

No. 638,667.

Patented Dec. 5, 1899.

P. MADISON.
RAILWAY SAFETY GATE.

(Application filed July 12, 1899.)

2 Sheets—Sheet 1.

(No Model.)

Fig. 1.

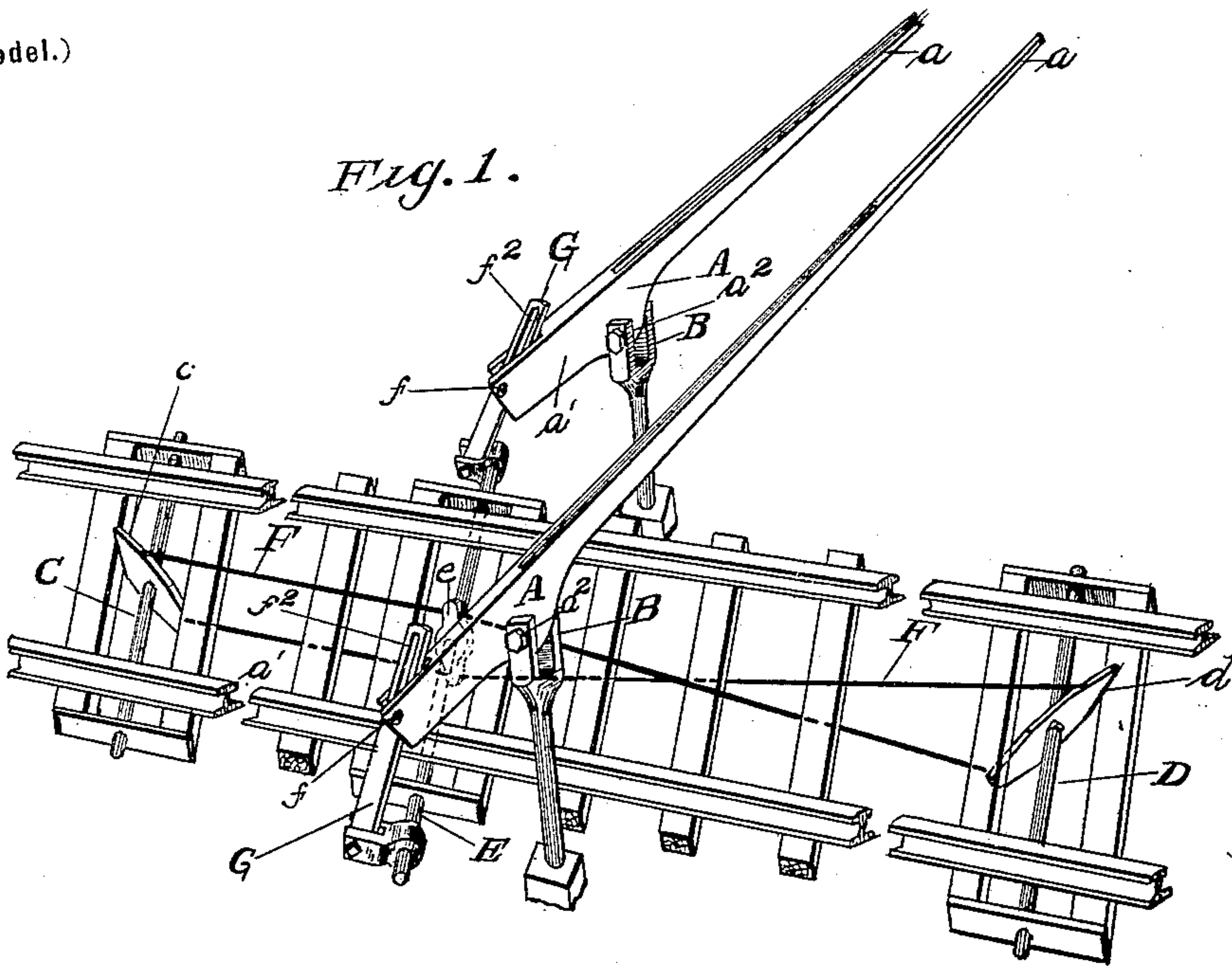
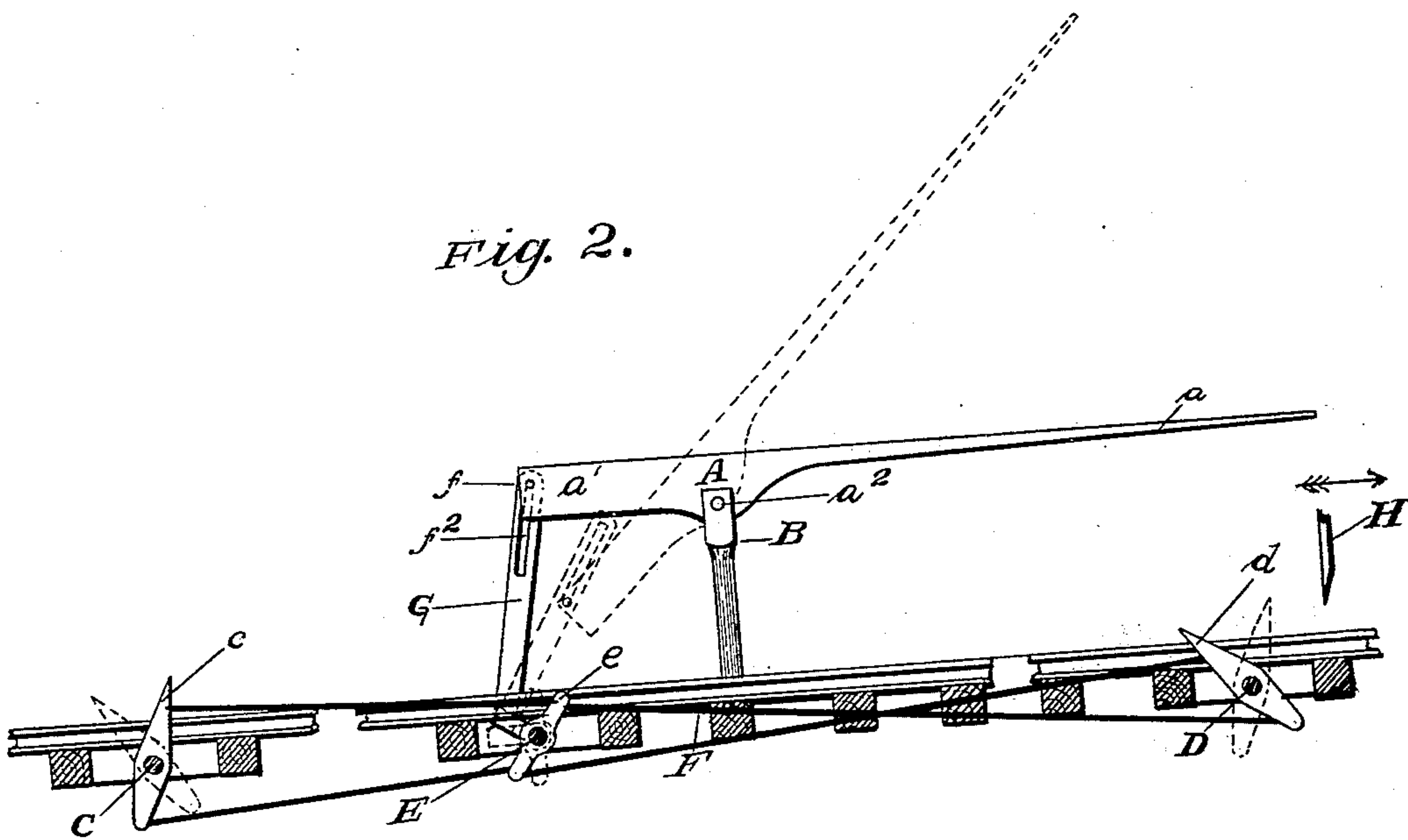


Fig. 2.



WITNESSES:
J. S. Howell.
Harry M. Test.

INVENTOR
Payton Madison
BY
Lawrence M. Reed.
ATTORNEY

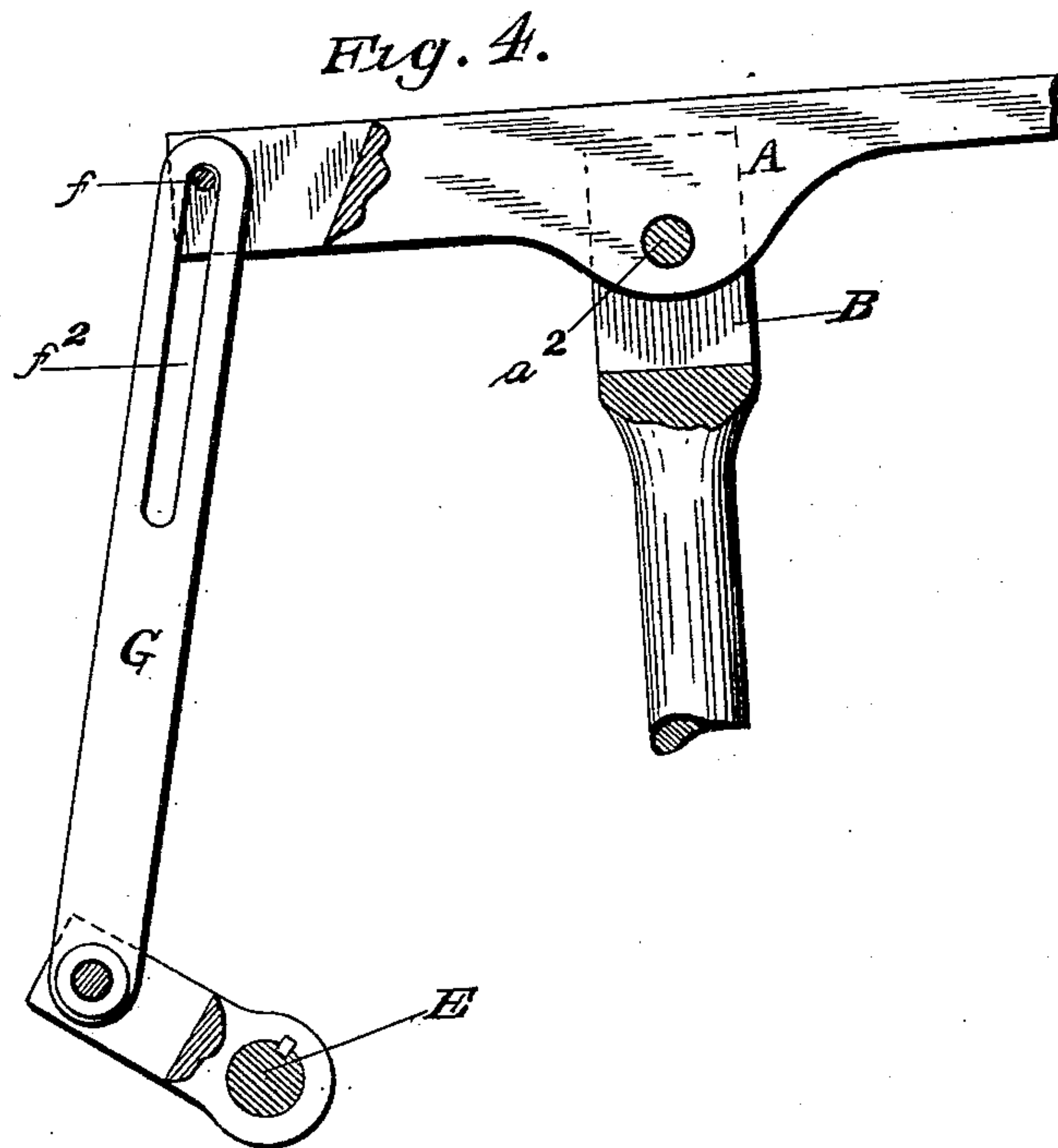
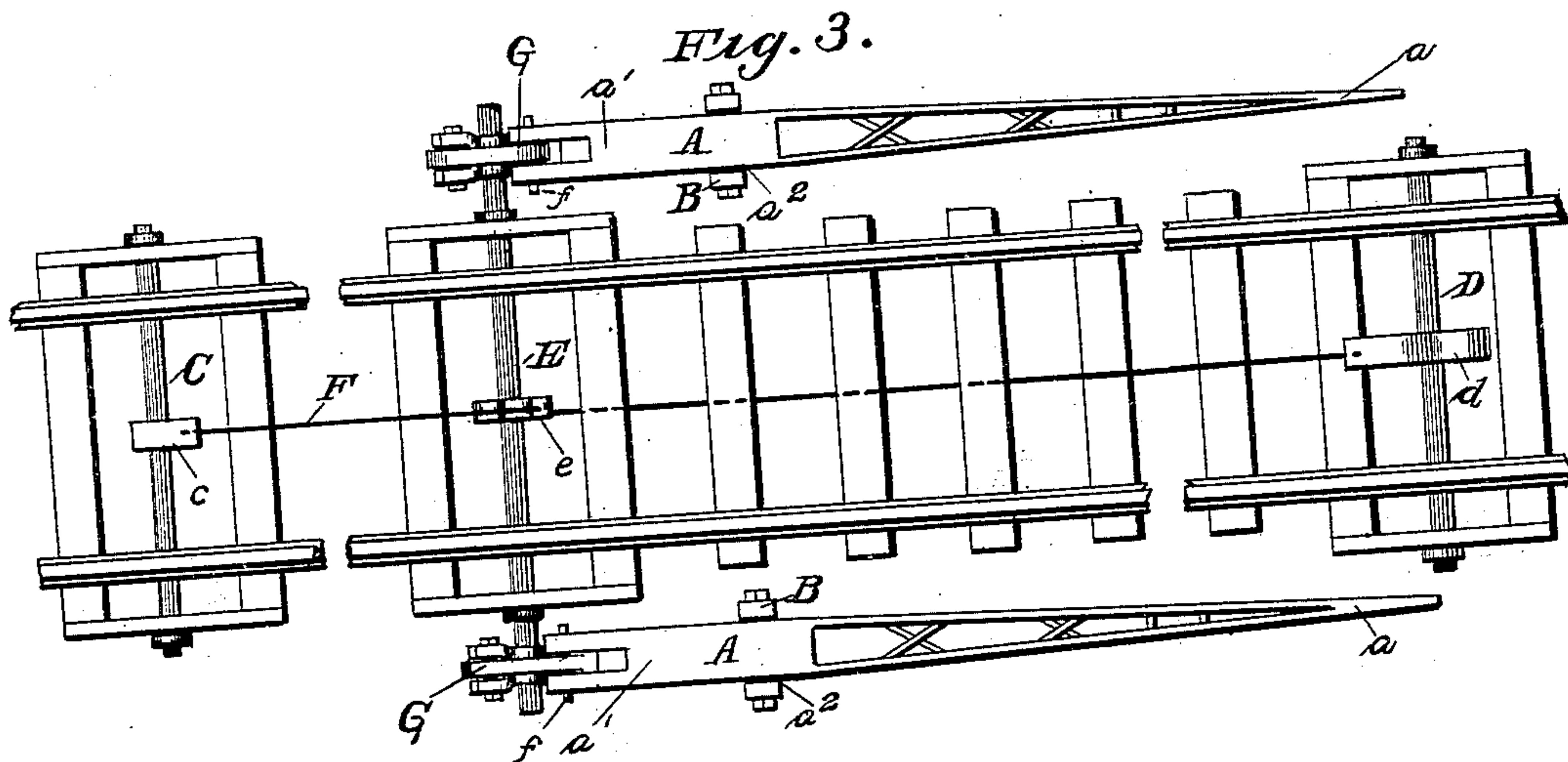
No. 638,667.

Patented Dec. 5, 1899.

P. MADISON.
RAILWAY SAFETY GATE.
(Application filed July 12, 1899.)

2 Sheets—Sheet 2.

(No Model.)



WITNESSES

F. S. Howell.
Harry O. Tuttle.

INVENTOR

Payton Madison.
By J. A. Smith.

UNITED STATES PATENT OFFICE.

PAYTON MADISON, OF GARFIELD, KENTUCKY, ASSIGNOR OF ONE-HALF TO
A. A. RICHARDSON, OF SAME PLACE.

RAILWAY SAFETY-GATE.

SPECIFICATION forming part of Letters Patent No. 638,667, dated December 5, 1899.
Application filed July 12, 1899. Serial No. 723,579. (No model.)

To all whom it may concern:

Be it known that I, PAYTON MADISON, a citizen of the United States, residing at Garfield, in the county of Breckinridge and State of Kentucky, have invented certain new and useful Improvements in Railway Safety-Gates; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to railway safety-gates.

The object of the invention is to provide a railway safety-gate which shall be simple and cheap in construction, be composed of parts easily and quickly made and aggrouped, and whereby on the approach of a train in either direction on a track gates will be automatically lowered, and whereby, also, after a train passes the point at which the gates are placed the latter will automatically be raised.

25 With this object in view the invention consists, essentially, of a railway-gate comprising a gate-arm or gate-arms pivotally mounted, movable fingers connected to a rock-shaft and adapted to be struck by a projection from a locomotive or car, and a connection or connections between the rock-shaft and the gate-arm or gate-arms of such construction that a limited movement of the movable fingers will accomplish the raising or lowering of the gate-arms.

The invention is illustrated in the accompanying drawings, in which—

40 Figure 1 is a perspective view of a railway-gate constructed in accordance with my invention, the gate-arms being shown in a raised position. Fig. 2 is a side view of one gate-arm, showing in full lines the position of the parts when the gate-arm is lowered and in dotted lines the position of the parts when the arm is raised, the ties being shown in section. Fig. 3 is a plan view of a section of road-bed, showing my gate in position; and Fig. 4 is a detail view showing the connection

between the rock-shaft and one of the gate-arms. 50

In the drawings, A represents the gate-arms, which are of a length to extend entirely across the road or the like crossing a railway-track. The gate-arms are pivotally mounted in standards B, arranged at the sides of a railway-track in such a way as to be capable of being moved on their pivots to raise or lower the arms by the exertion of limited force. 55

The gate-arms A are formed of the small elongated end a and the short heavy end a' , and the respective parts are so formed that the weight of the arms is equally disposed on each side of the point a^2 , at which the arms are pivoted. 60

The automatic raising and lowering of the gate-arms is accomplished by the means now to be described. 65

Mounted on shafts C and D, located in the road-bed of a railway-track, are fingers c and d , the upper ends of which extend a short distance above the surface of the road-bed, while the lower ends extend a short distance below the same. Between the shafts C and D and similarly arranged in the road-bed is a rock-shaft E, having rigidly connected thereto an arm e , extending from the shaft at right angles, above and below the latter. Connection is made between both ends of the fingers c and d and both ends of the arm e by wire rope, chains, or the like F. The upper end of the finger c is connected to the upper end of the arm e and its lower end is connected to the lower end of the arm, while the upper end of the finger d is connected to the lower end of the arm e and its lower end is connected to the upper end of the arm, in order to accomplish the operation as set forth hereinafter. 70 75 80 85

Each end of the rock-shaft E is provided with a right-angular projection to which is pivotally joined a connection G, by which movement of the rock-shaft is communicated to the gate-arms. 90

The short heavy ends of the gate-arms are each slotted, as shown in Fig. 3 of the drawings, and across the slot, near the outer end thereof, extends a pin f . The upper end of 95

each connection G has therein a slot f^2 , of a length corresponding to the distance which the heavy short end of the gate-arm moves to bring the same from a horizontal to a raised position, or vice versa.

Movements are imparted to the described device by a projection H, depending from any desired portion of a train and so placed as to come in contact with the fingers c and d in passing over the same.

In the operation of the automatic gate, assuming that the parts are in the position shown in dotted lines in Fig. 2 and that a train is moving along the track in the direction of the arrow, the projection H on the train first comes in contact with the finger c and moves it into the position shown by full lines in Fig. 2. This movement is communicated through the ropes F to the rock-shaft E and the connection G, with the result that the gate-arm is given sufficient impetus to throw it into the position shown in full lines in Fig. 2. As the parts mentioned are moved as set forth, the projection d is moved into the position shown in full lines in Fig. 2, so that when the projection H comes in contact with it it is moved back into the position shown by dotted lines, imparting through the connection-rope F, rock-shaft, and connection G an impulse to the gate-arm sufficient to return it to the position shown in dotted lines. Thus it will be seen that a crossing is closed as a train approaches and is opened after passing without requiring the presence of an attendant.

By the employment of the described means for operating the gate-arms no shock or jar liable to break or injure the parts of the mechanism takes place. It will be seen that the movement of the projections from the rock-shaft is only a limited one, and that by reason of the slot in the connection H the gate-arms are disconnected from the other moving parts during the greater portion of their movement to raise or lower the gate-arms. The fingers c and d may be arranged any desired distance from the rock-shaft, and necessarily they are placed some distance away from the shaft in order to allow the

closing of the gate between the time a fast-moving train passes over one of the fingers and when it reaches a crossing at which the gate is placed. When the gate-arms are raised, both the fingers c and d extend outward away from the rock-shaft, so that a train having a projection H coming in either direction will effect the lowering of the gates and will place the second finger reached in position to be struck to return the gate-arms to a raised position.

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

1. A railway-gate comprising a rock-shaft arranged transversely of a track at a crossing, and having an arm extending above and below the shaft, a pivoted finger extending above the track at one side of the rock-shaft having its upper end connected to the upper end of the arm and its lower end connected to the lower end of the arm, a corresponding finger arranged on the opposite side of the rock-shaft having its upper end connected to the lower end of the arm and its lower end connected to the upper end thereof, a projection extending from the rock-shaft, a pivoted gate-arm, and a connection between said projection and the gate-arm, the connection having an elongated slot receiving a pin on the gate-arm, substantially as described.

2. A railway-gate comprising a pivoted gate-arm having a slotted end, a pin extending through the slot, a rock-shaft having a projection extending at right angles thereto, a connection having an elongated slot, and a pivoted at one end to the projection from the rock-shaft, and receiving the pin in the end of the gate-arm, fingers adapted to be struck by a projection from a train, and a connection between the fingers and the rock-shaft, substantially as described.

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

PAYTON MADISON.

Witnesses:

O. M. PRIEST,
IRVIE RICHARDSON.