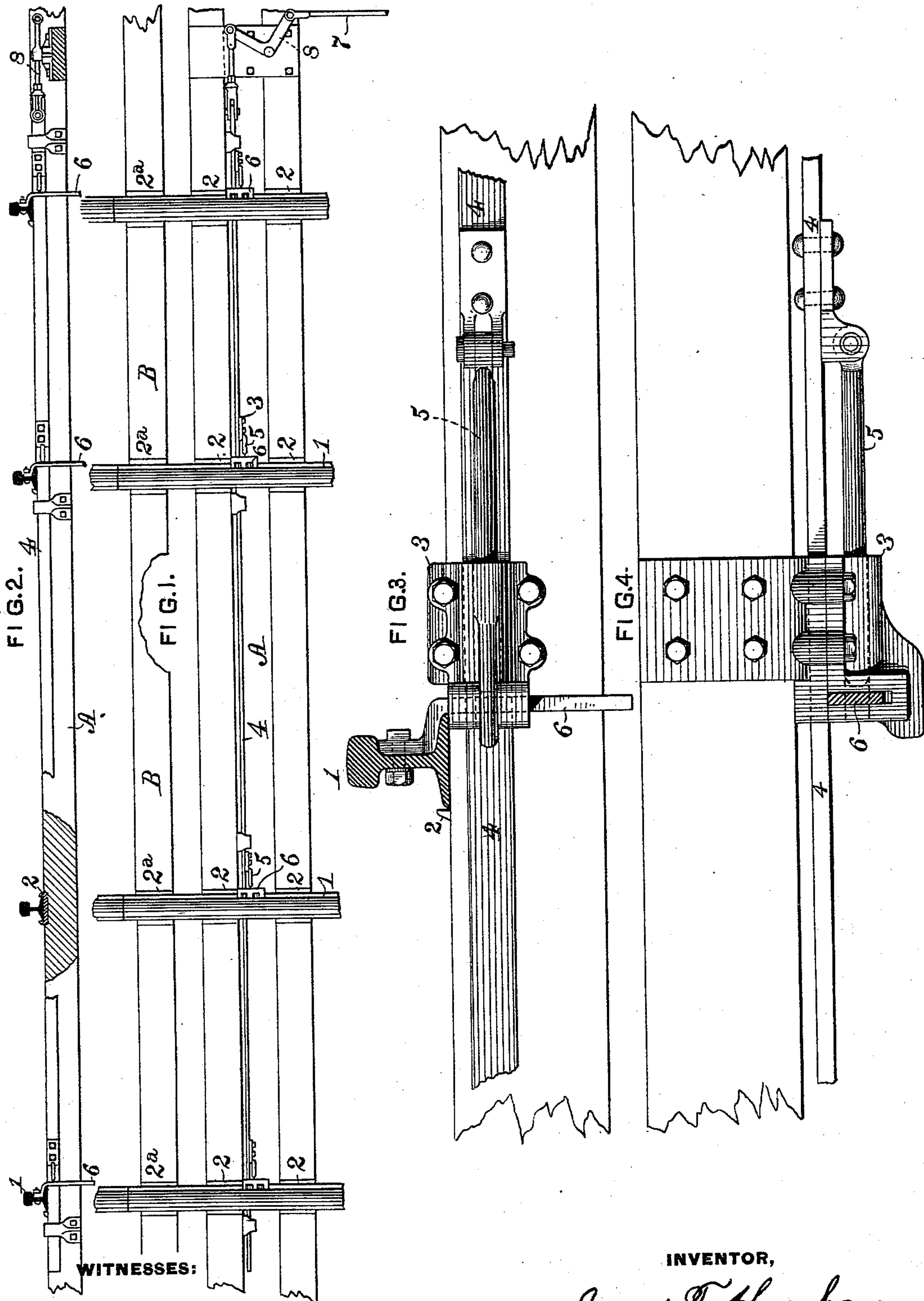


(No Model.)

J. T. HAMBAY.
DETECTOR AND LOCK FOR DRAW BRIDGES.

No. 439,063.

Patented Oct. 21, 1890.



WITNESSES:

Samuel B. Wolcott
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INVENTOR,

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UNITED STATES PATENT OFFICE.

JAMES T. HAMBAY, OF WILKINSBURG, ASSIGNOR TO THE UNION SWITCH
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DETECTOR AND LOCK FOR DRAW-BRIDGES.

SPECIFICATION forming part of Letters Patent No. 439,063, dated October 21, 1890.

Application filed October 17, 1889. Serial No. 327,361. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. HAMBAY, a citizen of the United States, residing at Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Detectors and Locks for Draw-Bridges, of which improvement the following is a specification.

The invention described herein relates to certain improvements in detecting the position of the movable rails of draw-bridges and for locking such rails in their proper operative position. The rails at the ends of the draw member of the class of bridges above referred to are so supported by chairs that their outer ends must be raised vertically, so as to free such ends from similar chairs on the stationary abutments when it is desired to swing the draw. When the draw is closed and the ends of the rails are released from their lifting mechanism, the rails very frequently catch on the sides of the chairs on account of the draw not being accurately closed or the chairs having been accidentally shifted from position.

The object of this invention is to provide means whereby the operator may ascertain whether the rails have dropped into proper position and may then lock the rails in such position.

In general terms the invention consists in the construction and arrangement of mechanical devices and elements, all as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a plan view of a portion of one end of the swinging member of a draw-bridge, showing the arrangement of the rails and the detecting and locking mechanism. Fig. 2 is a sectional view on the line *x x*, Fig. 1. Fig. 3 is a view on an enlarged scale, showing my improvement as applied to one rail in elevation; and Fig. 4 is a plan view, the rail being removed.

In the practice of my invention the rails 1 are arranged on the draw in the usual manner, being held from lateral movement by the chairs 2 and 2^a, and are designed to be raised

prior to swinging the bridge from the chairs on the draw A and abutment B by the usual or any suitable means. On the cross-beams at or near the ends of the draw are bolted the guide-blocks 3, said blocks being located adjacent to each of the rails and below the same. The blocks are provided with vertical slots for the reception of the bar 4, passing transversely under the rails, and also with a horizontal opening for the reception of the pins 5, which are preferably hinged to the bar 4, so as to prevent any binding of the parts. On the rails 1 are secured plates 6, which project downward through horizontal slots in the guide-blocks 3, said slots intersecting the openings through which the pins 5 pass. In the plates 6 are formed holes which will register with the lines of travel of the pins 5 only when the rails 1 are properly seated in their chairs. The bar 4 is shifted by a lever (not shown) located in the signal-tower of the bridge and connected to the bar by a rod 7 and bell-crank 8.

It will be understood that the lever for operating the bar 4 is interlocked by any of the usual mechanism with the signal-operating lever now generally employed in draw-bridges. Hence, as it is necessary to withdraw the pins 5 from engagement with the plate 6 before the draw can be shifted and, as is usual, the lever for operating the locking-bar 4 is locked when the signals controlling the approach to the bridge are at "safety," these signals must be set to "danger" before the bar 4 can be shifted, so as to withdraw the pins from the plates 6. The movement of the lever for unlocking the plates locks the signal-lever to "danger." Hence said plates must be again locked before a clear signal can be given; but such locking can only be effected when the rails 1 have been lowered into their chairs.

I claim herein as my invention—

1. In a draw-bridge, the combination of vertically and horizontally movable rails and a lock movable into locking position only when all the rails are in line horizontally and vertically, said lock thereby operating to hold the movable rails in line with the stationary

rails and also as a detector to show that such rails are in normal position, substantially as set forth.

5 2. In a draw-bridge, the combination of vertically-movable rails, a series of locking-pins, and plates secured to the rails and arranged across the paths of movements of the pins, said plates being provided with holes regis-

tering with said pins only when the rails are in normal position, substantially as set forth. 10

In testimony whereof I have hereunto set my hand.

JAMES T. HAMBAY.

Witnesses:

DARWIN S. WOLCOTT,
R. H. WHITTLESEY.