

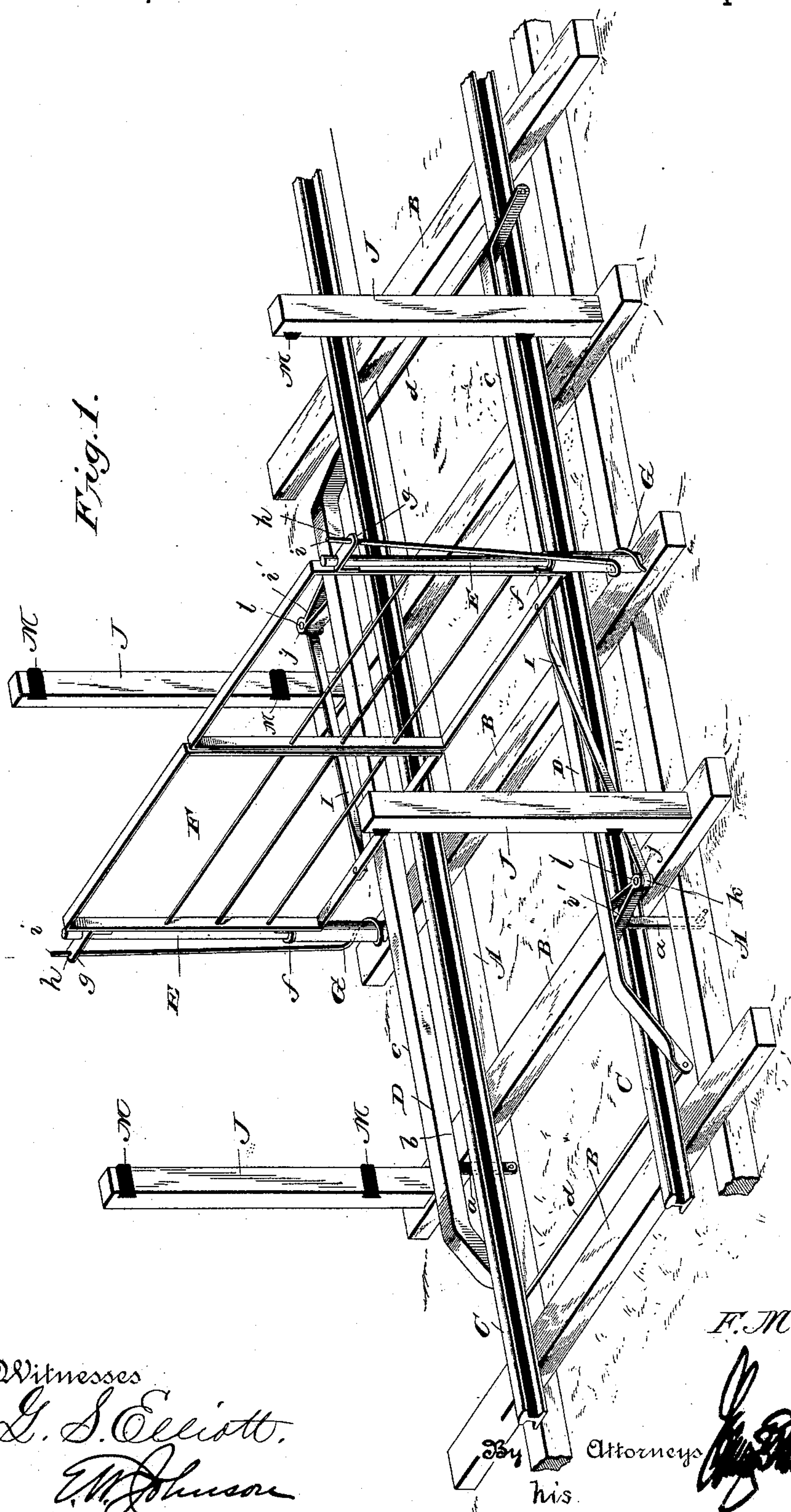
(No Model.)

2 Sheets—Sheet 1.

F. M. MONTELIUS.
RAILWAY GATE.

No. 410,915.

Patented Sept. 10, 1889.



Witnesses

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E. M. Johnson

F. M. Montelius
Inventor

Attorneys

his

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2 Sheets—Sheet 2.

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Fig. 2.

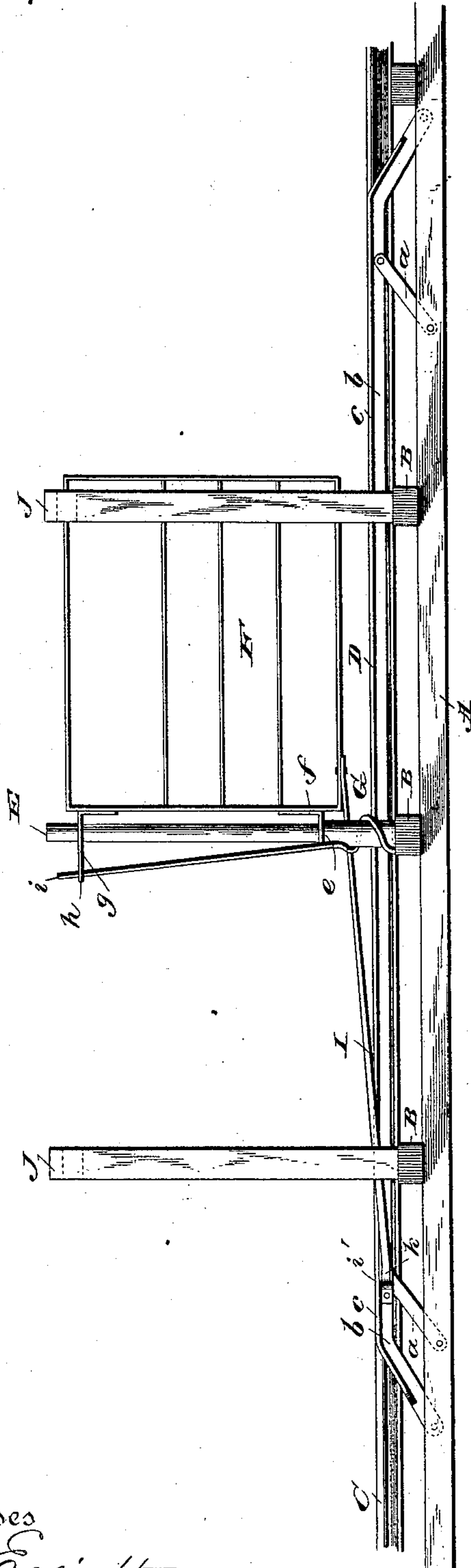
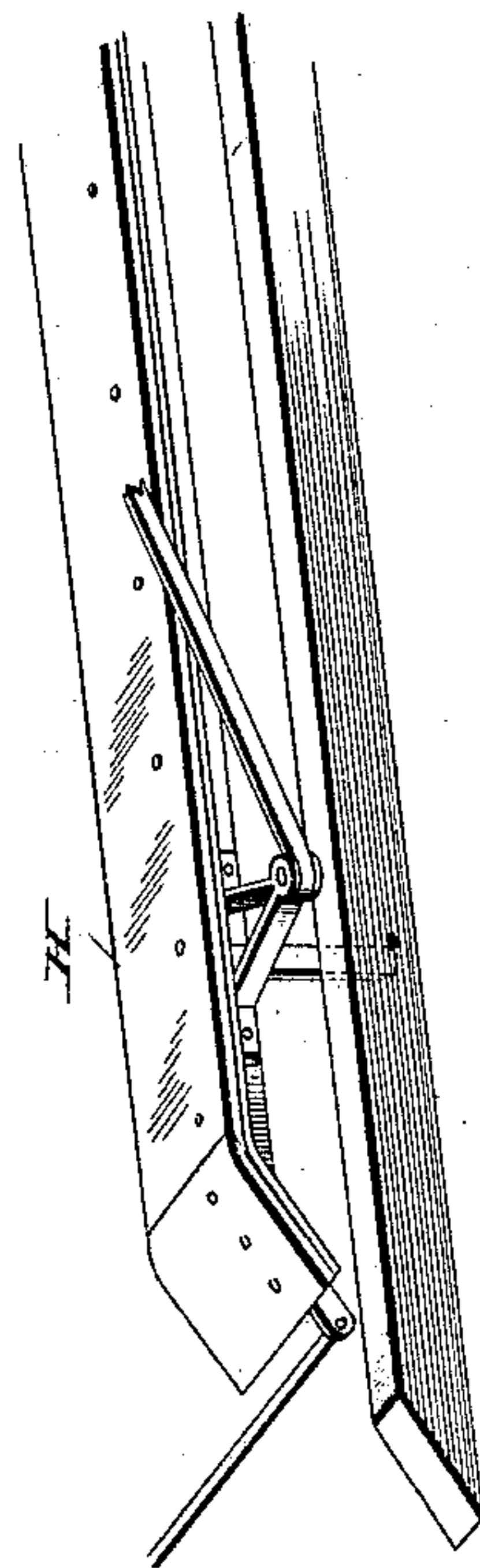


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK M. MONTELIUS, OF WEST PERRY, PENNSYLVANIA.

RAILWAY-GATE.

SPECIFICATION forming part of Letters Patent No. 410,915, dated September 10, 1889.

Application filed June 27, 1889. Serial No. 315,834. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK M. MONTELIUS, a citizen of the United States of America, residing at West Perry, in the county of Snyder and State of Pennsylvania, have invented certain new and useful Improvements in Railroad-Gates; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention has reference to gates for railways and other roads; and it consists in the improved construction hereinafter described and set forth, whereby a simple and effective arrangement is provided that will maintain the gate or gates closed at all times except when a train or conveyance moving along the track or road from either direction approaches the point of location of said gate, at which period the gate or gates will automatically open to present an unobstructed way and positively close after the passage of the said train or conveyance.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a section of railway-track, showing my improved gate and its operating appliances in position. Fig. 2 is a side view showing the position of the parts when the gates are swung open; and Fig. 3 is a detail view, in perspective, showing the construction of the operating-bar when the improvements are used in connection with an ordinary roadway.

In Figs. 1 and 2, A designates the longitudinal sleepers supporting the ties B, upon which are secured the rails C C. Upon the inner side of each sleeper A are pivotally secured the lower ends of a pair of short vertical arms *a a*, which are arranged some distance from each other.

Along the outside of each rail C C, but located in close proximity thereto, is a longitudinal bar D, which is right-angled in cross-section to present the vertical web *b* and horizontal flange *c*. The web *b* inclines at the side of the rail at each end of its bar D, while

the flange *c* likewise inclines, but merges into the web before the latter terminates. The extremities of the webs *b b* depending below the rails are connected by transverse brace-rods *d*, which not only serve to brace said bars D rigidly in position, but insure their positive relative movement at all times.

On one of the ties B, at each side of the track, is mounted a vertical standard E, enlarged at its lower portion to form a shoulder *e* to support the lower hinge-loop *f* of the adjacent gate-section F.

The upper hinge-loop *g* is extended to form a perforated ear *h*, through which passes the upper end of the vertical free portion *i* of a torsional spring G, rigidly secured to the tie at the base of the standard E.

Near one of the ends of each web *b*, and from the outer side of the same, horizontally projects an angular arm *i*, the outer end of which is provided with a vertical eye *j*, centrally cut away to receive the reduced eye *k*, located at one end of a rod I, connected at its other end with the bottom bar of the adjacent gate-section F. The eyes *j* and *k* are pivotally connected by a pin *l*.

It will be noticed that each arm *i* and its connections are located oppositely with respect to the other arm.

In operation the torsion-springs hold the gate-sections in a closed position. Now, when a train approaches from either direction, the treads of the wheels pass upon the inclined portions of the flanges of the operating-bars and depress the latter, so that they descend longitudinally, owing to their pivotal support on the arms *a*. This descent of the operating-bars not only permits the free movement of the wheels over the rails, but the longitudinal movement imparted to the arms I occasions them through the medium of the rods I to open the gates against the torsion action of their springs. After the passage of the train of course the springs effect the closing of the gates.

In view of the fact that no limiting means are provided for the hinges and the operating-bars are connected to move in unison the gates will swing open in a direction corresponding with the movement of the train, thus avoiding any liability of the sections F being

struck by the train and damaged, and hence allowing comparatively short operating-bars to be used.

By alternating the location of the arms *i* and their connections the strain exerted in opening the gates is divided, irrespective of the direction in which the train is moving.

In the event of the improvement being used in connection with an ordinary roadway the longitudinal bar has bolted to its flange a plank or plate II, Fig. 3, of a width sufficient to insure that the wheels of the vehicle shall pass upon and depress the same, so as to open the gate.

From the foregoing it will be seen that the improvements are of a comparatively simple and inexpensive character as well as positive and automatic in operation.

It will be noticed that the flanges *c* not only insure the depression of their bars, but form guards to protect the pivots of the supporting-bars from dust, ice, snow, &c.

On both sides of the roadway and gate-sections are located vertical posts J, which carry upper and lower yielding cushions *m*, against which the gate-sections strike when thrown open, thus relieving said sections of all injury that might result from jar or concussion, besides avoiding the strain upon the hinges that would be occasioned if no means were provided to prevent the gates from receiving an impetus more than sufficient to effect their opening.

It will be noticed that the arrangement of parts is such that each spring-bar not only serves to hold the gate normally in a closed position, but also elevates the operating-strip adjacent to the roadway. Further, the strips are connected to each other so as to move in unison, whereby either one of the springs will

operate both gates, and when said springs are inoperative the weight of the side strips will hold the gates normally open.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the vertical posts arranged on each side of the track or way and provided with torsional springs secured at their base, of a horizontally-swinging gate-section hung on each post and provided with a projecting arm engaging said torsional spring, horizontal pivoted strips longitudinally movable, as described, and carrying offsets, and a rod connecting the offset of each strip with the adjacent gate-section, substantially as set forth.

2. The combination, with the vertical posts arranged on each side of the track or way and each provided with a torsional spring secured at its base, of a horizontally-swinging gate-section hung on each post and provided with a projecting arm engaging said torsional spring, horizontal pivoted strips extending on either side of the closing-point of the gates, longitudinally movable, as described, and each provided with an offset located oppositely relative to the offset of the other strip, and oppositely-extending rods, each connecting its offset to the adjacent gate-section, whereby said strips move in unison and when the springs are inoperative will hold the gate-sections in an open position, substantially as set forth.

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

FREDERICK M. MONTELIUS.

Witnesses:

JONATHAN WORNER,
REUBEN DREESE.